Petroglyph Operating Company
May 2011 Monthly Report

Covering the period April 12, 2011 through May 20, 2011

Prepared for
Colorado Oil and Gas Conservation Commission

May 31, 2011

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Petroglyph Operating Company, Inc.
Monthly Report – May 2011

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 May 20, 2011. 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 1 and Phase 2 Remediation System

The Phase 1 remediation system associated with the Methane Investigation, Monitoring and Mitigation Program (MIMMP) operated from December 8, 2008 through the start of the Phase 2 remediation system on August 6, 2010. Therefore, remediation at the site has been operational for approximately twenty-nine months. The Phase 1 remediation system consisted of 4 recovery wells and 8 injection wells all completed in the Poison Canyon Formation and designed to pump water with methane, allow the methane to off gas and return the water to approximately the same location from which it was pumped.

The Phase 2 remediation system consists of 4 recovery wells in the Poison Canyon Formation and differs from Phase 1 in that it allows for pumping a limited amount of additional water from the Vermejo Formation from up to 2 production wells (Rohr 04-10 and Rohr 09-10) at a rate not exceed a total of 1,000 barrels per day or approximately 29 gpm. The additional water will be combined with the Poison Canyon water and sent through a reverse osmosis treatment system before being injected into the Poison Canyon Formation using the 8 injection wells. The addition of water during Phase 2 operations will result in a hydraulic barrier to movement of methane outside of the ring of injection wells in the remediation system.

Gas Flows in Remediation Wells

The Phase 1 system was started with pumping from Recovery 1 Kittleson and Recovery 3 PEI. Recovery 1 gas production was initially 25.7 MCFD and has dropped to a reading of approximately 3.8 MCFD at the start of this reporting period to 0.89 MCFD at the end of the period. During the period the high value was the 3.8 MCFD at the start of the period and there were several periods where the well pump went down. When the recovery well pump goes down, even for a few hours as was the case during this reporting period, it often takes 1 to 3 days before normal gas flows resume. The recovery period for gas flow from the well is increasing so that the time before gas flow starts again after the pump goes down is longer.

Recovery 3 gas flows were measured at approximately 0.75 MCFD at the start of Phase 1 remediation and increased to approximately 1 MCFD and remained around 1 until late February 2009 and then began a slow and steady decline. Recovery 3 was shut down on 8/25/2010 because previous water analyses had shown high TSS results and bacteria problems which affect the operation of reverse osmosis system. The well continued to be shut down during this reporting period. Small amounts of gas flow were periodically

measured from the well with the high measurement being 0.005 MCFD and many periods of no gas flow.

Recovery 4 has shown variability during Phase 1 ranging between approximately 0.9 MCFD and 0 until mid April 2009 when the readings were consistently under 0.001 MCFD. Readings at Recovery 4 showed an increase beginning in late July/early August 2009 and have been a bit variable since that time. During this reporting period the readings for Recovery 4 remained relatively the same with a starting reading of 0.28 MCFD and an ending reading of 0.28 MCFD and only slight variations throughout the period with the exception of the very last reading at 0.09 MCFD. This well has not been pumped for use in the remediation system since early April 2009 because of the very low pumping rate for the well.

Gas flows at Recovery 5 are estimated from Barton recorder data. Recovery 5 gas flows continued to show an overall decline. Initial readings from this well were between 15 and 20 MCFD. The well has not shown any gas since 11/17/10 and was shut-in on 12/3/10 due to no gas flow.

There is no gas flow in the Rohr 4-10 production well which is being pumped to provide additional water for the hydraulic barrier of the remediation system. The Rohr 4-10 well has not produced any gas during the current pumping and did not produce gas during full production.

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 the Phase 1 remediation system became fully operational.

The gas flow data does not appear to show any significant impact from the Phase 2 operations. The gas flow in Recovery 5 continually declined from the start of pumping in that well in December 2009 and by November 2010 showed no gas flow and the well was shut-in. Recovery 1 Kittleson has also continued to slowly decline. Both of these wells were declining prior to the start of Phase 2 and such a decline would be expected as a result of efforts to remove methane from the Poison Canyon Formation. As discussed below the effects of injecting additional water are beginning to be seen in some of the water well pressure data.

Pumping and Injection Rates in Remediation Wells

The average pumping rate for Recovery 1 was 14.6 gpm during the reporting period, decreasing from an average pumping rate of 17.1 gpm for the last reporting period. The Recovery 3 well pumped at such a low volume and was quickly depleted that this well was shut-in on 8/25/2010. Recovery 4 is not functioning properly as explained in previous monthly reports and has not been pumped since early April 2009. Recovery 5 well was shut-in on 12/3/2010 due to no gas flow. The Rohr 04-10 production well, activated as part of the Phase 2 remediation, has pumped 10.2 million gallons of water at an average rate of 25.9 gpm since the initiation of Phase 2. The Rohr 09-10 is expected to be used only as a back up well and has not yet been pumped for the Phase 2 operations.

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 0.4 to 9.6 gpm during this reporting period with individual wells showing both increases and decreases in injection rates during the period. The two wells on the Rohr property (Injection 04 and 05) have accepted and continue to accept the most water. Injection 08 Haeffner has not accepted and continues to not accept water very well. Most of the approximately 34.9 million gallons of water that have been recovered have been re-injected following methane off gassing and flaring during Phase 1 and the reverse osmosis treatment of Phase 2. The total Vermejo water injected into the Poison Canyon since the start of Phase 2 is approximately 9.5 million gallons. The Phase 2 reverse osmosis system creates a filter residue which does include some water which is not re-injected.

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 unexpected or adverse results that can be directly attributable to the remediation system pumping.

Water Treatment System

The reverse osmosis system for water treatment has been operating as expected and has been reducing levels of fluoride in the pumped water to well below the limit of 4 mg/L. The reverse osmosis system malfunctioned over two reporting periods ago, was fixed and continues to reduce fluoride during this period to 0.27 mg/L, well below the 4 mg/L limit. Boron levels in the injected water for this period were approximately 76 µg/L. The system produces an average of 10% brine solution including the flush water. Approximately 4,485 barrels of brine were shipped during the month of April for a total of 39,300 barrels from RO start up to May 15, 2011.

2.0 Phase 2 Sampling Plan

Fluoride, Boron and Dissolved Methane

The Phase 2 remediation system sampling plan requires additional water quality samples be taken to determine the quality of the injected water. This included weekly sampling of fluoride and boron at the finished water tank or at Injection No. 5 well during the first month of the Phase 2 system. The monitoring for the remainder of the first year of operation is monthly since the levels for the first month were below the permit limits. Results of the samples for the month of April are shown in Table 2a. Samples did not exceed the permit level of 4.0 mg/L for fluoride and the reporting level of 0.5mg/L for boron.

The recovery well dissolved methane samples at Recovery 1, Recovery 3, Recovery 05 and Rohr 04-10 were measured weekly during the first month of Phase 2. The first month's results indicated that a 50% dissolved methane reduction is being achieved prior

to injection, therefore monitoring has been reduced to monthly. Results from this reporting period are shown on Table 2b. The calculations for reduction in dissolved methane were made using the contributions from Recovery 1 and Rohr 4-10 since these were the only wells which were pumped. The results from both wells were averaged, using a weighting system based on average pumping rates from each well contributing to the water to be injected, to determine the recovery well dissolved methane concentration. This resulted in a weighted average dissolved methane concentration in the recovery wells of 17,415 µg/L. This background methane concentration is significantly higher compared to the 05 Rohr injection site with a reading of 4,400 µg/L taken on 4/25/11. However, the one time analysis of 4,400 µg/L taken on 4/25/11 was more than 50% of the methane produced from Recovery 1, 6,900 µg/L, and is considered to possibly be related to the filtration system. A confirmation sample was collected on 5/10/11 and final results are not back, but initial bench values reported by the laboratory indicate a much lower methane value of 2,600 µg/L resulting in a 62.3% reduction. The readings continue to indicate that significantly more than a 50% reduction in dissolved methane is being achieved through the treatment system.

Domestic Well Water Quality Before and After Initiation of Phase 2
Item 5 of the Phase 2 Conditions of Approval issued by the COGCC states:

> *"…Collect and analyze samples from all water wells inside the injection ring after 2 months of operation and before three months of operation. Collect and analyze samples from at least four water wells outside the injection ring but within 1 mile (one well in each quadrant of the ring) for comparison to previous analytical data from the same wells. These samples shall be collected after three months of operation and before four months of operation. Sampling will be conducted at a frequency of no less than yearly after initial sampling following initiation of Phase 2. Frequency of sampling will be quarterly in the first year of operation of Phase 2."*

To complete the initial analysis water quality samples collected by Petroglyph were compiled and analyzed for changes before and after the injection of reverse osmosis treated water associated with Phase 2 within the time period specified in the Conditions of Approval and Sampling Plan. Results from quarterly sampling in April were analyzed and are reported in Tables 3 and 4 with previous water quality results. Results do not indicated any changes to the water quality at the domestic wells which would be attributable to the Phase 2 remediation.

3.0 Ongoing Investigation

Aquifer Characterization
Petroglyph continues to evaluate data collected through the remediation system operation and ongoing monitoring. A geologic model was created for the site using PETREL software and actual data from well logs completed during drilling of the remediation wells. Modeling of the flow of gas and water was completed using actual data and

Computer Modeling Group Ltd.'s IMEX software. Updates to the model will periodically occur using data collected from the remediation system. The model updates will be provided as they are completed. The last model updates verified that the remediation system is reducing and containing the methane as projected during initial modeling and planning for the remediation system.

Gas Isotope, Dissolved Methane and Water Quality Sampling

The attached data disk includes the results from analyses received during this reporting period for three injection and recovery well samples (Injection 5 Rohr, Recovery 1 Kittleson and Rohr 04-10). All of the wells were sampled for gas results. The recovery and injection well sampling are used to demonstrate that the dissolved gas reduction is at least 50% as discussed in the previous section. The results for dissolved methane sampling for those samples received since the last reporting period are shown in Table 5. Note that all of the dissolved methane sampling results are included on the data disk in the spreadsheet named "Dissolved gas results 4-28-11."

Quarterly water quality samples were collected in April and analytical results were received for the domestic wells of Burge, Coleman, Derowitsch, Goodwin, Hopke, Houghtling, Kerman, Smith and Wolahan, and for the Injection 5 and Recovery 5 Masters wells. These results are contained on the data disk in the folder titled "Water Analyses." A sample was not collected from the McPherson water well because the pump is not operational.

Methane Source Investigation

Petroglyph continues to evaluate the data from monitoring in the domestic wells in the vicinity of the production wells and closer to the outcrop. The BLM wellhead and the Haupt #1 wellhead continue to show measurable methane in wellhead monitoring. 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.

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 Garza-Vela located in the Silver Spurs Ranch Subdivision.

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. Attachment 4 is a combined graph showing the water levels in both the domestic wells monitored and Petroglyph production wells.

Water level elevations in the Meyer well are not available for this period will not be reported in future reports. The data could not be pulled from the transducer. The transducer was pulled and sent to In-Situ for evaluation and data extraction. Any recovered data will be reported during the next reporting period. The failed transducer in the Meyer well is not being replaced and continuous data collection will cease. Changes in water levels at the other wells are discussed below.

Water levels at the POCI 55 well increased from approximately 6257 to 6259 feet at the end of the period. The gap in POCI 55 data between mid March and mid April is due to a failed transducer and the transducer was replaced on 4/6/11 and continues to monitor water levels.

Water levels at the Barrett well increased from approximately 6279 feet to 6280 feet at the end of the period. Bergman pressure and associated water levels increased from 6389 to 6390 feet at the end of the period. Coleman also showed an upward trend in water level from approximately 6258 feet to 6259 feet.

Water level elevations in Recovery 5 Masters increased approximately 2 feet during the period from 6257.8 to 6260.1 at the end of this reporting period. This value is higher than the approximate 6240 elevation of the water at the start of pumping in late 2009.

Increases in water level elevations in the Bergman, POCI 55, Barrett and Coleman wells have occurred consistently since the start of Phase 2 and appear to be in response to the increased amount of injected water (Vermejo water) associated with the Phase 2 remediation.

The Bruington well continues to show an upward trend in water levels with a rise of approximately 3 feet during the reporting period from approximately 6121 feet to approximately 6124 feet. This well is located over five miles from the remediation system and has been showing a rise in water levels since approximately March of 2009 so is not believed to be rising in response to the additional injection volumes. The Gonzalez transducer showed a rise in pressure and associated water level from approximately 6131 feet to 6134. This well is completed in the Vermejo Formation and lies closer to the outcrop and any changes in water level are not attributable to the increased injection.

Petroglyph Production Wells

Fifteen Petroglyph production wells are currently monitored for fluid level and casing pressure: Lively 02-02, Lively 02-12, Lively 03-01, Lively 03-10, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 04-14, Rohr 08-01, Rohr 09-04, Rohr 09-05, Rohr 09-10, State 36-02, State 36-05, State 36-11. The Lively 02-02, Lively 02-12, Lively 03-01, Lively 03-10, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 09-10, State 36-02, State 36-05, and State 36-11 are measured using an echometer. The echometer provides a general indication of water level trends. 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/Trinidad Formation. Changes in fluid levels in Petroglyph 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 have risen in all wells as would be expected, although the rate of rise is leveling off in most wells. Three of the wells show no water level elevation change throughout the period: Lively 02-02 and Lively 03-01, and Lively 02-12. Lively 10-04 remained essentially unchanged comparing readings at the beginning and end of the period but did see fluctuations of approximately 30 and 45 feet, respectively during the period. Rohr 09-05, Rohr 09-04, and Rohr 08-01 showed a slight increase of approximately 2.5 feet. Rohr 04-14, State 36-05, Lively 02-12, Lively 03-10, Lively 03-12, State 36-11, Rohr 09-10, and State 36-02 showed no change between the beginning and end of the period. Rohr 04-10 showed a strong decrease after the large increase during the last reporting period of approximately 31 feet returning to the level it was at before increasing in March 2011. The, Lively 03-10 and State 36-11 are measured using an echometer so, as stated above, readings are more indicative of trends than actual measured footages.

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 in elevation 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. This supports previous groundwater modeling and chemical analysis which indicate a lack of connection between the production wells in the Vermejo Formation and domestic wells in the Poison Canyon. Attachment 4 also includes a table which shows the completion interval, 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 Bruington and Smith continue to not show any gas. The water level recovery of the Bruington well precludes any gas flow so these results continue to show zero gas flow. Gas flow may resume when the well stabilizes. Gas concentrations at the wellhead are still monitored monthly and reported. The Coleman well does not show gas now when the well is initially pumped. The Coleman well was pumped in April 2011 to grab a water sample and there was no measureable

gas. The Angely and Bounds wells were monitored during the reporting period by a consultant to COGCC and were both at a zero gas flow rate.

A drop in gas flow in the domestic wells appears to have occurred in correlation with the original implementation of the remediation system wells and venting of gas through these wells in late 2008 and early 2009 with continued decreases in gas flows from the remediation system recovery wells. This would indicate that the remediation system has been correctly located to remediate the area of largest gas concentration in the domestic wells.

Water Well Monitoring

Petroglyph has routinely monitored for methane gas levels near 88 wellheads 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 or a second wellhead.

Table 6 shows all of the wellheads that are currently being monitored, 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 is included on the table.

All 85 wellheads were sampled during this reporting period. The total number of wellheads sampled was reduced from 88 to 85 as discussed in the previous monthly report. The 3 that are no longer monitored and removed from monthly reports includes Andreatta/Carsella, Lowry and Fischer. During this reporting period 64 wellheads were sampled once, 1 wellhead was sampled 3 times, and 20 were sampled 2 times.

As shown on Table 6, the wellheads sampled twice-weekly, in accordance with the Phase 2 Sampling Plan, during this reporting period were those within one mile of the remediation system. The Angely and Bounds wells are monitored by a consultant to COGCC and results for the sample events were reported to Petroglyph.

Monitoring results for the 83 wellheads sampled during this period showed that overall gas levels at 50 wellheads had no change from the previous monitoring period measurements and no detectable methane. 6 wellheads had changes from the previous monitoring period and 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 as a result of Phase 2 operations. Of the remaining 27 wellheads, methane gas at 13 wellheads decreased; 8 of which decreased to no detectable methane (Lively 10-02, Andexler, Bruington, Deagan, Gonzalez, Hurley, Johnson, Harbecke); 13 wellheads showed an increase with 7 increasing from no detectable methane to detectable methane (Burge, Golden Cycle Lane, Rohr, Geiselbrecht, Roberts, Snow, O. White). 1 wellhead remained steady with detectable methane (Geiselbrecht). There are no discernable trends in the monitoring data which can be attributed directly to Phase 2.

Petroglyph compared those wells showing any detectable methane readings 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 to 1.25 miles of the outcrop. Of the 19 wellheads reading detectable methane at the end of the reporting period (Barrett, Bergman, Bounds, Burge, Golden Cycle Land, Hopke, Houghtling, Rohr, BLM 15-12, Meyer, Haupt, Tobyas, P. Eddleman, T. Eddleman, Geiselbrecht, Roberts, Snow, Stephens, O. White), 2 are known to have been drilled into the Poison Canyon based on well depths in well logs available from the State Engineer with 2 of these lying within or in close proximity to the remediation ring area. 1 is known to have been drilled into the Raton Formation. The completion for the remaining 16 wells is not known.

The breakdown by subdivision or area as on Table 6 is as follows:

Within 1 Mile of Remediation System

- Gas near 25 wellheads routinely monitored
- All wellheads but Lively 10-02, BLM 15-12, English, Conley, Angely and Bounds were monitored twice-monthly during the reporting period, except as noted in Table 6 due to access issues
- All the wellheads were sampled during this reporting period with the exception of English due to access restrictions (Table 6)
- 14 wellheads showed no change from the beginning to the end of the period with no detectable methane
- 2 wellheads showed a decrease in methane (Barrett and Lively 10-02); with Barrett showing fluctuations but decreasing overall and Lively 10-02 dropping from 5% vol to 0 methane
- 8 wellheads showed increases in detectable methane (Bergman, Burge, Golden Cycle Land, Hopke, Houghtling, Rohr, Smith, and BLM 15-12) with the Burge and Golden Cycle Land increasing from no detectable methane to detectable methane in the low %LEL range
- Detectable methane was measured at 11 wells during the reporting period (Barrett, Bergman, Bounds, Burge, BLM 15-12, Golden Cycle Land, Hopke, Houghtling, Lively 10-02, and Rohr)

River Ridge Ranch Subdivision and Vicinity Outside of One Mile

- Gas near 22 wellheads is routinely monitored
- All 22 wellheads were sampled during this reporting period
- One wellhead will no longer be measured and will be dropped from future reporting (Lowry)
- All 22 sampled wellheads were sampled once during this period
- 18 wellheads showed no change with no detectable methane gas
- 1 wellhead showed an increase in detectable methane during the period (Meyer) with an increase from 7 to 10 % CH4 vol

- 2 wellheads showed a decrease in detectable methane (Andexler and Goodwin) with both resulting in a decrease to 0 gas for the current period

City Ranch and Other Properties

- Gas near 15 wellheads are routinely monitored
- 12 wellheads were sampled during this reporting period; 3 wellheads were not sampled
- 1 wellhead is no longer measured and has been dropped from reporting (Andretta/Carsella)
- 1 wellhead that was not sampled this period (Bartlett) has never had methane detected
- 1 wellhead (McEntee) that was not sampled this period had access issues
- 12 sampled wellheads were sampled once during the period
- 1 sampled wellhead was sampled twice during the period (Dernell)
- 5 wellheads showed no change with no detectable methane
- 1 wellhead showed an increase (Tobyas) from 6 to 10% CH4 vol
- 5 wellheads showed a slight decrease in methane levels (Deagan, Gonzalez, Haupt #1, Hurley, and Johnson) with 4 showing a decrease to no detectable methane (Deagan, Gonzalez, Hurley, and Johnson)
- 2 wellheads showed detectable methane during the period (Haupt #1 and Tobyas)

Silver Spurs Ranch

- Gas near 24 wellheads routinely monitored
- 22 wellheads were sampled once during this reporting period
- 1 wellhead was sampled twice during this reporting period (P. Eddleman)
- One wellhead is no longer measured and was dropped from reporting (Fischer)
- 17 wellheads showed no change with no detectable methane gas
- 3 wellheads showed an increase in methane levels (Orlie White, Snow, and Roberts) with Roberts, Snow and Orlie White increasing from no detectable methane to detectable methane
- 3 wellheads showed a decrease in methane levels but still showing detectable methane (P. Eddleman, T. Eddleman, and Stephens)
- 7 wellheads showed detectable levels of methane during the period (P. Eddleman, T. Eddleman, Orlie White, Gieselbrecht, Roberts, Snow, Stephens)

Black Hawk Ranch

- 2 wellheads routinely monitored were sampled once during this reporting period
- 1 wellhead showed no change with no detectable methane gas (Goza)

- 1 wellhead (Harbecke) decreased slightly from 7 %LEL to no detectable methane

Table 7 shows the current monitoring schedule including which wells are monitored twice per month and which wells are monitored monthly or at a different frequency. It should be noted that during the reporting period the COGCC approved a change in monitoring from twice per week to twice per month for the wells which lie within close proximity to the monitoring system. The change was approved based on the finding that there had been no significant changes in methane levels as a result of the initiation of Phase 2.

Attachment 6 includes charts of gas monitoring of seventeen wells near the mitigation system. The wells being monitored have not indicated a direct response to the remediation pumping and injection. Of the wellhead charts included in Attachment 6 only those for Barrett, Burge, Bergman, Kerman, Smith, Hopke, Houghtling, Golden Cycle and Goodwin showed methane in readings from the most recent reporting period. All of these readings are consistent with past measurements at these wellheads and do not appear to represent any new or unusual charges to the wells as a result of Phase 2.

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. No handheld surveys were collected during the reporting period.

5.0 Mitigation

Methane Alarms

No activity occurred during the reporting period related to maintaining methane alarms or responding to any methane alarms. 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 8 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.

Public Outreach

No public outreach occurred during this reporting period.

Health and Safety/Emergency Planning

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

6.0 Schedule

The following is the currently anticipated schedule for Phase 2 of the Methane Investigation Monitoring and Mitigation Program.

- Continued pumping and injection of the Phase 2 system with ongoing monitoring to evaluate the response in surrounding wells.
- Implementation of the Phase 2 Sampling Plan with special samples taken in accordance with the Plan
- Routine monthly, twice monthly and quarterly sampling will continue with new sampling sites added as needed.
- Hand held seep monitoring will continue as needed.

Table 1: Recovery and Injection Rates associated with Phase 1 and 2 MIMMP (water flows as of 4/9/11; gas flows as of 4/6/11)									
Well Number	**Total Depth (ft)**	**PBTD**	**Injection Tubing Depth**	**Start-up Date**	**Average Injection Rate (gpm)**	**Water Total (gal)**	**Water Totals (bbls)**		**Notes**
Injection 01 Pascual	600	526	458	12/9/08	3.8	2,114,700	50,350		Average injection rate increased from 3.6 gpm to 3.8 gpm.
Injection 02 Gonzales	600	575	362	12/10/08	3.4	2,186,100	52,050		Average injection rate decreased from 3.6 gpm to 3.4 gpm.
Injection 03 Benevides	725	629	454	12/10/08	0.5	1,387,260	33,030		Average injection rate decreased from 1.1 gpm to 0.5 gpm.
Injection 04 Rohr	675	667	455	12/9/08	9.3	8,072,400	192,200		Average injection rate increased from 7.0 gpm to 9.3 gpm.
Injection 05 Rohr	750	735	458	12/10/08	11.1	9,954,000	237,000		Average injection rate increased from 10.2 gpm to 11.1 gpm.
Injection 06 Masters	725	695	438	12/10/08	6.4	6,720,000	160,000		Average injection rate remained the same at 6.4 gpm.
Injection 07 Walden	750	713	457	12/10/08	3.5	2,049,600	48,800		Average injection rate remained the same at 3.5 gpm.
Injection 08 Haeffner	650	713	365	12/10/08	see note	4,788	114		Well does not accept water very well. Inject approx. 150 gallons once every two weeks.
			Pump Depth		**Average Pump Rate (gpm)**			**Gas Totals (mcf)**	
Recovery 1 Kittleson	715	705	686	12/8/08	17.10	20,160,000	480,000	10,891	Average pumping rate increased from 12.1 gpm to 17.1 gpm
Recovery 3 PEI	625	591	575	12/8/08	1 (see note)	850,962	20,261	796	Intermittent pumping at 4 gpm. Rate over 24 hrs is approx 1 gpm. Shut-in 8/25/10.
Recovery 4 Barrett	500	484	463	2/10/09	(see note)	3,528	84	425	Last pump date 4/8/09
Recovery 5 Masters	847	847	822	12/24/09	(see note)	3,064,782	72,971	1,444	Shut-in well 12/3/10 due to no gas flow.
Rohr 04-10	2243	2219	2090	8/6/10 (see note)	25.4	8,920,800	212,400		Vermejo water supply for Phase 2 MIMMP.

Table 2a: Monthly Injectate Water Quality – March (grabbed at Injection 05 Rohr)

Date	Fluoride mg/L	Boron µg/L	Dissolved Methane µg/L
4/4/2011	0.15	70	1700
4/25/2011	0.27	76	4400

Table 2b: Monthly Dissolved Gas in Recovery Water – March (in µg/l)

	3/1/2011	4/4/2001
Recovery 1 Dissolved Gas	6,200	6,900
Rohr 04-10 Dissolved Gas	4,600	39,000

Dissolved Methane in Produced Water to RO (wt. ave. Rec 1, Rohr 04-10)	**17,415 µg/L**
Dissolved Methane Average at Injection 05 Rohr as a Percentage of Weighted Average of Dissolved Methane in Recovery Wells	**4.2 % based on 3/1/11 sample** **14.3% based on 4/4/11 sample**

Table 3
Domestic Well Water Quality For Selected Wells Inside the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Smith, WW					Coleman, V WW							Derowitsch, D WW							Hopke, B WW								Houghtling, J WW				Masters, T WW*			
mg/L except pH	7/9/2007	7/20/2010	10/13/2010	1/24/2011	4/25/2011	6/20/2007	11/10/2007	12/4/2008	5/9/2009	10/20/2010	1/24/2011	4/28/2011	9/18/2007	11/12/2007	12/8/2008	1/15/2009	10/12/2010	2/18/2011	4/25/2011	9/17/2007	10/17/2007	11/11/2007	12/29/2008	6/22/2009	10/12/2010	1/26/2011	4/26/2011	7/21/2010	10/14/2010	1/27/2011	4/26/2011	6/29/2009	10/11/2010	1/25/2011	4/27/2011
Antimony Dissolved															0																				
Antimony Total		0	0	0	0		0	0	0	0	0	0		0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antimony Total Rec							0							0		0						0	0												
Arsenic Dissolved															0					0															
Arsenic Total	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic Total Rec							0							0		0						0	0												
Barium Dissolved															0					0															
Barium Total	0	0.0429	0.032	0.039	0.031		0.0592	0.048	0.054	0.085	0.051	0.064	0	0.0597		0.0593	0.059	0.08	0.066		0	0	0.0385	0.023	0.022	0.024	0.018	0.0245	0	0.032	0.024	0.052	0.028	0.029	0.03
Barium Total Rec							0.0592							0.0597		0.0593						0	0.0385												
Beryllium Dissolved															0																				
Beryllium Total		0	0	0	0		0	0	0	0	0	0		0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beryllium Total Rec							0							0		0						0	0												
Bicarbonate As CaCO3	83	97.7	65	80	79	153		154	148	60	110	83	190		200	206	200	200	210	155	130		146	138	140	140	140	81.8	81	85	88	78.6	100	92	95
Bicarbonate Pot Diss									148															138											
Boron Dissolved															0					0															
Boron Total	0		0	0	0		0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0
Boron Total Rec							0							0		0						0	0												
Cadmium Dissolved															0					0															
Cadmium Total	0	0	0	0	0		0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0.00051	0	0	0	0	0	0	0	0	0	0	0
Cadmium Total Rec							0							0		0						0	0												
Calcium Dissolved	4.8		4.9	8.1	5	4.2		2.6	0	4.9	2.9	4.8			3.2		5.3	3	3.2	12.1					7.1	7.3	6.9		7.4	5.8	5.2			2.1	2.6
Calcium Total	4.8							2.6	0				6								11		0	7.5								3.9	1.9		
Calcium Total Rec																3.79							0												
Carbonate As CaCO3	0	11.7	42	17	**25**	0		5.01	0	0	15	5.3	0		0	9.2	12	3.2	8.3	0	0		0		0	8.8	6.2	0	12	0	0			24	27
Carbonate Pot Diss									0															0								21.8	23		
Chromium Dissolved															0					0															
Chromium Total	0	0	0	0	0		0	0	0	0	0	0	0	0		0.00236	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chromium Total Rec							0							0		0.00236						0	0												
Cobalt Dissolved															0																				
Copper Dissolved															0					0.0496															
Copper Total	0		0	0	0		0	0	0	0	0	0	0	0		0	0	0	0		0.013	0.578	0.357	0.037	0	0.1	0		0	0	0	0	0	0	0
Copper Total Rec							0							0		0						0.578	0.357												
Fluoride	7	4.8	5.1	5.9	6.1	9.88		9.5	10.4	9.08	9.8	8.7	4.3		4.3	5.1	4.2	4.4	4.5	4	3.8		6.9	5.6	4	3.9	3.9	6.2	6	6.4	6.3	5.2	4.1	4.7	4.9
Iron Dissolved			0	0	0					0	0	0			0		0	0	0	0					0	0	0		0	0	0		0	0	0
Iron Total	0		0.18	0.38	0		0.922	0	0	0	0.29	0.35	0.15	0.519		0	0	0.81	0		0	0	0.233	0	0	0.26	0		2.6	0.29	0.16	0.38	0.14	0	0
Iron Total Rec							0.922							0.519		0		0.56				0	0.233												
Lead Dissolved															0					0															
Lead Total	0.00061		0	0	0		0.00106	0	0	0	0	0	0	0		0	0	0.0011	0		0	0	0.00149	0	0	0	0		0	0	0.0022	0	0	0	0
Lead Total Rec							0.00106							0		0						0	0.00149												
Magnesium Dissolved			0	0	0	0.04				0	0	0			0		0.63	0	0	0					0	0	0		0	0	0		0	0	0
Magnesium Total	0							0	0				0			0.114		0.0079			0		0.325	0.16								0			
Magnesium Total Rec																0.114							0.325												
Manganese Dissolved			0	0	0					0	0	0			0		0	0	0	0					0	0	0		0	0	0		0	0	0
Manganese Total	0		0	0.01	0		0.0213	0	0	0	0	0	0.012	0.0131		0	0		0		0	0	0.0214	0	0	0	0		0.041	0	0	0	0	0	0
Manganese Total Rec							0.0213							0.0131		0		0				0	0.0214												
Mercury Total		0	0	0	0		0	0	0	0	0	0		0		0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0
Molybdenum Dissolved															0																				
Molybdenum Total			0	0	0		0.00668	0	0.0059	0	0	0	0	0		0	0	0	0		0.0014	0	0	0	0	0	0		0	0	0	0	0	0	0
Molybdenum Total Rec							0.00668							0		0						0	0												
Nickel Dissolved															0																				
Nickel Total		0	0	0	0		0	0	0	0	0	0		0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nickel Total Rec							0							0		0						0	0												

Table 3 (Cont.)
Domestic Well Water Quality For Selected Wells Inside the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Smith, WW					Coleman, V WW							Derowitsch, D WW							Hopke, B WW								Houghtling, J WW				Masters, T WW*			
mg/L except pH	7/9/2007	7/20/2010	10/13/2010	1/24/2011	4/25/2011	6/20/2007	11/10/2007	12/4/2008	5/9/2009	10/20/2010	1/24/2011	4/28/2011	9/18/2007	11/12/2007	12/8/2008	1/15/2009	10/12/2010	2/18/2011	4/25/2011	9/17/2007	10/17/2007	11/11/2007	12/29/2008	6/22/2009	10/12/2010	1/26/2011	4/26/2011	7/21/2010	10/14/2010	1/27/2011	4/26/2011	6/29/2009	10/11/2010	1/25/2011	4/27/2011
pH	8.53	8.87	8.87	8.95	9.01			8.82	8.75	8.62	9.11	7.49	8.36		8.53	9	8.57	7.48	8.91	6.8	8.33		8.04	8.45	8.48	8.71	8.71	8.97	8.92	9.01		9.19	9.29	9.26	9.23
Potassium Dissolved			0	0	0	0.4				0	0	0			1.1		0	0	0	0					0	0	0			0	0			0	0
Potassium Total	0							0.31	0.36				1.1			0.539					2.1			0.71							0.39			
Potassium Total Rec																0.539							6.56											
Selenium Dissolved															0					0															
Selenium Total	0	0	0	0	0		0	0.002	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0	0	0.00098	0	0	0	0	0	0	0
Selenium Total Rec							0							0		0						0	0												
Silver Dissolved															0					0															
Silver Total	0		0	0	0		0	0	0	0	0	0	0	0		0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0
Silver Total Rec							0							0		0						0	0												
Sodium Dissolved			120	140	130	113	132			150	110	140			150		150	160	170	123					150	140	140		140	120	120		110	100	110
Sodium Total	110	116	120				132	110	110				150	195		168					120	156	153	140				279				120			
Sodium Total Rec							132							195		168						156	153											
Strontium Dissolved															0.11																			
Strontium Total			0.12	0.18	0.11		0	0	0	0.13	0.074	0.11		0.129		0.116	0.12	0.11	0.1			0.284	0.309	0.19	0.2	0.19	0.18		0.18	0.13	0.12	0.11	0.051	0.06	0.064
Strontium Total Rec							0							0.129		0.116						0.284	0.309												
Sulfate	140	110	110	170	89	32.7		25.7	48.6	193	56	120	110		79	65.5	49	44	48	138	140		128	99.4	120	110	120	125	150	130	120	122	67	77	87
Thallium Dissolved															0																				
Thallium Total		0	0	0	0		0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thallium Total Rec							0							0		0						0	0												
Total Alkalinity As CaCO3	83	109	110	96	100			159	148	60	120	88	190		210	215	210	230	220	155	130		146	138	140	140	140	81.8	93	85	90	100	130	120	120
Total Alkalinity Pot Diss									148															138											
Total Dissolved Solids	390	360	370	420	310			273	322	390	280	360	530		440	431	380	410	380	445	400		414	384	400	380	380	356	380	340	320	342	250	270	270
Total Suspended Solids		10.5	10	0	0			0	0	0	6	6.4				0	0		0				0	0	0	0	0	0	52	0	0	7.5	0	0	0
Zinc Dissolved																		0																	
Zinc Total			0	0.02	0		0.0123	0	0	0	0	0		0.0102		0	0	0	0		0	0.0387	0	0.018	0.12	0.57	0.094		0.031	0	0	0	0	0	0
Zinc Total Rec							0.0123							0.0102		0						0.0387	0												

* Sample collected in 2010 is from Recovery 5 Masters well formerly the Masters water well
Inidcates value was used from Total or Total Recoverable for comparison purposes
Indicates value exceeds primary water quality regulatory value
Inidcates values exceeds secondary water quality regulatory value

Table 4 (Revised)
Domestic Well Water Quality For Selected Wells Within One Mile of the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Burge, K WW					Kerman, T WW						McPherson, P WW			Goodwin, R WW					Wolahan, WW				
mg/L except pH	12/18/2008	6/9/2009	11/11/2010	1/25/2011	4/27/2011	9/18/2007	12/4/2008	7/8/2009	11/11/2010	1/24/2011	4/26/2011	12/4/2008	6/3/2009	11/17/2010	12/15/2008	6/29/2009	11/16/2010	1/25/2011	4/25/2011	12/4/2008	6/4/2009	11/16/2010	1/26/2011	4/26/2011
Antimony Dissolved	0																							
Antimony Total	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antimony Total Rec	0																							
Arsenic Dissolved	0																							
Arsenic Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arsenic Total Rec	0																							
Barium Dissolved	0																							
Barium Total	0.019	0.021	0.02	0.021	0.022	0	0.031	0.035	0.036	0.036	0.034	0.034	0.029	0.039	0.04	0.042	0.04	0.043	0.038	0.015	0.016	0.015	0.017	0.013
Barium Total Rec	0.019																							
Beryllium Dissolved	0																							
Beryllium Total	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Beryllium Total Rec	0																							
Bicarbonate As CaCO3	210		220	220	210	130	148		130	140	130	72.2		73	217	213	220	220	220	59.3	58.4	50	56	56
Bicarbonate Pot Diss		206						143					73			213								
Boron Dissolved	0																							
Boron Total	0	0	0.032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Boron Total Rec	0																							
Cadmium Dissolved	0																							
Cadmium Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cadmium Total Rec	0																							
Calcium Dissolved	74		90	83	88				3.3	3.6	3.7			51			15	15	16			5.9	6.8	6.5
Calcium Total	0	0				2.8	2.9	3.5	3.3			23	0	51	14	15	15			5.5	6.7	5.9		
Calcium Total Rec	0																							
Carbonate As CaCO3	0		0	0	0	23	7.21		17	18	16	0		0	0		5.2	0	0	0	0	5	6.7	6.2
Carbonate Pot Diss		0						7.51					0			0								
Chromium Dissolved	0																							
Chromium Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0049	0	0	0	0	0	0	0	0	0
Chromium Total Rec	0																							
Cobalt Dissolved	0																							
Copper Dissolved	0																							
Copper Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.019	0	0	0	0	0
Copper Total Rec	0																							
Fluoride	0.59	0.81	0.58	0.6	0.57	3.5	4.9	4.9	3.9	3.8	3.6	6	5.9	3.7	1.7	1.5	0.94	1.2	0.76	8.2	10.1	6.1	6.3	6.1
Iron Dissolved	0		0	0.12	0				0	0	0			0			0	0	0			0	0	0
Iron Total	0.568	0.79	0.52	0.12	0.17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iron Total Rec	0.568																							
Lead Dissolved	0.00013																							
Lead Total	0.00258	0.0031	0.0046	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lead Total Rec	0.00258																							
Magnesium Dissolved	15		18	17	18				0		0			0.53			1.3	1.3	1.2			0	0	0
Magnesium Total	14.3	14				0	0	0	0	0		0.15	0.18	0.53	1.4	1.3	1.3			0	0			
Magnesium Total Rec	14.3																							
Manganese Dissolved	0.083		0.078	0.074	0.076				0	0	0	0	0	0			0.021	0.015	0.024			0	0	0
Manganese Total	0.0966	0.072	0.084	0.078	0.074	0	0	0	0	0	0	0	0	0	0.033	0.041	0.022	0.016	0.024	0	0	0	0	0
Manganese Total Rec	0.0966																							
Mercury Total	0	0	0	0	0		0	0	0	0	0	0.006	0.0053	0	0	0	0	0	0	0	0	0	0	0

Table 4 (Revised, Cont.)
Domestic Well Water Quality For Selected Wells Within One Mile of the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Burge, K WW					Kerman, T WW						McPherson, P WW			Goodwin, R WW					Wolahan, WW				
mg/L except pH	12/18/2008	6/9/2009	11/11/2010	1/25/2011	4/27/2011	9/18/2007	12/4/2008	7/8/2009	11/11/2010	1/24/2011	4/26/2011	12/4/2008	6/3/2009	11/17/2010	12/15/2008	6/29/2009	11/16/2010	1/25/2011	4/25/2011	12/4/2008	6/4/2009	11/16/2010	1/26/2011	4/26/2011
Molybdenum Dissolved	0.0018																							
Molybdenum Total	0	0	0	0	0	0	0.006	0.0065	0	0	0	0	0	0	0	0	0	0	0	0.024	0.021	0.021	0.02	0
Molybdenum Total Rec	0																							
Nickel Dissolved	0																							
Nickel Total	0	0	0	0	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0.014	0	0	0
Nickel Total Rec	0																							
pH	7.82		7.68	7.59	7.81	8.84	8.91	8.91	8.97	8.99	8.9	8.29	8.16	8.01	8.12	8.09	8.27	8.26	8.3	8.93	8.96	8.99	8.98	8.91
Potassium Dissolved	1.7		0	0	0				0	0	0						3.4	3.2	0			0	0	0
Potassium Total	0.796	0.75				0	3.7	2.5				0.49	0.49	0	3.4	2	3.4			0.24	0.22			
Potassium Total Rec	0.796																							
Selenium Dissolved	0																							
Selenium Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Selenium Total Rec	0																							
Silver Dissolved	0																							
Silver Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Total Rec	0																							
Sodium Dissolved	110		120	120	120				150	160	160			180			180	180	200			140	140	140
Sodium Total	108	120				120	150	150	150			140	140	180	210	200	180			130	120	140		
Sodium Total Rec	108																							
Strontium Dissolved	1.8																							
Strontium Total	1.77	1.7	2.1	2.1	2		0.11	0.11	0.1	0.11	0.11	0.51	0.46	1	0.6	0.62	0.61	0.62	0.63	0.14	0.13	0.14	0.15	0.14
Strontium Total Rec	1.77																							
Sulfate	240	236	260	260	260	130	151	152	150	160	160	230	226	390	206	208	190	180	210	193	185	190	200	210
Thallium Dissolved	0																							
Thallium Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thallium Total Rec	0																							
Total Alkalinity As CaCO3	210		220	220	210	150	155		150	150	150	72.2		73	217		220	220	220	59.3	59.4	55	63	62
Total Alkalinity Pot Diss		206						150					73			213					59.4			
Total Dissolved Solids	640	640	660	660	660	420	416	440	410	400	420	486	490	670	582	568	540	540	540	405	412	380	410	400
Total Sulfide	0.5	1.5					0	0				0	0		0.5	0				0	0			
Total Suspended Solids	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zinc Dissolved	0.025																							
Zinc Total	0	0	0	0	0		0.034	0.025	0	0	0.013	0	0	0	0.039	0.017	0	0	0	0	0	0	0	0
Zinc Total Rec	0																							

Inidcates value was used from Total or Total Recoverable for comparison purposes
Indicates value exceeds primary water quality regulatory value
Inidcates values exceeds secondary water quality regulatory value

Table 5: Sampling of Dissolved Gases in Water Wells (results received from March 2011 sampling)					
	Well	**Sample Date**	**Analyte**	**Results (In ug/l)**	**Comments**
Phase 2 Mitigation Wells	Rohr 04-10	3/1/11	Ethane	0.94	Phase II ,CBM water to RO
	Rohr 04-10	3/1/11	Ethylene	ND	Phase II ,CBM water to RO
	Rohr 04-10	3/1/11	Methane	4,600	Phase II ,CBM water to RO
	Injection 05 Rohr	3/1/11	Ethane	ND	RO treated Injection Water
	Injection 05 Rohr	3/1/11	Ethylene	ND	RO treated Injection Water
	Injection 05 Rohr	3/1/11	Methane	220	RO treated Injection Water
	Injection 05 Rohr	2/18/11	Ethane	ND	RO treated Injection Water
	Injection 05 Rohr	2/18/11	Ethylene	ND	RO treated Injection Water
	Injection 05 Rohr	2/18/11	Methane	620	RO treated Injection Water
	Recovery 1 Kittleson	3/1/11	Ethane	6.5	Phase II water to RO
	Recovery 1 Kittleson	3/1/11	Ethylene	ND	Phase II water to RO
	Recovery 1 Kittleson	3/1/11	Methane	6,200	Phase II water to RO
Wells Within Remediation Ring	Derowitsch	3/1/11	Ethane	34	Raw – not filtered
	Derowitsch	3/1/11	Ethylene	ND	Raw – not filtered
	Derowitsch	3/1/11	Methane	15,000	Raw – not filtered

ND = Not Detected

Table 6
Water Well Measurements for the March 2011 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with March 2011 Monthly Report)	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	3/16/11	3/16/11	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 Dec 2008, March 2009, Nov 2009 and Sept 2010 readings.	No change from the previous period with 0 % LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm
257994	Barrett	7/12/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	Methane detected at levels >100 % LEL and above 10% CH4 by volume. Levels have dropped since March 2009 but remain above 0 except for an occasional 0 reading. Since just after the start pf Phase 2 (Nov 2010) generally consistently higher levels have been observed with some evidence levels are beginning to drop in most recent readings.	• % LEL measurements were up and down with an overall decrease from >100 beginning the period to 64 at the end of the period and a low of 0 on 3/1 • CH4% volume measurements were up and down with an overall decrease from 15 to 3.2 and a low of 0 on 3/1 • O2% measurements were up and down with an overall increase from 16.5 to 20.3 with a high of 20.9 on 3/1 • CO remained unchanged at 0 ppm • H2S remained at 0 ppm with one reading of 4.5 on 3/15 and one reading of 0.5 on 3/22
244403	Bergman	7/6/07	4/5/11	2/25/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	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 until September 2009 when levels were still mostly above 100% LEL but began to show wider variances down to 13.00% LEL and as low as 0 in February 2010. Beginning in August 2010 % LEL dropped to below 100 consistently and remained there until November 2010 when the levels recovered to >100% LEL and have remained fairly consistent at that level.	• % LEL increased from 0 to >100 and remained at >100 until 3/25 when began to decrease ending the period at 65 • CH4% volume increased from 0 to 70 on ¾ and then decreased ending at 3.2 • O2% decreased from 20.9 to 11.1 on 3/7 and then increased ending the period at 20.9 • CO and H2S remained unchanged at 0 ppm
181278	Bounds	7/12/07	3/16/11	3/16/11	Readings from this wellhead have been consistently at or above 100 %LEL with levels of CH4% by volume near 100. Since late 2010 CH4% by volume levels have decreased somewhat. This wellhead has also shown fairly consistent low levels of H2S until 6/25/08 when H2S readings became more variable with less H2S present in general.	• % LEL remained unchanged at >100 • CH4% volume increased from 72 to 81 • O2% decreased from 2.3 to 0.9 • CO decreased from 25 to 0 • H2S remained unchanged at 0 ppm
169043	Burge	3/20/09	2/23/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	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 high readings on 7/2/08 and 8/12/10 and low levels of detectable methane on 10/1 and 10/6/09 and 1/3, 3/7 and 3/21/11.	At the wellhead: • % LEL remained unchanged at 0 for most of the period with readings of 4 on 3/7 and 3/21 • CH4% volume remained unchanged at 0 for most of the period with two readings of 0.2 on 3/7 and 3/21 • O2% volume remained at 20.9 with 4 readings below 20.9, the lowest at 14.5 on 3/7 • CO and H2S remained unchanged at 0 ppm At Cistern, no change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9, and CO and H2S at 0 ppm.

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Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with March 2011 Monthly Report)	If sampled, comparison of results from this period to last period
267694	Coleman	7/5/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	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. Well vent has shown more variability and generally higher readings than the wellhead.	At the well vent no change from the previous period wellhead readings with 0% LEL, no detectable methane, and CO and H2S at 0 ppm. O2% volume decreased from 20.9 to 0 in the last reading. Except that the 3/7 and 3/10 readings measured >100 % LEL with CH4% volume at 9.0 and 8.0, respectively. O2% was measured at 20.8 on 3/10. Note that these readings should be reported for the well vent not the wellhead and well vent separately as the wellhead is sealed and the readings are taken at the well vent. Future readings will be for the well vent.
235516	Colorado Switzer	7/12/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
255929	Conley	7/11/07	4/5/11	2/25/11, 3/1/11, 3/7/11, 3/10/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. Readings were also attempted on 3/4/11, 3/15/11, 3/19/11 and 3/22/11 but the gate was locked and there was no access to the wellhead.
260097	Dee	7/5/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	No methane has ever been detected at this wellhead. A potentially erroneous reading of 5%LEL occurred on 7/30/09 with no detectable methane.	No change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
252931	Derowitsch	7/6/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	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 have remained at or near 0 since that time. Both the well vent and cistern have historically shown very low to 0 levels of methane. Late September to December 2009 readings at the well vent indicated levels of methane although the wellhead and cistern showed no detectable methane during that time period.	At the wellhead and well vent no change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. At the cistern there were also no changes from the previous period with 0% LEL, no detectable methane, O2 % volume at 20.9 and CO at 0 ppm. H2S increased from 0 to 5 in the 4/5/11 reading.
235515	English	8/16/07	4/5/11	2/25/11, 3/1/11, 4/5/11	No methane has ever been detected at this wellhead except for a reading of 60 % LEL and 3 % by volume CH$ on 12/30./10 and a reading slight above 0 on 4/5/11.	No change from the previous period at the wellhead with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm until the last reading on 4/5/11. • % LEL increased from 0 to 2 • CH4% volume increased from 0 to 0.10 • O2% remained unchanged at 20.9 • CO remained unchanged at 0 ppm • H2S increased from 0 to 5 ppm The cistern was only measured on 3/1/11 and indicated no change with 0% LEL, no detectable methane, O2% volume at 20.9, and CO and H2S at 0 ppm. Sampling was also attempted on 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11 but the gate was locked and the well could not be accessed.

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16861-F	Golden Cycle Land	7/12/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	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 unchanged at >100 until the last reading when it decreased to 0 • CH4% volume remained in the 42 to 48 range with a low of 24 on 3/4/11 and the last reading of 0 • O2% remained at 0 throughout most of the readings with an increase to 10.7 on 3/4/11 and a final reading of 20.9 • CO ranged from a high of 237 to a low of 0 in the last reading H2S ranged from a high of 16.5 to a low of 0 in the last reading.
253317	Gonzalez	7/12/07	4/5/11	2/25/11, 2/28/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from previous period at the wellhead with 0% LEL, no detectable methane, O2% at 20.9 and no CO or H2S.
256504	Hopke	7/5/07	3/22/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	Readings consistently measure methane at >100% LEL and at values of CH4% by volume fairly consistently above 20 until late 2009 when levels dropped to between 10 and 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. No methane has ever been detected at the cistern.	Wellhead: • % LEL remained unchanged at >100 until the last reading of 100 • CH4% by volume decreased from 14 to 5 with a high of 53 on 3/19 • O2% volume increased from 18.2 to 19.7 with a low of 6.8 on 3/19. • CO remained unchanged at 0 ppm, H2S went from 0 to 0.5 in the first reading and then dropped to 0 in the remaining readings. There were no readings on 4/5/11 since the site could not be accessed due to a locked gate. There were no readings at the cistern during the reporting period.
236272	Houghtling	7/6/07	4/5/11	2/25/11, 2/28/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	Methane levels at this wellhead have been consistently >100% LEL with CH4% by volume fairly consistently above 20 with an occasional lower values (but not 0). Since early 2010 CH4% volume has been fairly consistently between 75 and 100. No methane has ever been detected at the cistern.	Wellhead: • % LEL remained unchanged at >100 until the last reading when it dropped to 59 • CH4% increased from 47 to 100 and then dropped to 2.95 in the last reading • O2% volume measured between 4 and 9 with a low reading of 0 on 2/28 and a high reading of 20.8 on 4/5. • CO and H2S remained unchanged at 0 throughout the period At the cistern: no changes from previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. The cistern was measured on 3/22 only.
35292	Kerman/ Hanson	7/6/07	4/5/11	2/25/11, 2/28/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	Values at this wellhead have been at or near 0 with readings of >100% LEL and greater than 5% by volume CH4 on 12/2/08, 12/22/08 and 3/7/11 and detectable methane readings in July, August and December 2009. No methane has ever been detected at the cistern.	No change from at the wellhead or cistern with 0% LEL, no detectable methane except for a reading on 3/7 of >100% LEL and 42% by volume CH4. O2% primarily remained at 20.9 with two readings slightly less at 20.4 and 20.5 and a low reading of 11.1 on 3/7. CO and H2S remained at 0 throughout the period. The cistern was only measured 3/21/11.

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	Lively 10-02	12/22/2008	3/21/11	3/21/11	Readings from this well started with mostly 0 to low levels of methane and moved to mostly detectable methane from May to December 2009 and then back to mostly no detectable methane with an occasional higher reading.	At the wellhead: • % LEL increased from 0 to 100 • CH4% increased from 0 to 5 • O2% decreased from 20.9 to 12.9 • CO increased from 0 to 500 ppm • H2S increased from 0 to 99.5 ppm
222539	Lively	7/6/07	4/5/1	2/25/11, 2/28/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2. H2S decreased from 3 to 0.
16861-F	Masters #1	8/13/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
271136	May	7/12/07	4/5/11	2/25/11,3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2. H2S decreased from 1.5 to 0 ppm.
84108-A	McPherson	7/6/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
84106	Rohr	7/06/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/22/11, 4/5/11	No methane had ever been detected at this wellhead until the 3/4 and 3/22/11 readings when low levels were detected.	No overall change from the previous period to the end of this period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S. Two detectable readings did occur on ¾ and 3/22 with %LEL at 29 and 5 respectively; CH4% volume at 1.45 and 0.25 respectively; O2% at 14.1 and 18.1 respectively.
123144	Searle	7/11/07	4/5/11	2/25/11, 3/1/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
239657	Smith	7/5/07	4/5/11	2/25/11, 2/28/11, 3/4/11, 3/7/11, 3/10/11, 3/15/11, 3/19/11, 3/21/11, 4/5/11	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. Readings since that time on 5/21/08, 10/27/08, 7/13/09, 1/4/11, 3/10/11 and 3/15/11 have shown >100% LEL and CH4 % by volume at or above 5. October 2009 reading showed low levels (18% LEL and 0.9% CH4 by volume). Readings at the well vent have generally been higher with >100% LEL and CH4% by volume between 5 and 21.	At the well head overall no change from the previous period with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. Two methane readings during the period on 3/10 and 3/15 of %LEL of 18 and 27; CH4% volume of 0.9 and 1.35; O2% of 17.8 and 14.8 and an H2s Reading of 2 ppm on 3/10. At the well vent: • % LEL remained at >100 through most of the period with one readings of 0 on 3/10 and a final reading of 100. • CH4% volume varied between 13 and 37 with a low reading of 0 on 3/10 and a final reading of 5 • O2% volume started the period at 15.1 and ranged from a high of 20.9 on 3/10 to a low of 12.3 with a final reading of 19.9 • CO and H2S remained unchanged at 0 ppm with an H2S reading of 3.5 on 3/21 Values at the cistern remained unchanged with 0%LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. There was no cistern reading on 4/5.

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	BLM 15-12	6/1/09	3/21/11	3/21/11	Detectable methane with >100% LEL and CH4 % volume of greater than 70 and limited O2% volume.	• % LEL remained at >100 • CH4% volume decreased from 100 to 87 • O2% volume remained at 0 • CO decreased from 127 to 0 • H2S decreased from 5.5 to 3.5
Wells Within or in Close Proximity to River Ridge Ranch Subdivision						
249362	Andexler	9/9/07	3/21/11	3/21/11	Several readings (3/25/09, 7/30/09 and October 2009) have shown less the 0.25% CH4 methane, otherwise no detectable methane until reading of >100% LEL and 6% CH4 by volume on 3/21/11.	• % LEL increased from 0 to >100 • CH4% volume increased from 0 to 6 • O2% volume decreased from 20.9 to 10.3 • CO increased from 0 to 9 • H2S increased from 0 to 2
215706	Brice	7/12/07	3/22/11	3/22/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
248680	Campbell	8/14/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
20783	Goemmer Cattle	7/12/07	12/8/10	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period.
258815	Goodwin	7/12/07	3/22/11	3/22/11	Readings have shown methane levels at or near 0 with no readings above 0 from late January 2009 through October 2009. November 2009 through February 2010 showed low levels of methane. 3/22/11 showed 40% LEL and 2% CH4 by volume.	• % LEL increased from 0 to 40 • CH4% volume increased from 0 to 2 • O2% volume remained unchanged at 20.9 • CO and H2S remained unchanged at 0 ppm
249181	Hentschel	9/9/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
259122	Higgins	9/26/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
269435	Hoppe (formerly Goacher)	7/11/07	2/23/11	None	No methane has ever been detected at this wellhead	Not measured during this reporting period.
264581	Ireland	7/12/07	3/22/11	3/22/11	Typically no methane, but methane has been detected on 12/2/08, 12/22/08, and 1/6/09 with 100% or greater LEL and 5% by volume CH4.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
235757	Klein, Phyllis	10/14/10	3/22/11	3/22/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
	Lang	10/29/07	7/28/08	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period.
93386	Lowry	7/12/07	12/8/10	None	No methane has ever been detected at this wellhead.	No longer measured, will be removed from future reporting.
250369	Martin	7/12/07	2/23/11	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period.
248862	Meyer	8/14/07	3/21/11	3/21/11	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 • CH4% volume decreased from 22 to 7 • O2% volume increased from 18 to 19.1 • CO and H2S remained unchanged at 0 ppm
192203	Rankins	7/12/07	6/21/10	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period.
276994	Rhodes	9/9/08	3/22/11	3/22/11	Slight methane levels reported 7/30/09. No methane has been detected previously or since at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
274468	Roloff	9/9/07	3/22/11	3/22/11	No methane had ever been detected at this wellhead except for low levels detected in the 8/25/09 measurement.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

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254577	Ryerson	9/9/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
246775	Sharp	9/9/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
267695	Speh	9/4/07	1/17/11	None	No methane has ever been detected at this wellhead except for slight methane readings of 5% LEL and 0.25% by volume CH4 on 12/8/10.	Not measured during this reporting period
230572	Willis	7/11/07	3/21/11	3/21/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
240947	Wolahan	7/12/07	3/21/11	3/21/11	No detectable methane except 5/21/08, 1/27/09 and 2/9/09 with levels at 5% LEL and 0.25% by volume CH4.	No change from the previous period with 0% LEL, no detectable methane, and no CO2 or H2S. O2% dropped from 20.9 to 19.
City Ranch and Other Properties						
	Andreatta/ Carsella	8/14/07	3/17/10	None	No methane has ever been detected at this wellhead.	No longer measured, will be removed from future reporting
197472	Bartlett	8/15/07	2/21/11	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period
210526	Bruington	8/7/07	3/21/11	3/21/11	From start of reading to November 2009 wellhead readings have shown consistent levels of methane at >100% LEL and CH4 % by volume at greater than 50. Since November 2009 overall %LEL and CH4% volume have decreased. Some CO and H2S readings in mid to late 2008 but current readings have shown little to no CO and H2S. No methane has ever been detected at the cistern.	At the wellhead: • % LEL increased from 5 to 40 • CH4% volume increased from 0.25 to 2.0 • O2% volume decreased from 18.8 to 18.3 • CO and H2S remained unchanged at 0 ppm At the cistern, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
220100	Cordova	10/30/07	3/21/11	3/21/11	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. Since March 2009 no detectable methane.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
191079	Brian Dale	8/15/07	3/17/11	3/17/11	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 except for low readings on 12/17/10 and 1/19/11.	At the Wellhead and Well #2 there was no change from the last measurements with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S. :
193092	Deagan	8/25/08	2/18/11	None	Initial readings were variable between 0 and >100% LEL and 5% by volume CH4. From 2/17/09 to 3/17/10 there was no detectable methane. Since that time, every few months low levels of methane are recorded with the intervening time having not detectable methane.	Not measured during this reporting period
	Dernell	8/15/07	2/21/11	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period
258651	Gonzalez	5/22/08	3/21/11	3/21/11	Methane readings were >100% LEL and CH4 % by volume mostly above 20. From 4/9/09 to 7/13/09 values were reduced with % LEL below 50 and CH4 % by volume below 3. From 7/30/09 reading to present values are variable with >100 for one or more readings and then reduced to lower levels (as low as 0) for one or more readings. There has been no detectable methane at the cistern.	At the Wellhead: • % LEL increased from 5 to 100 • CH4% volume increased from 0.25 to 5 • O2% volume increased from 16.5 to 19.9 • CO and H2S remained unchanged at 0 At the cistern, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

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Water Well Measurements for the March 2011 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with March 2011 Monthly Report)	If sampled, comparison of results from this period to last period
	Haupt #1	6/1/09	3/21/11	3/21/11	Mostly 100 to >100 % LEL and 5 to as high as 73% CH4 by volume. Some wide variations to as low as no detectable methane.	• % LEL remained unchanged at >100 • CH4% volume increased from 27 to 34 • O2% volume decreased from 4.1 to 3.8 • CO remained unchanged at 0 ppm H2S increased from 2.5 to 3.5 ppm
203536	Hurley	8/2/07	3/21/11	3/21/11	Readings have fairly consistently shown >100% LEL and CH4 % by volume between 10 and 25 with some higher readings and several much lower readings, most recently in July and October 2009, March through August 2010. H2S has also been measured, but starting around 9/08 values have been reduced to at or near 0 ppm.	At the Wellhead: • % LEL remained at >100 • CH4% volume decreased from 12 to 7 • O2% volume remained unchanged at 20.9 • CO and H2S remained unchanged at 0 ppm At the cistern, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
205195	Johnson	8/15/07	3/17/11	3/17/11	Readings have shown mostly low values of methane (% LEL less than 20 and CH4 % by volume less than 1) with 0 values. The number of non detectable methane reading has shown a general increase since late 2008 with only sporadic methane readings since that time.	At the Wellhead: • % LEL increased from 0 to 4 • CH4% volume increased from 0 to 0.2 • O2% volume decreased from 20.9 to 19.1 • CO rand H2s remained unchanged at 0 ppm At the cistern and well #2, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S
193520X	McEntee	8/2/07	3/17/11	3/17/11	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). Mostly no detectable methane since that time with low level detections on 4/22/09, 10/20/09 and 5/10/10.	At the wellhead and east wellhead, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
191345	Pennington	8/7/09	3/21/11	3/21/11	Initial readings at this well showed detectable methane at levels of >100% LEL and CH4% by volume at 15 or less. Since 3/17/10 all readings have been no detectable methane except for a low level of methane detected on 2/23/11.	• % LEL decreased from 5 to 0 • CH4% volume decreased from 0.25 to 0 • O2% volume increased from 18.5 to 20.9 • CO and H2s remained unchanged at 0 ppm
121013	Schafer	8/15/07	2/21/11	None	No methane has ever been detected at this wellhead	Not measured during this reporting period
248983	Tobyas	8/3/07	3/23/11	3/23/11	Historically this wellhead has shown wide variance between 0 and higher methane values of >100% LEL and greater than 5% by volume CH4. More recently (since approximately October 09, the values have been consistently higher with 90 to >100% LEL and 4.5 to 21% by Volume CH4.	• % LEL remained unchanged at >100 • CH4% volume decreased from 9 to 6 • O2% volume remained at 19.3 • CO and H2S volume remained at 0
Silver Spurs Ranch						
268180	Billstrand	8/12/08	3/23/11	3/23/11	No methane has been detected at this wellhead except for low readings on 5/6/09 and 1/19/10.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
215807	Brown	12/8/08	3/23/11	3/23/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

Table 6
Water Well Measurements for the March 2011 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with March 2011 Monthly Report)	If sampled, comparison of results from this period to last period
222294	Cramer	8/3/07	3/23/11	3/23/11	Most methane readings have been at or near 0 with periodic higher readings.	Wellhead: • % LEL decreased from 5 to 0 • CH4% volume decreased from 0.25 to 0 • O2% volume remained unchanged at 20.9 • CO and H2S remained unchanged at 0 ppm At the cistern, no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
192509	Eddleman, Paul	1/17/08	3/23/11	3/23/11	Readings mostly above >100% LEL and 5% by volume CH4 until 9/23/08 and then levels dropped to mostly 0 until 1/26/09. From 1/26/09 to 6/9/09 readings showed 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 more consistently higher. Beginning in <ay 2010 the first well was sealed and abandoned and a second well was measured which also showed highly variable measurements from no methane to greater than 100% LEL and 5 to as high as 47% CH4 % by volume.	• % LEL remained unchanged at >100 • CH4% volume increased from 15 to 47 • O2% volume increased from 10 to 15.1 • CO and H2S volume remained at 0
226536	Eddleman, Todd	1/17/08	3/23/11	3/23/11	Methane readings have been widely variable from not detectable methane to >100% LEL and greater than 5% by volume CH4.	• % LEL increased from 100 to >100 • CH4% volume increased from 5 to 12 • O2% volume increased from 16.5 to 17.4 • CO volume and H2S remained at 0
221465	Evenden	8/2/07	3/23/11	3/23/11	Methane readings have generally been at or near 0 with no detectable methane since 4/6/09 with several low methane readings from Nov 09 to March 10and one higher reading on 1/19/11 (100% LEL and 5% by volume methane).	No change from the previous period with 0% LEL, no detectable methane, and no CO2 or H2S. O2% volume decreased from 20.9 to 20.1.
	Fischer	1/26/09	2/17/11	None	Only two readings have detected low levels of methane (2/17/09 and 2/18/10), other readings have not detected methane.	This well will no longer be monitored and will be removed from this list as of the next monthly report period.
214145A	Fitzner	11/18/08	3/23/11	3/23/11	Methane levels have been generally at 0 but occasionally shows wide swings to >100 % LEL and 5 % CH4 by volume.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
31935	Garza-Vela	1/30/08	3/23/11	3/23/11	Generally there is 0 to low methane levels except for an occasional low level reading.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
196372	Geiselbrecht	8/12/08	3/23/11	3/23/11	No methane has ever been detected at this wellhead except for a low level reading on 3/23/11.	• % LEL increased from 0 to 2 • CH4% volume increased from 0 to 0.1 • O2% volume decreased from 20.9 to 20.8 • CO and H2S remained at 0 ppm
246350	Gumpert	7/29/08	3/23/11	3/23/11	Methane readings have been widely variable with most readings either 0 or >100% LEL and 5% by volume CH4.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
196371	Lyon	8/15/07	3/23/11	3/23/11	Between 2007 and mid-2009 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. Beginning in June of 2009 methane has been more regularly detected.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

Table 6
Water Well Measurements for the March 2011 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with March 2011 Monthly Report)	If sampled, comparison of results from this period to last period
271524-A	Modlish	1/30/08	3/23/11	3/23/11	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.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
28093MH	Morine	9/10/08	3/23/11	3/23/11	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 the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
35227MH	Morris	10/8/08	3/23/11	3/23/11	Methane readings are mostly non detectable with some wide swings between 0 and 100 % LEL and 0.00 and 5.00 % CH4 by volume.	• % LEL decreased from 5 to 0 • CH4% volume decreased from 0.25 to 0 • O2% volume increased from 20.8 to 20.9 • CO and H2S remained unchanged at 0 ppm
190327	Palmer	8/12/08	3/23/11	3/23/11	No methane was ever been detected at this wellhead until low levels were detected in 10/19/09, 11/6/09, 1/19/10, and 6/21/10.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
197128	Roberts	4/08/08	3/23/11	3/23/11	Methane readings have historically been widely variable from 0 to >100% LEL and 5% by volume CH4.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
271748	Sample	3/10/08	3/23/11	3/23/11	Most readings have no detectable methane to low levels of detectable methane with higher readings on occasion. One reading of 100% LEL and 5 % CH4 on 5/20/09 and one reading of >100% LEL and 6% CH4 on 12/15/10.	At the wellhead and cistern no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S
192144	Snow	8/2/07	3/23/11	3/23/11	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.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S
213070	Stephens	8/12/08	3/23/11	3/23/11	No methane had ever been detected at this wellhead except for low levels detected on 10/19/09, 6/21/10, 8/7/10, 1/19/11 and 3/23/11.	• % LEL increased from 0 to 20 • CH4% volume increased from 0 to 1 • O2% volume decreased from 20.9 to 19.7 • CO and H2S remained at 0 ppm
261753	Wahl	8/5/09	3/23/11	3/23/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
234839	Waltz	8/12/08	3/23/11	3/23/11	No methane has ever been detected at this wellhead.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
234836	White, Jim	1/4/08	3/23/11	3/23/11	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. No methane has ever been detected at the cistern.	At the wellhead and cistern no change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
219376	White, Orlie	8/2/07	3/23/11	3/23/11	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.	No change from the previous period with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
Black Hawk Ranch						
218719	Goza	1/14/09	3/25/11	3/25/11	No methane has ever been detected at this wellhead except for 2/12/09, 1/19/10, 3/1710 and 12/15/10 readings.	• No change from the previous period with 0% LEL, no detectable methane, and no CO2 or H2S. O2% decreased from 20.9 to 17.3.
206745	Harbecke	6/11/10	3/30/11	3/30/11	No detectable methane until 3/30/11 reading which showed low levels (7% LEL and 0.35% CH4 by volume).	• % LEL increased from 0 to 7 • CH4% volume increased from 0 to 0.35 • O2% volume decreased from 20.9 to 7.5 • CO remained at 0 ppm • H2S increased from 0 to 3 ppm

Table 7
Methane Readings Schedule
(22 March 2011)

Landowner	Subdivision	Water Level	Cistern	Twice Monthly	Monthly	Quarterly
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	X		
Kent Smith	River Ridge	X	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	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	X		
Masters #1	River Ridge			X		
Coleman	River Ridge			X		
May	River Ridge			X		
BLM 15-12	La Veta Pines				X	
Lively 10-02	River Ridge				X	

Table 7 Methane Readings Schedule (22 March 2011)						
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Twice Monthly**	**Monthly**	**Quarterly**
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	
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	
Hentschel	River Ridge				X	
Rankins	River Ridge					X
Goemmer Cattle	River Ridge					X
Higgins	River Ridge	X			X	
Campbell	River Ridge				X	
Rhodes	River Ridge				X	
Klein	River Ridge		X		X	
City Ranch						
T. Gonzalez	City Ranch	X	X		X	
Hurley	City Ranch	X	X		X	
Tobyas	City Ranch				X	
Dale	City Ranch				X	

Table 7 Methane Readings Schedule (22 March 2011)						
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Twice Monthly**	**Monthly**	**Quarterly**
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						
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	
Billstrand	Silver Spurs				X	
Waltz	Silver Spurs				X	
Stephens	Silver Spurs				X	

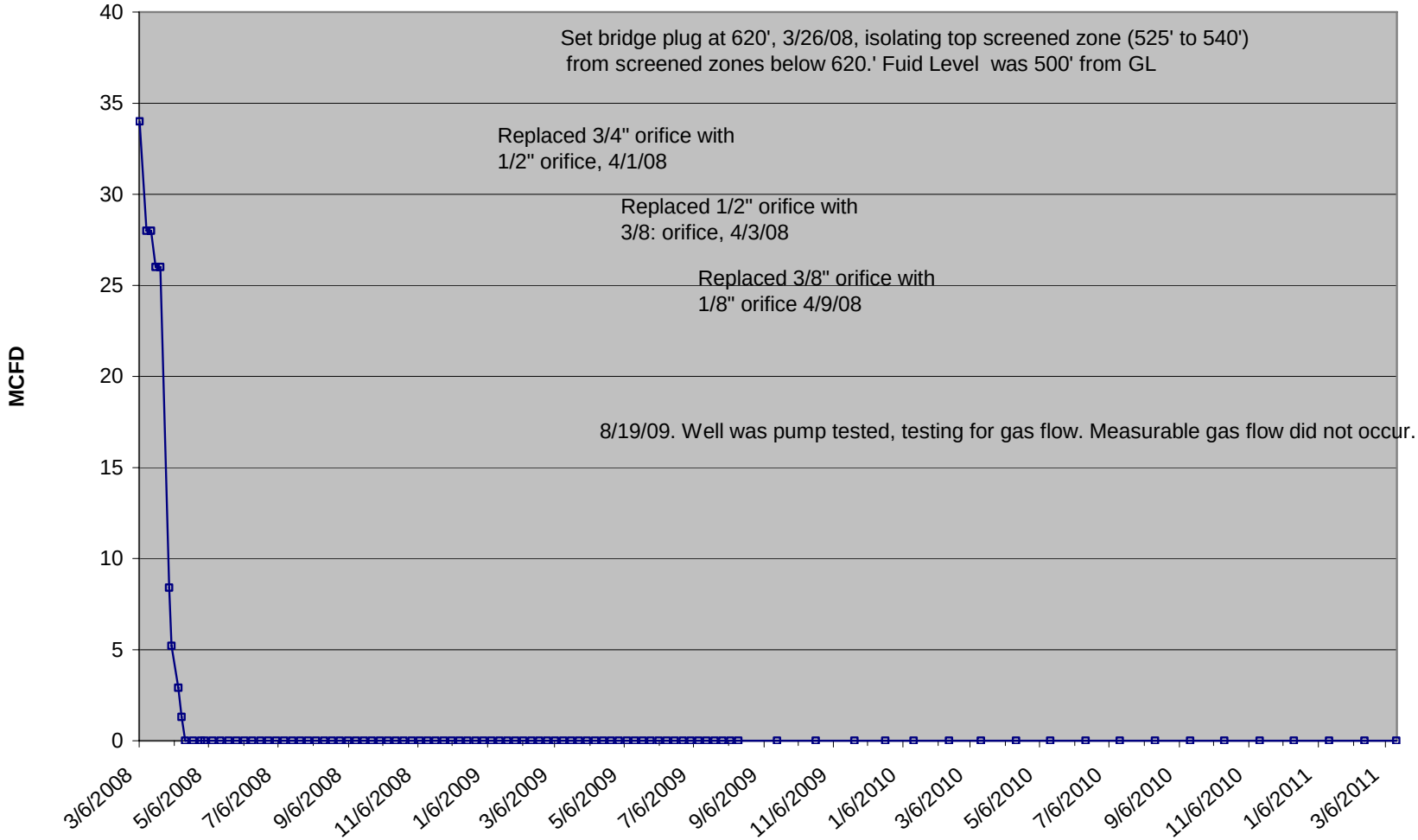
Table 7 Methane Readings Schedule (22 March 2011)						
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Twice Monthly**	**Monthly**	**Quarterly**
Palmer (G/S)	Silver Spurs				X	
Geoselbrecht	Silver Spurs				X	
Morine	Silver Spurs				X	
Morris	Silver Spurs					X
Brown	Silver Spurs	X			X	
Fitzner	Silver Spurs				X	
Wahl	Silver Spurs				X	
Black Hawk Ranch						
Goza	Black Hawk				X	
Harbecke	Black Hawk				X	

Rohr will be checked Quarterly with Rankin and Goemmer Cattle.

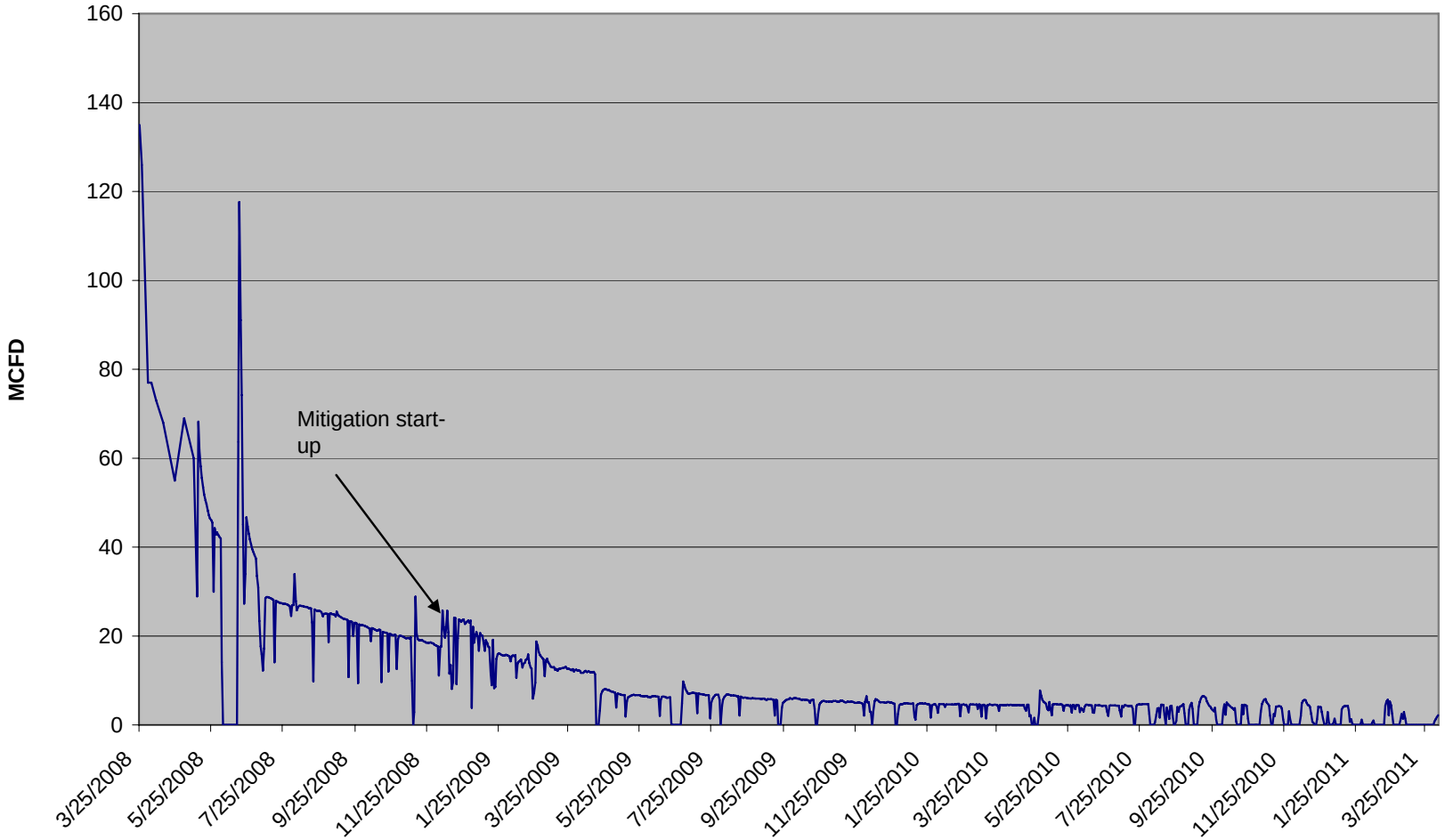
Table 8 Residences Receiving Water	
Jerry Angely	Has received water provided by PEI
Kent Smith	Has received water provided by PEI
Alan Cramer	Has received water provided by PEI
Tom Gonzales	Has received water provided by PEI
Spencer/Carol Snow	Has received water provided by PEI
Bruington	Has received 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
Bounds	Has received water provided by PEI
Houghtling	Added to the list in January 2010
Betty and Katherine Morris	Added to the list in September 2010

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

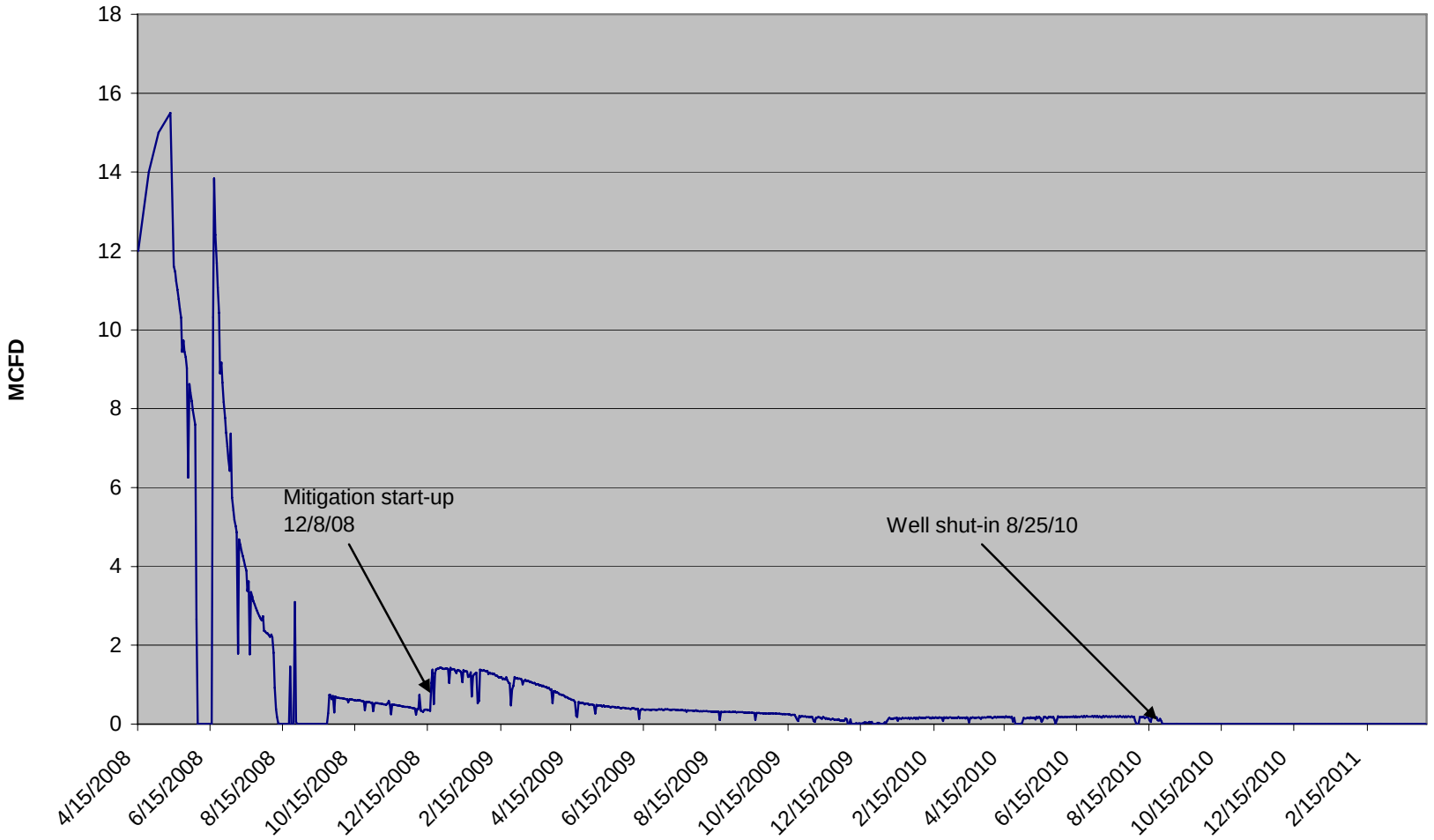
POCI 55 MW Gas Flow from 3/6/08 to 3/15/11



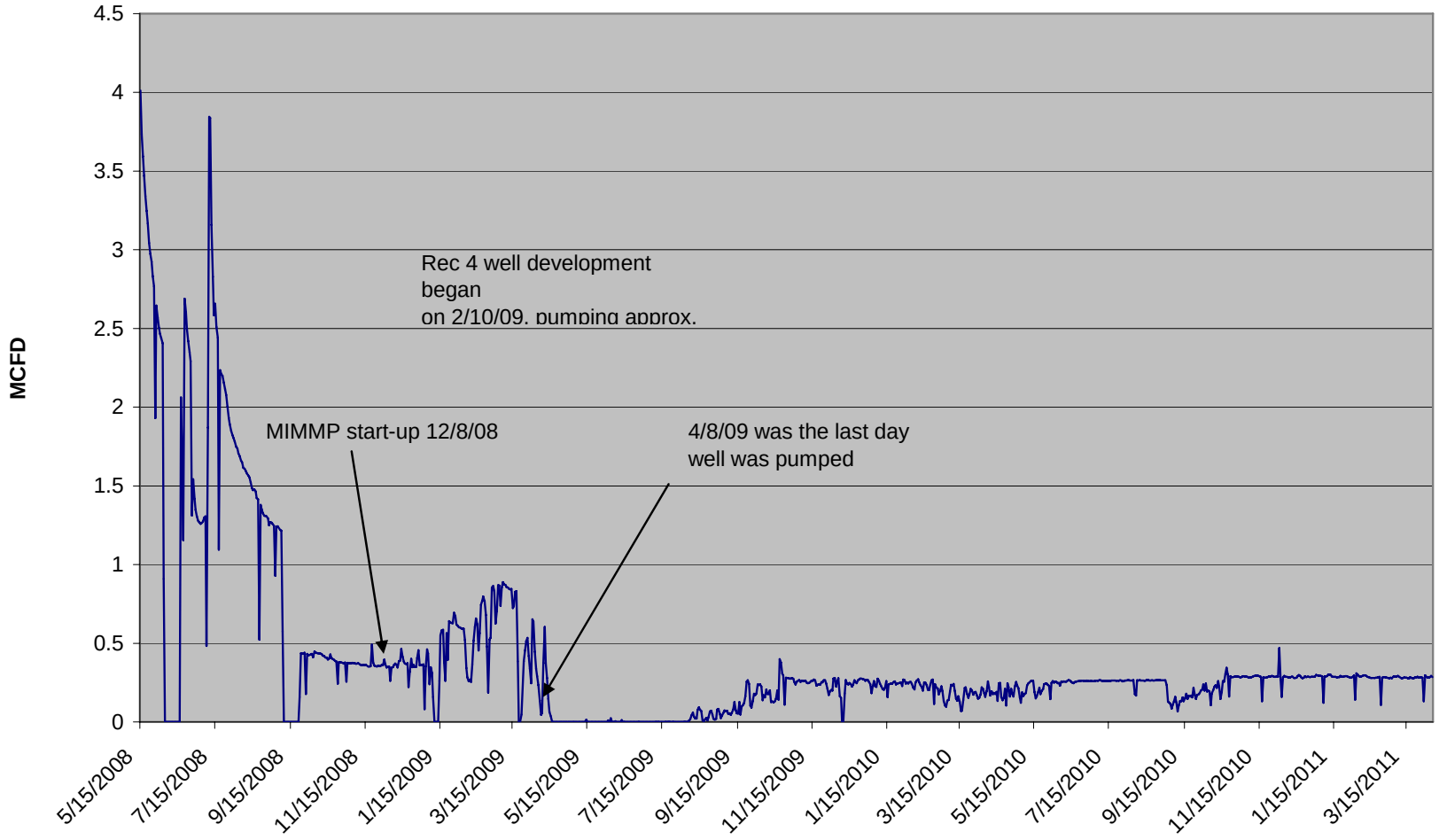
Recovery 1 Kittleson Gas Flow
from 3/25/08 to 4/5/11



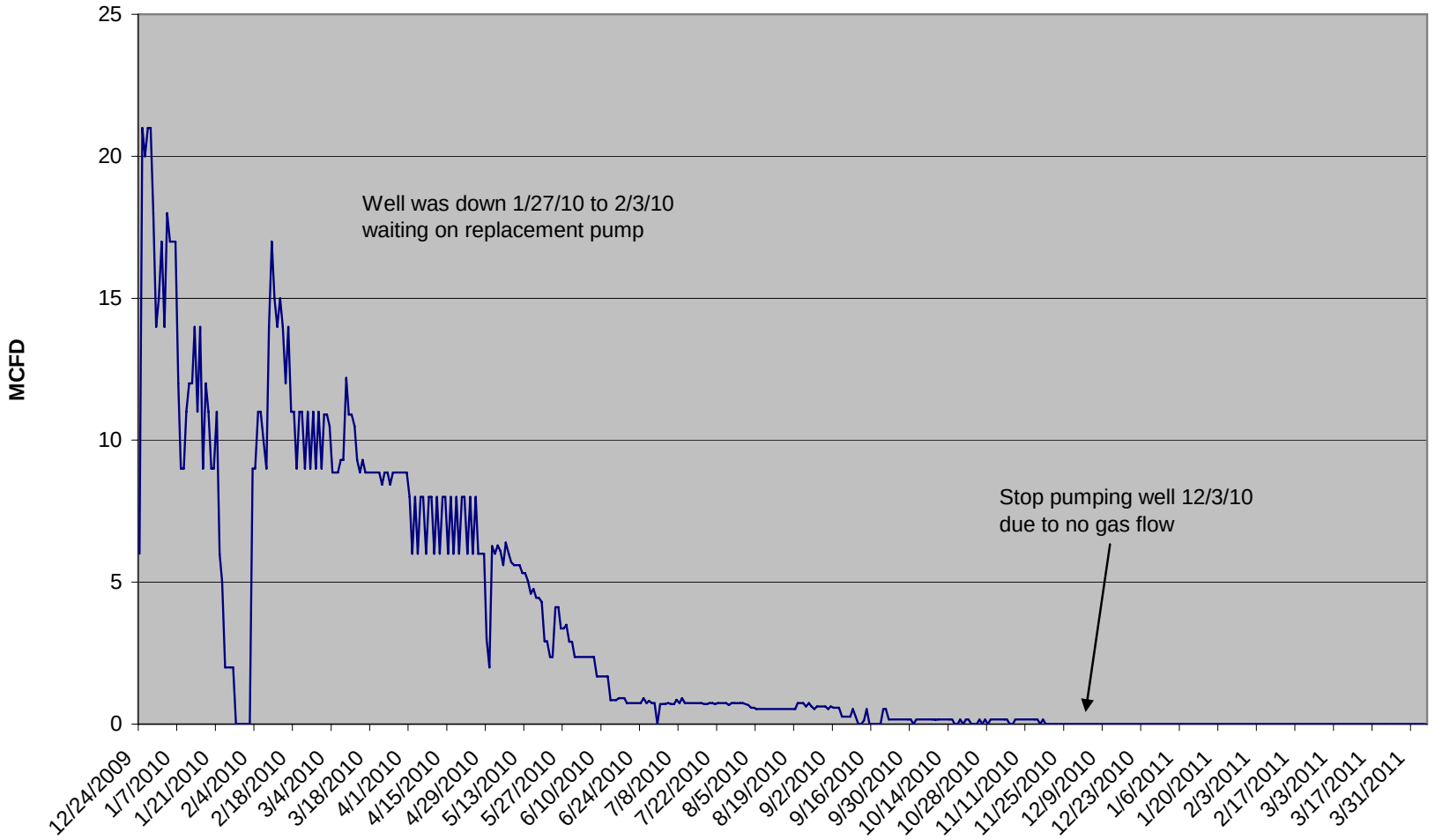
Recovery 3 PEI Gas Flow
from 4/15/08 to 4/5/11



Recovery 4 Barrett Gas Flow
from 5/15/08 to 4/5/11

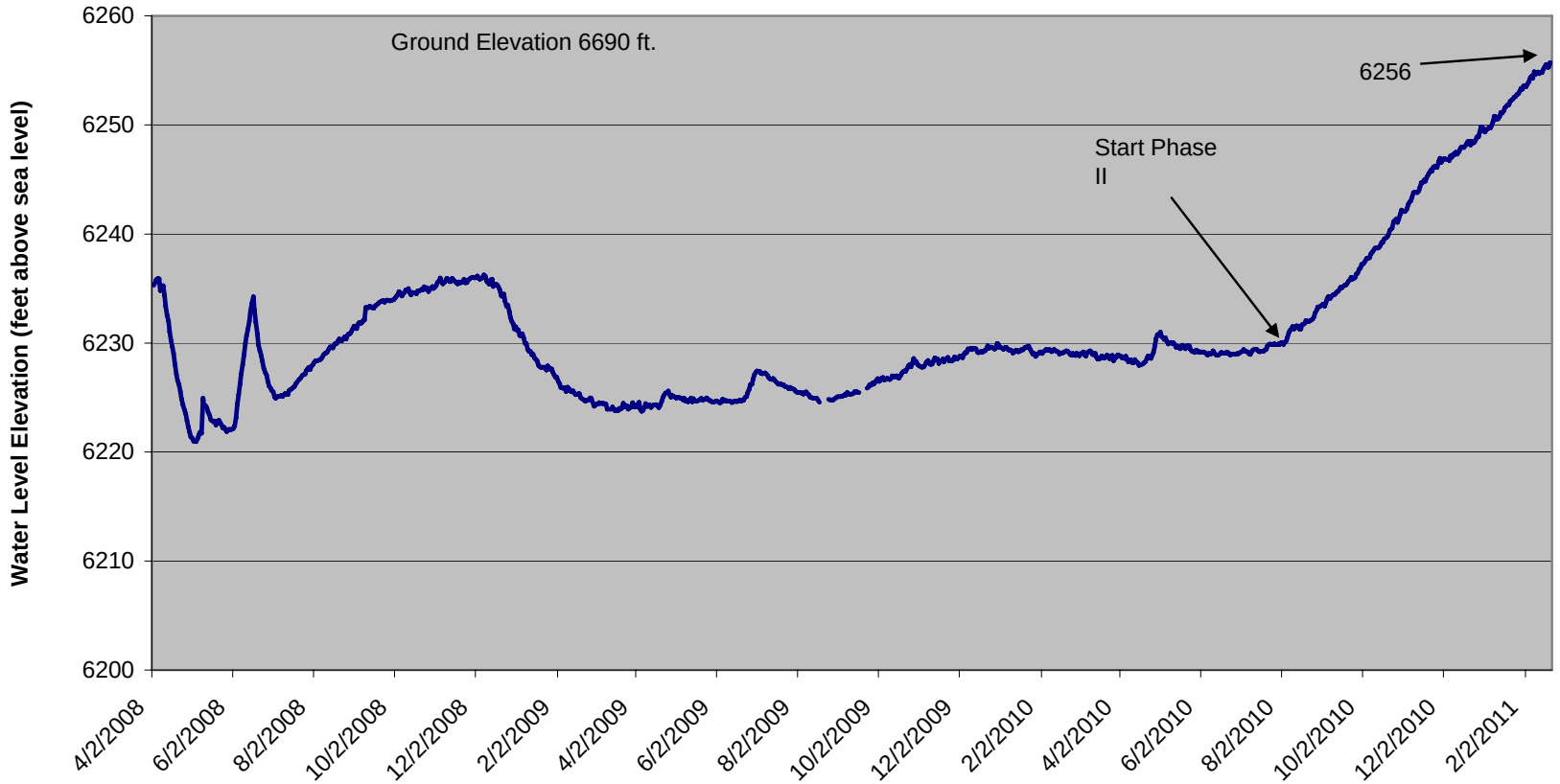


Recovery 5 Masters Gas Flow (Masters WW 257113) from 12/24/09 to 4/5/11

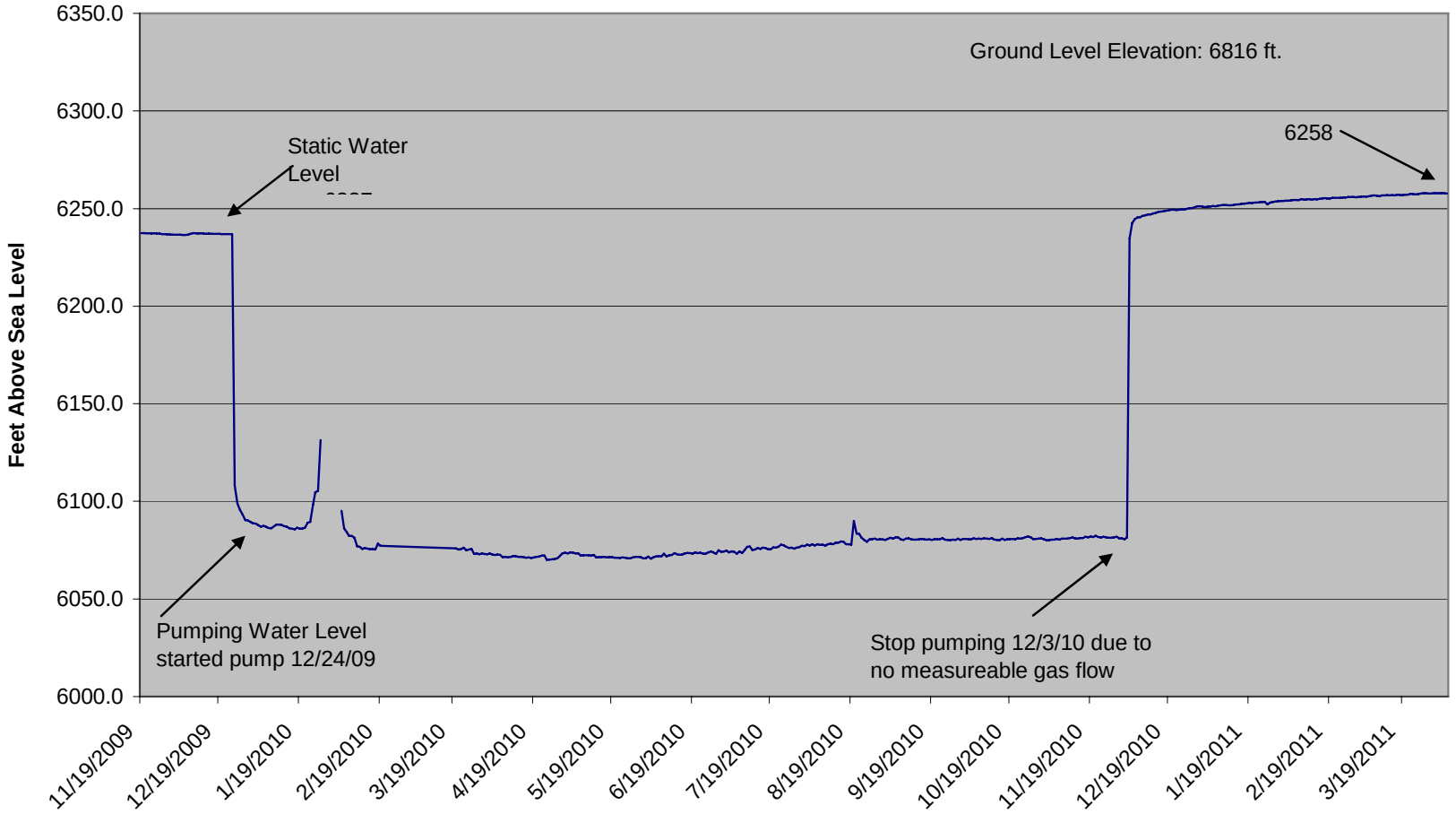


Attachment 2
Graphs of Pressure and Fluid Level Data From
POCI 55, Recovery 5 Masters, Barrett, Bergman, Bruington, Coleman, Evenden, Garza-Vela and Meyer

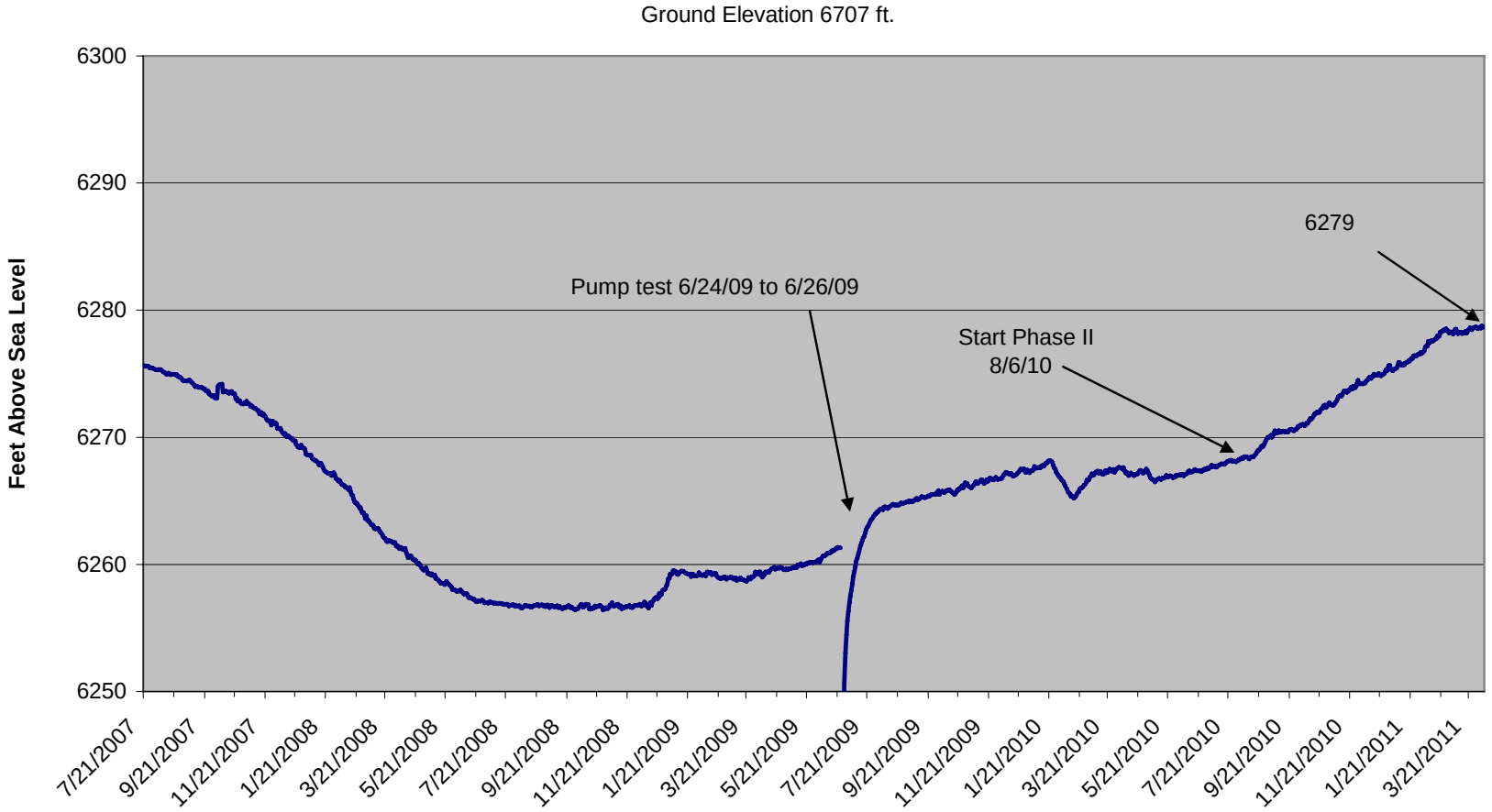
POCI 55 Monitor Well,
Static Water Level Elevation
from 4/2/08 to 2/21/11
Permit # 275819
Lot 55 RRR, SE SW Sec 3 29S 67W, GL elev. 6690'



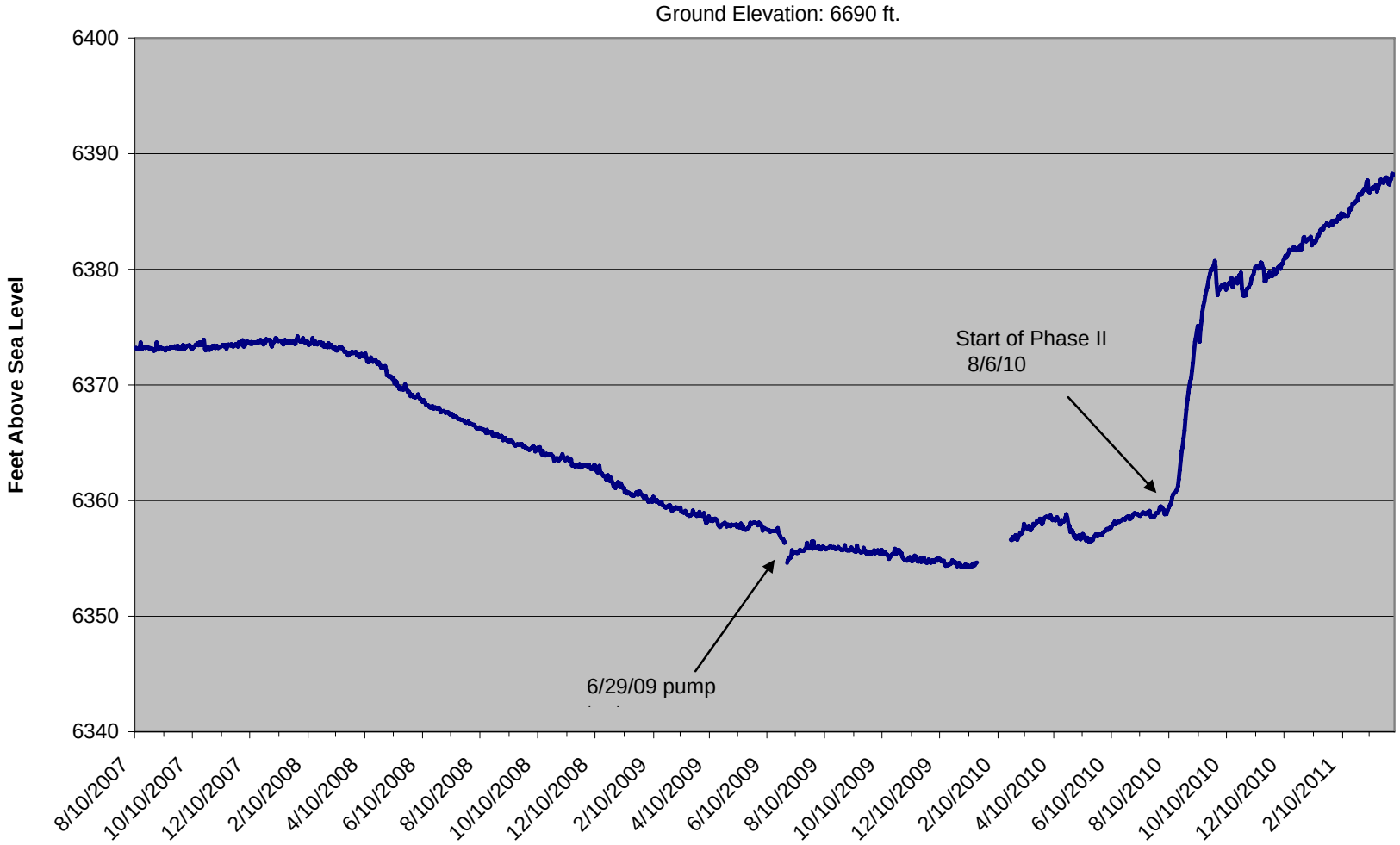
Recovery 5 Masters Water Level from 11/19/09 to 4/5/11
Permit # 68729-F (Masters WW # 257113)
RRR Lot 69



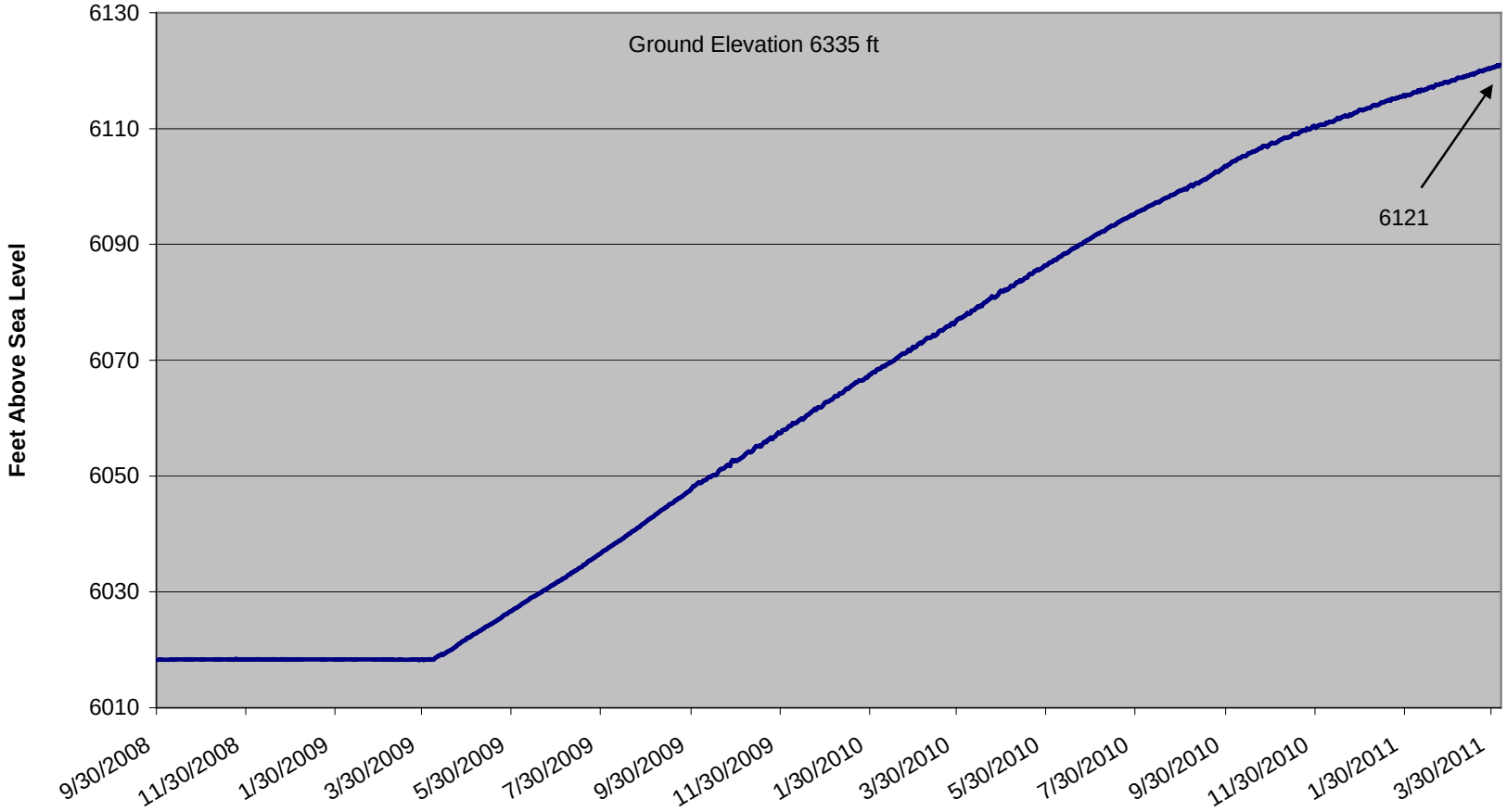
Barrett WW
Static Water Level from 7/21/07 to 4/5/11
Permit # 257994
Lot 57 RRR



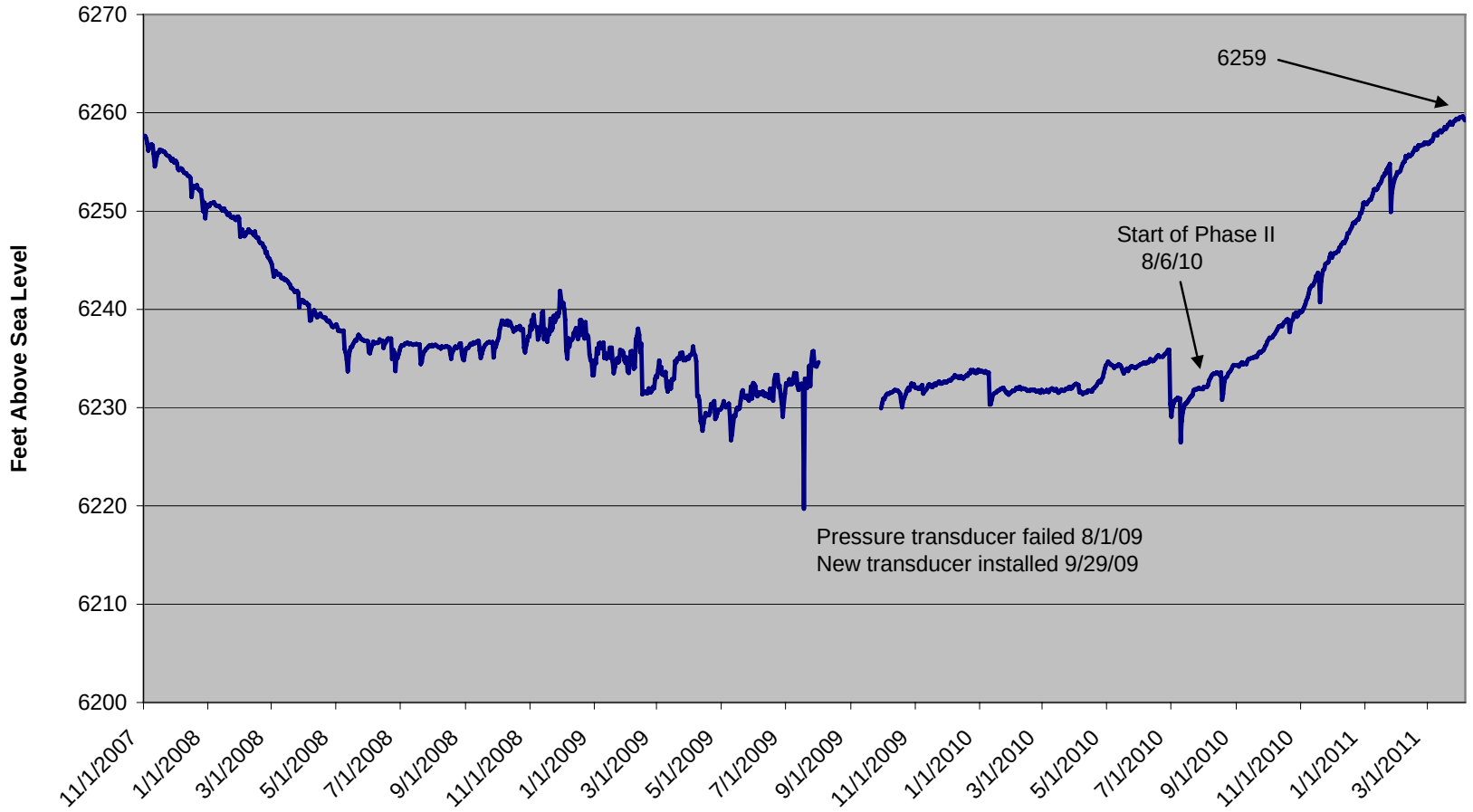
Bergman WW, Static Water Level from 8/10/07 to 4/5/11
Permit # 244403, Lot 48 RRR



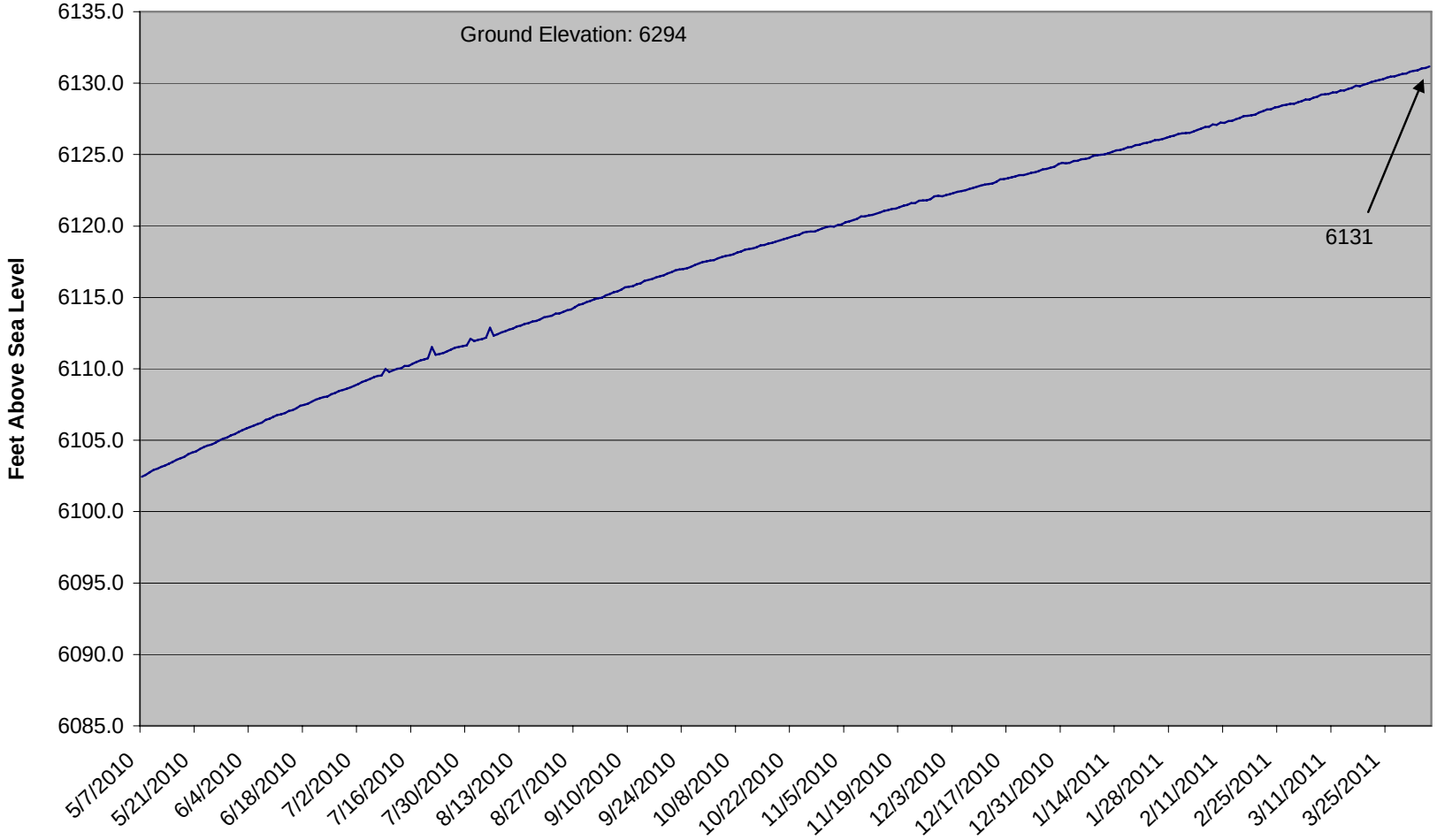
Bruington WW, Permit # 210526, City Ranches Lot 15
Static Water Level
from 9/30/08 to 4/5/11



Coleman WW, Water Level from 11/1/07 to 4/5/11
Permit # 267694 Lot 70 RRR
G.L. elev. 6848'

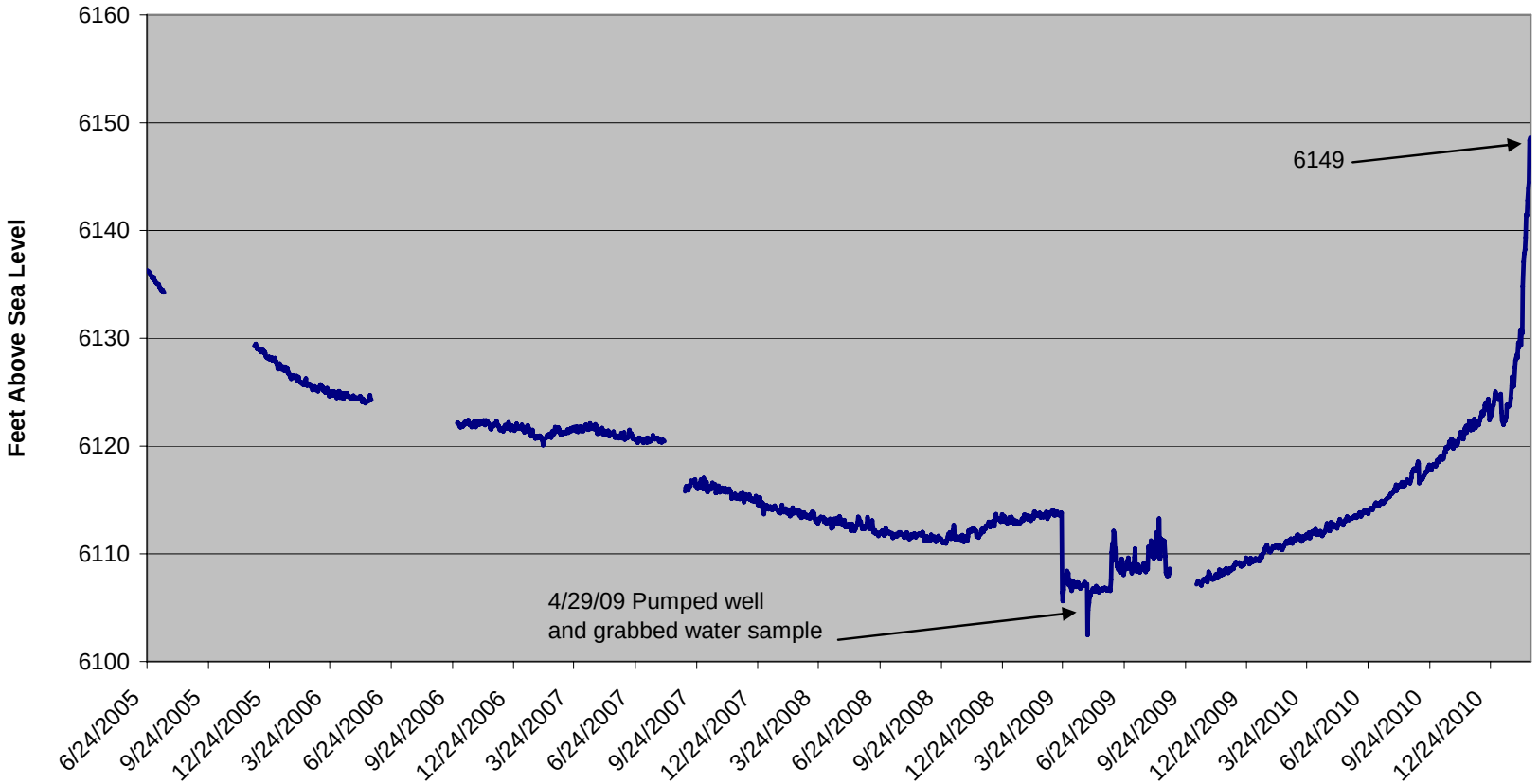


T. Gonzales WW, Permit #285651, City Ranches Lot 79A
Static Water Level from 5/7/10 to 4/5/11



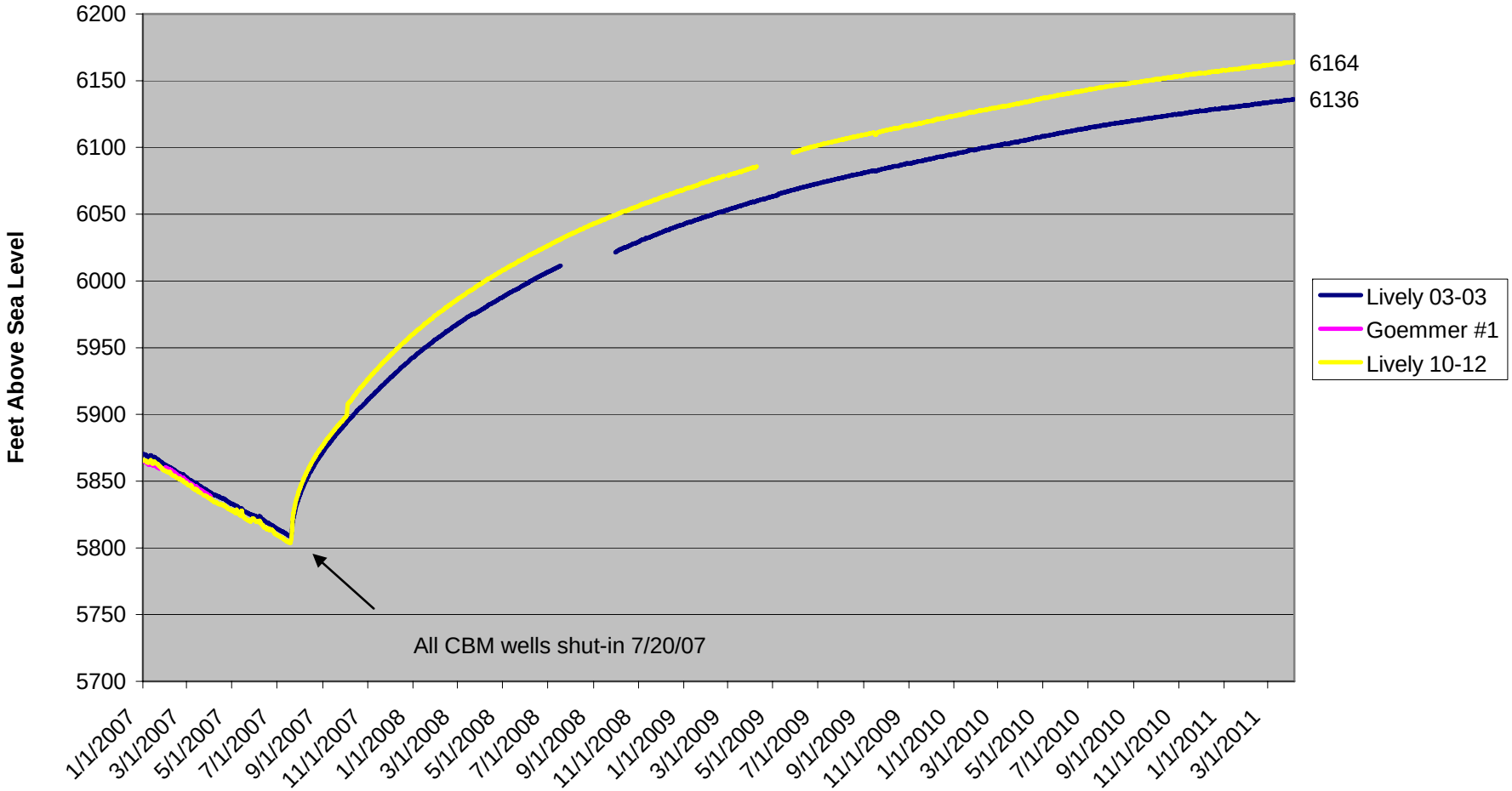
Meyer WW Permit # 248862
Static Water Level
from 6/24/05 to 2/12/11

Ground Elevation: 6575 ft.

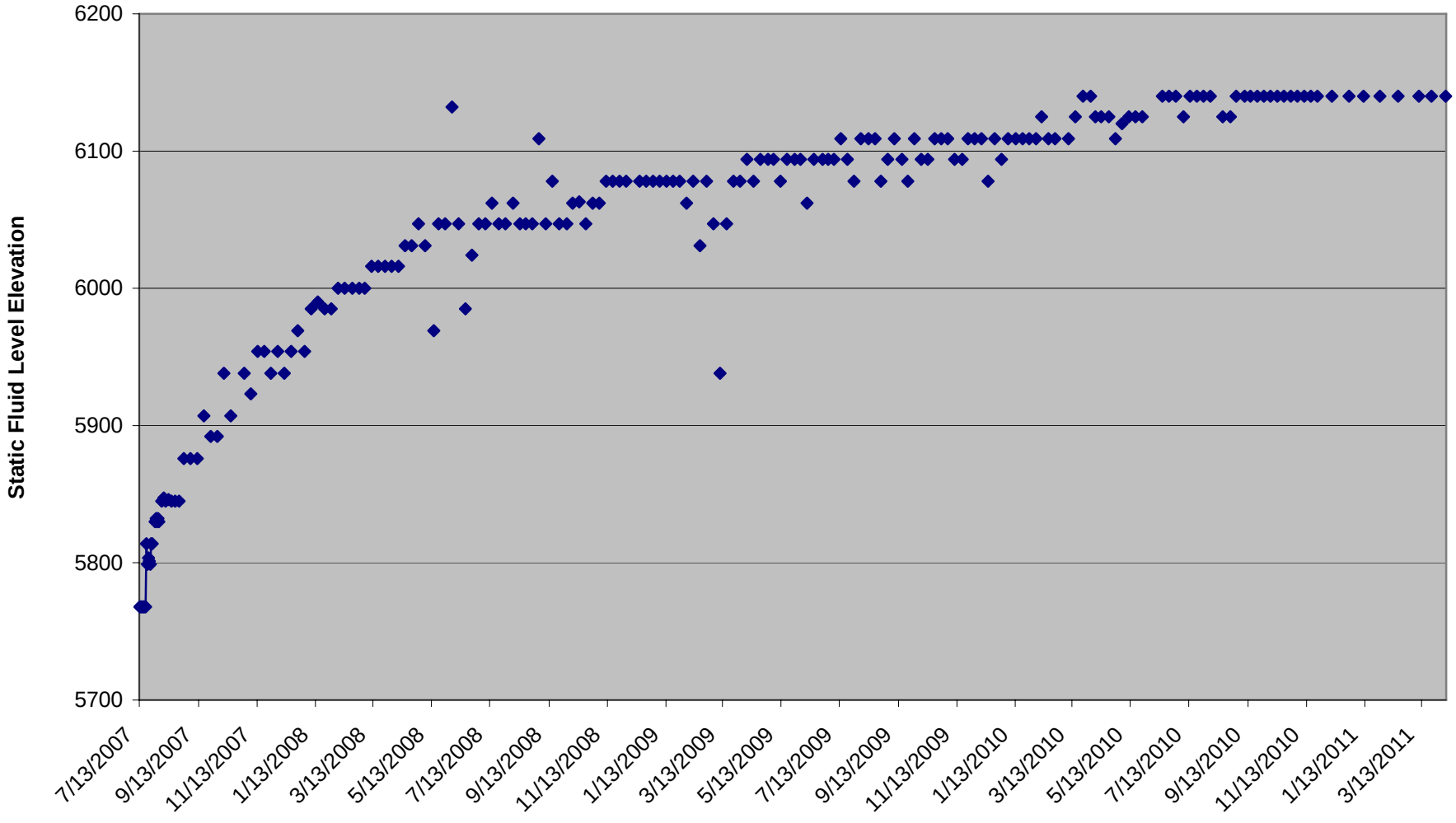


Attachment 3
Fluid Levels in Petroglyph Production Wells

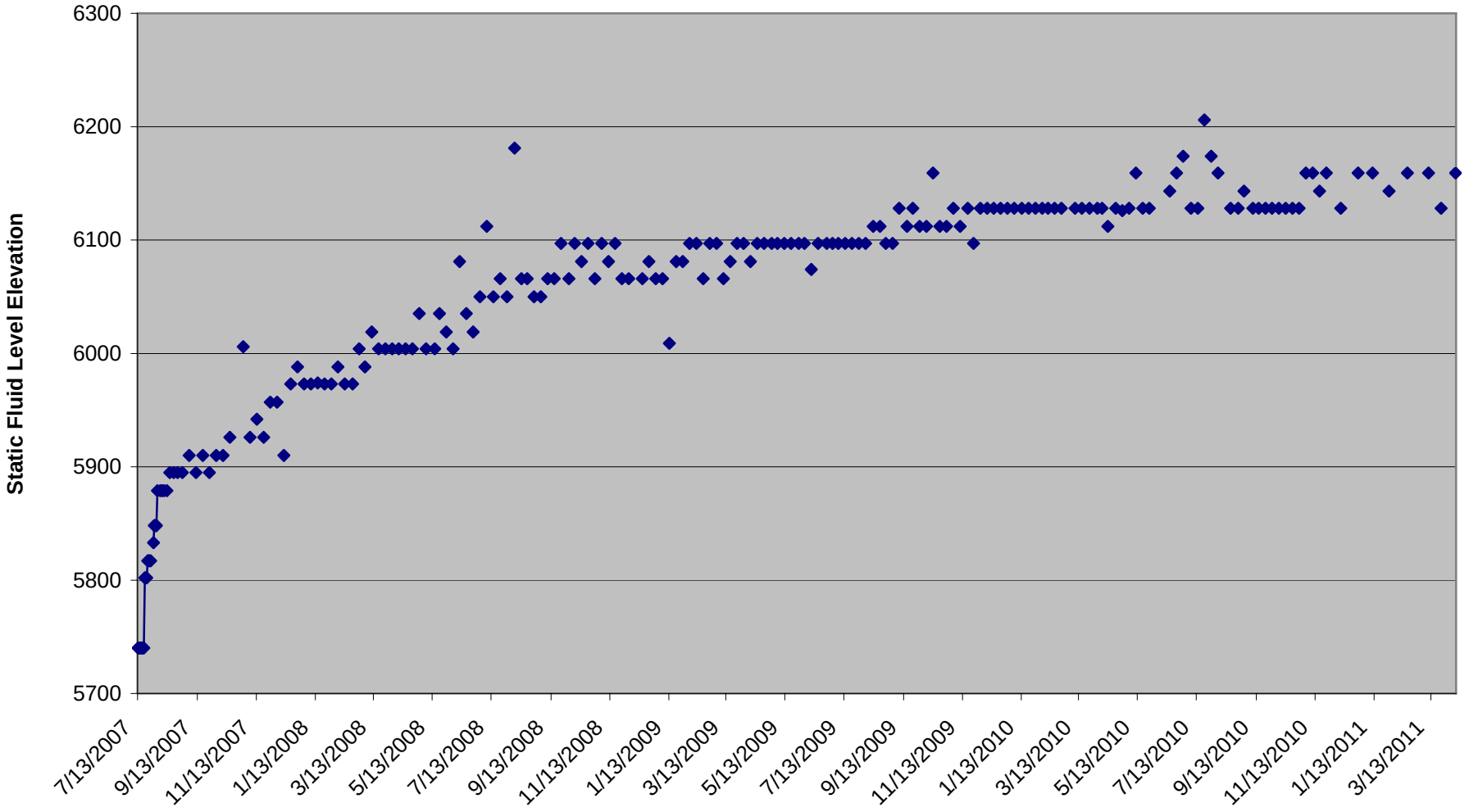
Vermejo/Trinidad Monitor Wells
Static Water Level
from 1/1/07 to 4/5/11



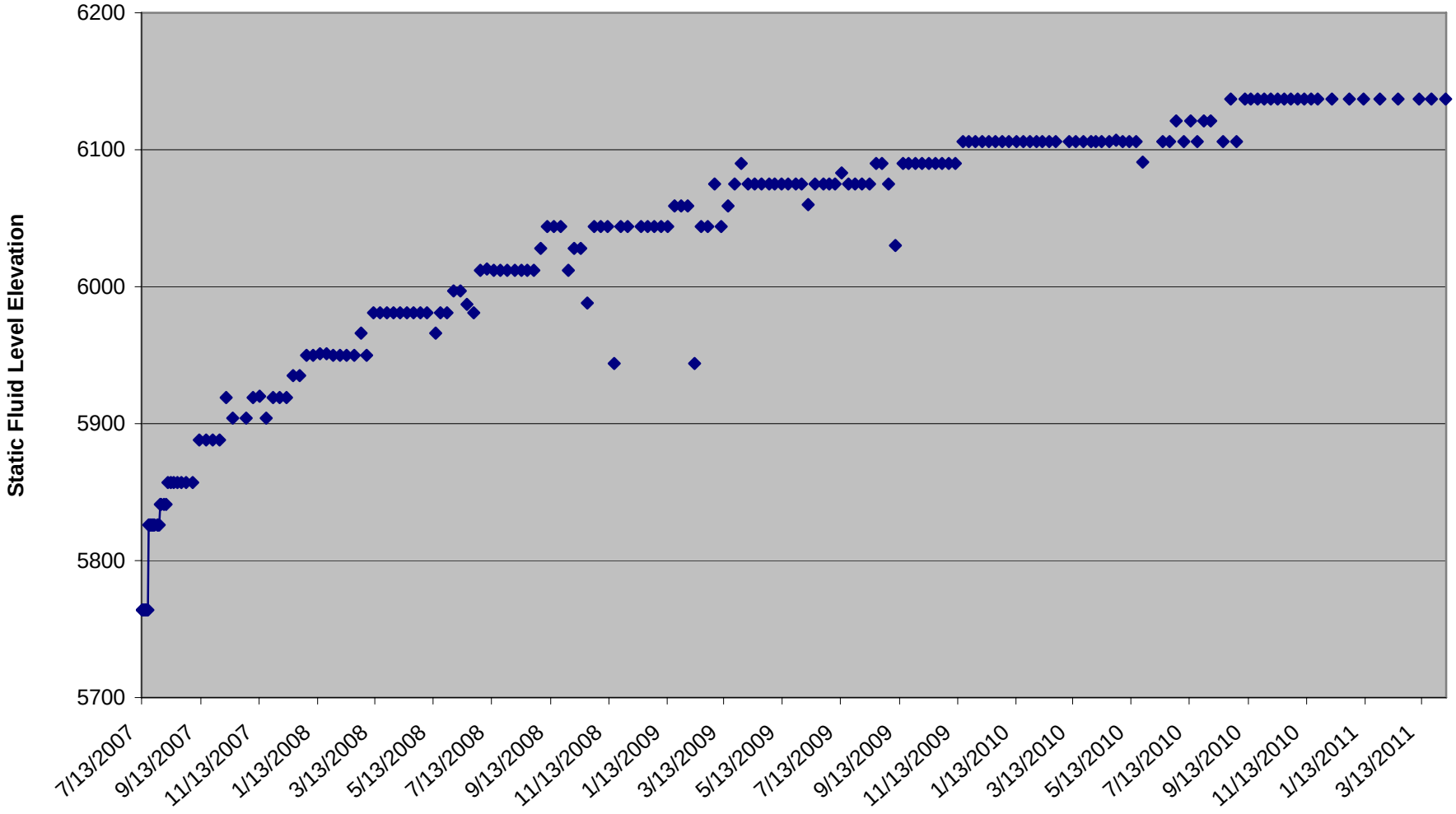
Lively 02-02
7/13/07 thru 04/07/11
Wells shut down 7/20/07



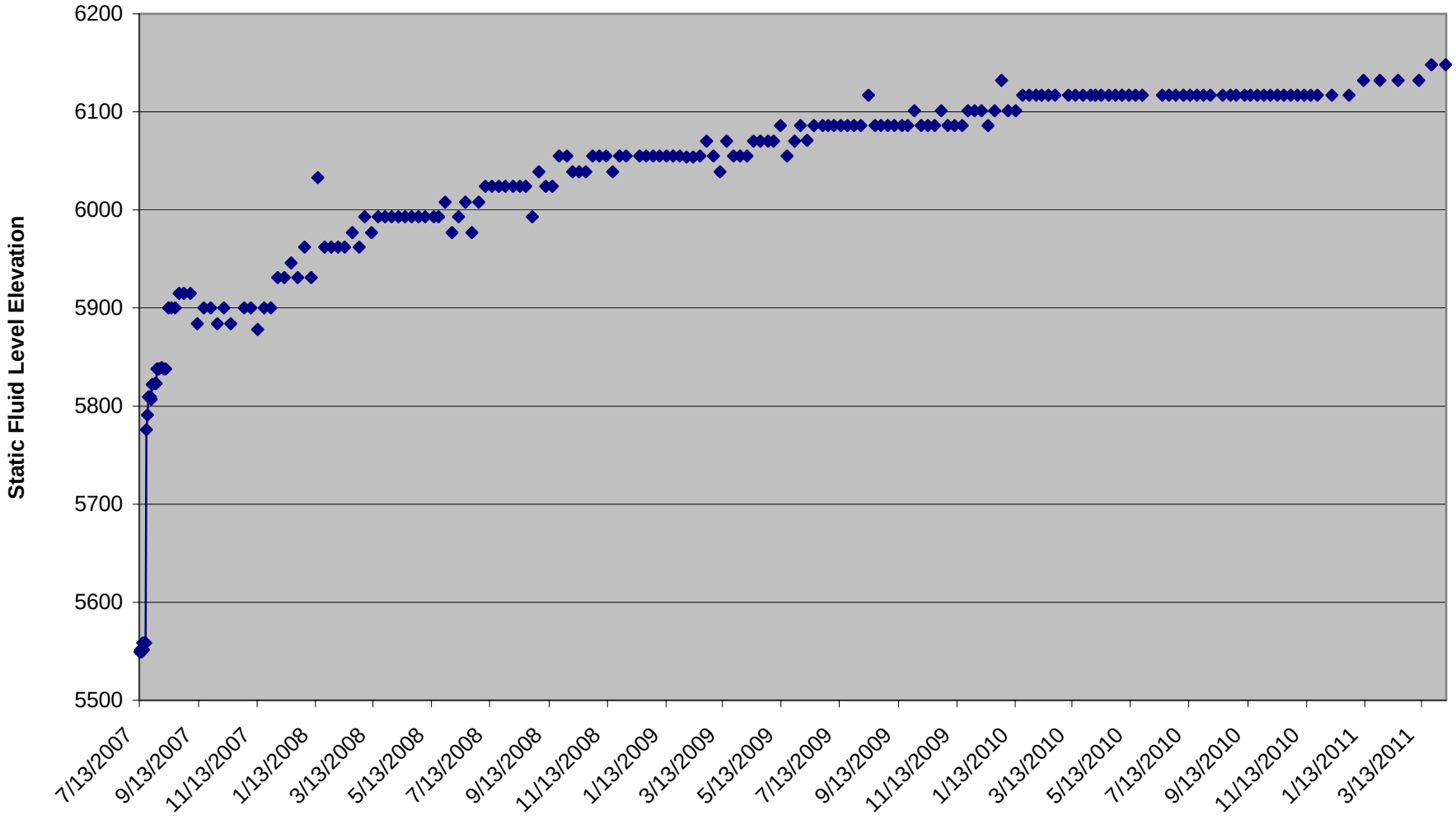
Lively 02-12
7/13/07 thru 04/07/11
Wells shut down 7/20/07



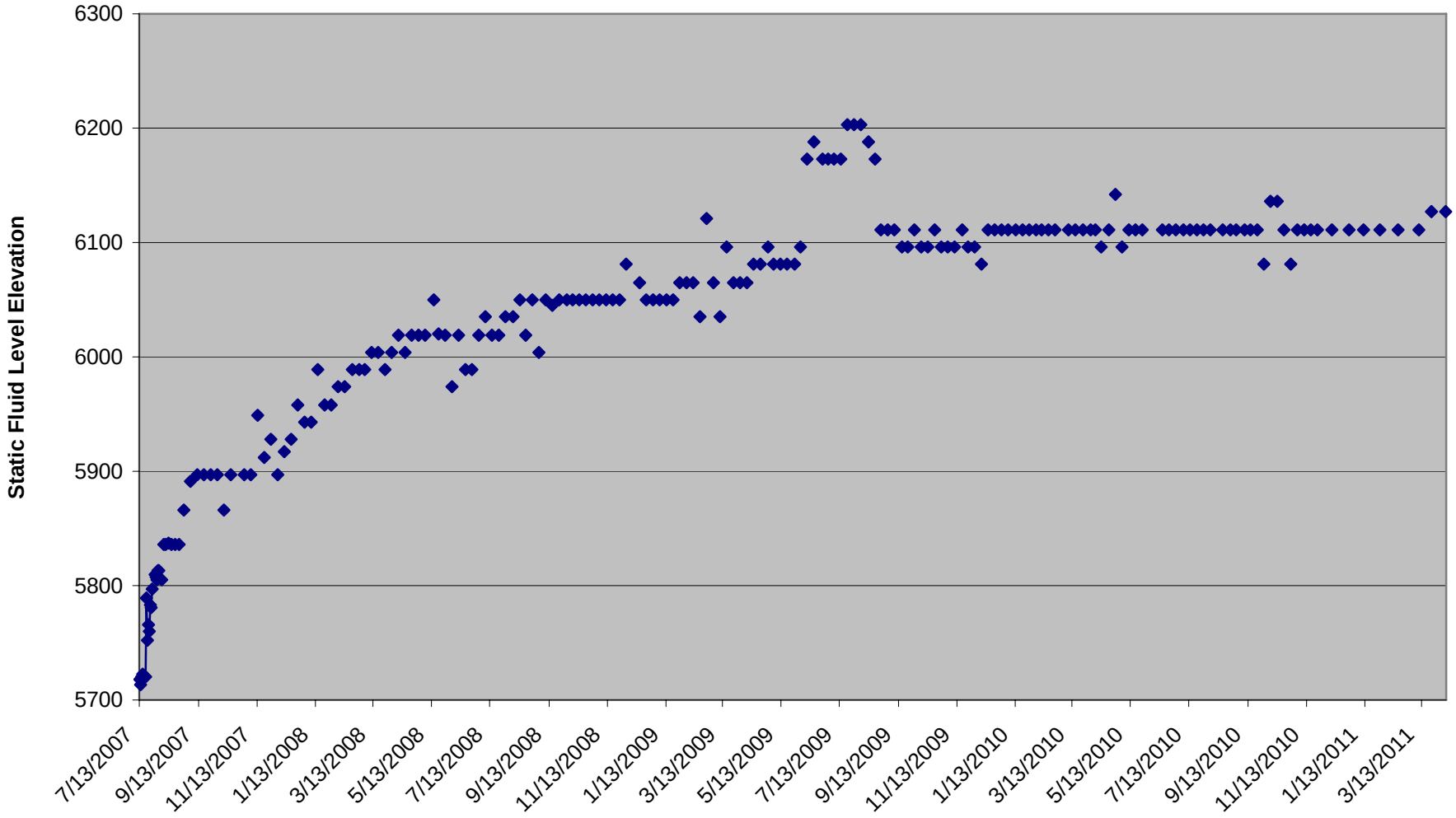
Lively 03-01
7/13/07 thru 04/07/11
Wells shut down 7/20/07



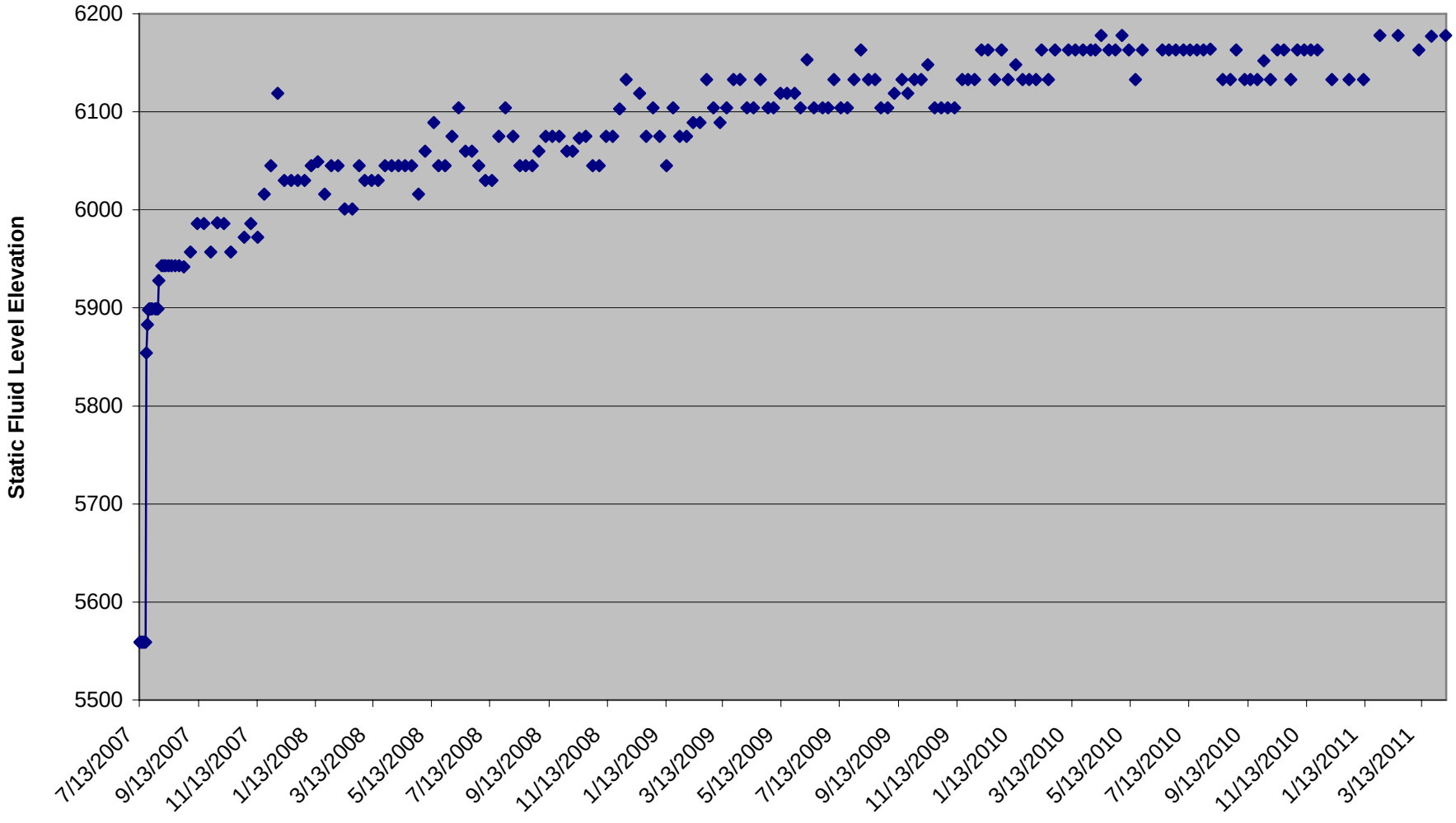
Lively 03-10
7/13/07 thru 04/07/11
Wells shut down 7/20/07



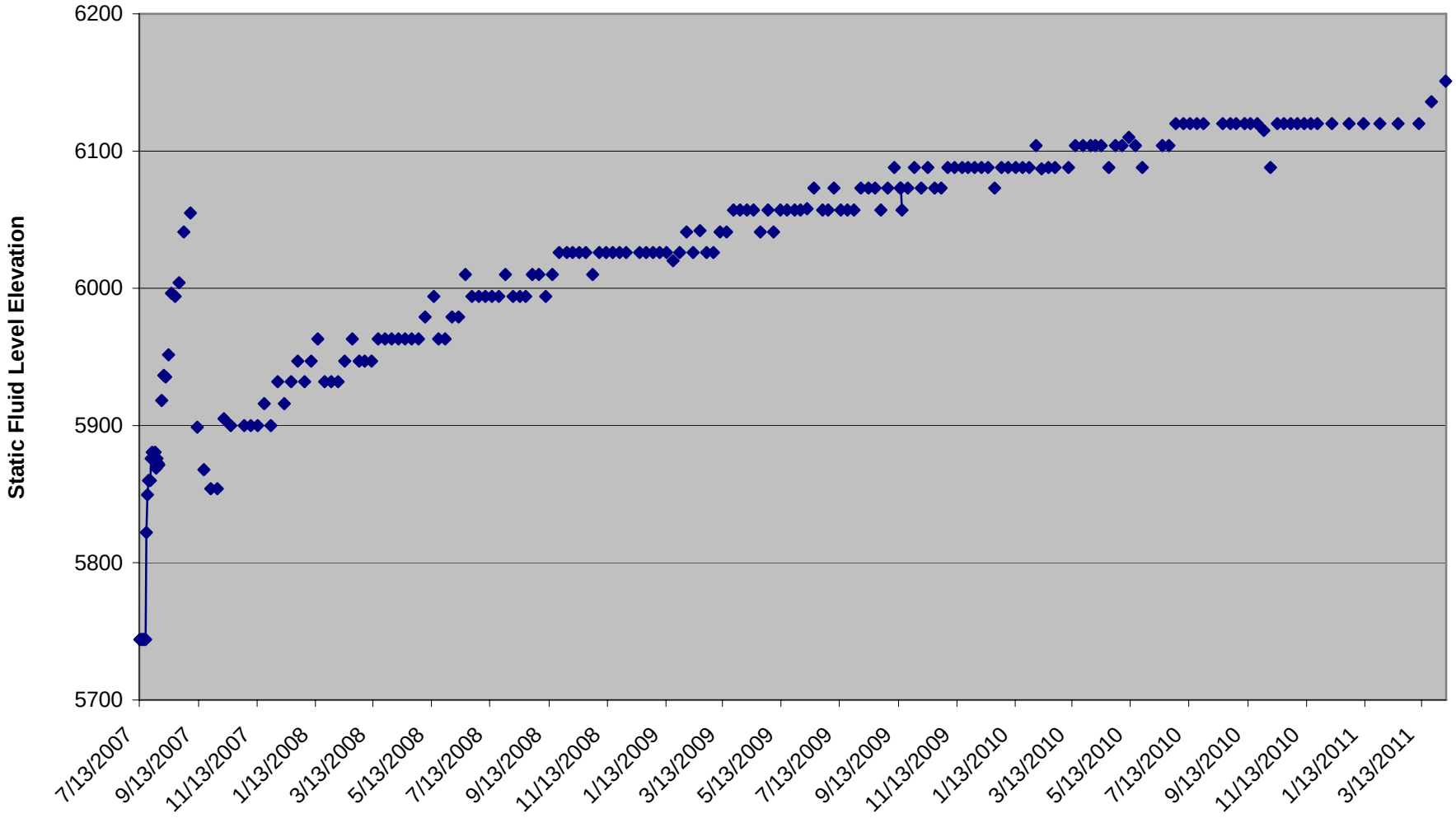
Lively 03-12
7/13/07 thru 04/07/11
Wells shut down 7/20/07



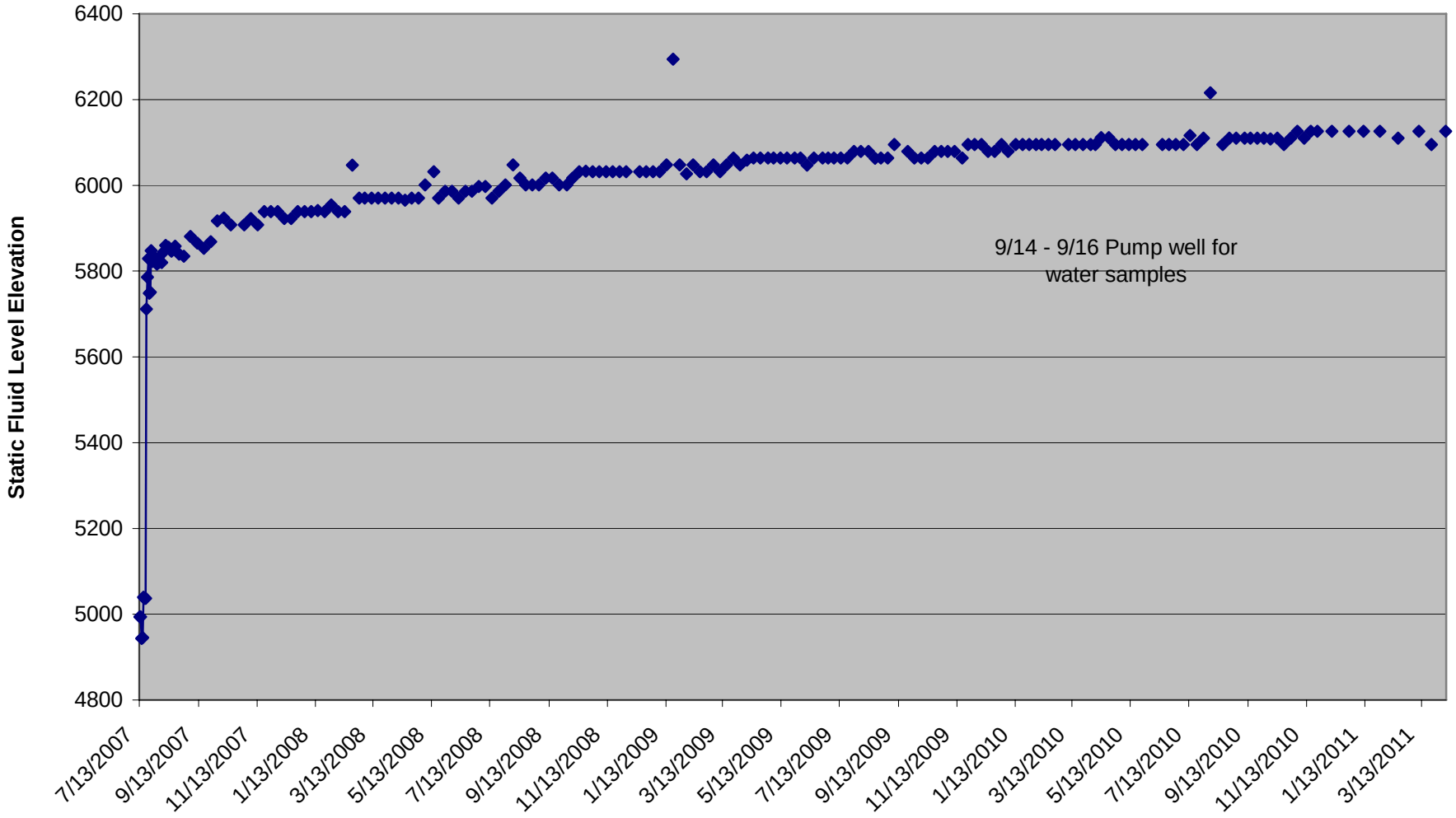
Lively 10-04
7/13/07 thru 04/07/11
Wells shut down 7/20/07



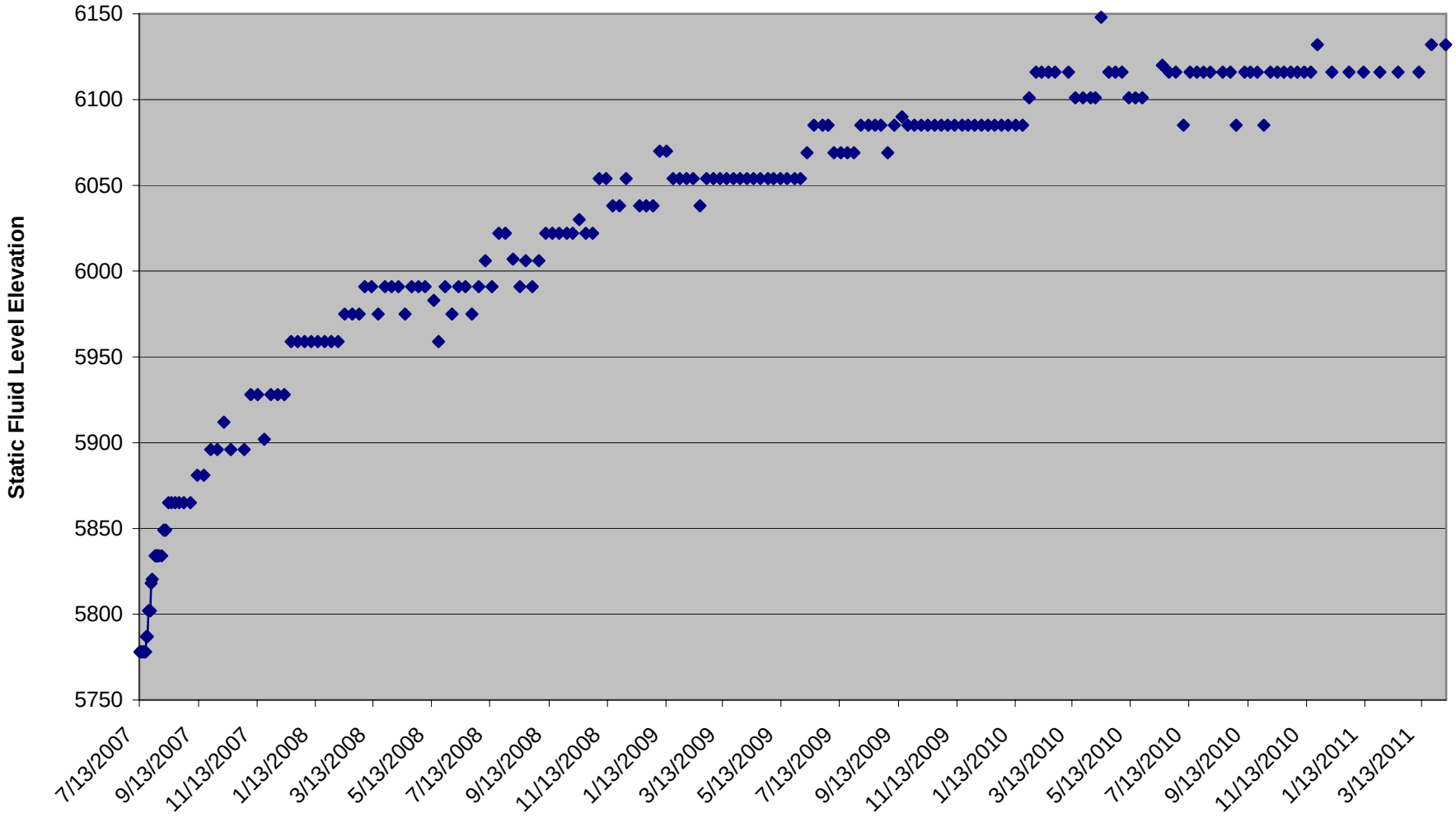
Rohr 04-10
7/13/07 thru 4/07/11
Wells shut down 7/20/07



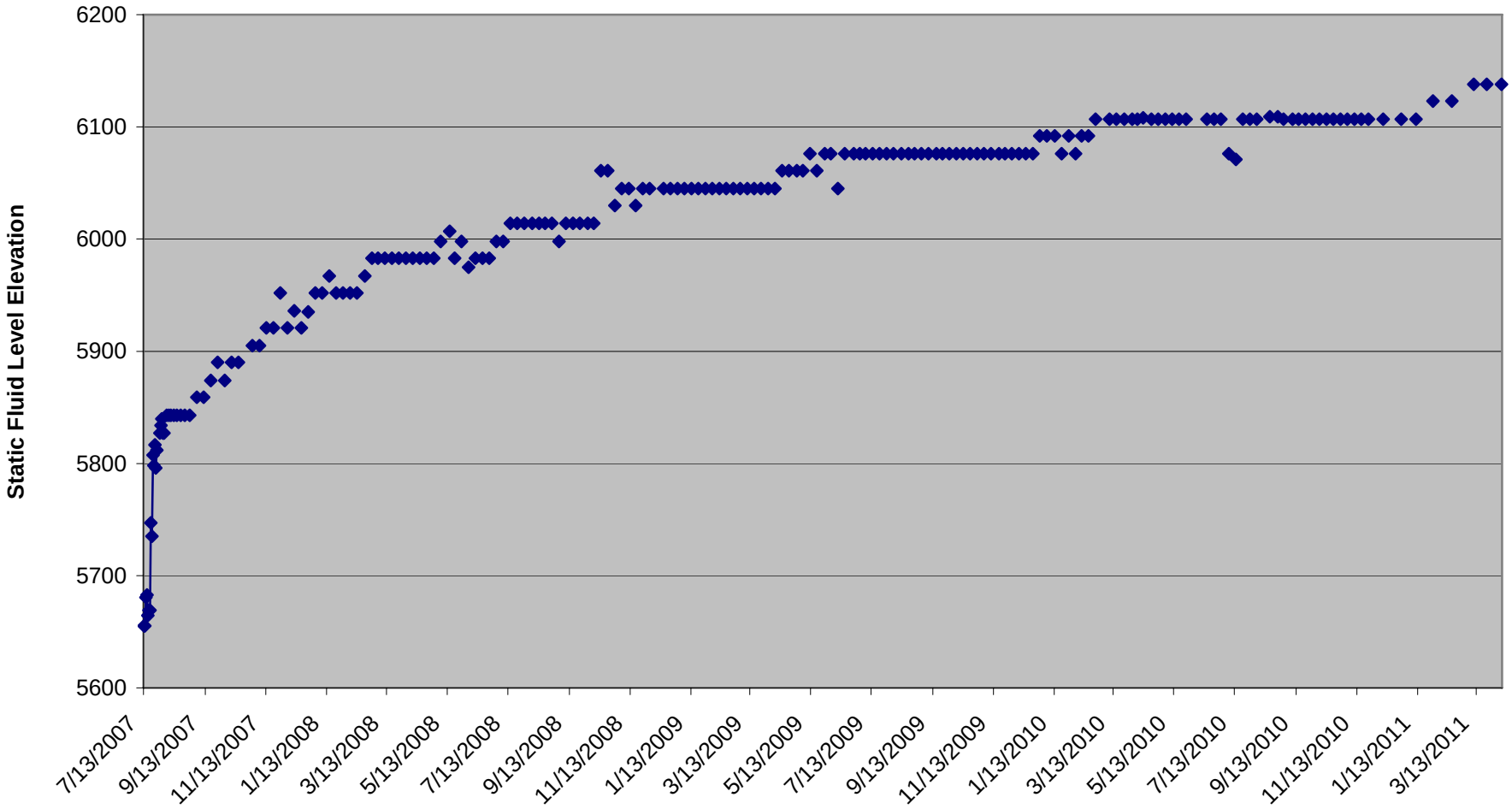
Rohr 09-10
7/13/07 thru 04/07/11
Wells shut down 7/20/07



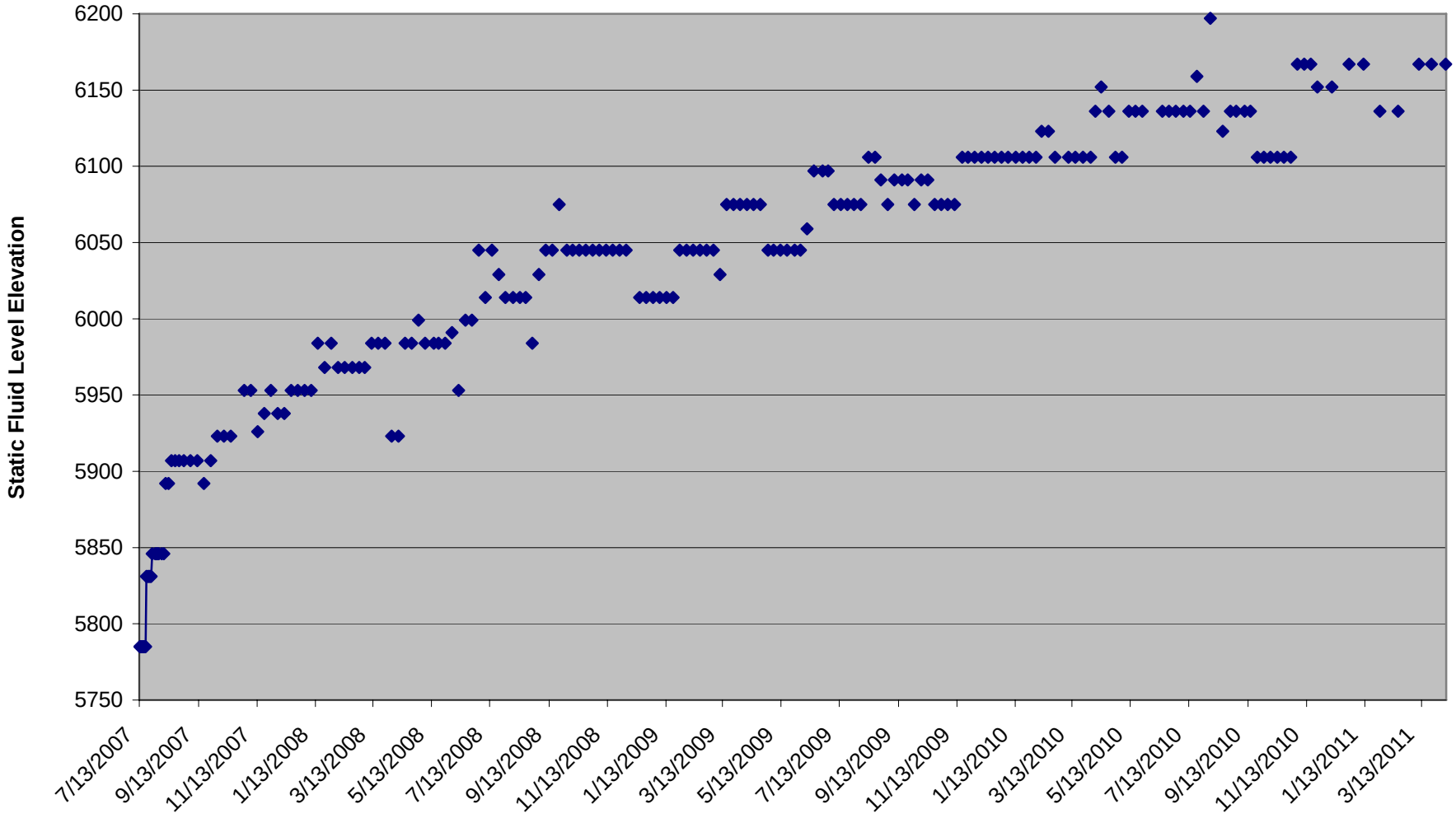
State 36-02
7/13/07 thru 04/07/11
Wells shut down 7/20/07



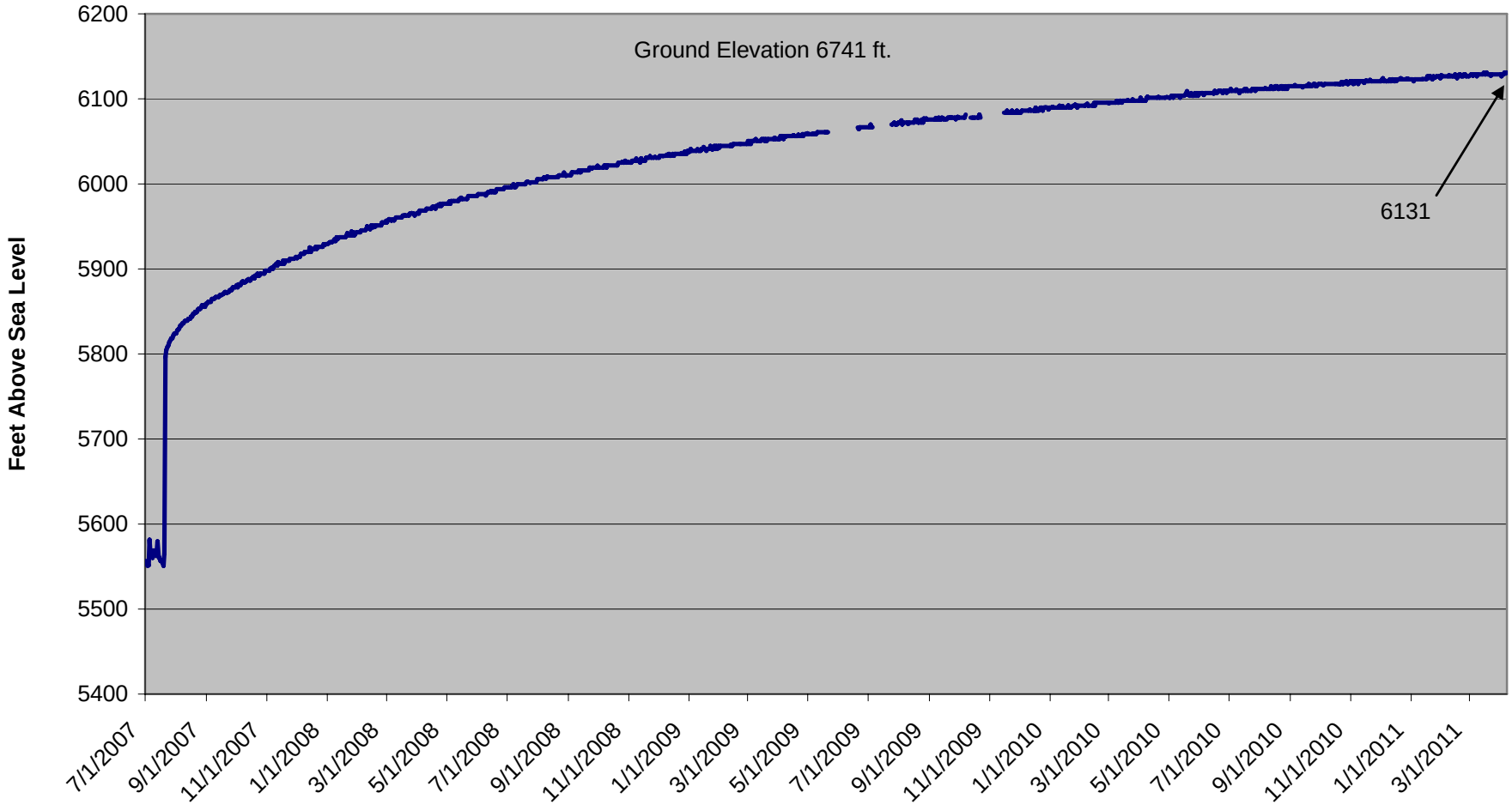
State 36-05
7/13/07 thru 04/07/11
Wells shut down 7/20/07



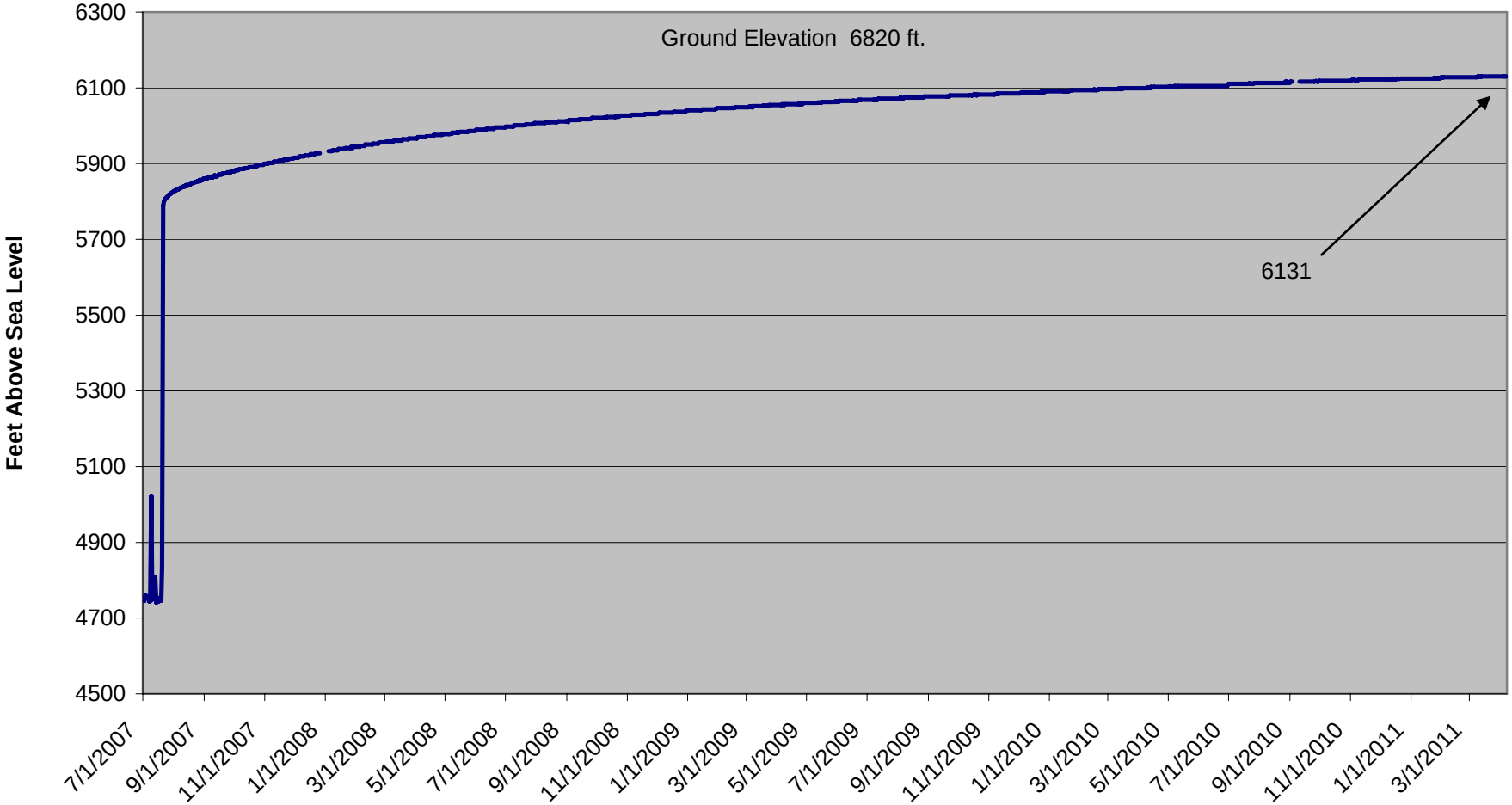
State 36-11
7/13/07 thru 04/07/11
Wells shut down 7/20/07



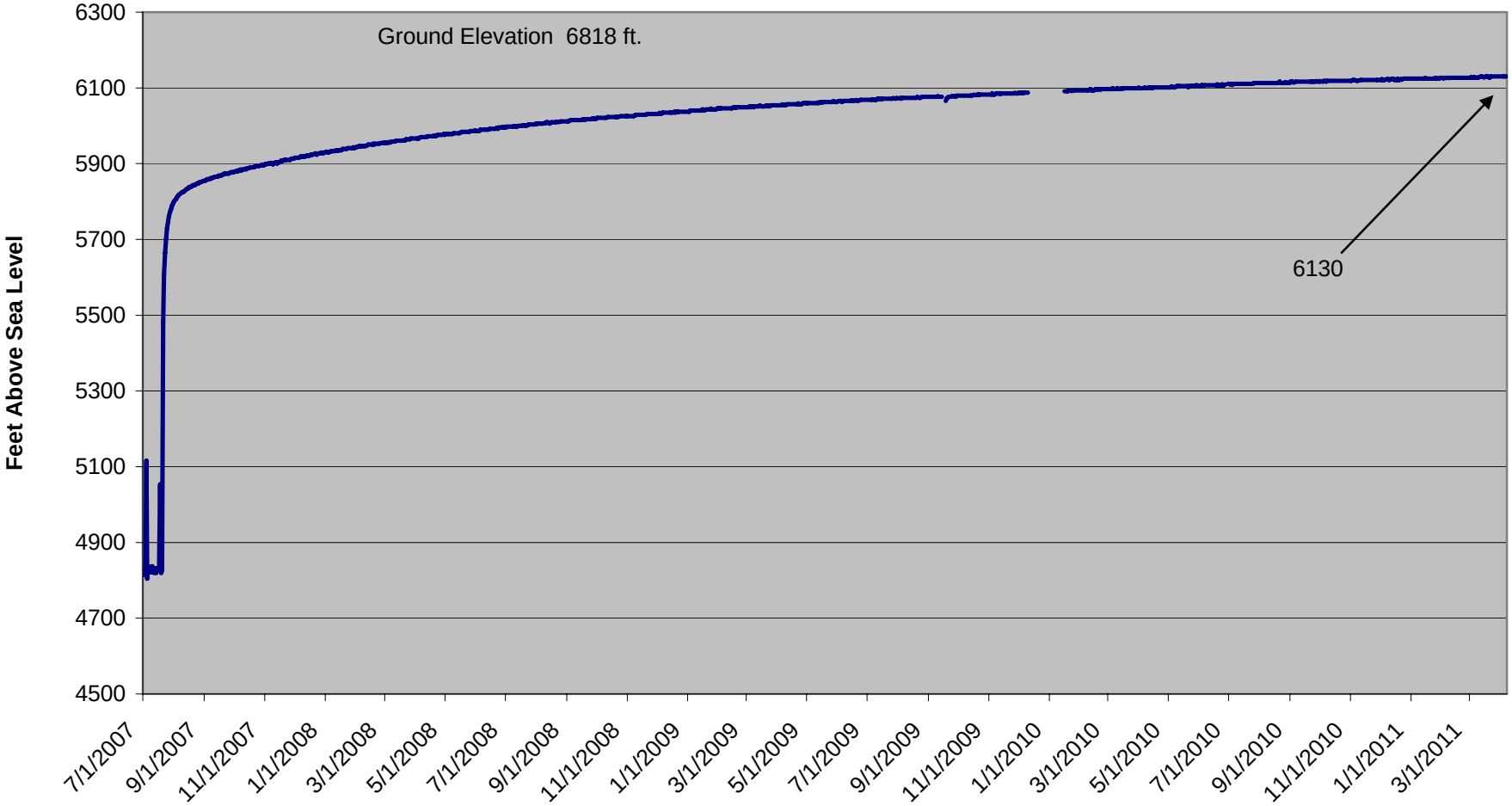
Rohr 04-14 CBM Well
Static Water Level
from 7/1/07 to 4/7/11
Well shut-in 7/20/07



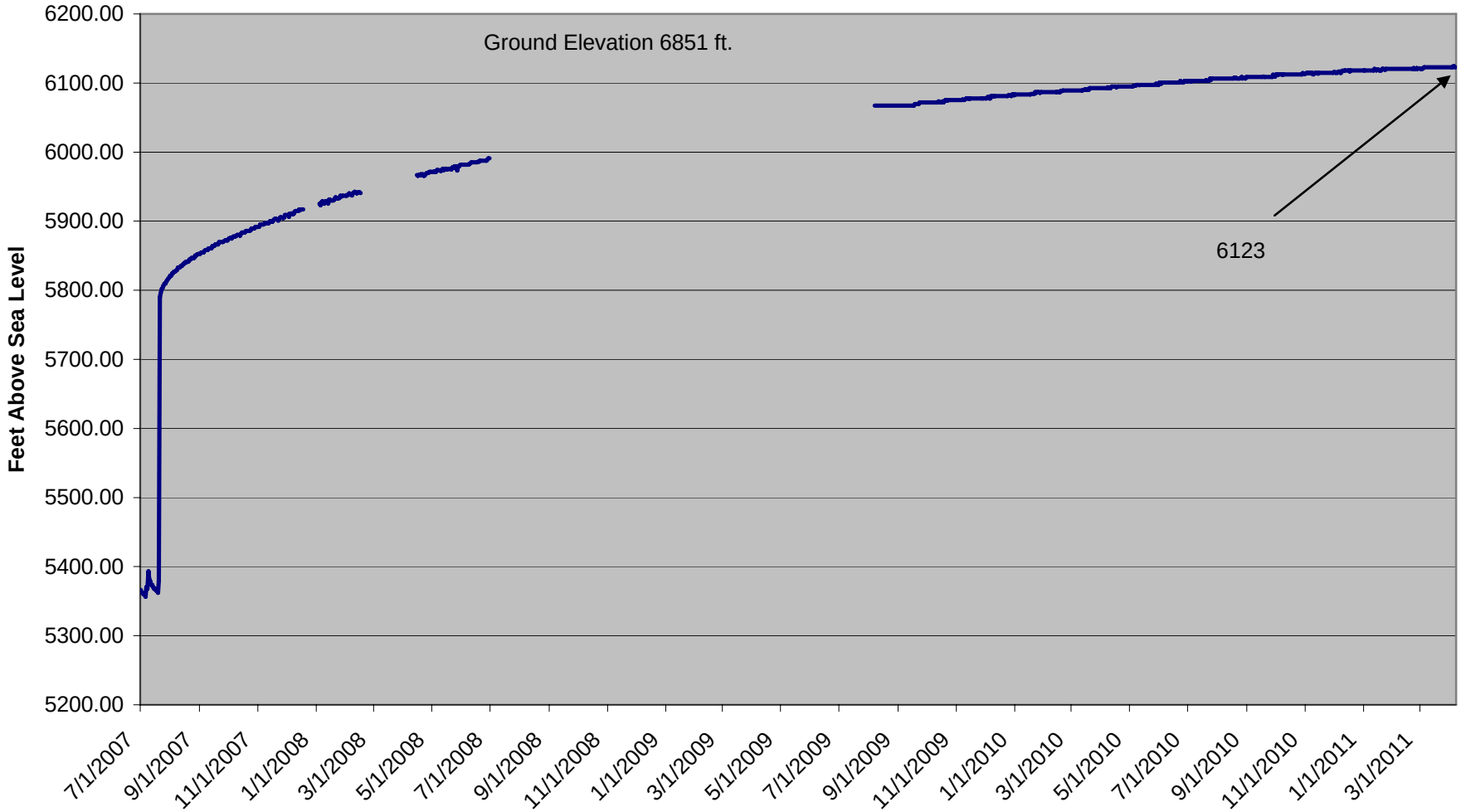
Rohr 08-01 CBM Well
Static Water Level
from 7/1/07 to 4/7/11
Well shut-in 7/20/07



Rohr 09-04 CBM Well
Static Water Level
from 7/1/07 to 4/7/11
Well shut-in 7/20/07

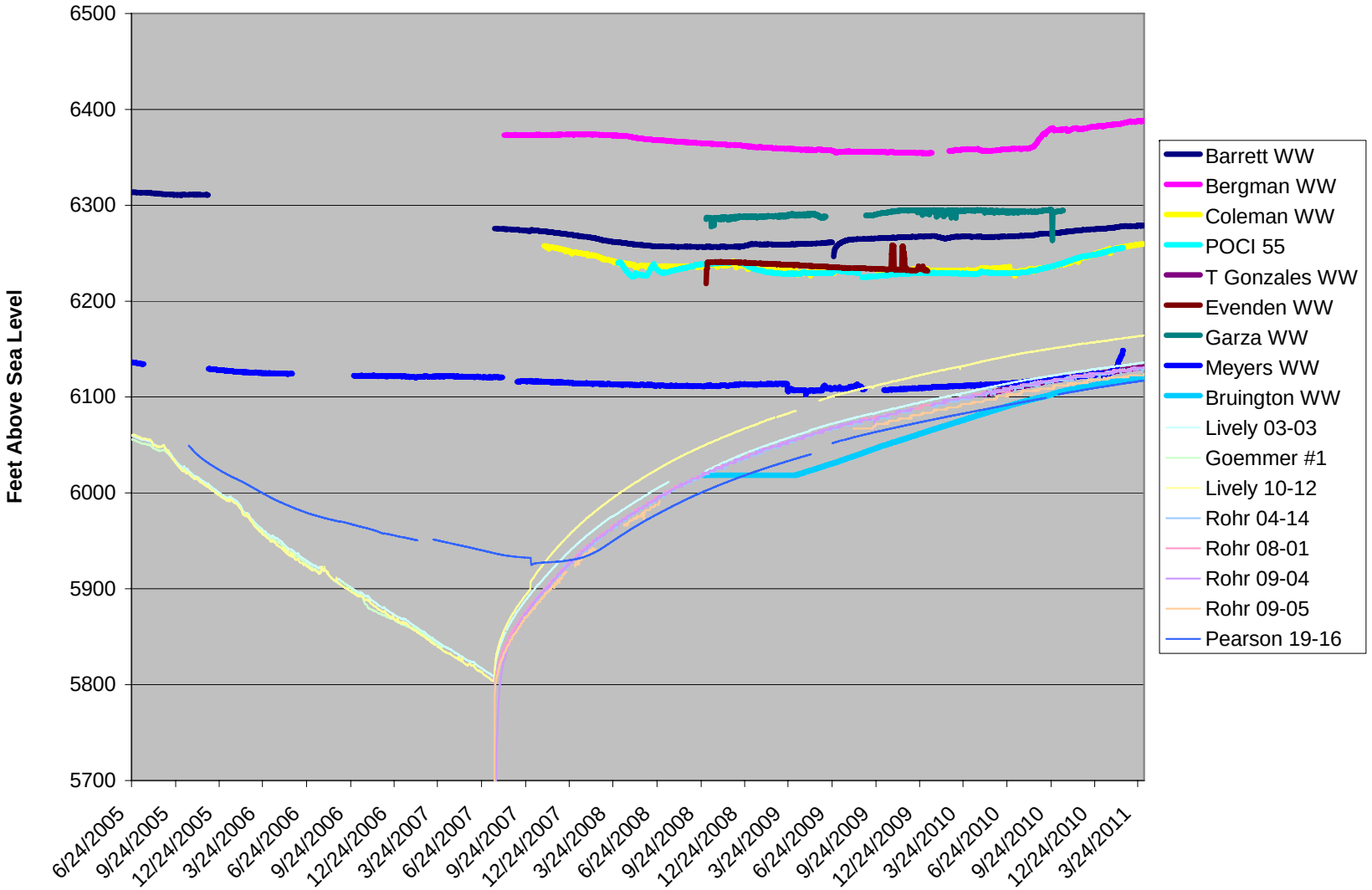


Rohr 09-05 CBM Well Static Water Level
from 7/1/07 to 4/7/11
Well shut-in 7/20/07



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

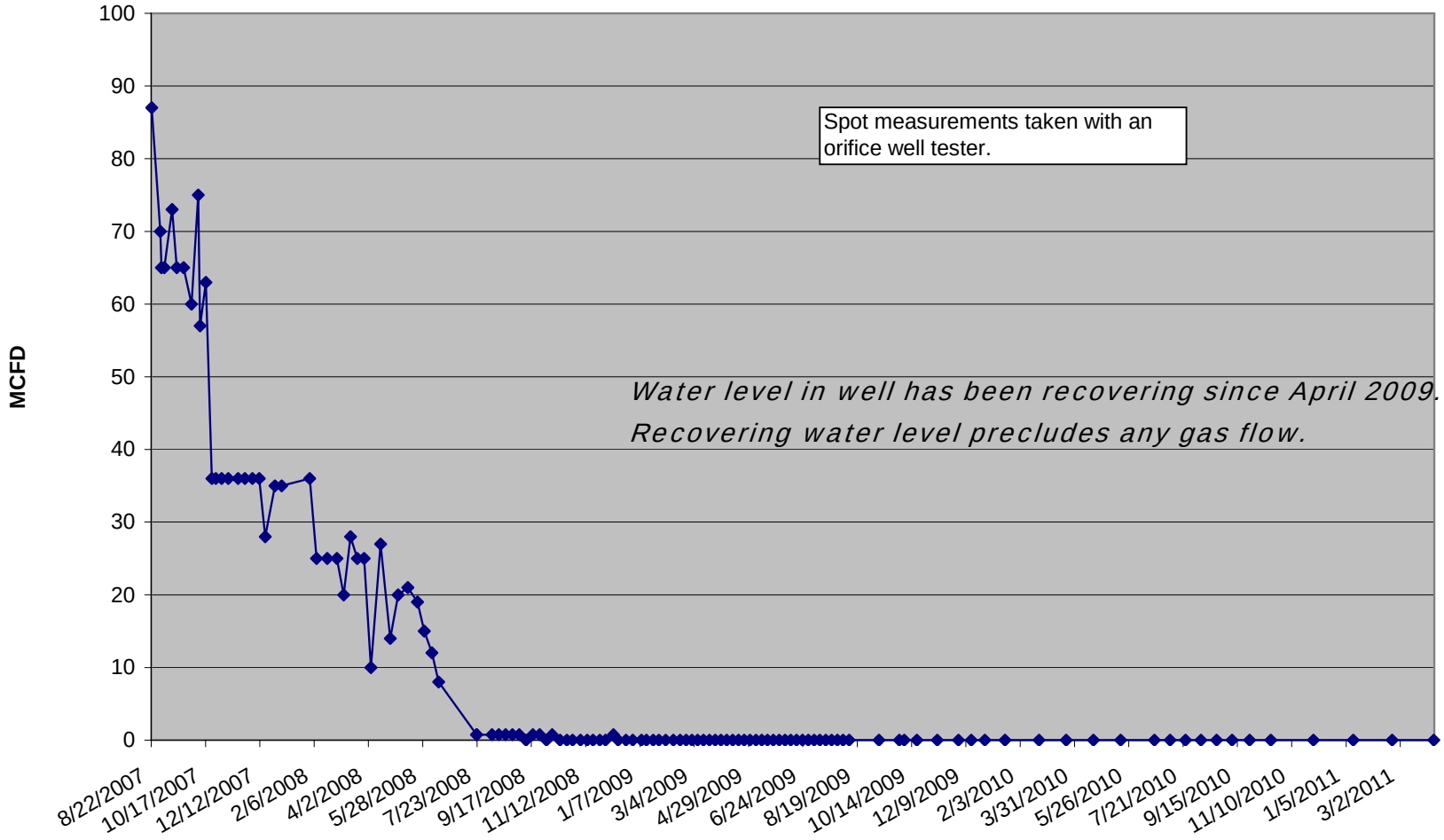
CBM and Domestic WW,
Water Levels from 6/24/05 to 4/7/11



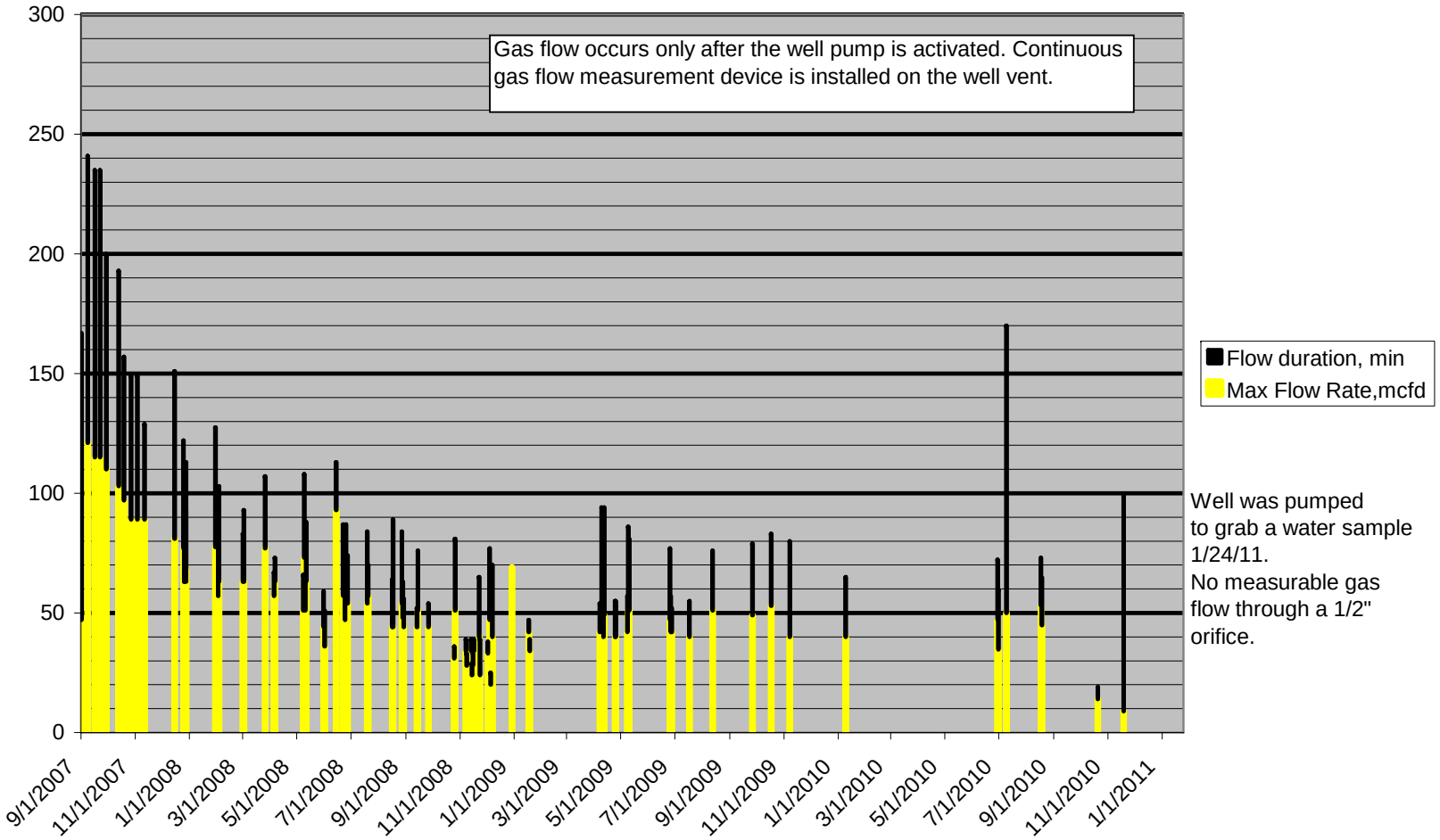
Summary of Production Well Water Levels and Private Well Water Levels						
Well Name	**Permit or API #**	**Ground Elevation (ft above mean sea level)**	**Depth of Pressure Sensor (ft)**	**Formation**	**General Location**	**Well Status**
Barrett	257994	6707	750	Poison Canyon	In mitigation ring	non-active 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-Trinidad	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
Pearson 19-16	55-06293	6557	1000	Vermejo	Outside 1 mile radius of mitigation ring	CBM monitor well

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

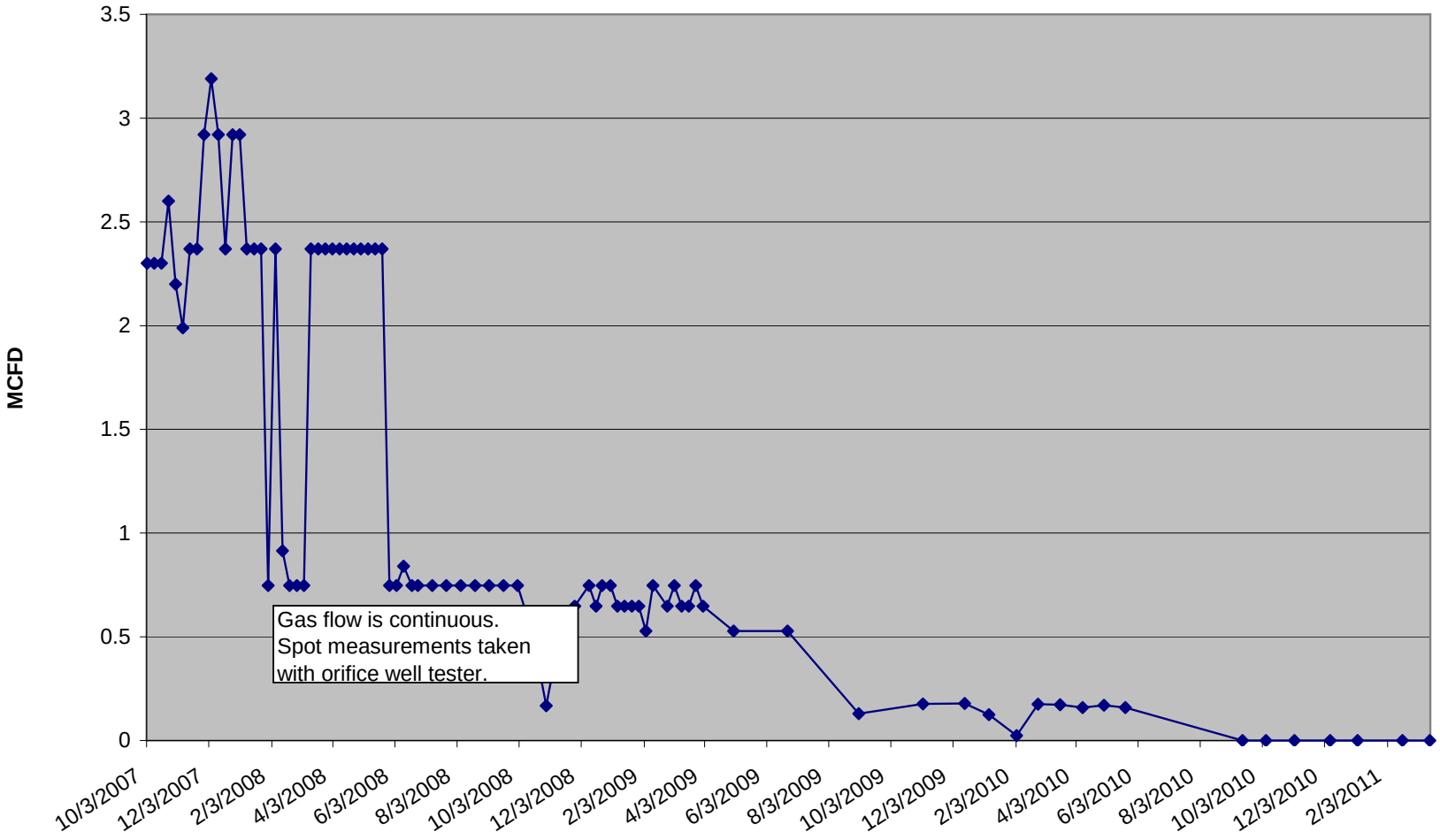
Bruington WW # 210526 Measured Gas Flow
from 8/22/07 to 4/5/11



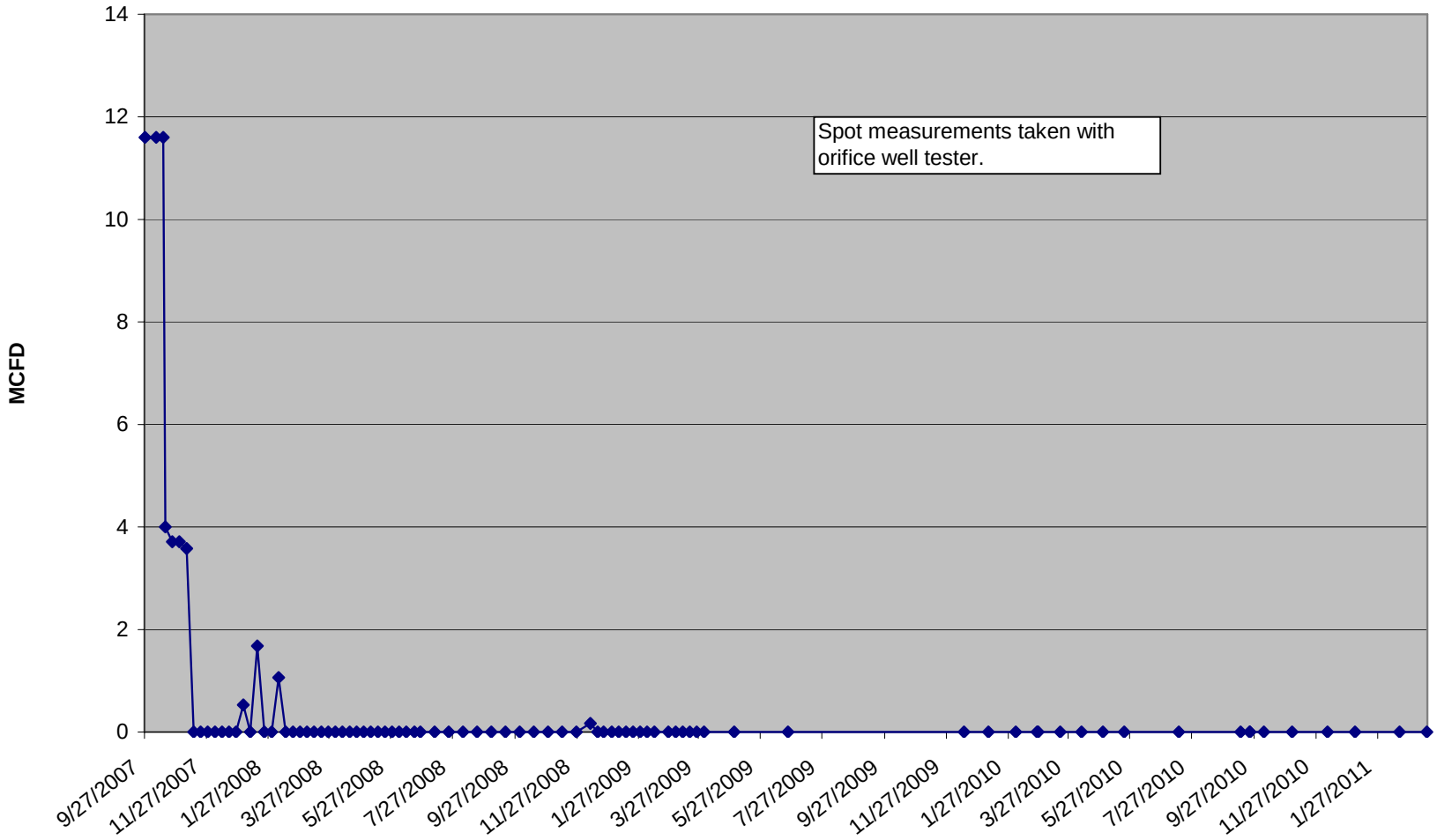
Coleman WW #267294 Measured Gas Flow from 9/1/07 to 4/1/11



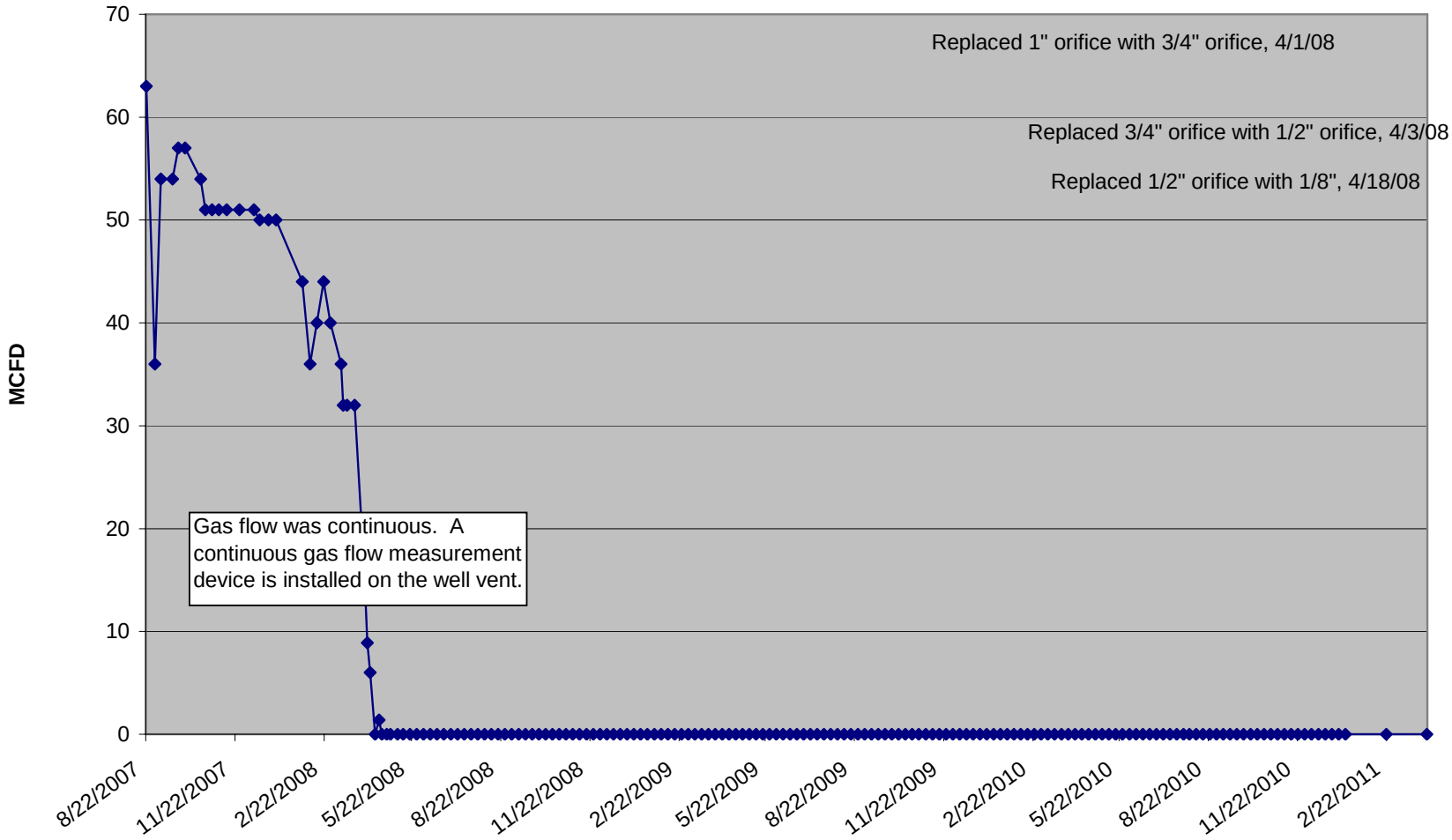
Bounds WW #181278 Measured Gas Flow
from 10/3/07 to 3/16/11



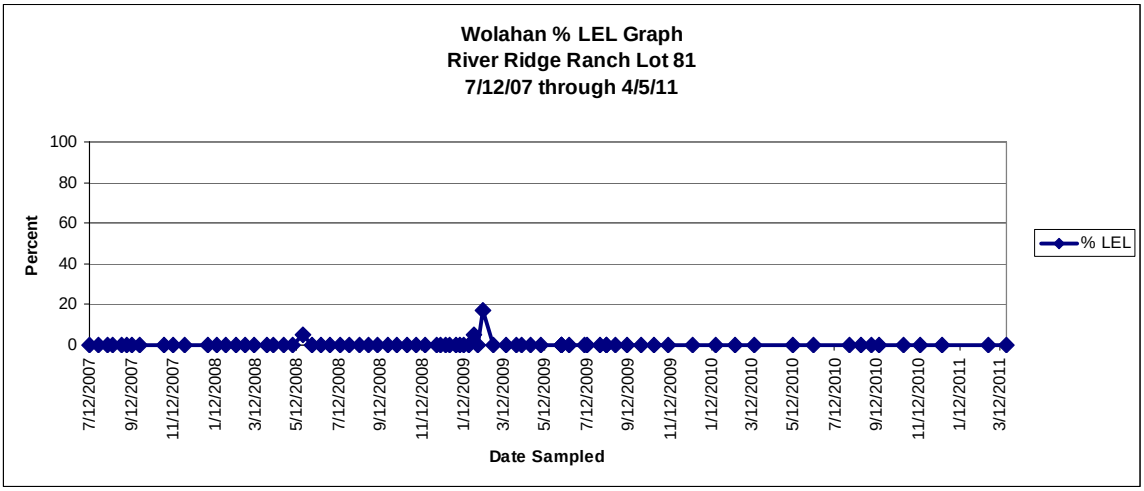
**Angely WW # 238689 Measured Gas Flow
from 9/27/07 to 3/16/11**

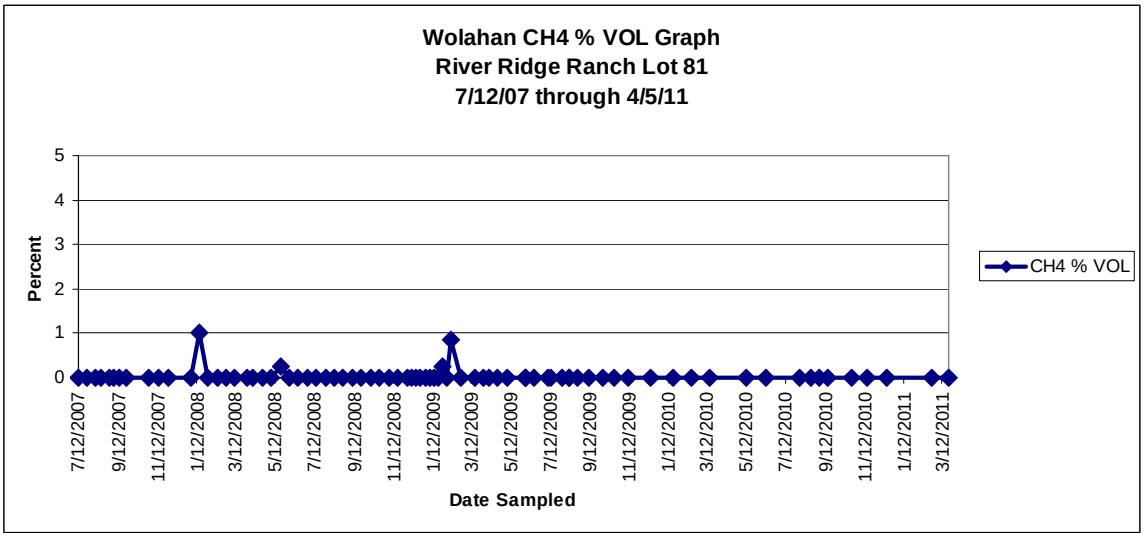


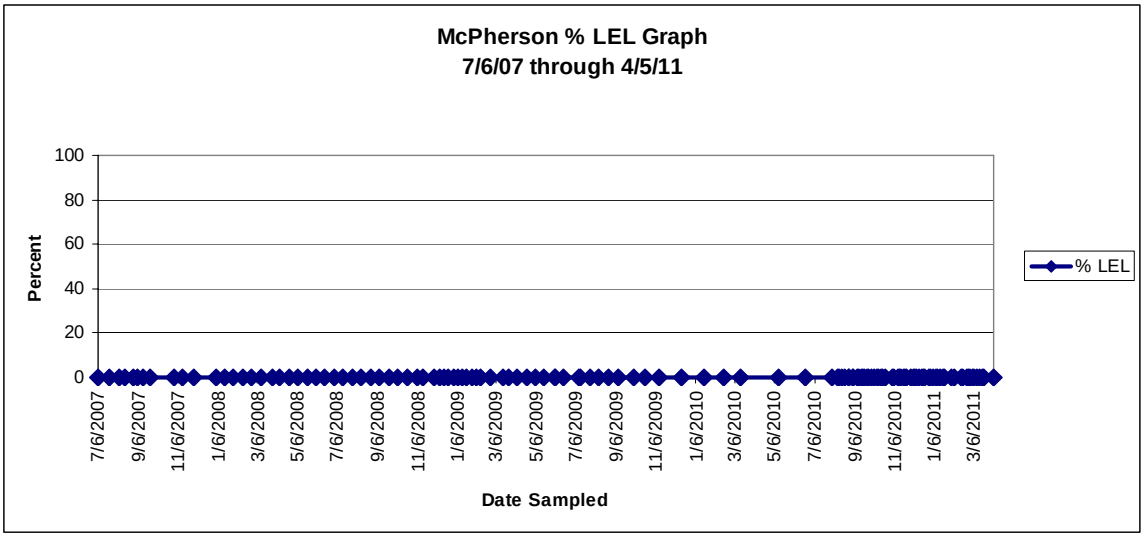
**Smith WW # 239657 Measured Gas Flow
from 8/22/07 to 4/4/11**

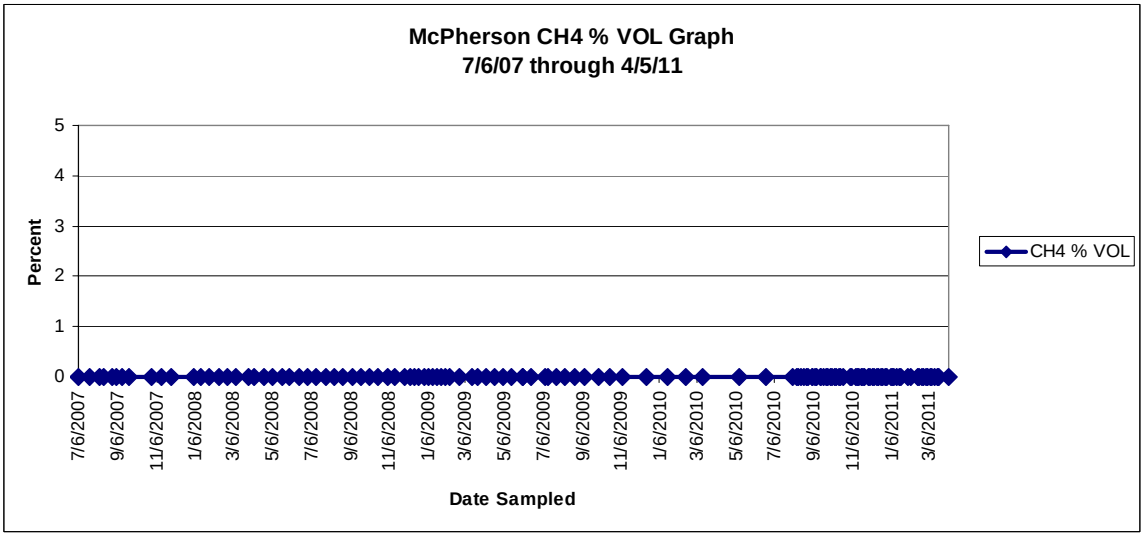


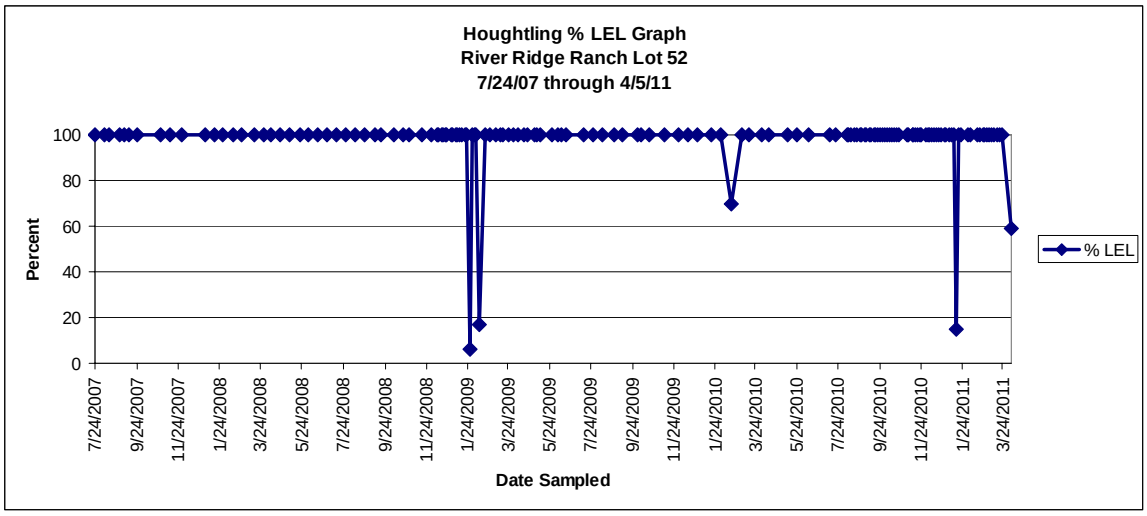
Attachment 6
Gas Concentrations in
Private Water Wells near the Mitigation Project

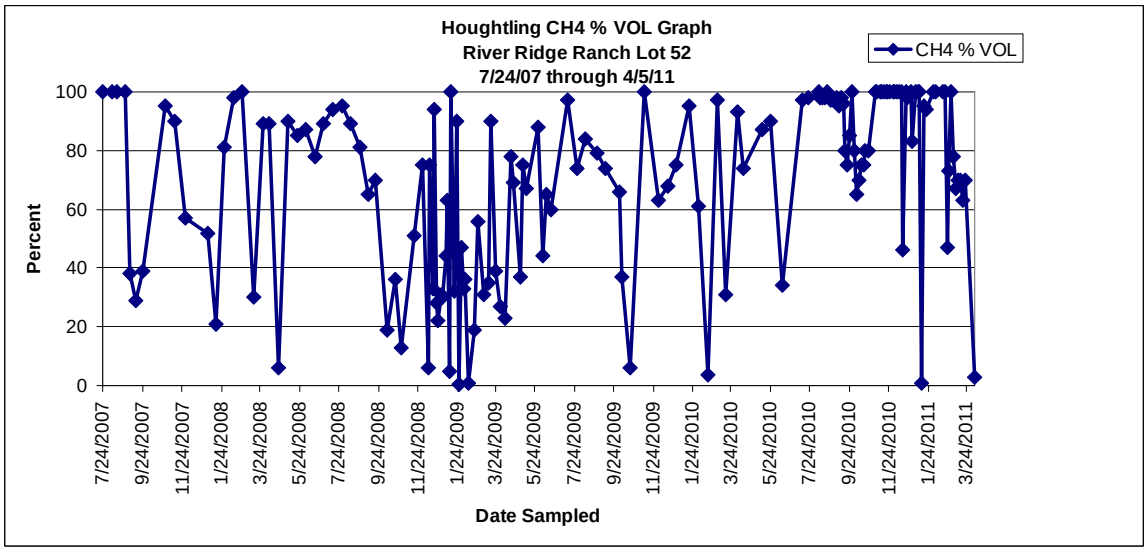

Wolahan % LEL Graph
River Ridge Ranch Lot 81
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
% LEL

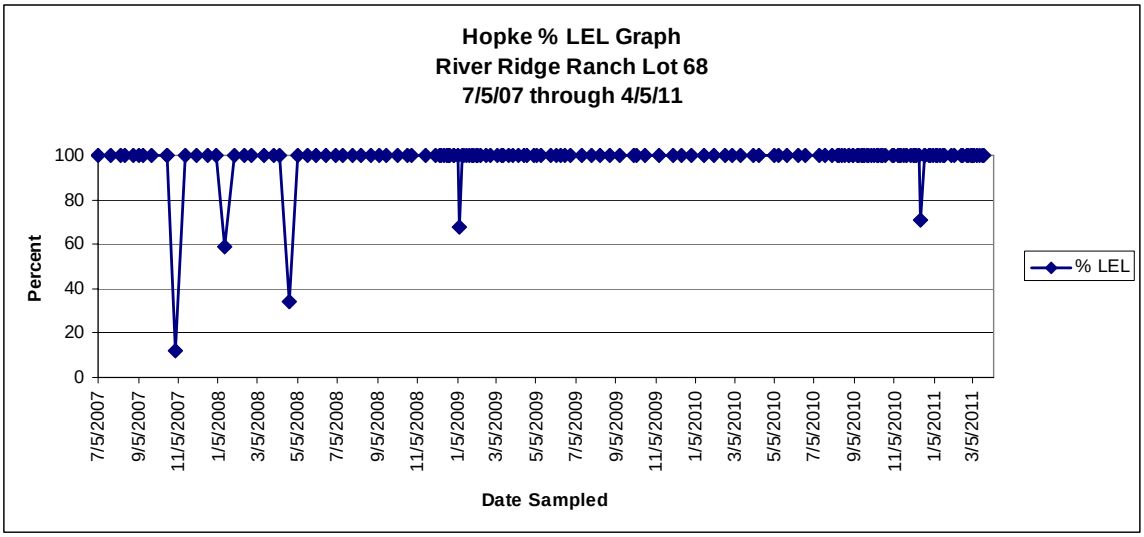

Wolahan CH4 % VOL Graph
River Ridge Ranch Lot 81
7/12/07 through 4/5/11
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
CH4 % VOL

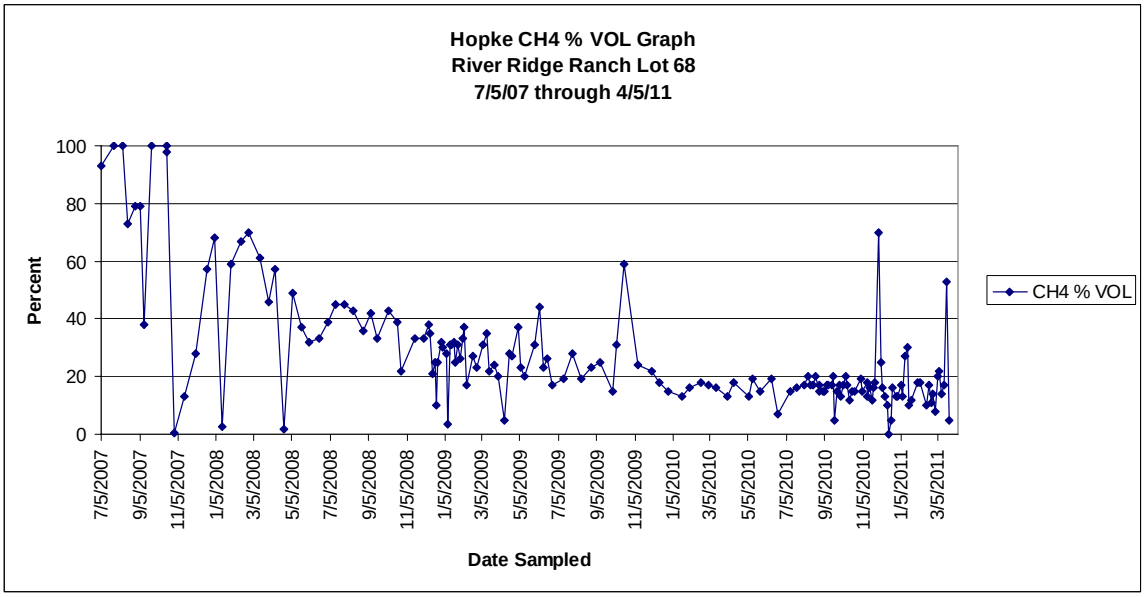

McPherson % LEL Graph
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
3/6/2011
Date Sampled
% LEL

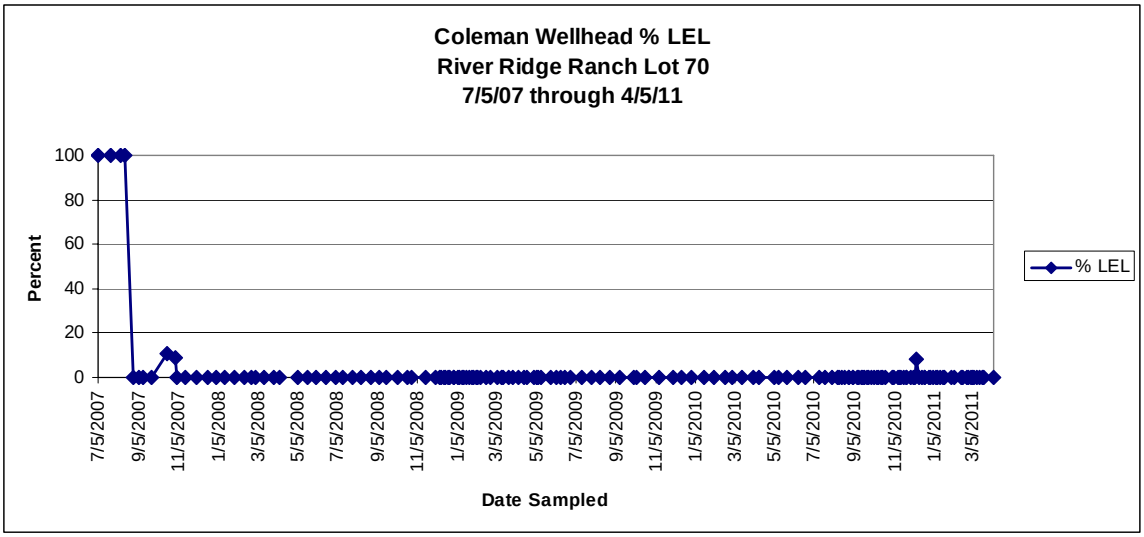

McPherson CH4 % VOL Graph
7/6/07 through 4/5/11
Percent
5
4
3
2
1
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
3/6/2011
Date Sampled
CH4 % VOL

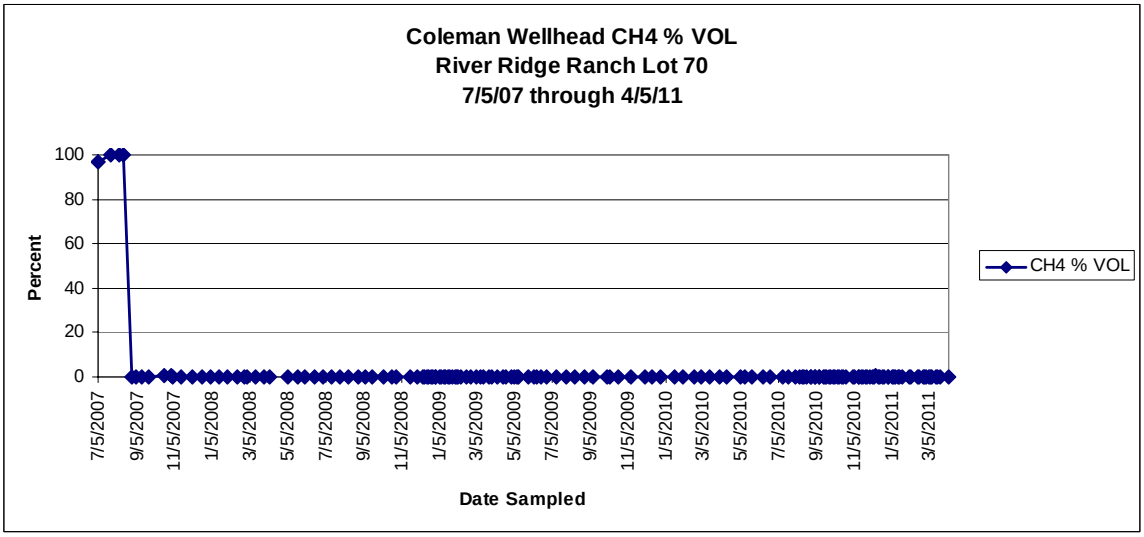

Houghtling % LEL Graph
River Ridge Ranch Lot 52
7/24/07 through 4/5/11
Percent
100
80
60
40
20
0
7/24/2007
9/24/2007
11/24/2007
1/24/2008
3/24/2008
5/24/2008
7/24/2008
9/24/2008
11/24/2008
1/24/2009
3/24/2009
5/24/2009
7/24/2009
9/24/2009
11/24/2009
1/24/2010
3/24/2010
5/24/2010
7/24/2010
9/24/2010
11/24/2010
1/24/2011
3/24/2011
Date Sampled
% LEL

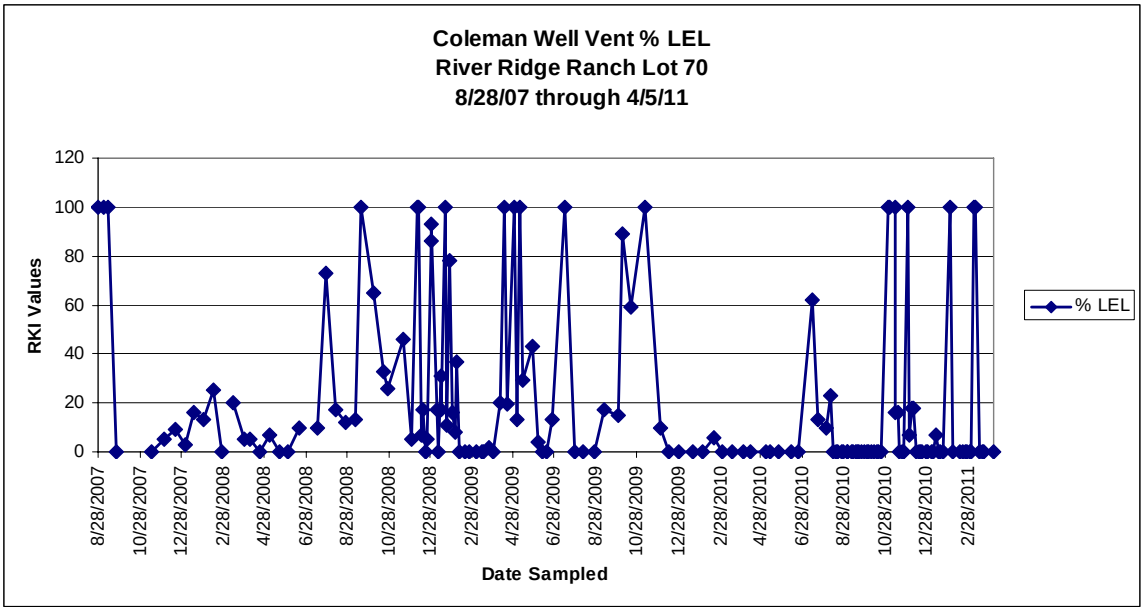

Houghtling CH4 % VOL Graph
River Ridge Ranch Lot 52
7/24/07 through 4/5/11
CH4 % VOL
Percent
100
80
60
40
20
0
7/24/2007
9/24/2007
11/24/2007
1/24/2008
3/24/2008
5/24/2008
7/24/2008
9/24/2008
11/24/2008
1/24/2009
3/24/2009
5/24/2009
7/24/2009
9/24/2009
11/24/2009
1/24/2010
3/24/2010
5/24/2010
7/24/2010
9/24/2010
11/24/2010
1/24/2011
3/24/2011
Date Sampled

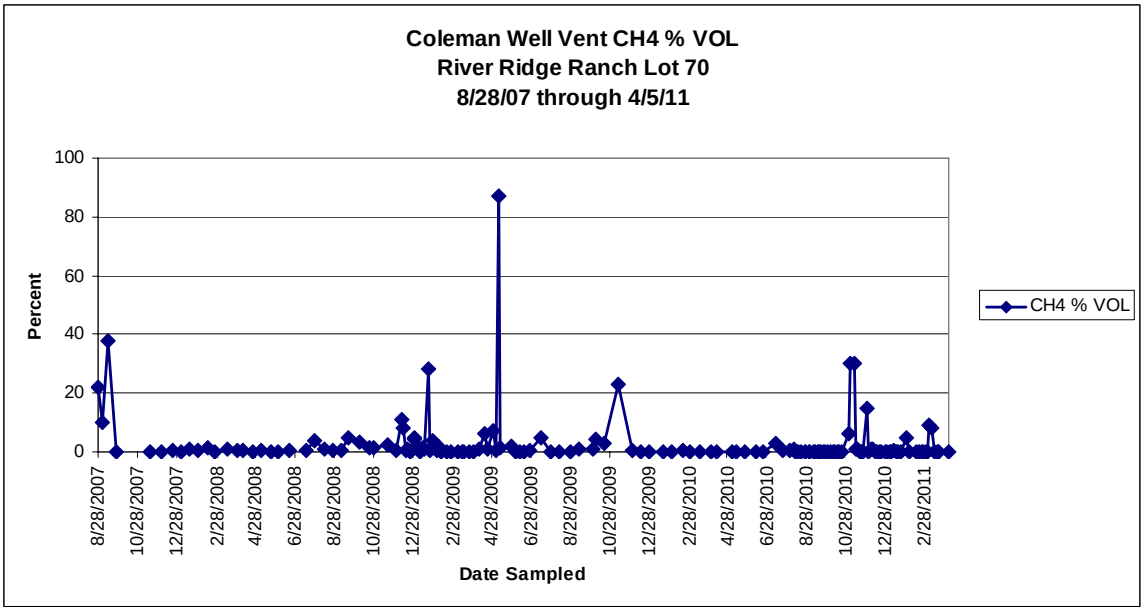

Hopke % LEL Graph
River Ridge Ranch Lot 68
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
3/5/2011
Date Sampled
% LEL

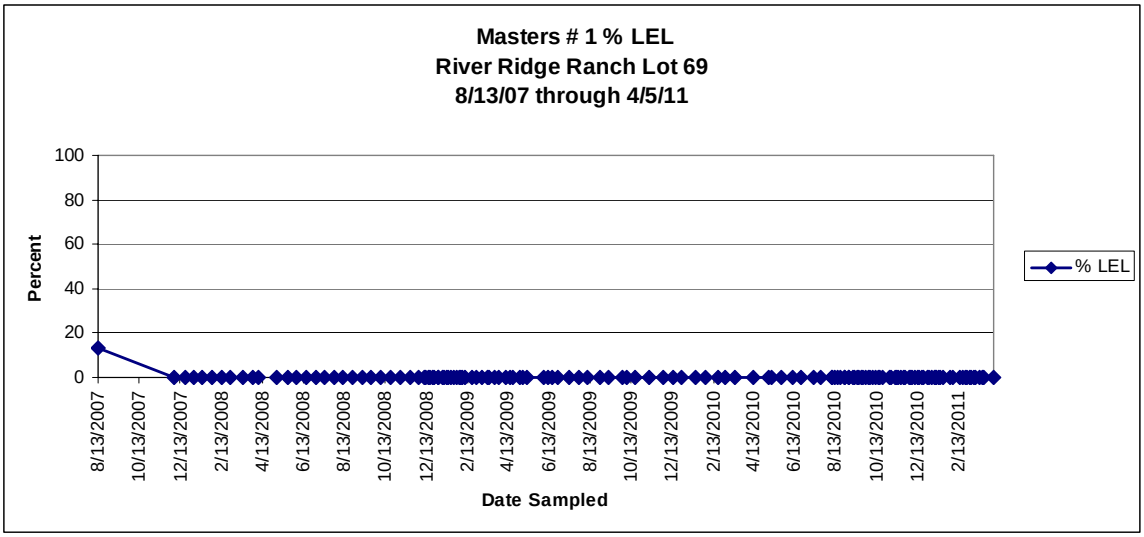

Hopke CH4 % VOL Graph
River Ridge Ranch Lot 68
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
3/5/2011
Date Sampled
CH4 % VOL

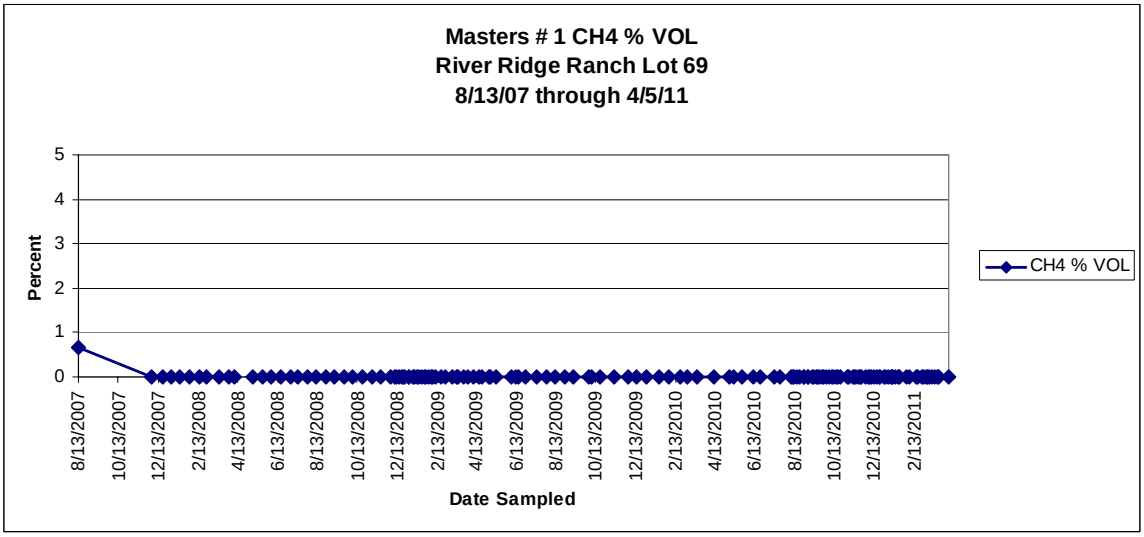

Coleman Wellhead % LEL
River Ridge Ranch Lot 70
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
3/5/2011
Date Sampled
% LEL

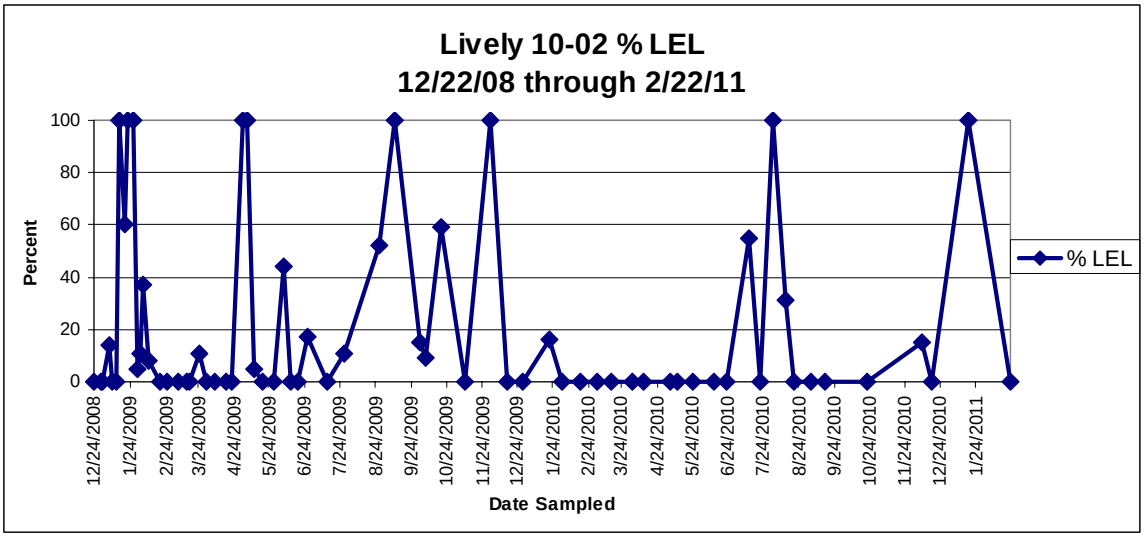

Coleman Wellhead CH4 % VOL
River Ridge Ranch Lot 70
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
3/5/2011
Date Sampled
CH4 % VOL

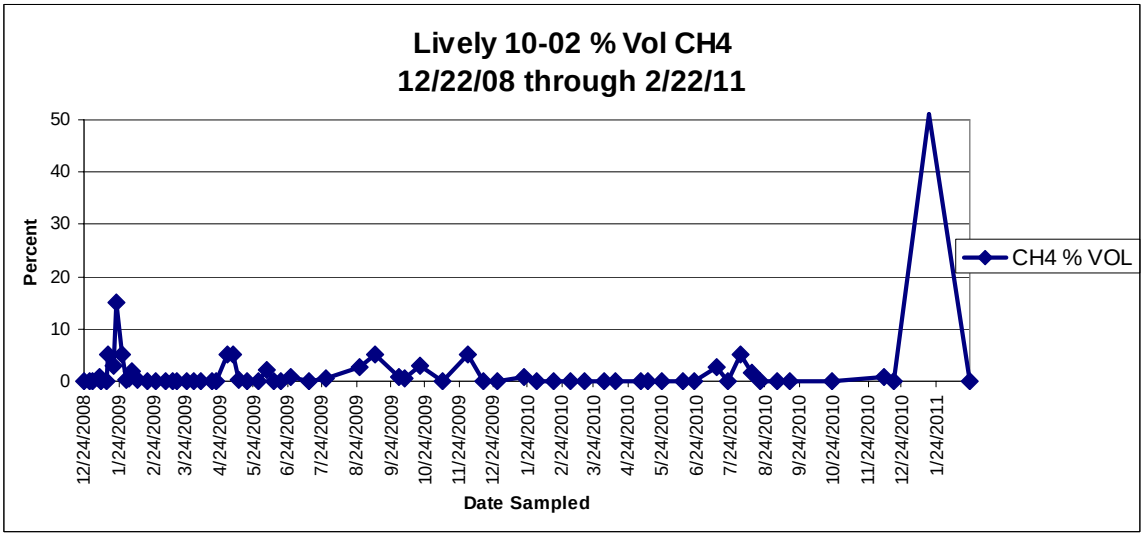

Coleman Well Vent % LEL
River Ridge Ranch Lot 70
8/28/07 through 4/5/11
RKI Values
120
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
% LEL

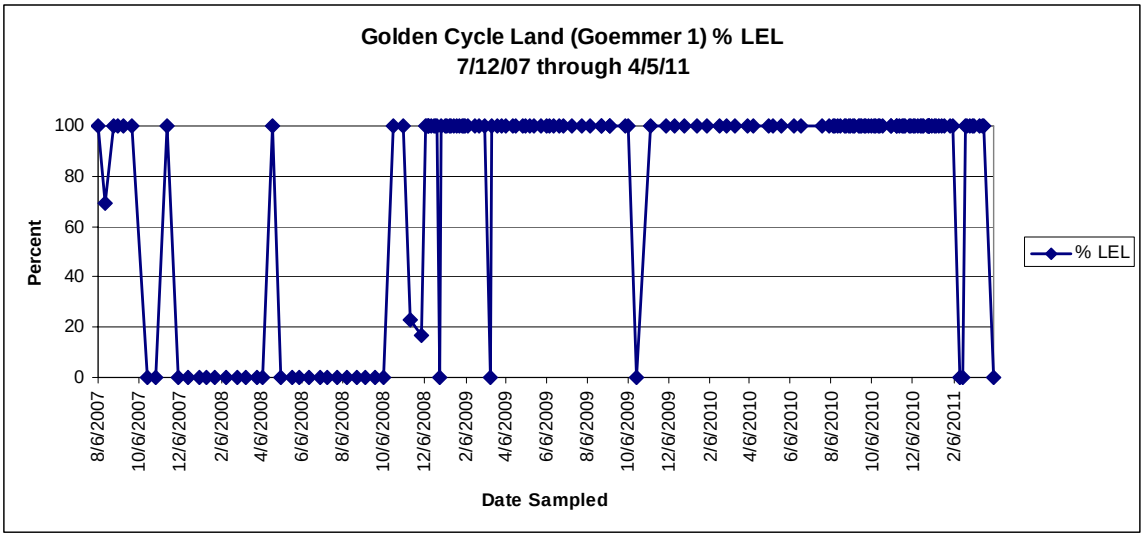

Coleman Well Vent CH4 % VOL
River Ridge Ranch Lot 70
8/28/07 through 4/5/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
CH4 % VOL

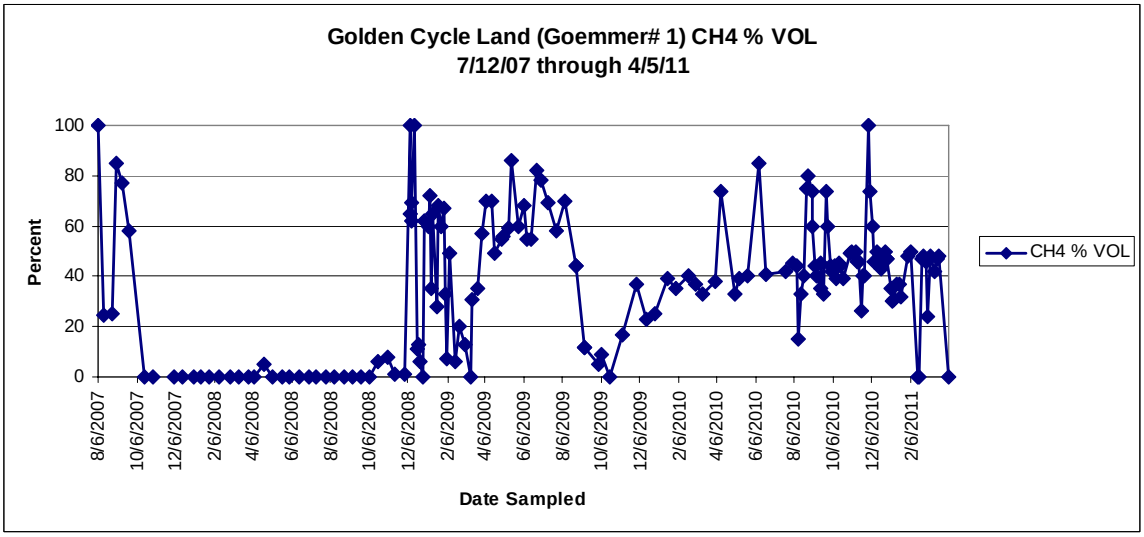

Masters # 1 % LEL
River Ridge Ranch Lot 69
8/13/07 through 4/5/11
Percent
100
80
60
40
20
0
8/13/2007
10/13/2007
12/13/2007
2/13/2008
4/13/2008
6/13/2008
8/13/2008
10/13/2008
12/13/2008
2/13/2009
4/13/2009
6/13/2009
8/13/2009
10/13/2009
12/13/2009
2/13/2010
4/13/2010
6/13/2010
8/13/2010
10/13/2010
12/13/2010
2/13/2011
Date Sampled
% LEL

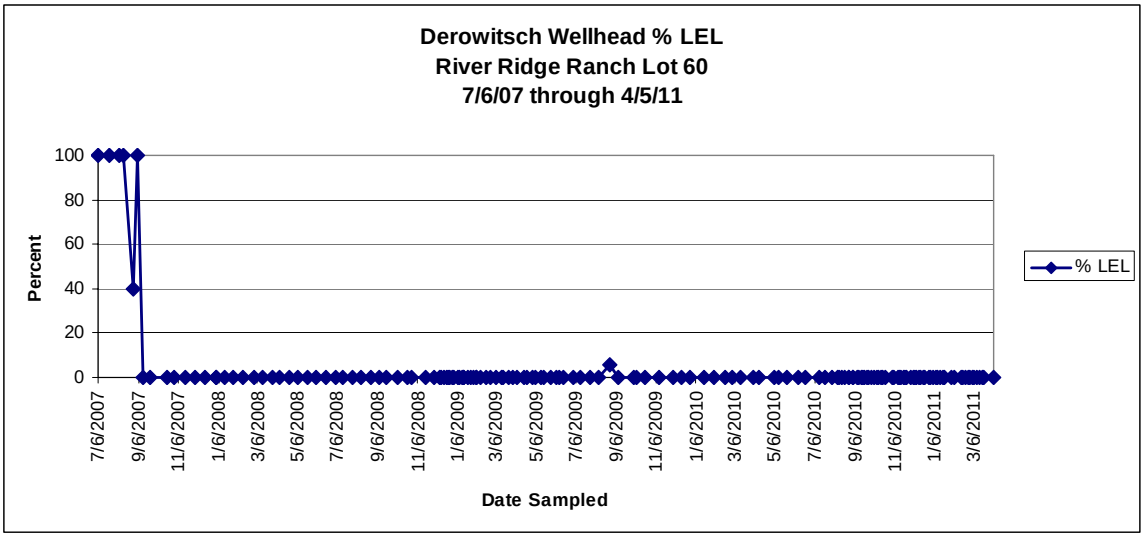

Masters # 1 CH4 % VOL
River Ridge Ranch Lot 69
8/13/07 through 4/5/11
Percent
5
4
3
2
1
0
8/13/2007
10/13/2007
12/13/2007
2/13/2008
4/13/2008
6/13/2008
8/13/2008
10/13/2008
12/13/2008
2/13/2009
4/13/2009
6/13/2009
8/13/2009
10/13/2009
12/13/2009
2/13/2010
4/13/2010
6/13/2010
8/13/2010
10/13/2010
12/13/2010
2/13/2011
Date Sampled
CH4 % VOL

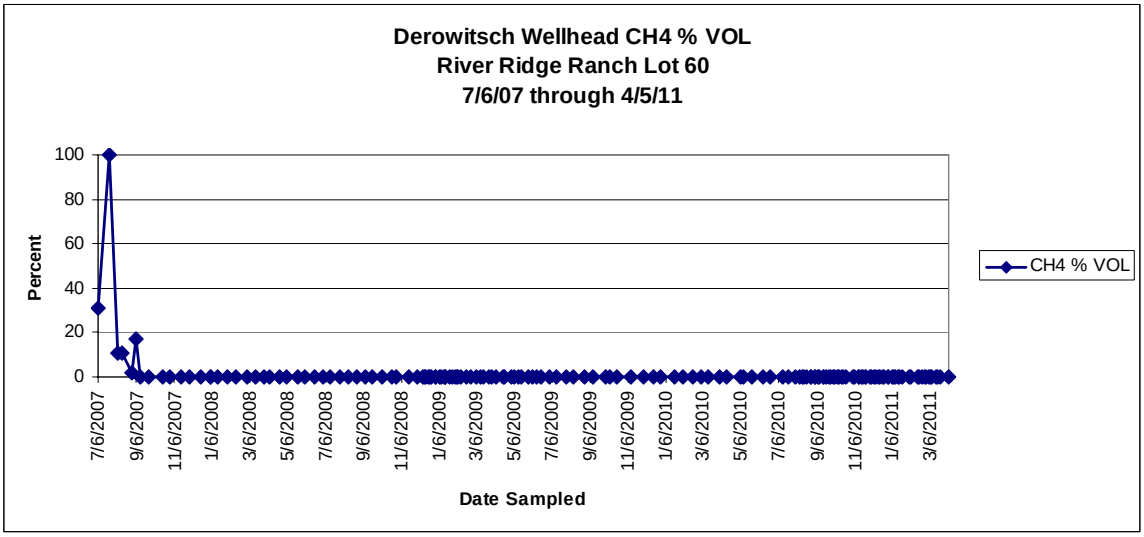

Lively 10-02 % LEL
12/22/08 through 2/22/11
Percent
Date Sampled
% LEL

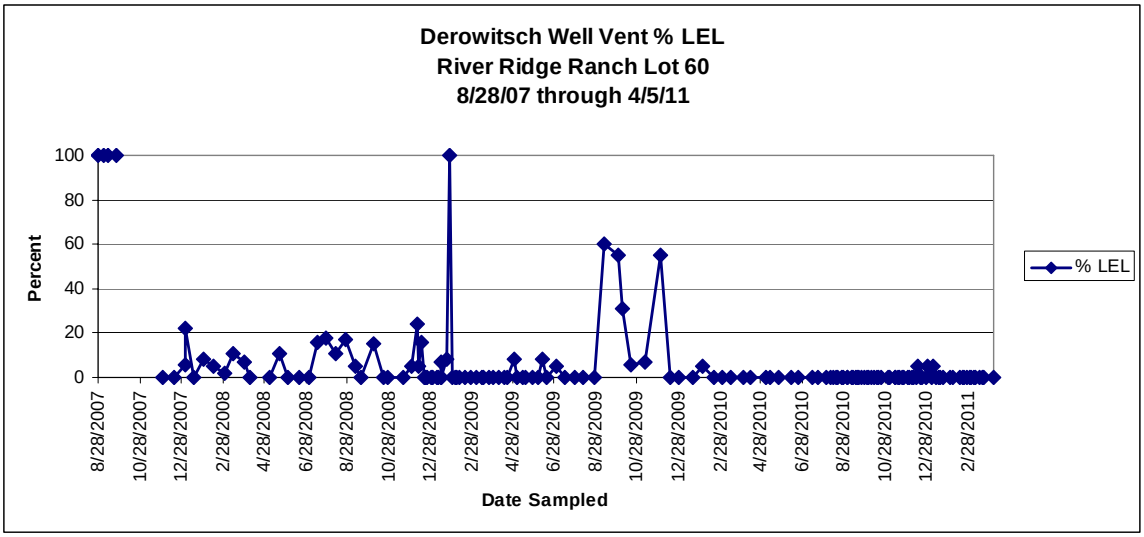

Lively 10-02 % Vol CH4
12/22/08 through 2/22/11
Percent
Date Sampled
CH4 % VOL

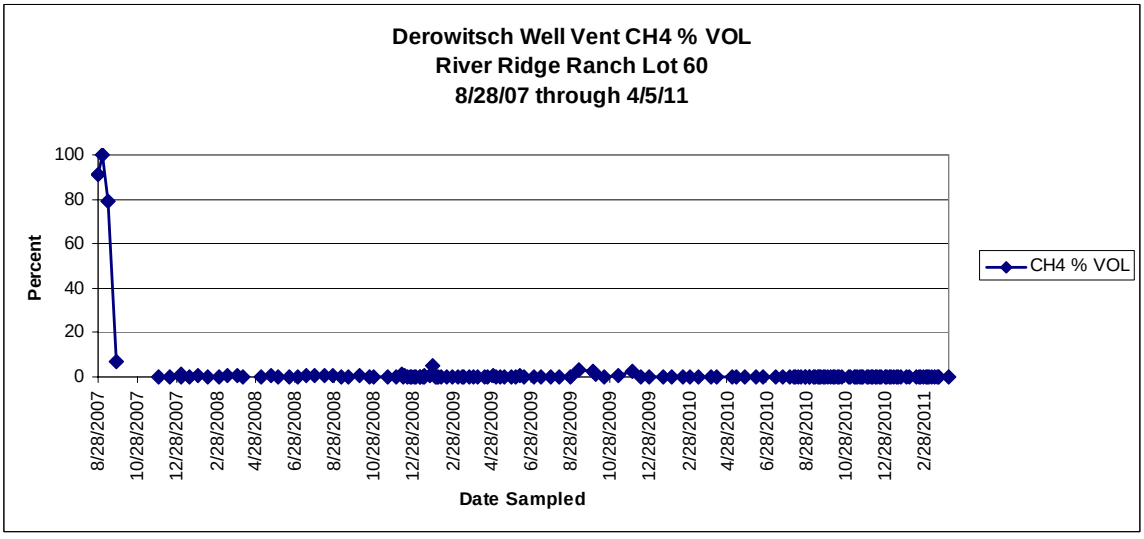

Golden Cycle Land (Goemmer 1) % LEL
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
8/6/2007
10/6/2007
12/6/2007
2/6/2008
4/6/2008
6/6/2008
8/6/2008
10/6/2008
12/6/2008
2/6/2009
4/6/2009
6/6/2009
8/6/2009
10/6/2009
12/6/2009
2/6/2010
4/6/2010
6/6/2010
8/6/2010
10/6/2010
12/6/2010
2/6/2011
Date Sampled
% LEL

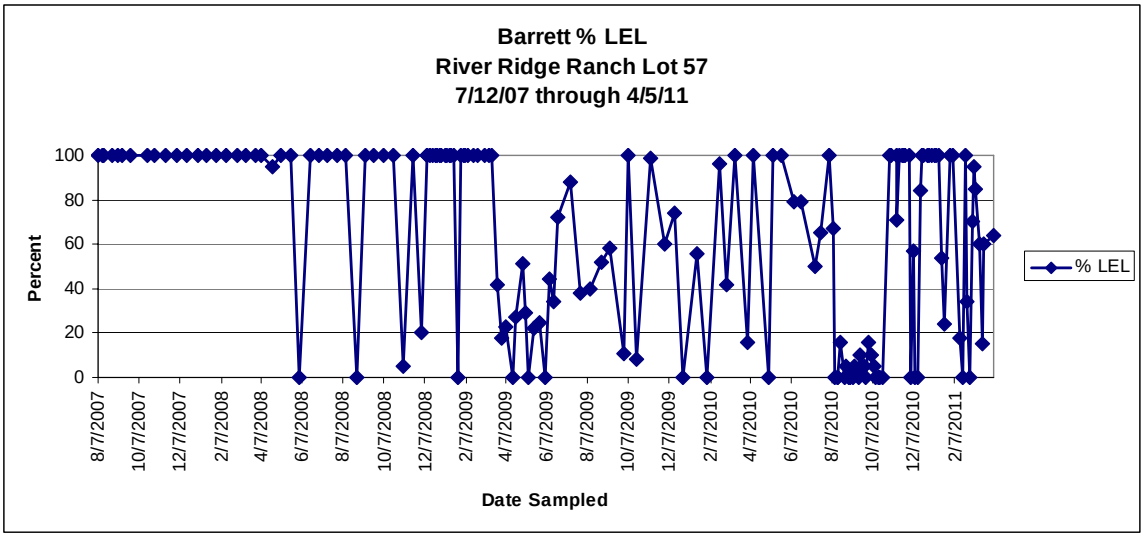

Golden Cycle Land (Goemmer# 1) CH4 % VOL
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
8/6/2007
10/6/2007
12/6/2007
2/6/2008
4/6/2008
6/6/2008
8/6/2008
10/6/2008
12/6/2008
2/6/2009
4/6/2009
6/6/2009
8/6/2009
10/6/2009
12/6/2009
2/6/2010
4/6/2010
6/6/2010
8/6/2010
10/6/2010
12/6/2010
2/6/2011
Date Sampled
CH4 % VOL

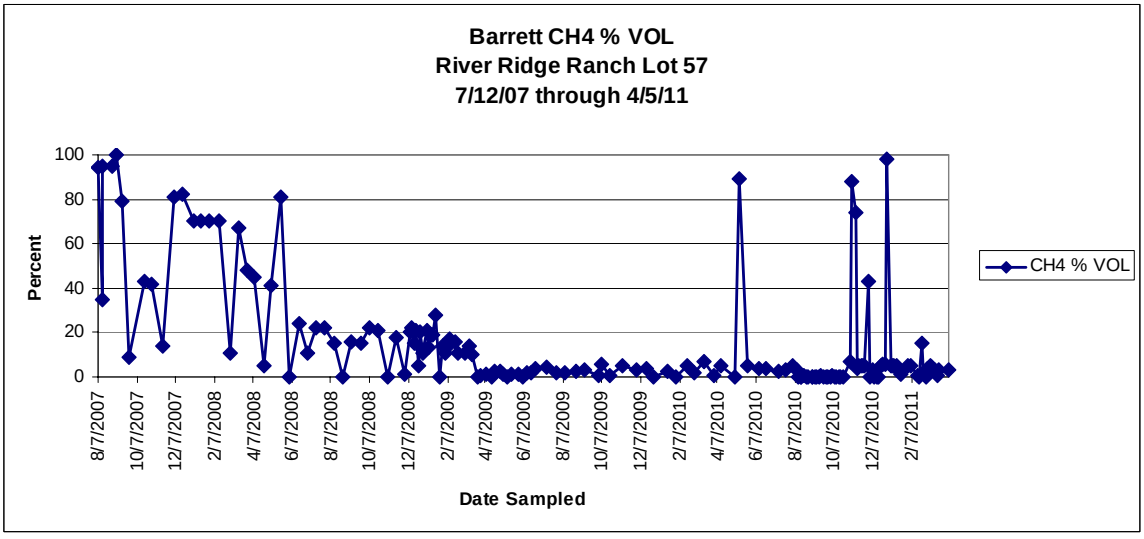

Derowitsch Wellhead % LEL
River Ridge Ranch Lot 60
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
3/6/2011
Date Sampled
% LEL

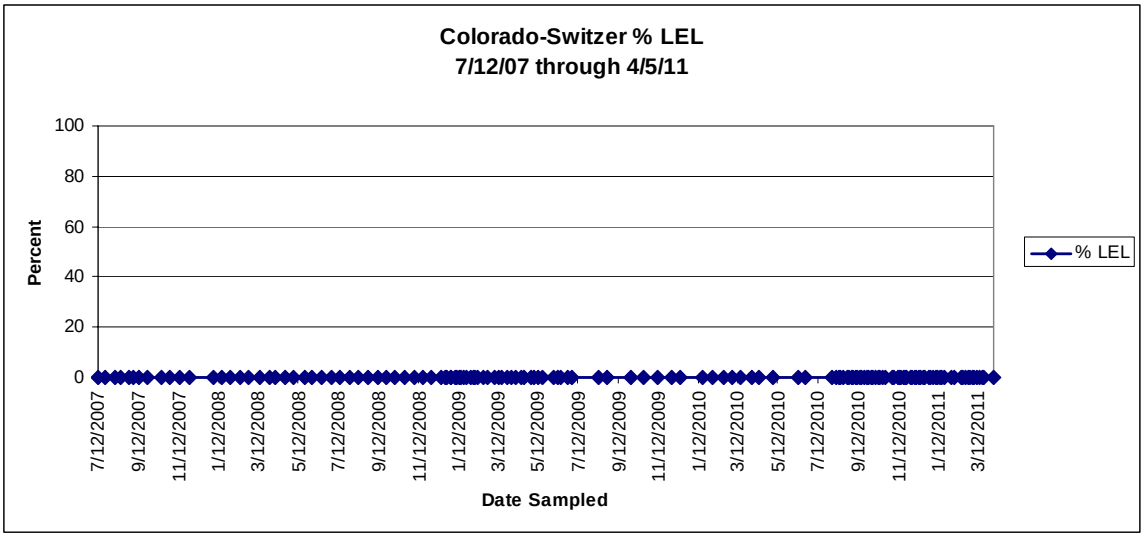

Derowitsch Wellhead CH4 % VOL
River Ridge Ranch Lot 60
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
3/6/2011
Date Sampled
CH4 % VOL

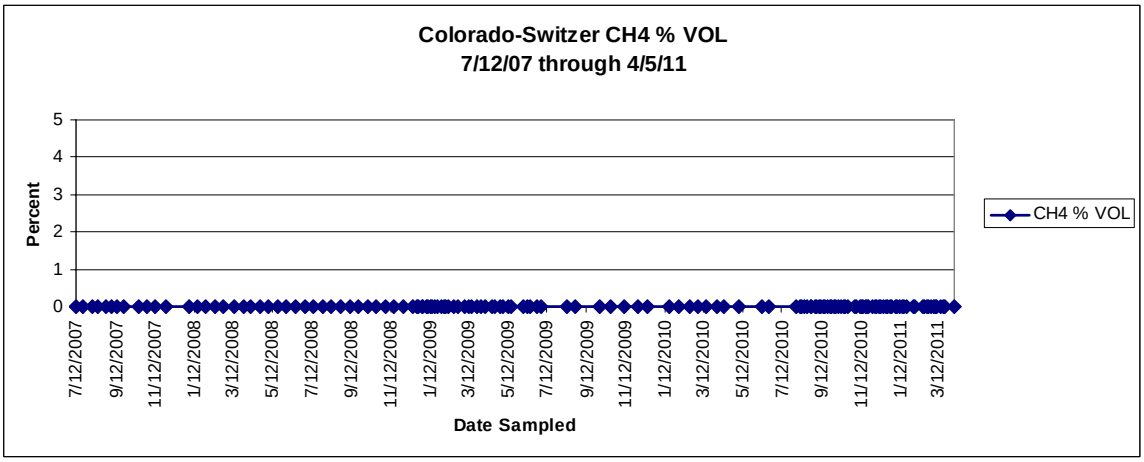

Derowitsch Well Vent % LEL
River Ridge Ranch Lot 60
8/28/07 through 4/5/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
% LEL

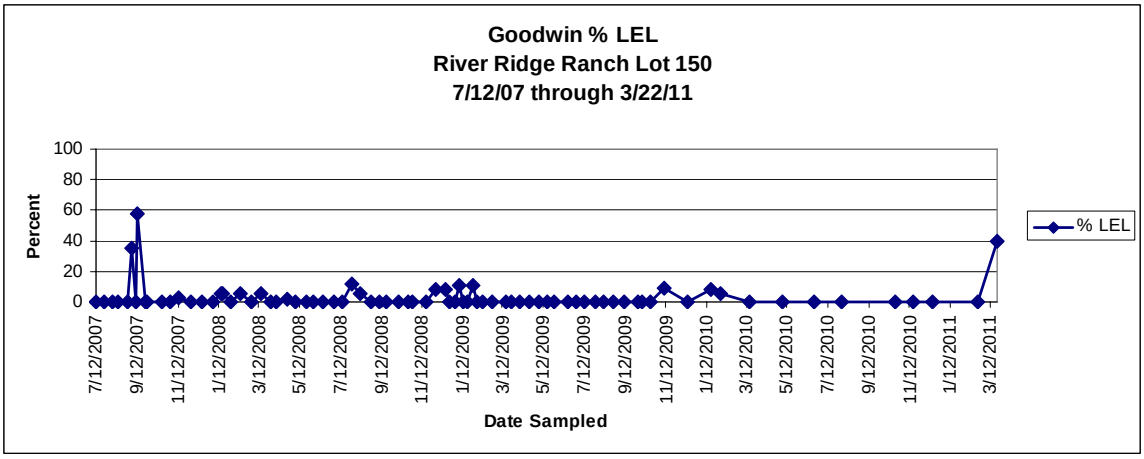

Derowitsch Well Vent CH4 % VOL
River Ridge Ranch Lot 60
8/28/07 through 4/5/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
CH4 % VOL

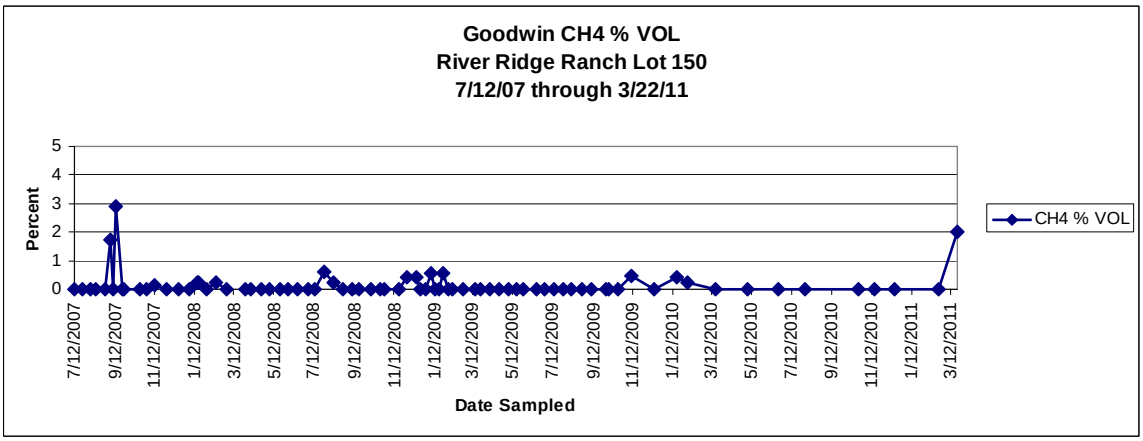

Barrett % LEL
River Ridge Ranch Lot 57
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
2/7/2011
Date Sampled
% LEL

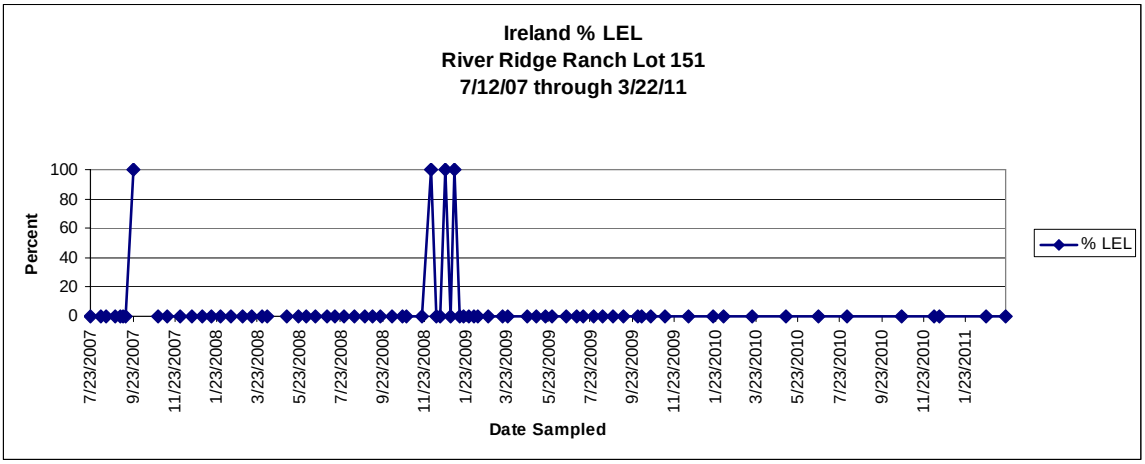

Barrett CH4 % VOL
River Ridge Ranch Lot 57
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
2/7/2011
Date Sampled
CH4 % VOL

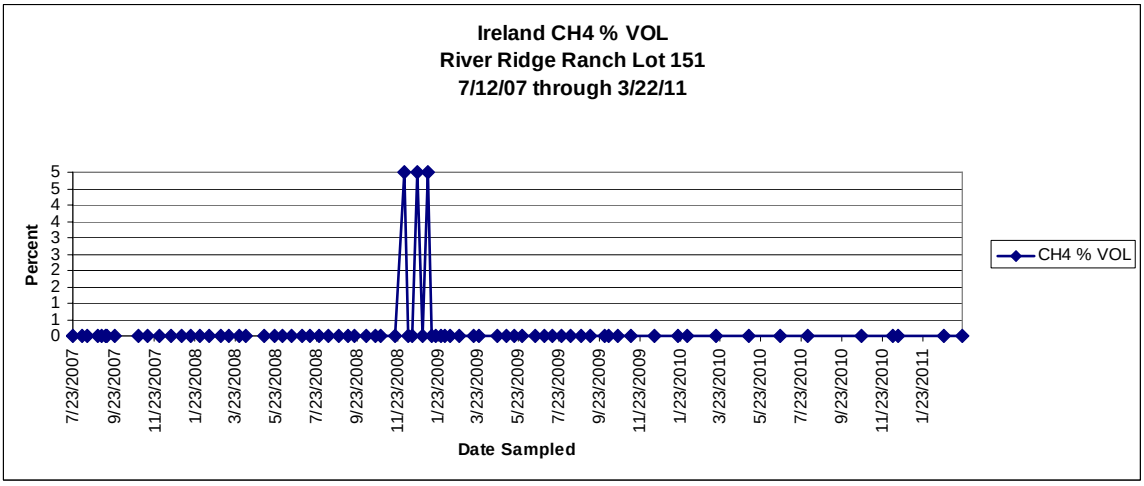

Colorado-Switzer % LEL
7/12/07 through 4/5/11
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
% LEL

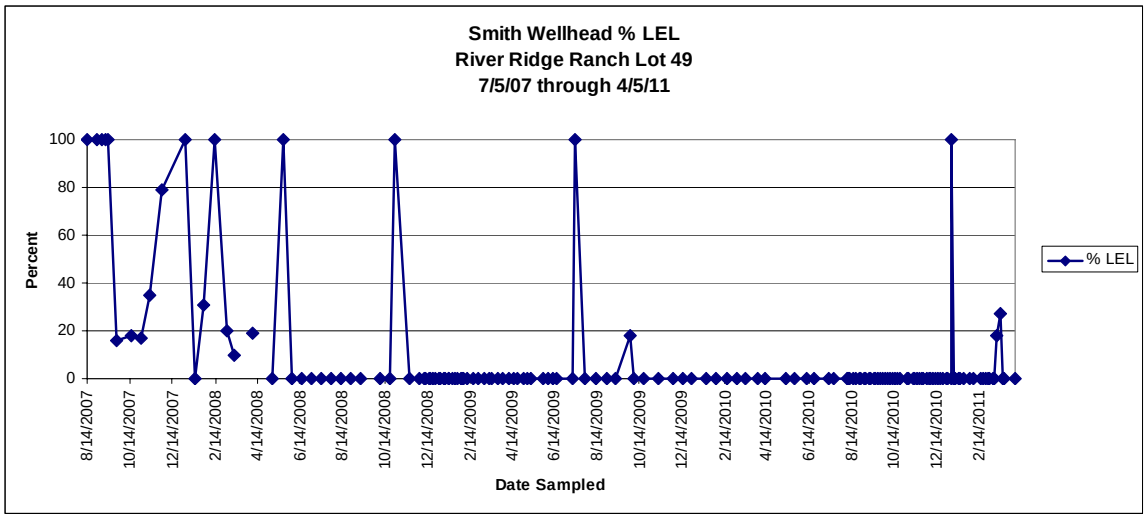

Colorado-Switzer CH4 % VOL
7/12/07 through 4/5/11
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
CH4 % VOL

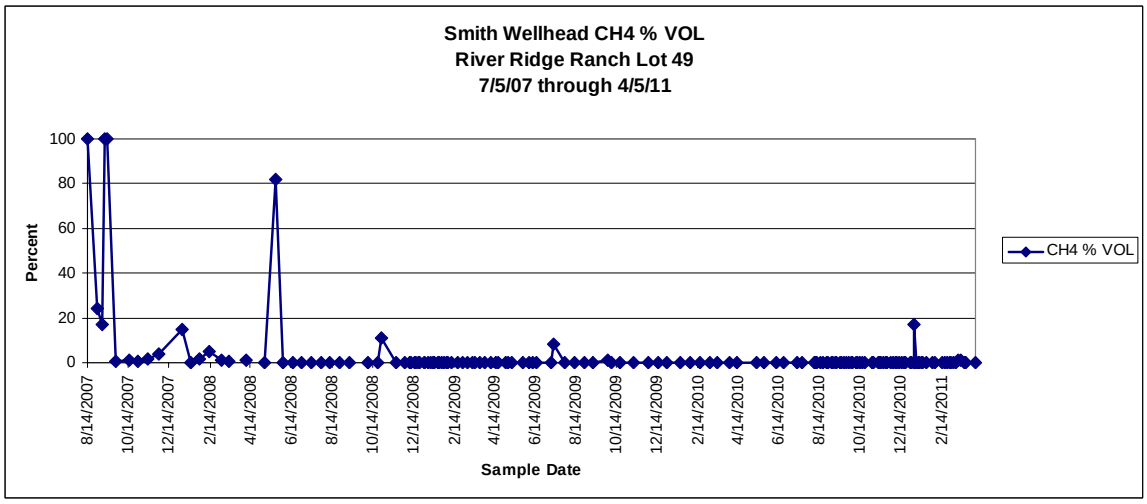

Goodwin % LEL
River Ridge Ranch Lot 150
7/12/07 through 3/22/11
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
% LEL

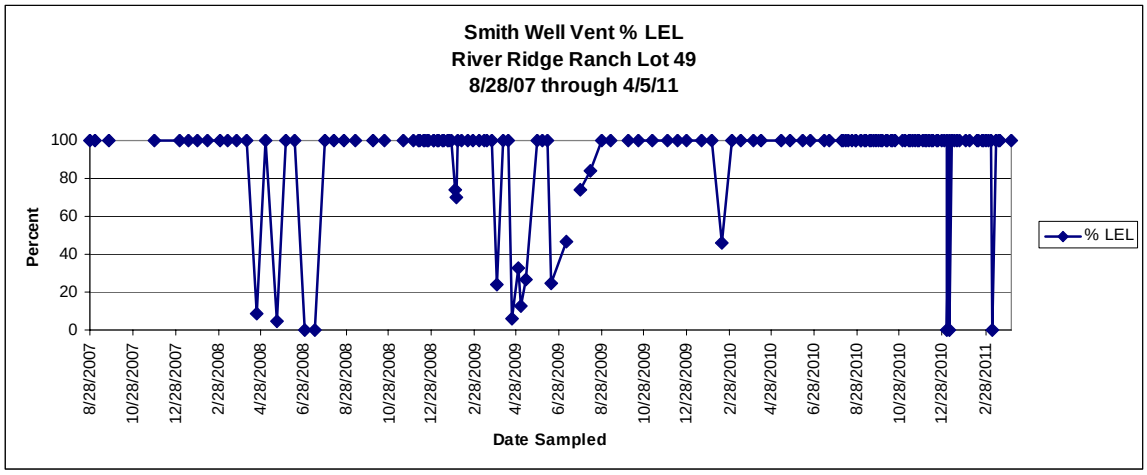

Goodwin CH4 % VOL
River Ridge Ranch Lot 150
7/12/07 through 3/22/11
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
1/12/2011
3/12/2011
Date Sampled
CH4 % VOL

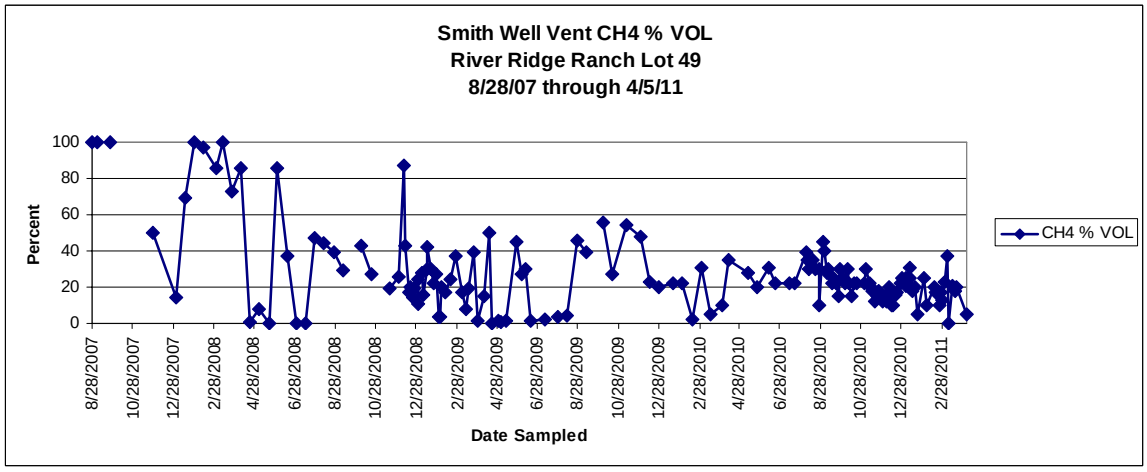

Ireland % LEL
River Ridge Ranch Lot 151
7/12/07 through 3/22/11
Percent
100
80
60
40
20
0
7/23/2007
9/23/2007
11/23/2007
1/23/2008
3/23/2008
5/23/2008
7/23/2008
9/23/2008
11/23/2008
1/23/2009
3/23/2009
5/23/2009
7/23/2009
9/23/2009
11/23/2009
1/23/2010
3/23/2010
5/23/2010
7/23/2010
9/23/2010
11/23/2010
1/23/2011
Date Sampled
% LEL

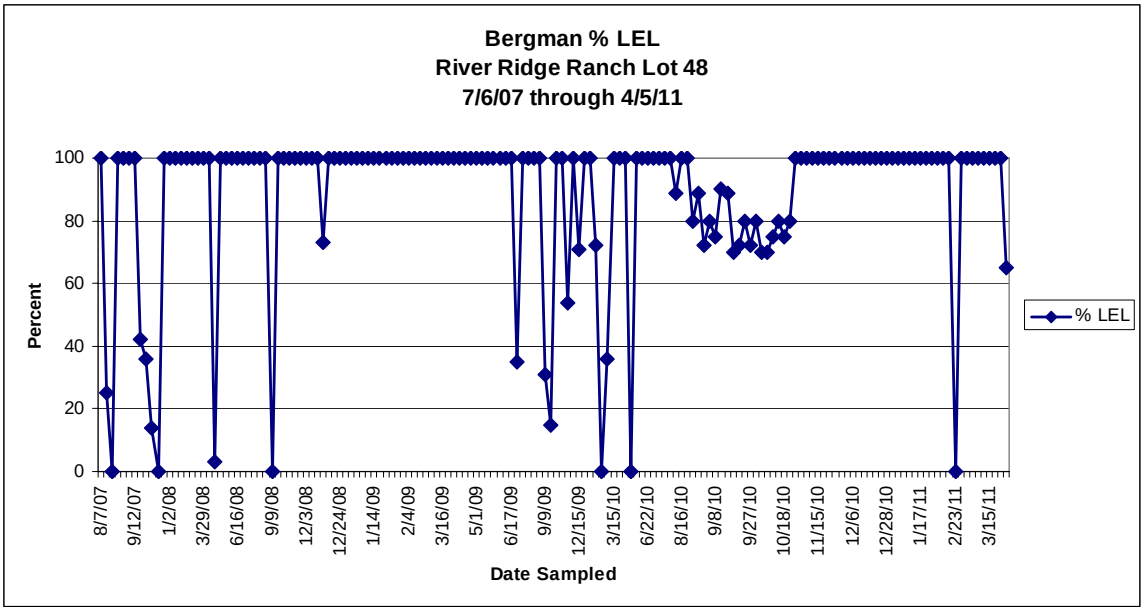

Ireland CH4 % VOL
River Ridge Ranch Lot 151
7/12/07 through 3/22/11
Percent
5
5
4
4
3
3
2
2
1
1
0
7/23/2007
9/23/2007
11/23/2007
1/23/2008
3/23/2008
5/23/2008
7/23/2008
9/23/2008
11/23/2008
1/23/2009
3/23/2009
5/23/2009
7/23/2009
9/23/2009
11/23/2009
1/23/2010
3/23/2010
5/23/2010
7/23/2010
9/23/2010
11/23/2010
1/23/2011
Date Sampled
CH4 % VOL

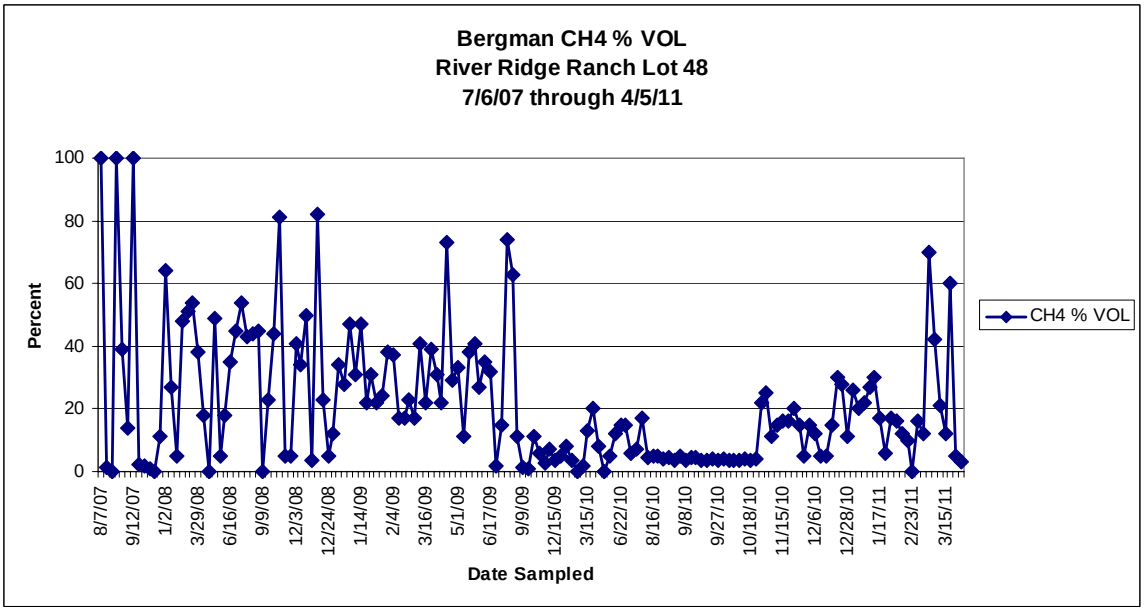

Smith Wellhead % LEL
River Ridge Ranch Lot 49
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
8/14/2007
10/14/2007
12/14/2007
2/14/2008
4/14/2008
6/14/2008
8/14/2008
10/14/2008
12/14/2008
2/14/2009
4/14/2009
6/14/2009
8/14/2009
10/14/2009
12/14/2009
2/14/2010
4/14/2010
6/14/2010
8/14/2010
10/14/2010
12/14/2010
2/14/2011
Date Sampled
% LEL

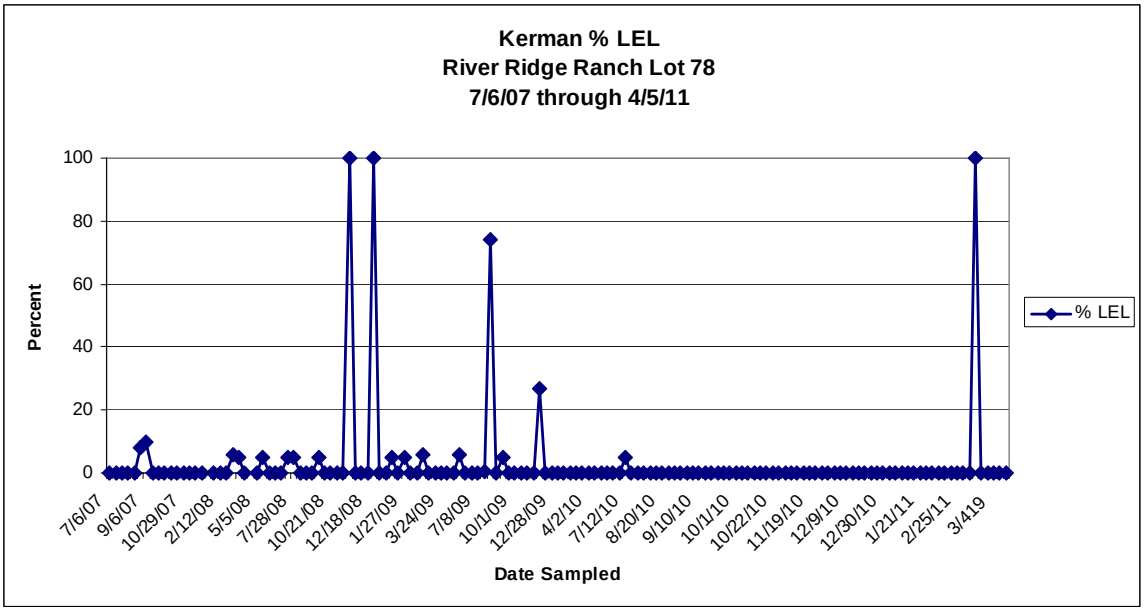

Smith Wellhead CH4 % VOL
River Ridge Ranch Lot 49
7/5/07 through 4/5/11
Percent
100
80
60
40
20
0
8/14/2007
10/14/2007
12/14/2007
2/14/2008
4/14/2008
6/14/2008
8/14/2008
10/14/2008
12/14/2008
2/14/2009
4/14/2009
6/14/2009
8/14/2009
10/14/2009
12/14/2009
2/14/2010
4/14/2010
6/14/2010
8/14/2010
10/14/2010
12/14/2010
2/14/2011
Sample Date
CH4 % VOL

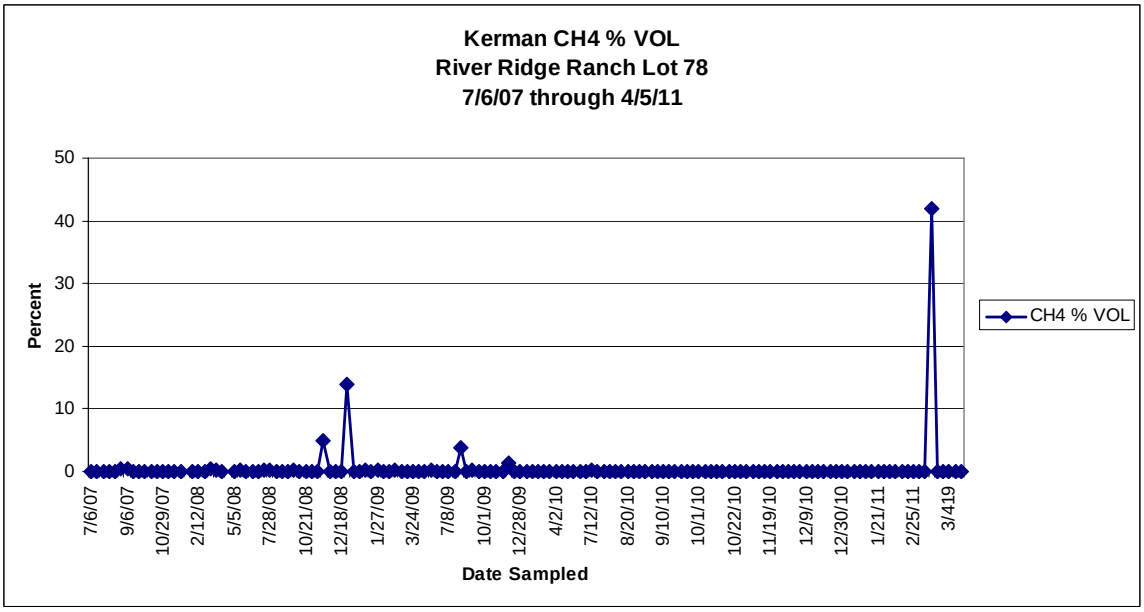

Smith Well Vent % LEL
River Ridge Ranch Lot 49
8/28/07 through 4/5/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
% LEL

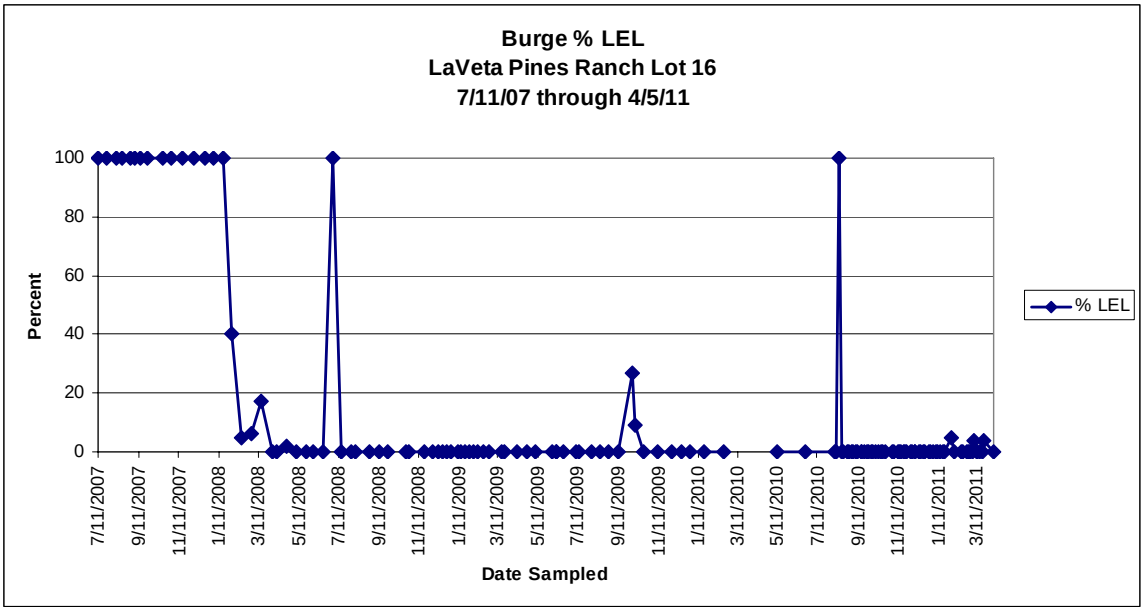

Smith Well Vent CH4 % VOL
River Ridge Ranch Lot 49
8/28/07 through 4/5/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
2/28/2011
Date Sampled
CH4 % VOL

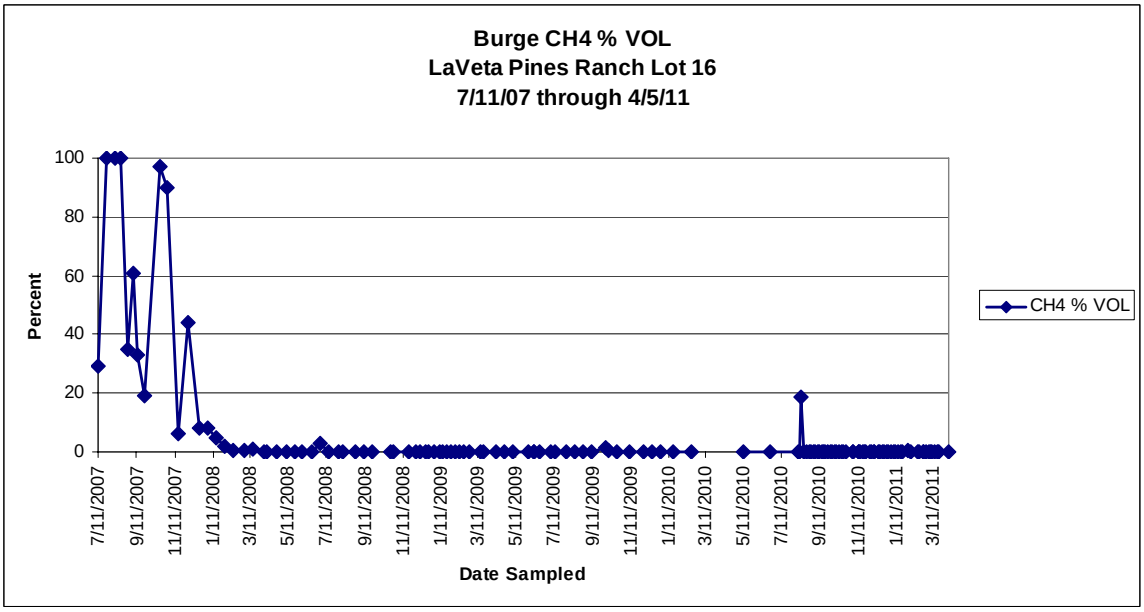

Bergman % LEL
River Ridge Ranch Lot 48
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
8/7/07
9/12/07
1/2/08
3/29/08
6/16/08
9/9/08
12/3/08
12/24/08
1/14/09
2/4/09
3/16/09
5/1/09
6/17/09
9/9/09
12/15/09
3/15/10
6/22/10
8/16/10
9/8/10
9/27/10
10/18/10
11/15/10
12/6/10
12/28/10
1/17/11
2/23/11
3/15/11
Date Sampled
% LEL


Bergman CH4 % VOL
River Ridge Ranch Lot 48
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
8/7/07
9/12/07
1/2/08
3/29/08
6/16/08
9/9/08
12/3/08
12/24/08
1/14/09
2/4/09
3/16/09
5/1/09
6/17/09
9/9/09
12/15/09
3/15/10
6/22/10
8/16/10
9/8/10
9/27/10
10/18/10
11/15/10
12/6/10
12/28/10
1/17/11
2/23/11
3/15/11
Date Sampled
CH4 % VOL


Kerman % LEL
River Ridge Ranch Lot 78
7/6/07 through 4/5/11
Percent
100
80
60
40
20
0
7/6/07
9/6/07
10/29/07
2/12/08
5/5/08
7/28/08
10/21/08
12/18/08
1/27/09
3/24/09
7/8/09
10/1/09
12/28/09
4/2/10
7/12/10
8/20/10
9/10/10
10/1/10
10/22/10
11/19/10
12/9/10
12/30/10
1/21/11
2/25/11
3/419
Date Sampled
% LEL


Kerman CH4 % VOL
River Ridge Ranch Lot 78
7/6/07 through 4/5/11
Percent
50
40
30
20
10
0
7/6/07
9/6/07
10/29/07
2/12/08
5/5/08
7/28/08
10/21/08
12/18/08
1/27/09
3/24/09
7/8/09
10/1/09
12/28/09
4/2/10
7/12/10
8/20/10
9/10/10
10/1/10
10/22/10
11/19/10
12/9/10
12/30/10
1/21/11
2/25/11
3/419
Date Sampled
CH4 % VOL


Burge % LEL
LaVeta Pines Ranch Lot 16
7/11/07 through 4/5/11
Percent
100
80
60
40
20
0
7/11/2007
9/11/2007
11/11/2007
1/11/2008
3/11/2008
5/11/2008
7/11/2008
9/11/2008
11/11/2008
1/11/2009
3/11/2009
5/11/2009
7/11/2009
9/11/2009
11/11/2009
1/11/2010
3/11/2010
5/11/2010
7/11/2010
9/11/2010
11/11/2010
1/11/2011
3/11/2011
Date Sampled
% LEL


Burge CH4 % VOL
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5/11/2008
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11/11/2009
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3/11/2010
5/11/2010
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9/11/2010
11/11/2010
1/11/2011
3/11/2011
Date Sampled
CH4 % VOL