

**Petroglyph Operating Company  
September 2009  
Monthly Report**

**Covering the period of 8/25/09 through 9/23/09**

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

**October 1, 2009**

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## **Petroglyph Operating Company, Inc. Monthly Report – September 2009**

Petroglyph Operating Company, Inc. (Petroglyph) is submitting this monthly report for the activities that have occurred at their Little Creek Field in the Raton Basin from the end of the last reporting period through September 23, 2009. Along with this monthly report, Petroglyph is submitting an electronic copy of all data including Microsoft Excel spreadsheets from which the attached summaries and graphs were created.

### **1.0 Phase I Remediation System**

The Phase I remediation system associated with the Methane Investigation, Monitoring and Mitigation Program (MIMMP) has been operational for approximately nine and a half months beginning on December 8<sup>th</sup>. The system was started with pumping from Recovery 1 Kittleson and Recovery 3 PEI. Recovery 1 gas production has dropped from approximately 25.7 MCFD at the start of mitigation to approximately 5.68 MCFD on September 16, 2009. Recovery 3 gas flows were measured at approximately 0.75 MCFD at the start of mitigation and increased to approximately 1 MCFD and remained around 1 until late February and then began a slow and steady decline. During this reporting period the gas flows dropped to 0.2816 MCFD on September 16, 2009. Recovery 4 has shown the most variability ranging between 0.9 MCFD and 0 until mid April when the readings were consistently under 0.001 MCFD. Readings at Recovery 4 showed an increase beginning in late July/early August and ended the period at 0.126 MCFD on September 16, 2009. The average pumping rate for Recovery 1 has been 18.8 gpm but on July 21, 2009 this rates was increased to 22.5 gpm to see if that would increase gas production. No increase in gas production was observed so on August 25, 2009 this pumping rate was decreased to 19 gpm. The average pumping rate at Recovery 3 has been 4 gpm intermittently (or averaging about 1 gpm over a day's time) (Table 1). Recovery 4 is not functioning properly as explained in previous monthly reports and has not been pumped since early April 2009.

During the next reporting period Petroglyph will be providing information to the EPA, COGCC and the Division of Water Resources to convert the Todd Masters water well to a recovery well. Water from this well would be injected back into Injection 6 Masters located in close proximity to the recovery well. Petroglyph believes that this well will yield both water and gas and make an appropriate addition to continue to reduce the methane gas in the Poison Canyon Formation.

Gas flow in POCI 55 monitoring well and the Recovery wells is shown graphically in Attachment 1. The POCI 55 well has not shown any gas flows since April 2008 shortly after passive venting of mitigation wells began.

Injection started in Injection 01 and 04 on December 9, 2008 and Injection 02, 03, 05, 06 and 07 on December 10, 2008 (Table 1). Injection rates vary for the individual injection wells and range from 1.1 to 6.5 gpm. The two wells on the Rohr property (Injection 04 and 05) have accepted the most water. Injection 08 Haeffner has not accepted water very

well. All of the approximately 7.4 million gallons of water that have been recovered have been re-injected following methane off gassing. During this reporting period injection rates were decreased at the 4 injection wells which take the most water (Injection 3 decreased from 1.4 to 1.1 gpm; Injection 4 decreased from 6.4 to 5.1 gpm; Injection 5 decreased from 8.4 to 6.1 gpm; and Injection 6 decreased from 6.3 to 5.1 gpm.)

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

## **2.0 Phase II Remediation System**

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

## **3.0 Ongoing Investigation**

### Aquifer Characterization

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

### Gas Isotope, Dissolved Methane and Water Quality Sampling

The attached data disk includes the results from two gas analyses collected prior to this reporting period. In addition the data disk includes the results for two full water analyses including dissolved gas and three dissolved gas only samples. The results for all dissolved methane sampling collected to date, including the most recent sample results, are shown in Table 2 with those results received since the last reporting period highlighted in yellow.

### Methane Source Investigation

Petroglyph continues to evaluate the source of methane both in the domestic wells in the vicinity of the production wells and closer to the outcrop. Monitoring of the BLM well continues and the well continues to show unmeasurably low levels of gas flow. Handheld measurements show >100% lower explosive limit, 88% CH<sub>4</sub> by volume and 0% by volume O<sub>2</sub>. The Haupt #1 well drilled closer to the outcrop and handheld measurements around this well show >100% lower explosive limit, 5% CH<sub>4</sub> by volume and 0% by volume O<sub>2</sub>. Any additional information on the ongoing investigation will be included in the monthly reports and/or in separate reporting as the data is collected and evaluated.

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

In addition, during the monitoring period the completion of the Goemmer #1 Well was evaluated. The area around the wellhead was dug out to expose the 13 3/8” surface casing. The top of the surface casing was cut off 4 feet below the ground surface with no supporting mechanism for the production casing. The production casing/surface casing annulus was empty with no cement. Fluid levels were measured at 87 feet below the ground level and no gas was detected with the handheld meter. A video log was run in the hole to total depth. No bubbles were seen going down the hole, but some bubbles were seen during pull out at 1200 feet and 800 feet. When bubbles were observed, the camera was dropped down and then pulled back through the area where bubbles were first observed. During the second pull out no bubbles were observed in these areas. The bubbles observed are thought to be most likely a result of microbial activity in muck which was then released as bubbles by camera agitation of the fill in the bottom of the hole. After the camera was pulled, the area around the wellhead was backfilled.

#### **4.0 Monitoring**

##### Down-hole Pressure and Fluid Level Monitoring

###### *Private Wells*

Petroglyph has installed continuous pressure monitoring for fluid levels in water wells at Barrett, Bergman and Coleman located within one mile of the remediation system; Meyer located in the River Ridge Ranch Subdivision but more than one mile from the remediation system; Bruington located in City Ranch Subdivision; and Evenden located in the Silver Spurs Ranch Subdivision. The transducer in the Garza-Vela well in City Ranch was repaired during this period and monitoring data for this well is included. Petroglyph discovered during the last reporting period that the connection to the Coleman gage is no longer working and this is still awaiting repair, currently expected the first week in October. The Meyer transducer failed on August 31<sup>st</sup> and is also awaiting repair.

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

POCI 55, Barrett, Bergman and Evenden showed essentially the same fluid levels throughout the monitoring period. The Bruington well continues to show an upward trend in water levels with a rise of 4 feet during the reporting period. When the Garza Vela transducer was replaced and measurements restarted water levels varied from 1 to 2 feet higher than prior to the transducer failing in early June. Although the Meyer transducer

failed on August 31<sup>st</sup>, the measurements prior to failure showed a drop of approximately one foot.

#### *Petroglyph Production Wells*

Fourteen Petroglyph production wells are currently monitored for fluid level and casing pressure: Lively 02-02, Lively 02-12, Lively 02-03, Lively 03-01, Lively 03-10, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 04-14, Rohr 09-05, Rohr 09-10, State 36-02, State 36-05, State 36-11. The downhole pressure sensor in the Rohr 09-05 is back in service. The pressure sensor in the Rohr 04-14 works sometimes, but not consistently. The data from the Rohr 04-14 appear to be accurate when collected. Two monitoring wells are also monitored continuously for water levels (Lively 03-03, and Lively 10-12). The monitoring occurs in the formation into which the wells are completed, the Vermejo Formation. Changes in fluid levels in Petroglyph's production wells are shown graphically in Attachment 3.

Since Petroglyph is no longer pumping these wells to draw down water levels, pressure is equalizing within the Vermejo coals. Consequently, water levels are generally rising in all wells as would be expected, although the rate of rise is leveling off. Most of the production wells show elevations between 6075 and 6109 feet. The problem with the Lively 03-12 readings has been corrected and readings from this well are now in line with other readings. The Lively 10-04 data is also slightly higher than the average at 6133 feet.

On September 14<sup>th</sup> pumping began in Rohr 04-10, 09-04 and 09-10 in order to grab a water sample for analyses. Pumping continued until September 17<sup>th</sup> a sample was collected. These wells are the wells proposed for pumping for make up water as part of the Phase II pumping and injection system.

#### *Comparison of Production Well and Private Well Data*

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

#### Gas Flow Monitoring In Domestic Wells

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



Attachment 5 includes graphs representing gas flow measurements from Bruington, Coleman, Angely, Bounds and Smith. The Coleman well gage is in need of repair and no data has been collected since June 27<sup>th</sup>. This well only shows gas when pumped. The Angely, Bruington and Smith wells are not showing any gas. The gas flows at the Bounds well were measured on September 1<sup>st</sup> at 0.096 MCFD

A drop in gas flow in the domestic wells appears to have occurred in correlation with the drilling of remediation system wells and venting of gas through these wells. This would indicate that the remediation system has been correctly located to remediate the area of largest gas concentration in the domestic wells.

#### Bi-Weekly and Monthly Water Well Monitoring

Petroglyph currently monitors for methane gas levels near approximately 91 wells in the vicinity of the site including one new well added within the Silver Spurs Ranch subdivision. 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 3 shows all of the wells that have been sampled, the sampling start date, the date of the last sample, the number of samples since the last reporting period and a description of the sampling results and any changes from the previous reporting period. A column that discusses the historical readings for each site has been added to the table.

Of the 91 wells, 7 were not sampled during this reporting period and one was sampled for the first time. Sampling may vary during any one reporting period due to a variety of reasons. During this reporting period 54 wells were sampled once and 30 wells were sampled twice.

As shown on Table 3, the comparison of monitoring results for the 83 wells sampled during this period with previous results showed that overall gas levels at 63 wells had no change from the previous monitoring period measurements. Of those 63 wells with no changes, 60 wells had no detectable methane and 3 were no changes with detectable methane. Changes in % LEL, % by volume CH<sub>4</sub>, and % volume O<sub>2</sub> were evaluated to determine if the area around the wellheads was showing an indication of increasing or decreasing methane gas content. Of the remaining 20 wells, 8 showed increases in methane, with 3 of those only slight increases and 13 showed decreases with 3 of those well showing a slight decrease.

Petroglyph compared those wells showing detectable methane or changes in methane monitored during the reporting period with wells known to have been drilled into the coals within the Raton or Vermejo Formations and lying within 1-1.25 miles of the outcrop. Of the 24 wells showing methane (21 wells with changes up or down and 3 wells with detectable methane and no changes from the previous monitoring period), 12 are believed to have been drilled into the Raton/Vermejo Formation based on well depths in well logs available from the State Engineer. Of the remaining 12 wells, well drilling and completion information has not yet been researched for 2 wells and the remaining 10

wells are drilled into the Poison Canyon with 7 of those wells located within or in close proximity to the remediation system.

Historically, 40 of the 88 wells that are monitored have never shown any detectable methane and 19 wells have shown only low to no detectable levels of methane or show only very infrequent methane readings. 10 wells showed high or variable levels of methane when first sampled and over time dropped to no detectable methane or infrequent readings of detectable methane. Nine wells show consistent higher levels of methane. Six wells show widely variable results with large changes from 0 to higher levels at each reading and no discernable trends. One well shows increasing levels of methane. Three wells have limited sampling.

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

### **Within 1 Mile of Remediation System**

#### ***Current***

- Gas near 26 wellheads monitored
- 2 wellheads not sampled during this reporting period
- 12 wellheads showed no change and no detectable methane gas with 2 wellheads showing no change and detectable methane levels
- The wellheads showing no change and detectable levels of methane are the Bounds wellhead and BLM 15-12 with the BLM 15-12 drilled into the Vermejo Formation
- 3 wellheads showed increased methane with 2 of those only a slight increase
- 3 wellheads showed slightly decreased methane levels with 1 wellhead showing only a slight decrease
- Of the 8 wellheads showing detectable methane, only the BLM 15-12 is known to be drilled into the Raton/Vermejo.

#### ***Historic***

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

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

#### ***Current***

- Gas near 23 wellheads monitored
- 2 wellheads not sampled during this reporting period
- 19 wellheads showed no change and no detectable methane gas

- 1 wellhead showed a slight decrease in methane levels and 1 wellhead showed an increase in methane levels
- Of the 2 wellheads showing changes in detectable methane, one is known to be drilled into the Raton/Vermejo and lies within 1.25 miles of the outcrop.

***Historic***

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

**City Ranch and Other Properties**

***Current***

- Gas near 15 wellheads monitored
- All wellheads were sampled during the reporting period
- 10 wellheads showed no change and no detectable methane gas
- 1 wellhead showed no change and detectable levels of methane, the Haupt #1 wellhead which is located near the outcrop
- The 4 remaining wellheads showed an increase with 1 wellhead only a slight increase in methane gas
- Of the 4 wellheads showing changes in detectable methane, all are known to be drilled into the Raton/Vermejo and lie within 1.25 miles of the outcrop.

***Historic***

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

**Silver Spurs Ranch**

***Current***

- Gas near 26 wellheads monitored
- 1 new wellhead was added during the reporting period and showed no detectable levels of methane gas
- 3 wellheads were not sampled during the reporting period
- 14 wellheads showed no change and no detectable methane
- 8 wellheads showed decreased levels of methane gas with 1 wellhead showing only a slight decrease
- Of the 8 wellheads showing changes in detectable methane levels, at least 6 are known to be drilled into or through the Raton/Vermejo Formation or through coals and lie within 1 mile of the outcrop. The completion of the remaining two has not yet been examined in detail

***Historic***

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

**Black Hawk Ranch**

***Current***

- The domestic well which is monitored at Black Hawk Ranch (Goza) showed no detectable methane and no change from previous measurements

***Historic***

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

Table 4 shows the current monitoring schedule including which wells are monitored bi-weekly and which wells are monitored monthly or at a different frequency. The only change during this reporting period is the addition of Wyland as a sampling point. The schedule has been updated to include the most recently approved monitoring schedule which eliminated all weekly monitoring in accordance with the approval of the COGCC.

Attachment 6 includes charts of gas monitoring of eighteen wells near the mitigation system. The wells being monitored have not indicated a direct response to the remediation pumping and injection. The Houghtling wellhead readings have shown an overall decrease in CH<sub>4</sub> % volume since early August although the LEL remains at >100%. Lively 10-02 wellhead readings have shown an increase since early July with % LEL increasing from 0 to >100 and CH<sub>4</sub> % volume increasing from 0 to 5%. The Smith wellhead measurements for LEL and CH<sub>4</sub>% volume continue to be at 0 for this reporting period although the well vent measurements are at >100% LEL and 40% CH<sub>4</sub> by volume. Bergman has experienced an overall decrease in % LEL and CH<sub>4</sub>% volume since Late July/early August with % LEL dropping from >100 to 31 and CH<sub>4</sub>% Volume dropping from 74 to 1.44. Other wellhead readings have remained consistent with previous measurements.

**Hand Held Measurements**

Petroglyph conducts periodic ground surveys using a hand held methane detector at locations where gas has previously been detected, at locations where a property owner requests such a survey or at locations where previous surveys such as the helicopter survey have detected gas seepage. These surveys are conducted based on need or urgency so can range from several times a week to a one time survey based on concerns from a property owner. No handheld surveys were collected during the reporting period.

A new helicopter survey for methane was conducted on September 4<sup>th</sup> and 5<sup>th</sup>. The data from this survey will be verified on the ground using hand held measurements. Once the hand haled surveys have been completed the data from the helicopter and hand held surveys will be submitted to the COGCC under separate cover.

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

### Public Outreach

No public outreach activities occurred during the reporting period.

### Health and Safety/Emergency Planning

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

## **6.0 Schedule**

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

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

**Table 1: Recovery and Injection Rates associated with Phase I MIMMP  
 (as of 9/20/09)**

<b>Well Number</b>	<b>TD</b>	<b>PBTD</b>	<b>Injection Tubing Depth</b>	<b>Start-up Date</b>	<b>Average Injection Rate (gpm)</b>	<b>Water Totals as of 8/23/09 (gal)</b>	<b>Notes</b>
Injection 01 Pascual	600	526	458	12/9/2008	1.1	411,000	
Injection 02 Gonzales	600	575	362	12/10/2008	1.1	406,100	
Injection 03 Benevides	725	629	454	12/10/2008	1.2	422,000	Decreased injection rate from 1.4 to 1.1, 8/25/09
Injection 04 Rohr	675	667	455	12/9/2008	5.1	2,013,000	Decreased injection rate from 6.4 to 5.1, 8/25/09
Injection 05 Rohr	750	735	458	12/10/2008	6.1	2,400,000	Decreased injection rate from 8.4 to 6.1, 8/25/09
Injection 06 Masters	725	695	438	12/10/2008	5.1	1,707,000	Decreased injection rate from 6.3 to 5.1, 8/25/09
Injection 07 Walden	750	713	457	12/10/2008	1.1	351,000	
Injection 08 Haeffner	650	713	365	12/10/2008	see note	2,420	Well does not accept water very well. Inject approx. 150 gallons once every two weeks.
			<b>Pump Depth</b>		<b>Average Pump Rate (gpm)</b>		
Recovery 1 Kittleson	715	705	686	12/8/2008	19.00	7,124,000	Decreased pump rate from 22.5 to 19, 8/25/09.
Recovery 3 PEI	625	591	575	12/8/2008	1 (see note)	367,100	Intermittent pumping at 4 gpm. Rate over 24 hrs is approx 1 gpm
Recovery 4 Barrett	500	484	463	2/10/2009	(see note)	3,580	Started pump 2/10/09 to develop well. Pumps about 100 gallons in 15 minutes, per day. Water has not been injected. Last pump date 4/8/09

**Table 2: Sampling of Dissolved Gases in Water Wells**

	Well	Sample Date	Analyte	Results (In ug/l)	Comments
Mitigation wells	Injection 03 Benavides	7/17/08	Ethane	4.9	Grabbed during pump testing
	Injection 03 Benavides	7/17/08	Methane	280	Grabbed during pump testing
	Injection 04 Rohr	7/22/08	Ethane	2.3	Grabbed during pump testing
	Injection 04 Rohr	7/22/08	Methane	4,500	Grabbed during pump testing
	Injection 05 Rohr	7/28/08	Ethane	3.0	Grabbed during pump testing
	Injection 05 Rohr	7/28/08	Methane	3,100	Grabbed during pump testing
	Injection 05 Rohr	3/9/09	Ethane	11	Injection Water
	Injection 05 Rohr	3/9/09	Methane	5,200	Injection Water
	Injection 05 Rohr	7/30/09	Ethane	4.4	Injection Water
	Injection 05 Rohr	7/30/09	Ethene	ND	Injection Water
	Injection 05 Rohr	7/30/09	Methane	2400	Injection Water
	Injection 05 Rohr	9/01/09	Ethane	4.7	Injection Water
	Injection 05 Rohr	9/01/09	Ethene	ND	Injection Water
	Injection 05 Rohr	9/01/09	Methane	2700	Injection Water
	Injection 06 Masters	7/15/08	Ethane	3.9	Grabbed during pump testing
	Injection 06 Masters	7/15/08	Methane	6,300	Grabbed during pump testing
	Injection 07 Walden	7/29/08	Ethane	12	Grabbed during pump testing
	Injection 07 Walden	7/29/08	Methane	12,000	Grabbed during pump testing
	Injection 02 Gonzales	8/20/08	Ethane	2.7	Grabbed during pump testing
	Injection 02 Gonzales	8/20/08	Methane	4.2	Grabbed during pump testing
	Recovery 1 Kittleson	7/8/08	Ethane	3.0	Grabbed during pump testing
	Recovery 1 Kittleson	7/8/08	Methane	4,800	Grabbed during pump testing
	Recovery 1 Kittleson	8/4/08	Ethane	6.8	Grabbed during pump testing
	Recovery 1 Kittleson	8/4/08	Methane	6,800	Grabbed during pump testing
	Recovery 1 Kittleson	1/15/09	Ethane	2.5	IP 12/8/08
	Recovery 1 Kittleson	1/15/09	Methane	2,000	IP 12/8/08
	Recovery 1 Kittleson	7/21/09	Ethane	ND	
	Recovery 1 Kittleson	7/21/09	Ethene	ND	
	Recovery 1 Kittleson	7/21/09	Methane	2700	
	Recovery 1 Kittleson	7/30/09	Ethane	3.7	
	Recovery 1 Kittleson	7/30/09	Ethene	ND	
	Recovery 1 Kittleson	7/30/09	Methane	4100	
	Recovery 1 Kittleson	9/01/09	Ethane	7.3	
	Recovery 1 Kittleson	9/01/09	Ethene	ND	
	Recovery 1 Kittleson	9/01/09	Methane	8600	
	Recovery 2 Reiss	4/4/08	Ethane	ND	Water while drilling
	Recovery 2 Reiss	4/4/08	Methane	ND	Water while drilling
	Recovery 3 PEI	8/25/08	Ethane	13	Grabbed during pump testing
	Recovery 3 PEI	8/25/08	Methane	9,600	Grabbed during pump testing
	Recovery 3 PEI	1/16/09	Ethane	15	IP 12/8/08
Recovery 3 PEI	1/16/09	Methane	13,000	IP 12/8/08	
Recovery 3 PEI	7/21/09	Ethane	15		

**Table 2: Sampling of Dissolved Gases in Water Wells**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	Recovery 3 PEI	7/21/09	Ethene	2.4	
	Recovery 3 PEI	7/21/09	Methane	13000	
	Recovery 3 PEI	7/30/09	Ethane	15	
	Recovery 3 PEI	7/30/09	Ethene	ND	
	Recovery 3 PEI	7/30/09	Methane	17000	
	Recovery 3 PEI	9/01/09	Ethane	22	
	Recovery 3 PEI	9/01/09	Ethene	ND	
	Recovery 3 PEI	9/01/09	Methane	26000	
	Recovery 4 Barrett	7/10/08	Ethane	5	Grabbed during pump testing
	Recovery 4 Barrett	7/10/08	Methane	3,500	Grabbed during pump testing
	Recovery 4 Barrett	3/12/09	Ethane	12	IP 2/10/09
	Recovery 4 Barrett	3/12/09	Ethene	48	IP 2/10/09
	Recovery 4 Barrett	3/12/09	Methane	8,600	IP 2/10/09
<b>Wells within 1 mile of Mitigation System</b>	Angely, J	3/26/08	Ethane	35	by COGCC
	Angely, J	3/26/08	Methane	15,000	by COGCC
	Barrett, T	6/24/09	Methane	18,000	
	Barrett, T	6/24/09	Ethane	11	
	Barrett, T	6/24/09	Ethene	12	
	Bergman	6/29/09	Ethane	ND	Grabbed during pump testing
	Bergman	6/29/09	Ethene	ND	Grabbed during pump testing
	Bergman	6/29/09	Methane	2,300	Grabbed during pump testing
	Burge, K	8/5/08	Methane	3,900	
	Burge, K	12/18/08	Ethane	2.3	
	Burge, K	12/18/08	Methane	3,600	
	Burge, K	6/9/09	Ethane	3	
	Burge, K	6/9/09	Ethene	2.4	
	Burge, K	6/9/09	Methane	3,300	
	Coleman, V	3/1/08	Methane	4,600	filtered via house water filter
	Coleman, V	9/23/07	Methane	4,300	filtered via house water filter
	Coleman, V	9/23/07	Methane	5,000	raw- not filtered
	Coleman, V	3/1/08	Methane	5,100	raw- not filtered
	Coleman, V	12/4/08	Ethane	7	raw- not filtered
	Coleman, V	12/4/08	Methane	5,900	raw- not filtered
	Coleman, V	5/9/09	Ethene	2.4	raw- not filtered
	Coleman, V	5/9/09	Ethane	9	raw- not filtered
	Coleman, V	5/9/09	Methane	6,100	raw- not filtered
	Conley, J	3/24/08	Methane	ND	
	Conley, J	12/4/08	Ethane	U	
	Conley, J	12/4/08	Methane	1.5	
	Conley, J	6/15/09	Ethane	1.6	
	Conley, J	6/15/09	Ethene	2.4	
	Conley, J	6/15/09	Methane	2.5	
	Dee	6/30/09	Ethane	ND	Grabbed during pump testing



**Table 2: Sampling of Dissolved Gases in Water Wells**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	Dee	6/30/09	Ethene	ND	Grabbed during pump testing
	Dee	6/30/09	Methane	5.7	Grabbed during pump testing
	Deroswitch, D	3/1/08	Methane	4,000	
	Deroswitch, D	1/15/09	Ethane	4.1	
	Deroswitch, D	1/15/09	Methane	2,200	
	English, B	3/14/08	Methane	ND	
	English, B	12/8/08	Ethane	U	
	English, B	12/8/08	Methane	U	
	English, B	7/8/09	Ethane	ND	
	English, B	7/8/09	Ethene	ND	
	English, B	7/8/09	Methane	ND	
	Hopke, B	2/25/08	Methane	5,900	
	Hopke, B	3/26/08	Ethane	11	by COGCC
	Hopke, B	3/26/08	Methane	3,000	by COGCC
	Hopke, B	12/31/08	Ethane	U	
	Hopke, B	12/31/08	Methane	660	
	Hopke, B	6/22/09	Methane	4,200	
	Hopke, B	6/22/09	Ethane	7.2	
	Hopke, B	6/22/09	Ethene	2.4	
	Hoppe, C	10/23/08	Ethane	ND	
	Hoppe, C	10/23/08	Methane	19	
	Houghtling, J	2/25/08	Methane	9.2	
	Kerman, T	3/1/08	Methane	170	
	Kerman, T	12/4/08	Ethane	U	
	Kerman, T	12/4/08	Methane	1.1	
	Kerman, T	7/8/09	Ethane	ND	
	Kerman, T	7/8/09	Ethene	ND	
	Kerman, T	7/8/09	Methane	ND	
	Masters, T	6/29/09	Ethane	10	
	Masters, T	6/29/09	Ethene	2.4	
	Masters, T	6/29/09	Methane	14,000	
	McPherson	3/29/08	Methane	54	
	McPherson, P	12/4/08	Ethane	U	
	McPherson, P	12/4/08	Methane	950	
	McPherson, P	6/3/09	Ethane	16	
	McPherson, P	6/3/09	Ethene	24	
	McPherson, P	6/3/09	Methane	1,700	
	Rohr, W	7/6/09	Ethane	ND	Grabbed during pump testing
	Rohr, W	7/6/09	Ethene	ND	Grabbed during pump testing
	Rohr, W	7/6/09	Methane	800	Grabbed during pump testing
	Searle, S	3/14/08	Methane	7.5	
	Searle, S	12/8/08	Ethane	U	
	Searle, S	12/8/08	Methane	5.8	

**Table 2: Sampling of Dissolved Gases in Water Wells**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
<b>Wells on RRR ex near Mitigation System</b>	Campbell, J	2/23/09	Ethane	0.6	
	Campbell, J	2/23/09	Methane	110	
	Goodwin, R	3/14/08	Methane	240	
	Goodwin, R	12/15/08	Ethane	U	
	Goodwin, R	12/15/08	Methane	U	
	Goodwin, R	6/29/09	Ethane	1.6	
	Goodwin, R	6/29/09	Ethene	2.4	
	Goodwin, R	6/29/09	Methane	5.2	
	Rhoads, K	2/23/09	Methane	21	
	Roloff, B	8/5/08	Methane	3,800	
	Speh, D	10/8/08	Methane	7,200	
	Wolahan	3/10/08	Methane	75	
	Wolahan, E	12/4/08	Ethane	U	
	Wolahan, E	12/4/08	Methane	210	
	Wolahan, E	6/4/09	Methane	24	
	Wolahan, E	6/4/09	Ethene	2.4	
	Wolahan, E	6/4/09	Ethane	1.6	
	Meyer, J	4/29/09	Ethane	ND	
Meyer, J	4/29/09	Methane	19,000		
<b>Wells on Silver Spurs Ranch unless noted</b>	Goza, C	1/15/09	Ethane	1.4	Blackhawk Ranch
	Goza, C	1/15/09	Methane	580	Blackhawk Ranch
	Gumpert, K	8/5/08	Methane	1,700	
	Sample, Mitch	3/10/08	Methane	19,000	
	Stephens, K	9/30/08	Methane	ND	
	Evenden, V	9/30/08	Methane	20,000	
	Evenden, V	8/26/09	Ethane	2.5	
	Evenden, V	8/26/09	Ethene	2.4	
	Evenden, V	8/26/09	Methane	7,700	
	Fitzner, P	12/1/08	Methane	4,600	
	Geisklbrecht, G	9/30/08	Methane	ND	
	Haynes, E	6/4/09	Methane	0.8	
	Haynes, E	6/4/09	Ethane	1.6	
	Haynes, E	6/4/09	Ethene	2.4	
	Morine, J	1/15/09	Methane	14	
	Palmer (GIS)	10/1/08	Methane	ND	
	Stetler	3/20/09	Methane	20,000	
	Stetler	3/20/09	Ethane	50	
	Modlish	3/20/09	Methane	0.33	
	Modlish	3/20/09	Ethane	ND	
	Billstrand	7/31/09	Ethane	ND	
	Billstrand	7/31/09	Ethene	ND	
Billstrand	7/31/09	Methane	0.42		

**Table 2: Sampling of Dissolved Gases in Water Wells**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	Bruington	7/6/09	Ethane	12	Grabbed during pump testing
	Bruington	7/6/09	Ethene	2.4	Grabbed during pump testing
	Bruington	7/6/09	Methane	7,900	Grabbed during pump testing
	Eddleman, P	8/28/09	Ethane	ND	
	Eddleman, P	8/28/09	Ethene	ND	
	Eddleman, P	8/28/09	Methane	29,000	
<b>Other</b>	Rohr 04-14	11/11/07	Methane	10,070	CBM water
	Rohr 09-04	11/11/07	Methane	6,350	CBM water

Shading indicates sampling added since last reporting period.

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
<b>Wells Within Approximately One Mile of pumping and Injection System or of Special Interest</b>						
238689	Angely	7/5/07	9/1/09	9/01/09	Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 4/9/08, then began dropping and reached approximately 0 by 5/28/08. Have remained at or near 0 except for jump in 12/10/08 and 3/18/09 readings.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
257994	Barrett	7/12/07	9/09/09	8/27/09 and 9/09/09	Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 9/4/07, then began dropping through 3/25/09 and have remained at or near 0 since that time.	<ul style="list-style-type: none"> <li>• % LEL increased from 40 to 58</li> <li>• CH4% volume increased from 2.0 to 2.9</li> <li>• O2% volume increased from 20.2 to 20.9</li> <li>• CO remained unchanged at 0 ppm and H2S increased from 0.0 to 2.0 ppm</li> </ul>
244403	Bergman	7/6/07	9/09/09	8/28/09 and 9/09/09	The methane has been variable with higher and lower values until 11/28/07 and then mostly levels at >100 %LEL and greater than 10% CH4 by volume.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 31</li> <li>• CH4% volume decreased from 63 to 1.55</li> <li>• O2% volume increased from 9.0 to 19.8</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
181278	Bounds	7/12/07	9/01/09	9/01/09	Readings from this wellhead have been consistently at or above 100 %LEL with levels of CH4% by volume near 100. This wellhead has also shown fairly consistent low levels of H2S until 6/25/08 with variable levels after that time.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at 100%</li> <li>• CH4% volume increased from 97 to 100</li> <li>• O2% volume remained unchanged at 0</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
169043	Burge	3/20/09	9/10/09	8/27/09 and 9/10/09	Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 1/17/08, then began dropping through 3/14/08 and have remained at or near 0 since that time except for a single high reading on 7/2/08.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
267694	Coleman	7/5/07	9/09/09	8/27/09 and 9/09/09	Methane detected at wellhead at levels >100 % LEL and above 5% CH4 by volume until approximately 8/15/07, then began dropping with no methane detected since 10/30/07. Most recent reading showed a detectable level of methane. Well vent has shown more variable and generally higher readings than the wellhead.	At the wellhead no change from previous measurements, with 0% LEL and CH4, O2% volume at 20.9 and no detectable CO and H2S.
235516	Colorado Switzer	7/12/07	8/24/09	8/24/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
255929	Conley	7/11/07	6/15/09	None	No methane has ever been detected at this wellhead.	Sampling attempted 8/25/09, but hot wired fence present with no access.
260097	Dee	7/5/07	7/30/09	None	No methane has ever been detected at this wellhead.	Not sampled during this reporting period.
252931	Derowitsch	7/6/07	9/09/09	8/27/09 and 9/09/09	Methane detected at wellhead at levels approximately 100 % LEL and mostly above 5% CH4 by volume until approximately 9/4/07, then methane levels dropped to 0 and has remained at 0 since that time. Both the well vent and cistern have historically shown very low to 0 levels of methane.	<p>At the wellhead no change from previous measurements with 0% LEL, no detectable methane; O2% volume at 20.9 and CO and H2S at 0 ppm. Slight levels of methane were detected in the 8/27/09 readingbut dropped back to no detectable methane in the final reading.</p> <p>At the well vent:</p> <ul style="list-style-type: none"> <li>• % LEL increased from 0 to 60%remained unchanged at 100%</li> <li>• CH4% volume increased from 0 to 3%</li> <li>• O2% volume remained unchanged at 20.9</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul> <p>At the cistern there was no change with no detectable methane, O2% at 20.9 and 0 ppm CO. H2S increased from 0 to 12.5 ppm</p>
235515	English	8/16/07	8/24/09	8/24/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% at 20.9 and no CO or H2S. Sample taken at cistern yielded the same results.

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
16861-F	Golden Cycle Land	7/12/07	9/09/09	8/27/09 and 9/09/09	Readings initially showed methane at 100% LEL and greater than 20% by volume CH <sub>4</sub> , 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 H <sub>2</sub> S.	<ul style="list-style-type: none"> <li>• %LEL remained at unchanged at &gt;100</li> <li>• CH<sub>4</sub>% volume decreased from 70 to 12 during the period</li> <li>• O<sub>2</sub>% increased from 0 to 15.3% during this period</li> <li>• CO decreased from 140 ppm to 47 ppm</li> <li>• H<sub>2</sub>S decreased from 8 ppm to 3 ppm</li> </ul>
253317	Gonzalez	7/12/07	8/24/09	8/24/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO or H <sub>2</sub> S.
256504	Hopke	7/5/07	9/09/09	8/27/09 and 9/09/09	Readings consistently measure methane at >100% LEL and at values of CH <sub>4</sub> % by volume fairly consistently above 20. The well has shown an overall slow decline in CH <sub>4</sub> % by volume over time. H <sub>2</sub> S 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.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH<sub>4</sub>% volume increased from 19 to 25</li> <li>• O<sub>2</sub>% volume increased slightly from 13 to 15.1</li> <li>• CO and remained unchanged at 0 ppm, H<sub>2</sub>S increased from 0 to 1 with a slight odor.</li> </ul> <p>At the cistern: no changes from previous measurements with 0% LEL, no detectable methane, O<sub>2</sub>% volume at 20.9 and CO and H<sub>2</sub>S at 0 ppm.</p>
236272	Houghtling	7/6/07	9/09/09	8/28/09 and 9/09/09	Methane levels at this wellhead have been consistently >100% LEL with CH <sub>4</sub> % by volume fairly consistently above 20 with some lower values (but not 0). No methane has ever been detected at the cistern.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH<sub>4</sub>% volume decreased from 84 to 74</li> <li>• O<sub>2</sub>% volume increased from 0 to 10 on 8/28/09 and decreased to 0 on 9/09/09</li> <li>• CO increased from 0 to 43 on 8/28/09 and decreased to 0 on 0/09/09; H<sub>2</sub>S remained at 0 ppm</li> </ul> <p>Cistern is being redone so no measurement was taken at the cistern.</p>
35292	Kerman/Hanson	7/6/07	9/09/09	8/27/09 and 9/09/09	Values at this wellhead have been at or near 0 with two readings of >100% LEL and greater than 5% by volume CH <sub>4</sub> on 12/2/08 and 12/22/08. No methane has ever been detected at the cistern.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL remained at 0 with a high reading of 5 on 8/27/09</li> <li>• CH<sub>4</sub>% volume increased slightly from 0 to 0.25 on 8/27/09, then decreased to 0 on 9/09/09</li> <li>• O<sub>2</sub>% volume decreased slightly from 20.9 to 20.7 on 8/27/09, then returned to 20.9 on 9/09/09</li> <li>• CO and H<sub>2</sub>S remained unchanged at 0 ppm</li> </ul> <p>The cistern values remained unchanged with no detectable methane, O<sub>2</sub>% at 20.9 and no CO or H<sub>2</sub>S.</p>
	Lively 10-02	12/22/2008	9/09/09	8/27/09 and 9/09/09	Readings from this well are somewhat variable with mostly 0 to low levels of methane and higher readings of >100% LEL and 5% or greater by volume CH <sub>4</sub> from 1/14/09 to 1/26/09 and 5/1/09 to 5/5/09.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL increased from 11 to &gt;100</li> <li>• CH<sub>4</sub>% volume increased from 0.55 to 5.0</li> <li>• O<sub>2</sub>% volume increased from 8.8 to 20.1 on 8/27/09, then decreased to 0.0 on 9/09/09</li> <li>• CO increased from 0 to 74 ppm</li> <li>• H<sub>2</sub>S increased from 4.5 ppm to 6.5 ppm</li> </ul>
222539	Lively	7/6/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O <sub>2</sub> % volume at 20.9 and CO and H <sub>2</sub> S at 0 ppm.
16861-F	Masters #1	8/13/07	9/09/09	8/27/09 and 9/09/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O <sub>2</sub> % volume at 20.9 and CO and H <sub>2</sub> S at 0 ppm.

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
257113	Masters #2	7/6/07	9/09/09	8/27/09 and 9/09/09	Methane is typically not detected at this wellhead. For the period from 9/24/07 through 10/30/07 low values of methane were detected with 10 % or less LEL and 1 % by volume or less CH4. The 7/13/09 reading also detected methane at higher levels.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm in first and last readings. The 8/27/09 readings showed an increase; <ul style="list-style-type: none"> <li>• % LEL increased from 0 to 5</li> <li>• CH4% volume increased from 0 to 0.25</li> <li>• O2% decreased from 20.9 to 20.9</li> <li>• CO and H2S remained at 0</li> </ul>
271136	May	7/12/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
84108-A	McPherson	7/6/07	09/09/09	8/24/09 and 9/09/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
84106	Rohr	7/06/07	8/24/09	8/24/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
123144	Searle	7/11/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
239657	Smith	7/5/07	9/09/09	8/28/09 and 9/09/09	Detectable methane in early readings with % LEL at 100 or greater and % by volume of CH4 at up to 100. Began showing some variability in readings on 9/9/07 eventually decreasing until levels at 0 beginning 5/5/08. Three readings since that time on 5/21/08, 10/27/08 and 7/13/09 have shown >100% LEL and CH4 % by volume at or above 5.	At the well head no change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and Co and H2S at 0 ppm. At the well vent: <ul style="list-style-type: none"> <li>• % LEL increased from 84 to &gt;100</li> <li>• CH4% volume increased from 4.2 to 46 on 8/28/09 and decreased to 39.0 on 9/09/09.</li> <li>• O2% volume decreased from 10.0 to 9.9 on 8/28/09 and increased to 10.8 on 9/09/09.</li> <li>• CO remained at 0 ppm and H2S increased to 5.0 on 8/28/09 and decreased to 3.5 on 9/09/09</li> </ul> At the cistern all values remained unchanged with 0 %LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
	BLM 15-12	6/1/09	7/15/09	8/27/09	The limited number of readings at this wellhead have shown detectable methane and limited O2% volume.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH4% volume decreased slightly from 89 to 88</li> <li>• O2% volume decreased from 4.4 to 0.0</li> <li>• O and H2S remained at 0 ppm</li> </ul>
<b>Wells Within or in Close Proximity to River Ridge Ranch Subdivision</b>						
249362	Andexler	9/9/07	9/10/09	8/27/09 and 9/10/09	Two readings (3/25/09 and 7/30/09) have shown less the 0.25% CH4 methane, otherwise no detectable methane.	At the well head: <ul style="list-style-type: none"> <li>• % LEL decreased from 5 to 0 ppm</li> <li>• CH4% decreased from 0.25 to 0.0</li> <li>• O2% increased from 18.8 to 20.9</li> <li>• CO and H2S remained at 0 ppm</li> </ul> Cistern showed no change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
215706	Brice	7/12/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. Cistern 1 and Cistern 2 at this site had no detection.
248680	Campbell	8/14/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
270552	Chaves	9/9/07	9/10/09	8/27/09 and 9/10/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
20783	Goemmer Cattle	7/12/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
258815	Goodwin	7/12/07	9/09/09	8/25/09 and 9/09/09	Readings have shown methane levels at or near 0 with no readings above 0 since 1/26/09.	No change from previous measurements with no detectable methane, O2% at 20.9, no detectable CO or H2S.
	Haynes	5/5/09	6/4/09	None	No methane has ever been detected at this wellhead.	Not sampled during this reporting period.
249181	Hentschel	9/9/07	9/10/09	8/27/09 and 9/09/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
259122	Higgins	9/26/07	9/10/09	8/27/09 and 9/09/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
269435	Hoppe (formerly Goacher)	7/11/07	9/10/09	8/27/09 and 9/09/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
264581	Ireland	7/12/07	9/10/09	8/25/09 and 9/09/09	Typically no methane, but methane has been detected on 12/2/08, 12/22/08, 1/6/09, and 9/24/09 with 100% or greater LEL and 5% by volume CH4.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
	Lang	10/29/07	7/28/08	None	No methane has ever been detected at this wellhead.	No sample taken, gate locked with no access to well.
93386	Lowry	7/12/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
250369	Martin	7/12/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
248862	Meyer	8/14/07	9/10/09	8/27/09 and 9/10/09	Methane levels generally at >100% LEL and CH4 % by volume of greater than 5. Readings were a bit variable with some lower methane levels until 5/22/08 and then became consistently >100% LEL and CH4% by volume greater than 5.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH4 % volume decreased from 54 to 48</li> <li>• O2% volume decreased from 11 to 9.6</li> <li>• CO and H2S remained at 0</li> </ul>
192203	Rankins	7/12/07	8/24/09	8/24/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
276994	Rhodes	9/9/08	8/25/09	8/25/09	Slight LEL (5%) reported 7/30/09, but no methane detected. No methane has ever been previously detected at this wellhead.	% LEL decreased from 5 to 0 and O2% volume increased from 19.2 to 20.9. CO and H2S remained at 0.
274468	Roloff	9/9/07	8/25/09	8/25/09	No methane had ever been detected at this wellhead until low levels were detected in the 8/25/09 measurement.	<ul style="list-style-type: none"> <li>• % LEL increased from 0 to 19</li> <li>• CH4 % volume increased from 0 to 0.15</li> <li>• O2% volume decreased from 20.9 to 20.1</li> <li>• CO and H2S remained at 0</li> </ul>
254577	Ryerson	9/9/07	9/10/09	8/27/09 and 9/10/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
246775	Sharp	9/9/07	9/10/09	8/27/09 and 9/10/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
267695	Speh	9/4/07	9/10/09	8/27/09 and 9/10/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
230572	Willis	7/11/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
240947	Wolahan	7/12/07	9/9/09	8/24/09 and 9/9/09	No detectable methane except one measurement on 2/9/09 with levels at 5% LEL and 0.25% by volume CH4.	No change from previous measurements at the wellhead and cistern with both showing 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
<b>City Ranch and Other Properties</b>						
	Andreatta	8/14/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
197472	Williams/Bartlett	8/15/07	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
210526	Bruington	8/7/07	9/10/09	8/25/09 and 09/10/09	Wellhead readings have shown consistent levels of methane at >100% LEL and CH4 % by volume at greater than 50. Some CO and H2S readings in mid to late 2008 but current readings have shown little to no CO and H2S. No methane has ever been detected at the cistern.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH4% volume increased from 44 to 86</li> <li>• O2% volume remained the same at 0</li> <li>• CO remained unchanged at 0 ppm</li> <li>• H2S remained at zero with an increase on 8/25/09 to 1.5</li> </ul> At the cistern: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
220100	Cordova	10/30/07	9/10/09	8/25/09 and 9/10/09	Initial readings were variable with readings as low as 0 and as high as >100% LEL and greater the 5% CH4 by volume. After 3/14/08 mostly readings at 0 with some readings at levels slightly above 0.	No changes from previous measurements with % LEL and CH4% volume at 0, O2% volume at 20.9 and CO and H2S at 0 ppm
191079	Brian Dale	8/15/07	8/27/09	8/27/09	Variability between 0 and >100% LEL and 5% or greater CH4 by volume until 11/14/08 and since that time no methane has been detected.	No change from previous measurement at Well #1 or Well #2 with 0% LEL, no detectable methane, O2% volume at 20.9, and CO and H2S at 0 ppm.
193092	Degan	8/25/08	8/27/09	8/27/09	Initial readings were variable between 0 and >100% LEL and 5% by volume CH4. Since 2/17/09 there has been no detectable methane.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9, and CO and H2S at 0 ppm.
	Dernell	8/15/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead.	No changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
258651	Gonzalez	5/22/08	9/10/09	8/27/09 and 9/10/09	Methane readings were >100% LEL and CH4 % by volume mostly above 20 until 4/9/09 when values began to reduce. Readings since that time have shown % LEL below 50 and CH4 % by volume below 3. There has been no detectable methane at the cistern.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL decreased to 37 on 8/27/09 and returned to &gt;100 on 9/10/09</li> <li>• CH4% volume increased from 5 to 22</li> <li>• O2% volume decreased from 20.0 to 15.6</li> <li>• CO remained at 0 ppm</li> <li>• No measurable H2S, but a slight odor was noted</li> </ul> At the cistern: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
	Haupt #1	6/1/09	7/15/09	8/27/09	There have been 4 readings from this wellhead. All readings have shown % LEL at >100 with CH4 % by volume at 5-6 and O2% at less than 5.	<ul style="list-style-type: none"> <li>• % LEL remained at &gt;100</li> <li>• CH4% volume remained at 5</li> <li>• O2% volume decreased from 0.2 to 0.0</li> <li>• CO decreased from 20ppm to 8 ppm</li> <li>• H2S remained at 0 ppm</li> </ul>
203536	Hurley	8/2/07	8/27/09	8/27/09	Readings have fairly consistently shown >100% LEL and CH4 % by volume between 10 and 50 with a couple lower readings. H2S has also been measured, but starting around 9/08 values have been reduced to at or near 0 ppm.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL increased from 0 to &gt;100</li> <li>• CH4% volume increased from 0 to 5</li> <li>• O2% volume decreased from 20.9 to 17</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul> At the cistern: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm
205195	Johnson	8/15/07	8/27/09	8/27/09	Readings have shown mostly low values of methane (% LEL less than 20 and CH4 % by volume less than 1) with some 0 values. No detectable methane since 4/22/09.	At the wellhead, cistern and 2 <sup>nd</sup> wellhead there were no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
193520X	McEntee	8/2/07	8/27/09	8/27/09	Initially methane was detected at this wellhead at values of >100% LEL and greater than 10% by volume CH4. Starting 1/28/08 values dropped to at or near 0 with only one higher value on 2/17/09 (>100% LEL and 5% By volume CH4). No values above 0 since 4/22/09.	At the wellhead and east wellhead there were no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.



Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
191345	Pennington	8/7/09	8/27/09	8/27/09	Two readings have occurred at this well; both showing methane at >100% LEL and CH4 % Volume at 5 to 10 with O2% volume at 17 and no CO or H2S.	<ul style="list-style-type: none"> <li>• % LEL remained at &gt;100</li> <li>• CH4% volume increased from 5 to 10</li> <li>• O2% volume decreased slightly from 17.7 to 17</li> <li>• CO and H2S remained at 0 ppm</li> </ul>
121013	Schafer	8/15/07	8/25/09	8/25/09	No methane has ever been detected at this wellhead	No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
248983	Tobias	8/3/07	9/10/09	8/22/09 and 9/10/09	Historically this wellhead has shown wide variance between 0 and higher methane values of >100% LEL and greater than 5% by volume CH4 with no discernable long term trends.	<ul style="list-style-type: none"> <li>• % LEL increased from 10 to &gt;100</li> <li>• CH4% volume increased from 0.5 to 5.0</li> <li>• O2% volume decreased from 20 to 18.6</li> <li>• CO and H2S remained at 0 ppm</li> </ul>
<b>Silver Spurs Ranch</b>						
268180	Billstrand	8/12/08	8/26/09	8/26/09	No methane has been detected at this wellhead except for a low reading on 5/6/09 (5% LEL and 0.25% by volume CH4).	No change from previous measurements with no detectable methane and 0 ppm CO and H2S. O2% volume increased from 19.1 to 20.9.
215807	Brown	12/8/08	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with no detectable methane, O2% at 20.9 and 0 ppm CO and H2S.
222294	Cramer	8/3/07	8/27/09	8/27/09	Most methane readings have been at or near 0 with higher readings on 5/22/08 and 3/26/09 at >100% LEL and 5% by volume CH4.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL remained at 0</li> <li>• CH4% volume remained at 0</li> <li>• O2% volume increased from 18.2 to 20.9</li> <li>• CO remained at 0 ppm</li> <li>• H2S remained at 0ppm</li> </ul> <p>No change from previous measurements at the cistern with no detectable methane; O2% at 20.9 and 0 ppm CO and H2S.</p>
192509	Eddleman, Paul	1/17/08	8/27/09	8/27/09	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. Since 1/26/09 readings have shown wide variability between low to 0 methane and >100% LEL and greater than 5% by volume methane. Since 6/9/09 methane levels have been consistently higher.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% decreased from 10 to 0</li> <li>• O2% volume increased from 0.0 to 20.9</li> <li>• CO decreased from 13ppm to 0 ppm</li> <li>• H2S decreased from 3ppm to 0ppm</li> </ul>
226536	Eddleman, Todd	1/17/08	7/14/09	8/26/09	Methane readings have been widely variable from 0 to >100% LEL and 5% by volume CH4.	<p>At the wellhead:</p> <ul style="list-style-type: none"> <li>• % LEL decreased from 19 to 0</li> <li>• CH4% decreased from 0.95 to 0</li> <li>• O2% volume increased from 15.8 to 20.9</li> <li>• CO remained at 0 ppm</li> <li>• H2S remained at 0ppm</li> </ul>
221465	Evenden	8/2/07	8/26/09	8/26/09	Methane readings have generally been at or near 0 with no detectable methane since 4/23/09 and higher readings on 3/24/08 (>100% LEL and 45% by volume methane) and 1/12/09 (>100% LEL and 5% by volume methane).	No changes from previous measurement with no detectable methane, O2% volume at 20.9 and no CO or H2S.
	Fischer	1/26/09	8/3/09	None	Only one reading has ever detected methane; on 2/17/09 methane values were 5% LEL and 0.25% by volume CH4.	Not sampled during this reporting period.
214145A	Fitzner	11/18/08	8/26/09	8/26/09	Methane levels have been at 0 except for readings on 12/15/08, 1/26/09, and 3/26/09 when values were >100% LEL and 5% by volume CH4.	No changes from previous measurement with no detectable methane, O2% volume at 20.9 and no CO or H2S.
31935	Garza-Vela	1/30/08	7/14/09	8/26/09	Generally there is 0 to low methane levels except for readings on 3/1/08, 5/22/08, and 6/3/08.	No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm

Table 3 Water Well Measurements for the Period of June 14 to July 19, 2009						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History	If sampled, comparison of results from this period to last period
196372	Geiselbrecht	8/12/08	7/7/09	8/26/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm
246350	Gumpert	7/29/08	7/14/09	8/27/09	Methane readings have been widely variable with most readings either 0 or >100% LEL and 5% by volume CH4.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% decreased from 10 to 0</li> <li>• O2% volume increased from 0.0 to 20.9</li> <li>• CO decreased from 13 to 0 ppm</li> <li>• H2S decreased from 3 to 0 ppm</li> </ul>
196371	Lyon	8/15/07	8/27/09	8/27/09	Most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 5/22/08 and 4/22/09.	<ul style="list-style-type: none"> <li>• % LEL decreased from 12 to 0</li> <li>• CH4% volume decreased from 0.6 to 0.0</li> <li>• O2% volume increased from 8.5 to 20.9</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
271524-A	Modlish	1/30/08	7/7/09	None	Most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 10/21/08 and 5/20/09.	Not sampled during this reporting period. Sampling attempted 8/26/09 however the gate was closed with no access to the well.
28093MH	Morine	9/10/08	8/26/09	8/26/09	Only one reading above 0 has been detected at this wellhead. This reading occurred 1/12/09 and showed 5% LEL and 0.25% by volume CH4.	No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm
35227MH	Morris	10/8/08	8/26/09	8/26/09	Only four readings have occurred at this well with two showing no methane and the other two at 43-44%LEL and 2.15-2.20% CH4 by volume.	No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm
190327	Palmer	8/12/08	7/7/09	None	No methane has ever been detected at this wellhead.	Not sampled during this reporting period.
197128	Roberts	4/08/08	7/14/09	None	Methane readings have historically been widely variable from 0 to >100% LEL and 5% by volume CH4.	Sampling attempted 8/26 however the gate was locked and there was no access to the well.
271748	Sample	3/10/08	8/26/09	8/26/09	Most of the readings from this wellhead have been at or near 0 detectable methane with higher readings on 5/22/08, 6/3/08, and 5/20/09 of >100% LEL and 5% by volume CH4.	<ul style="list-style-type: none"> <li>• % LEL decreased from 74 to 0</li> <li>• CH4% volume decreased from 3.70 to 0</li> <li>• O2% volume increased from 7.7 to 20.9</li> <li>• CO decreased from 4 to 0 ppm</li> <li>• H2S decreased from 3 to 0</li> </ul>
192144	Snow	8/2/07	8/27/09	8/27/09	No measurable methane until 10/4/07, then widely variable levels ranging from 0 to >100% LEL and 5% by volume CH4 with no discernable trends.	Dry Well <ul style="list-style-type: none"> <li>• % LEL decreased from 5 to 0</li> <li>• CH4% volume decreased from 0.25 to 0.0</li> <li>• O2% volume increased from 15.8 to 20.9</li> <li>• CO and H2S remain unchanged at 0 ppm</li> </ul>
213070	Stephens	8/12/08	8/27/09	8/26/09 and 8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurements with 0 % LEL and CH4 % volume, O2% volume at 20.9 and CO and H2S at 0 ppm
233286A	Stetler	3/17/09	8/26/09	8/26/09	Methane levels have been showing an overall increase since the start of monitoring with levels general very low at the start of monitoring in early 2009 and increasing to present, although not a consistent increase. No methane has ever been detected at the cistern.	<ul style="list-style-type: none"> <li>• % LEL decreased from 74 to 0</li> <li>• CH4% volume decreased from 3.7 to 0</li> <li>• O2% volume increased from 17.7 to 20.9</li> <li>• CO remained unchanged at 0 ppm</li> <li>• H2S decreased from 2 ppm to 0 ppm</li> </ul>
261753	Wahl	8/5/09	8/5/09	None		Not sampled during this reporting period.
234839	Waltz	8/12/08	8/26/09	8/26/09	No methane has ever been detected at this wellhead.	No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

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234836	White, Jim	1/4/08	7/14/09	8/27/09	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.	<ul style="list-style-type: none"> <li>• % LEL decreased from 1 to 0</li> <li>• CH4% volume decreased from 0.05 to 0</li> <li>• O2% volume increased from 20.8 to 20.9</li> <li>• CO remained the same at 0 ppm</li> <li>• H2S decreased from 3 to 0 ppm</li> </ul>
219376	White, Orlie	8/2/07	7/31/09	8/27/09	Methane values historically at low to 0 with %LEL above 100 and CH4 % by volume at 5 to 10 on 5/22/08 and from 9/10/08 to 10/29/08.	No change from previous measurement with no detectable methane, O2% volume at 20.9 and no detectable CO and H2S.
	Wyland, Rich	9/10/09	9/10/09	9/10/09		Initial reading showed 0% LEL, no detectable methane, O2% volume at 20.2 and no detectable CO or H2S.
<b>Black Hawk Ranch</b>						
218719	Goza	1/14/09	8/27/09	8/27/09	No methane has ever been detected at this wellhead.	No change from previous measurement with zero detectable methane, O2% volume at 20.9 and no detectable CO and H2S.

<b>Table 4 Methane Readings Schedule (23 September 2009)</b>							
<u>Landowner</u>	<u>Subdivision</u>	<u>Water Level</u>	<u>Cistern</u>	<u>Bi-Monthly</u>	<u>Monthly</u>	<u>Quarterly</u>	<u>Weekly</u>
<b>Monitoring Within 1 Mile Radius or of Special Interest</b>							
Kathy Dee	River Ridge				X		
R. Gonzalez	River Ridge				X		
McPherson	River Ridge			X			
Rohr	River Ridge					X	
Houghtling	River Ridge		X	X			
Kent Smith	River Ridge		X	X			
Bergman	River Ridge			X			
Lively	River Ridge					X	
Kerman	River Ridge		X	X			
Conley	River Ridge				X		
Searle	River Ridge				X		
Derowitsch	River Ridge		X	X			
Colorado-Switzer	River Ridge				X		
English	River Ridge		X		X		
<b>Golden Cycle Land (Goemmer)</b>	River Ridge			X			
Burge	La Veta Pines			X			
Barrett	River Ridge			X			
Hopke	River Ridge		X	X			
Masters #1	River Ridge			X			
Masters #2	River Ridge	X		X			
Coleman	River Ridge			X			
BLM 15-12	La Veta Pines				X		
Lively 10-02	River Ridge			X			

<b>Table 4 Methane Readings Schedule (23 September 2009)</b>							
<u>Landowner</u>	<u>Subdivision</u>	<u>Water Level</u>	<u>Cistern</u>	<u>Bi- Monthly</u>	<u>Monthly</u>	<u>Quarterly</u>	<u>Weekly</u>
<b>River Ridge Ranch</b>							
<b>Wolahan</b>	River Ridge		X	X			
<b>Martin</b>	River Ridge				X		
<b>Speh</b>	River Ridge			X			
<b>Lang</b>	River Ridge		X			X	
<b>Roloff</b>	River Ridge	X			X		
<b>Hoppe (Goacher)</b>	River Ridge			X			
<b>May</b>	River Ridge				X		
<b>Brice</b>	River Ridge				X		
<b>Goodwin</b>	River Ridge		X	X			
<b>Ireland</b>	River Ridge			X			
<b>Andexler</b>	River Ridge		X		X		
<b>Sharp</b>	River Ridge		X	X			
<b>Ryerson</b>	River Ridge	X		X			
<b>Meyers</b>	River Ridge			X			
<b>Chaves</b>	River Ridge	X		X			
<b>Hentschel</b>	River Ridge			X			
<b>Rankins</b>	River Ridge					X	
<b>Lowry</b>	River Ridge					X	
<b>Goemmer Cattle</b>	River Ridge					X	
<b>Higgins</b>	River Ridge	X		X			
<b>Campbell</b>	River Ridge				X		
<b>Rhodes</b>	River Ridge				X		
<b>City Ranch</b>							
<b>T. Gonzalez</b>	City Ranch		X	X			
<b>Hurley</b>	City Ranch	X	X		X		

<b>Table 4 Methane Readings Schedule (23 September 2009)</b>							
<u>Landowner</u>	<u>Subdivision</u>	<u>Water Level</u>	<u>Cistern</u>	<u>Bi-Monthly</u>	<u>Monthly</u>	<u>Quarterly</u>	<u>Weekly</u>
Tobias	City Ranch			X			
Dale	City Ranch				X		
McEntee	City Ranch				X		
Johnson	City Ranch		X		X		
Cordova	City Ranch			X			
Dernell	City Ranch				X		
Schaefer	City Ranch					X	
Bruington	City Ranch		X	X			
Bartlett	City Ranch					X	
Pennington – Birkman	City Ranch				X		
HAUPT #1	City Ranch				X		
Deagan	City Ranch					X	
<b>Bear Creek/Silver Spurs</b>							
Andreatta/Carsella	Bear Creek				X		
Orlie White	Silver Spurs	X			X		
Evenden	Silver Spurs				X		
Roberts	Silver Spurs				X		
Snow	Silver Spurs	X			X		
Cramer	Silver Spurs	X	X		X		
Lyon	Silver Spurs				X		
Jim White	Silver Spurs		X		X		
Garza-Vela	Silver Spurs				X		
Modlish	Silver Spurs				X		
Todd Eddleman	Silver Spurs				X		
Paul Eddleman	Silver Spurs				X		
Sample	Silver Spurs		X		X		

<b>Table 4 Methane Readings Schedule (23 September 2009)</b>							
<u>Landowner</u>	<u>Subdivision</u>	<u>Water Level</u>	<u>Cistern</u>	<u>Bi- Monthly</u>	<u>Monthly</u>	<u>Quarterly</u>	<u>Weekly</u>
Billstrand	Silver Spurs				X		
Waltz	Silver Spurs				X		
Stephens	Silver Spurs				X		
Palmer (G/S)	Silver Spurs				X		
Geoselbrecht	Silver Spurs				X		
Morine	Silver Spurs				X		
Morris	Silver Spurs				X		
Brown	Silver Spurs	X			X		
Fitzner	Silver Spurs				X		
Fischer	Silver Spurs					X	
Wahl	Silver Spurs				X		
Stetler	Silver Spurs		X		X		
Wyland	Silver Spurs				X		
<b>Black Hawk Ranch</b>							
Goza	Black Hawk				X		

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

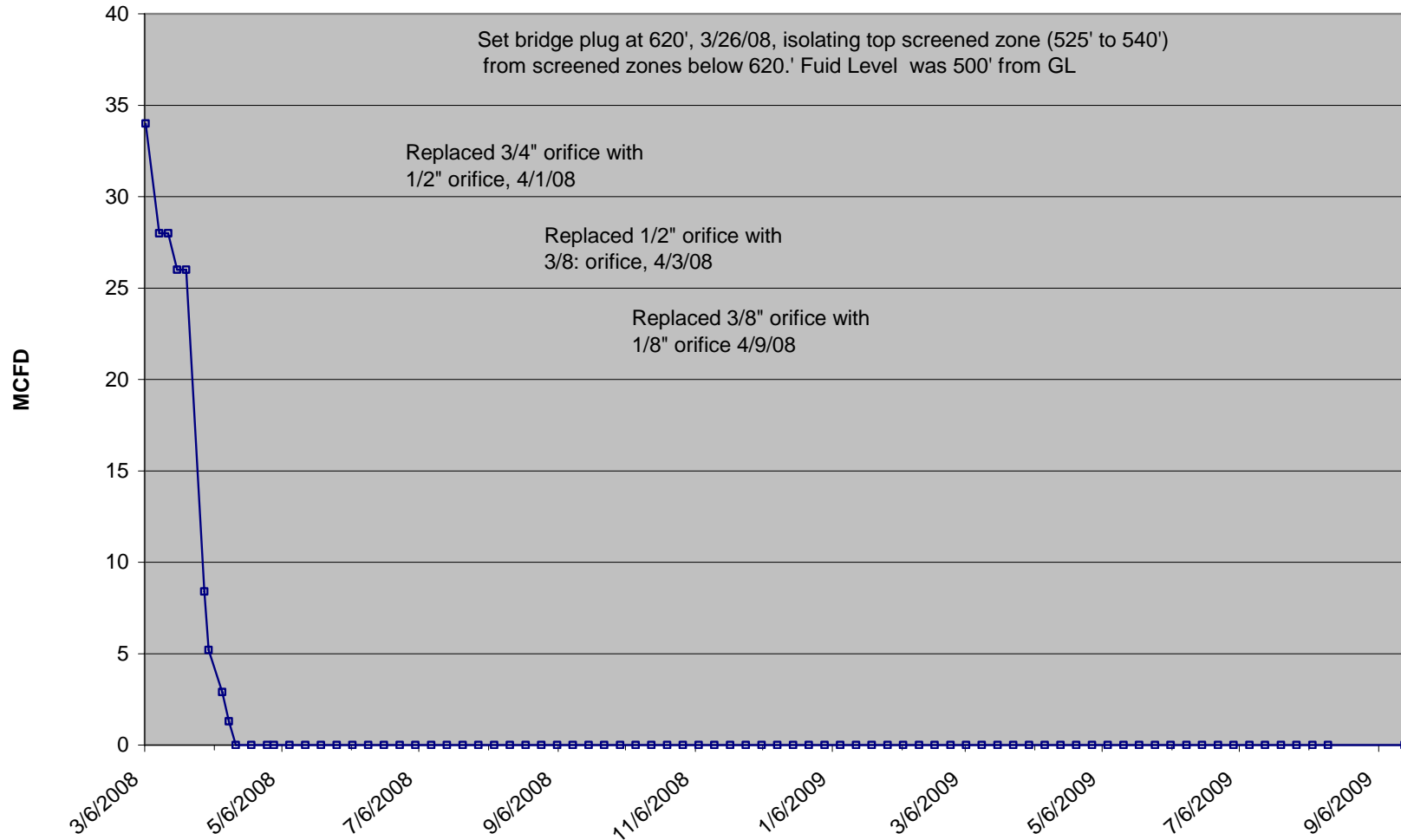
<b>Table 5 Residences Receiving Water</b>	
Jerry Angely	Has received water provided by PEI
Kent Smith	Has received water provided by PEI
Alan Cramer	Has received water provided by PEI
Tom Gonzales	Has received water provided by PEI
Spencer/Carol Snow	Has received water provided by PEI
Bruington	Has received water provided by PEI
Todd Eddleman	Has received water provided by PEI
Paul Eddleman	Has received water provided by PEI
Jim White	Has received water provided by PEI
Edward Lyon	Has received water provided by PEI
Donald Sharp	Has received water provided by PEI
Edward Johnson	Has received water provided by PEI
Richard McEntee	Has received water provided by PEI
P.C. Roberts	Has received water provided by PEI
Ireland-Murphy	Has received water provided by PEI
Keith Lightcap	Has received water provided by PEI 9

No new residences have been added during this reporting period.

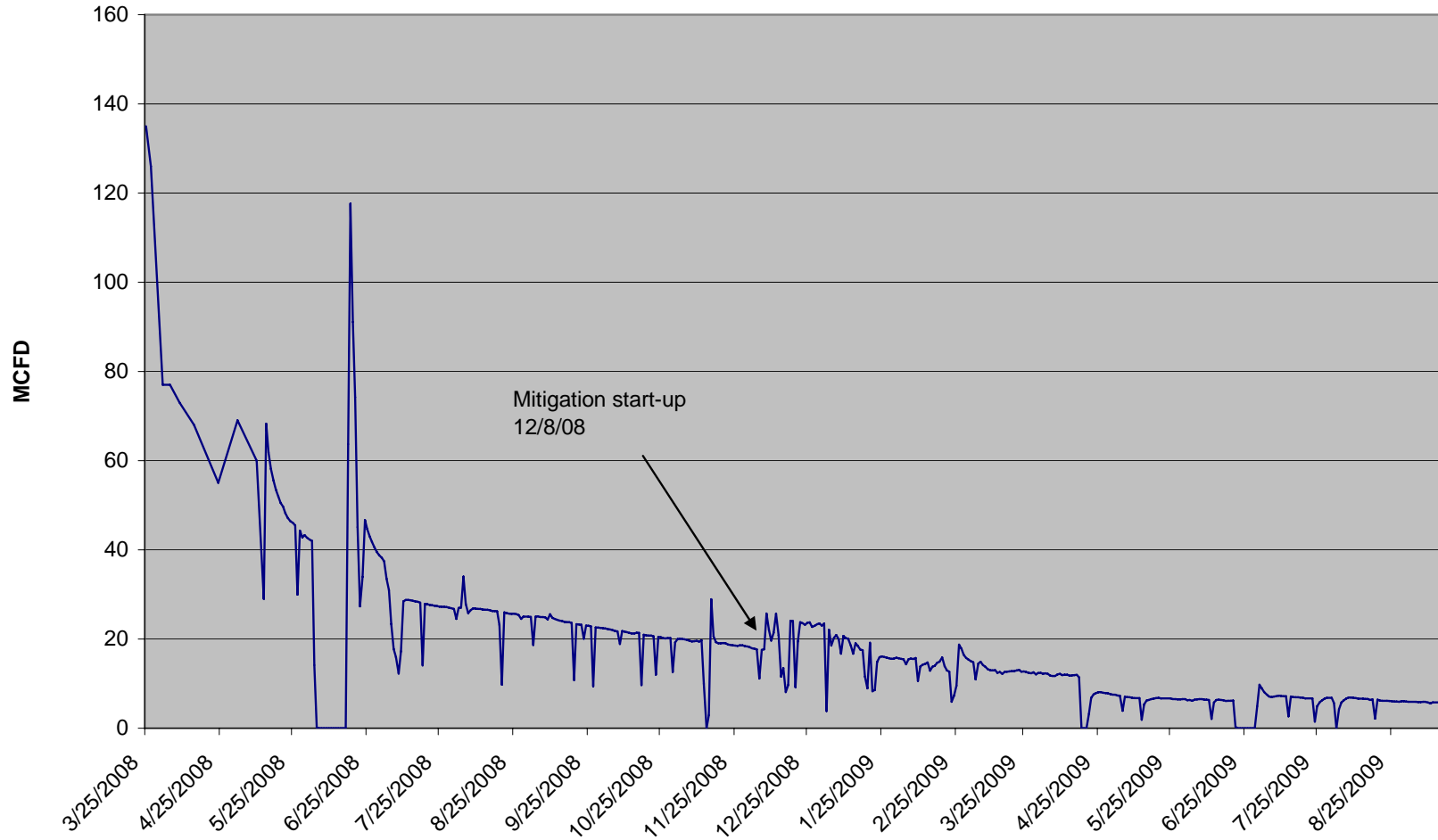


**Attachment 1**  
**Gas Flow in Monitoring Well POCI 55, Recovery 1 Kittleson,**  
**Recovery 3 PEI and Recovery 4 Barrett**

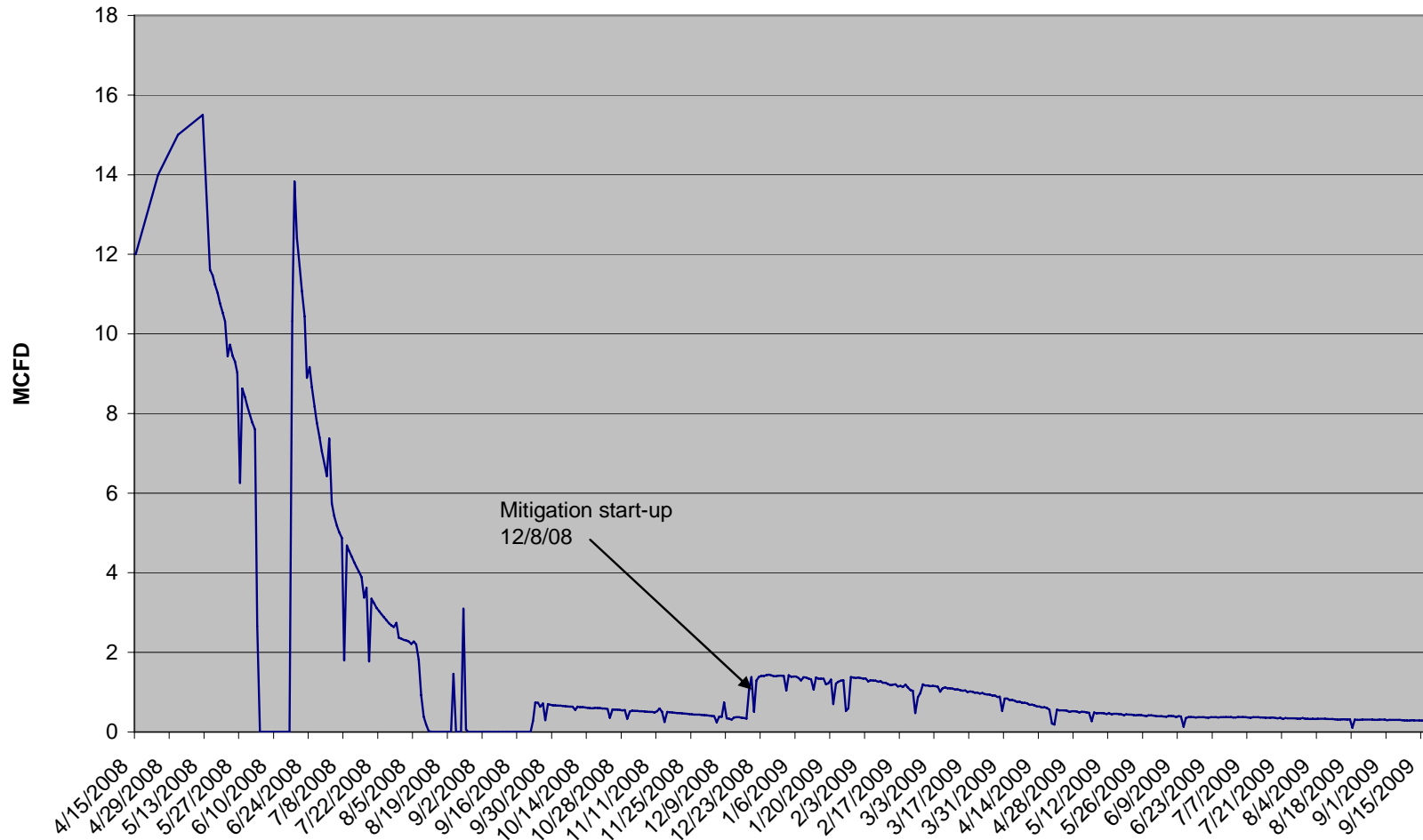
### POCI 55 MW Gas Flow from 3/6/08 to 9/17/09



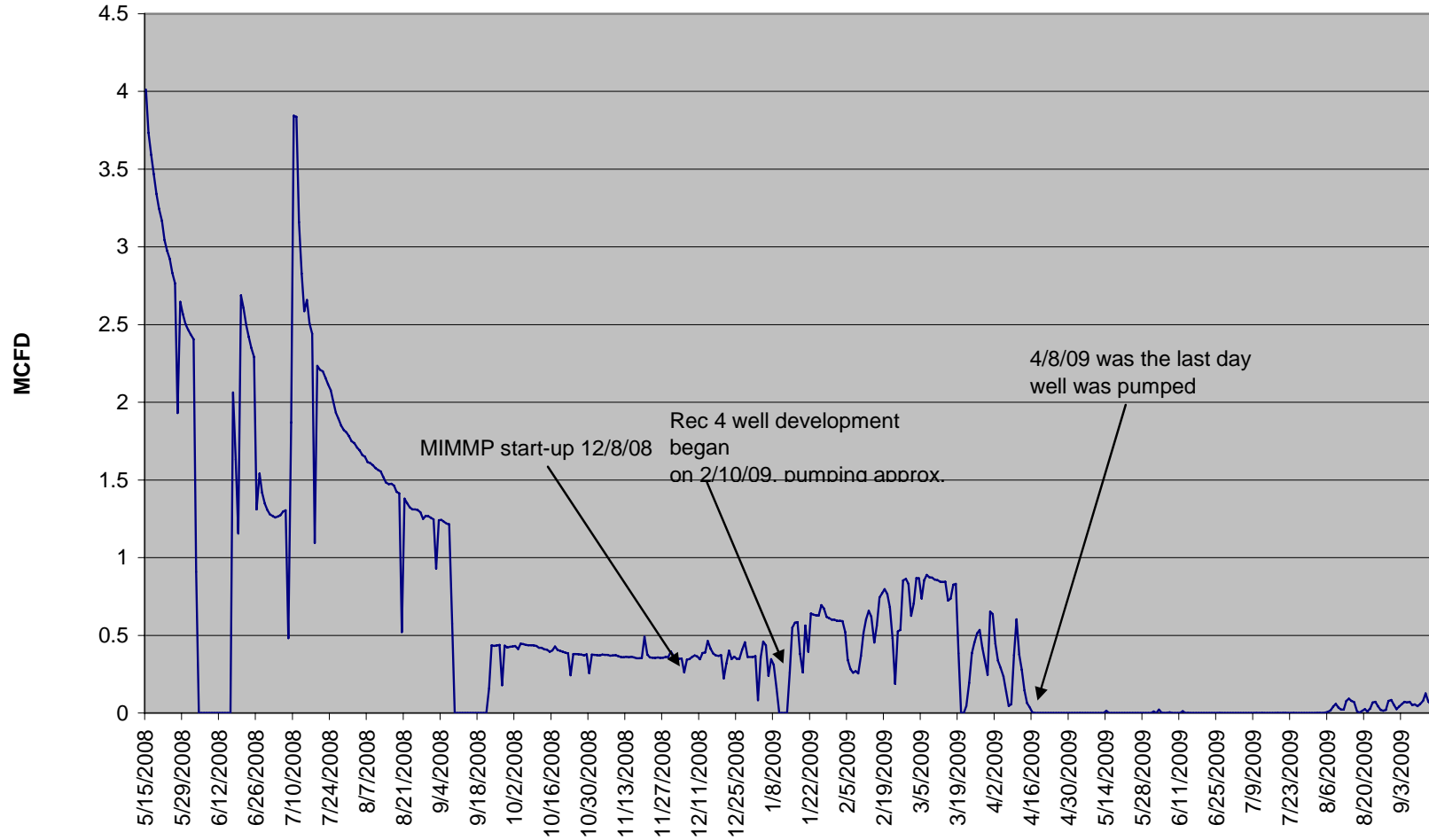
**Recovery 1 Kittleson Gas Flow  
from 3/25/08 to 9/16/09**



### Recovery 3 PEI Gas Flow from 4/15/08 to 9/16/09

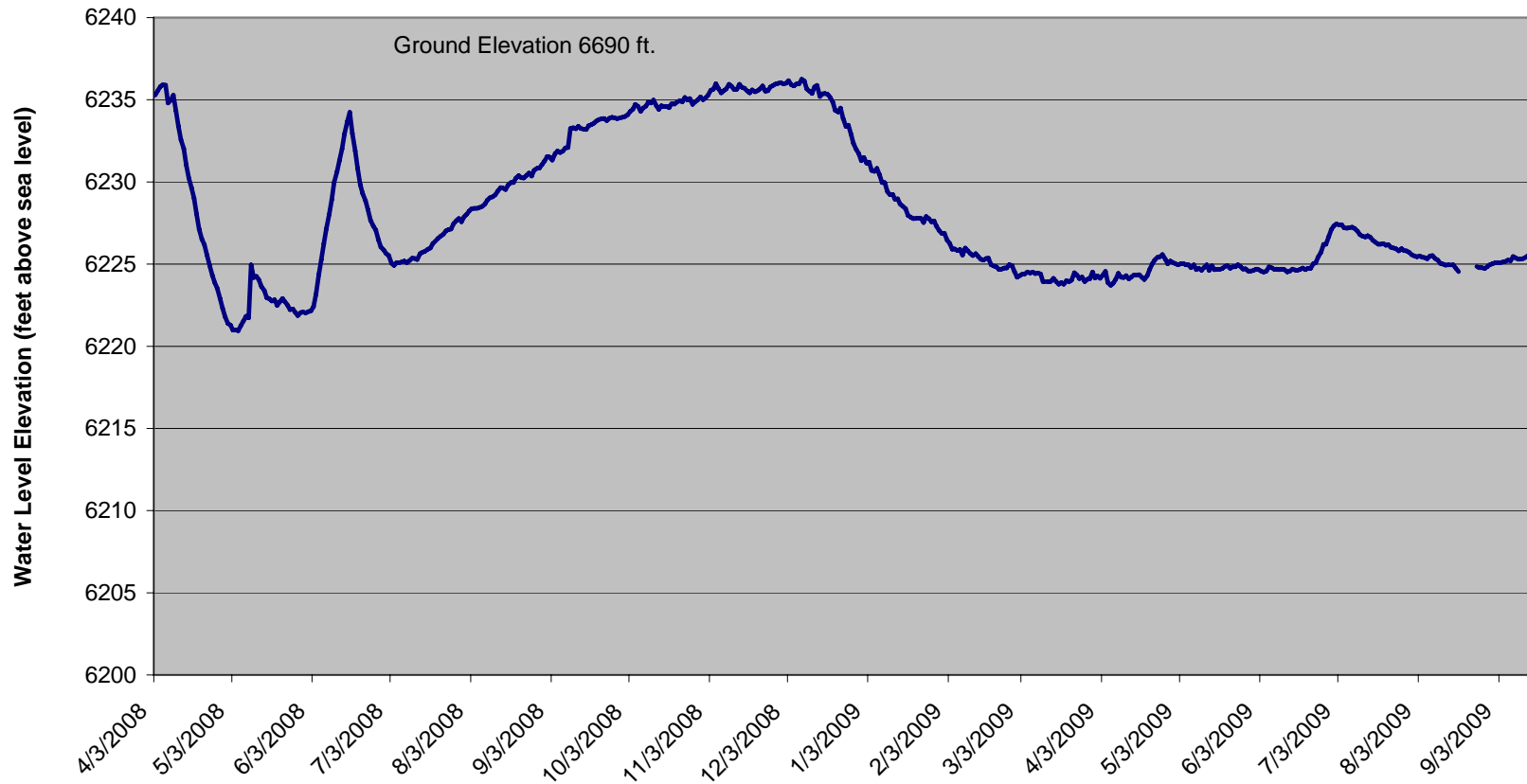


### Recovery 4 Barrett Gas Flow from 5/15/08 to 9/16/09



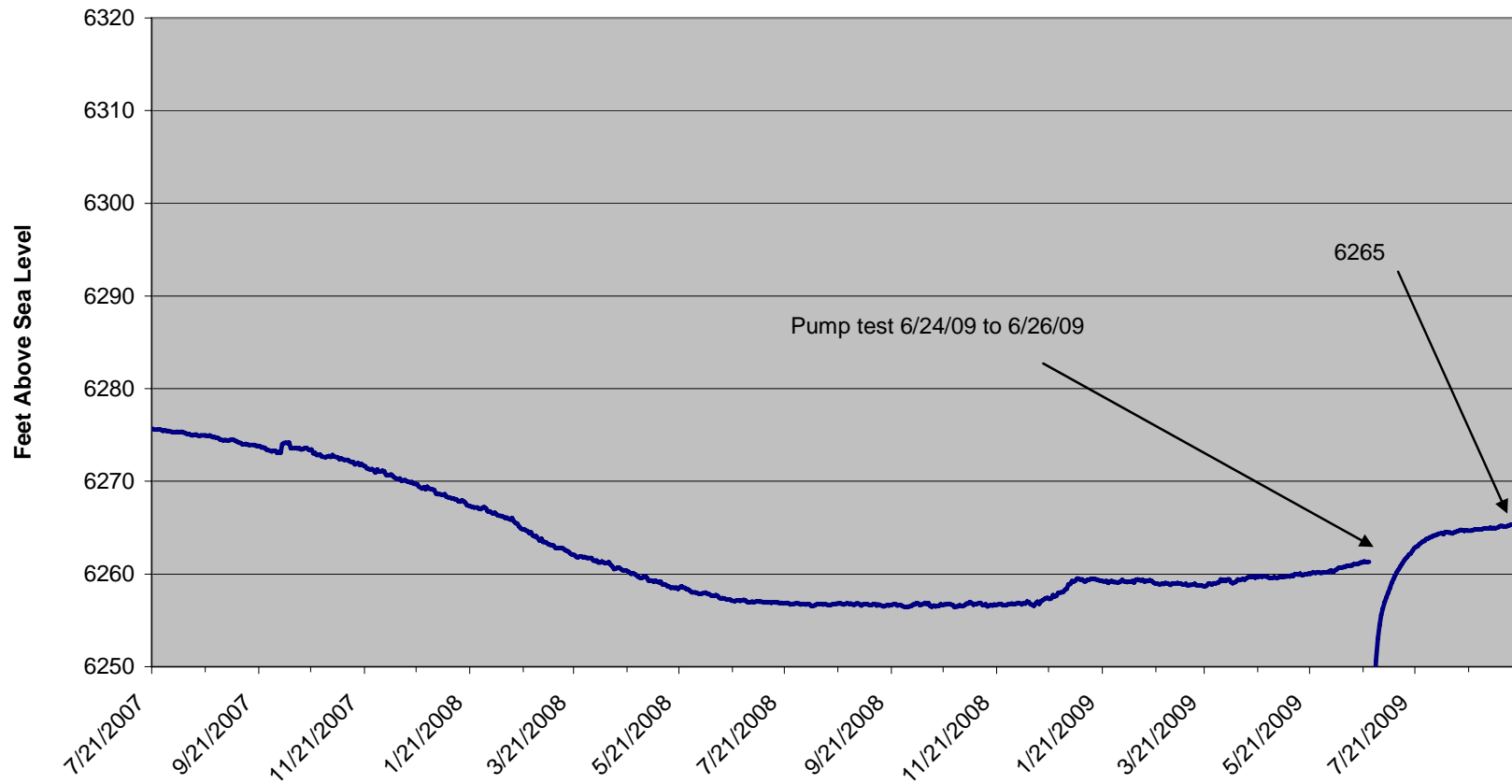
**Attachment 2**  
**Graphs of Pressure and Fluid Level Data From**  
**POCI 55, Barrett, Bergman, Bruington, Coleman, Evenden, Garza-Vela and Meyer**

**POCI 55 Monitor Well,  
Static Water Level Elevation  
from 4/2/08 to 9/17/09  
Permit # 275819  
Lot 55 RRR, SE SW Sec 3 29S 67W, GL elev. 6690'**



**Barrett WW**  
**Static Water Level from 6/24/05 to 9/17/09**  
**Permit # 257994**  
**Lot 57 RRR**

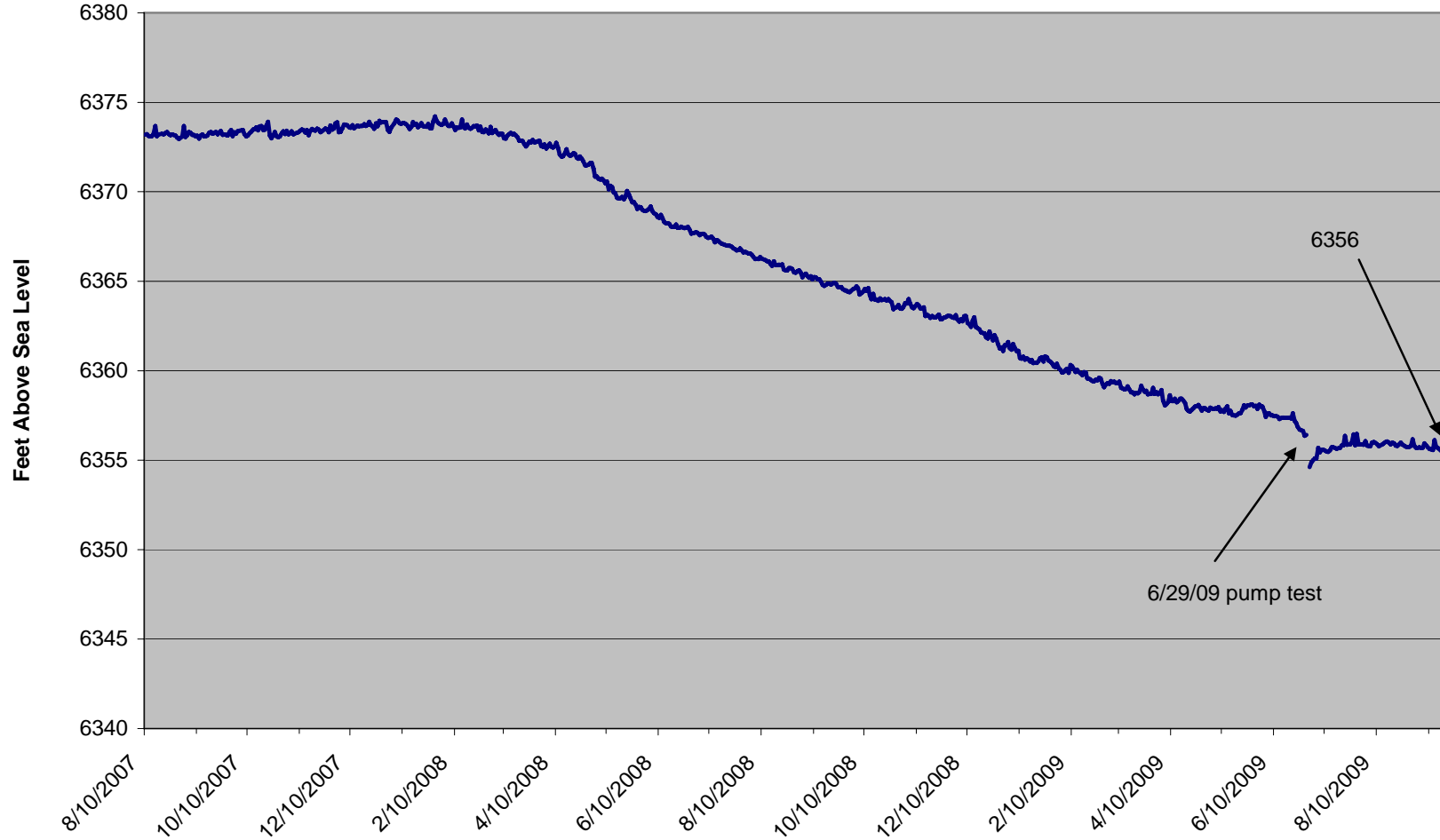
Ground Elevation 6707 ft.



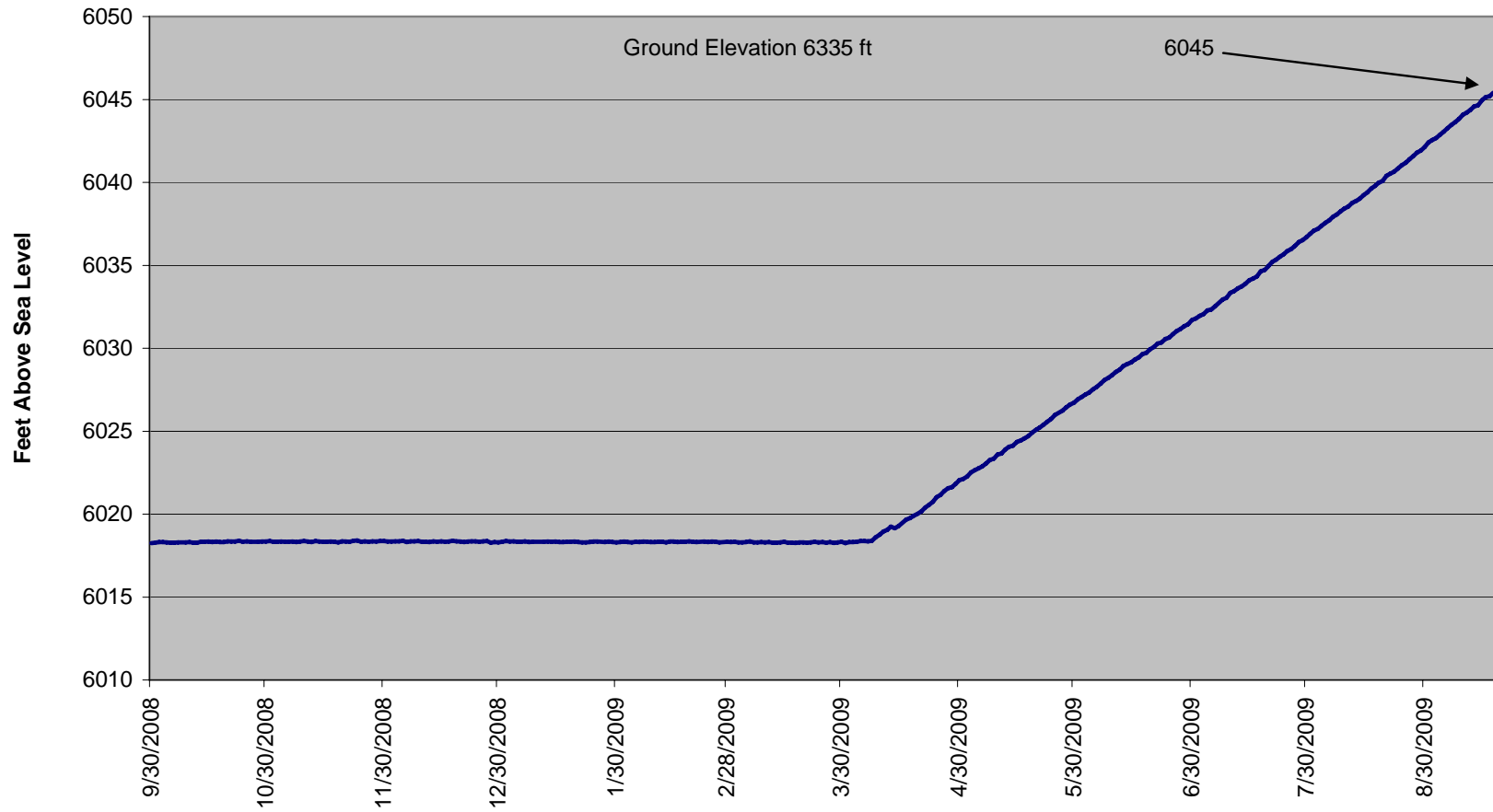


**Bergman WW, Static Water Level from 8/10/07 to 9/17/09**  
**Permit # 244403, Lot 48 RRR**

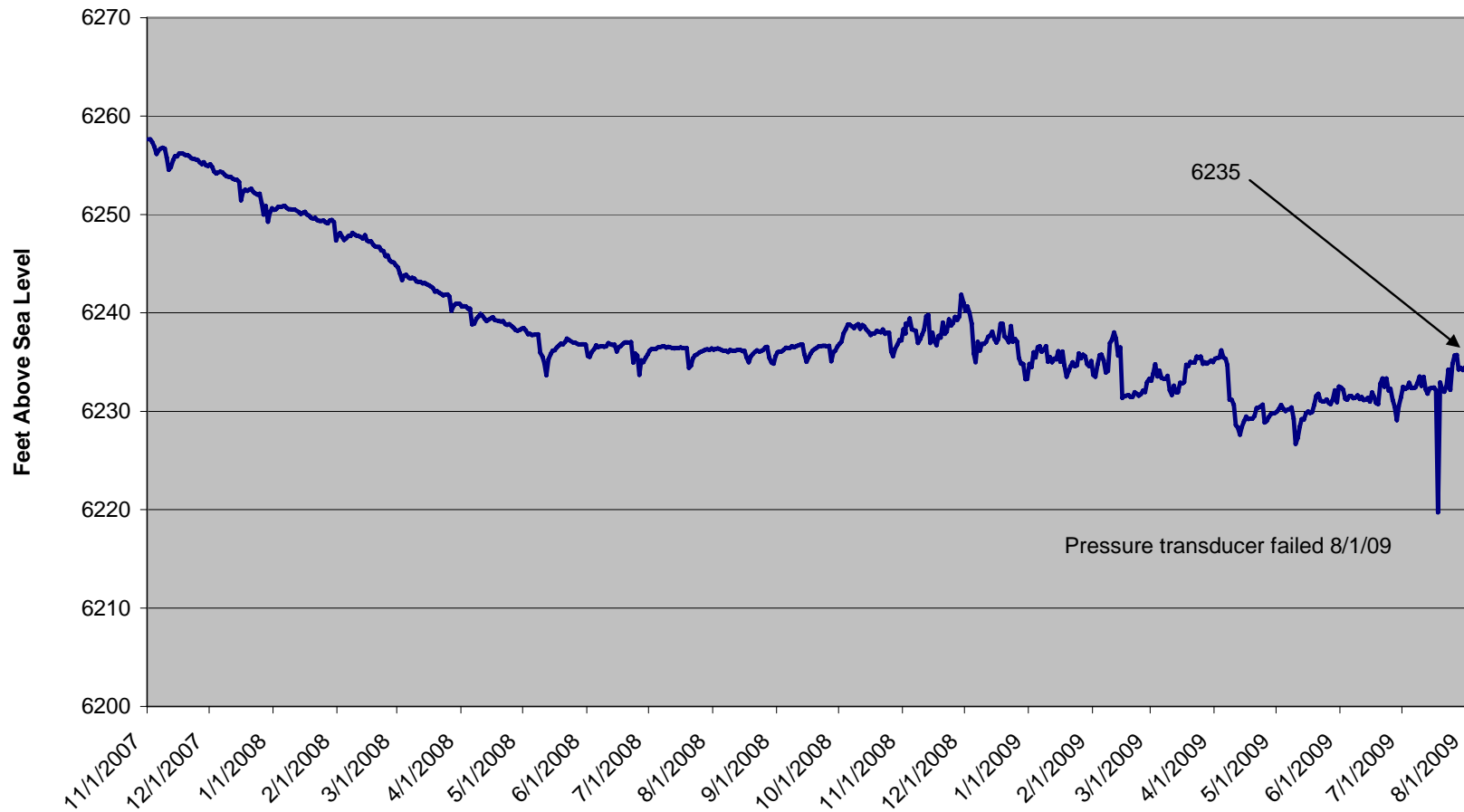
Ground Elevation: 6690 ft.



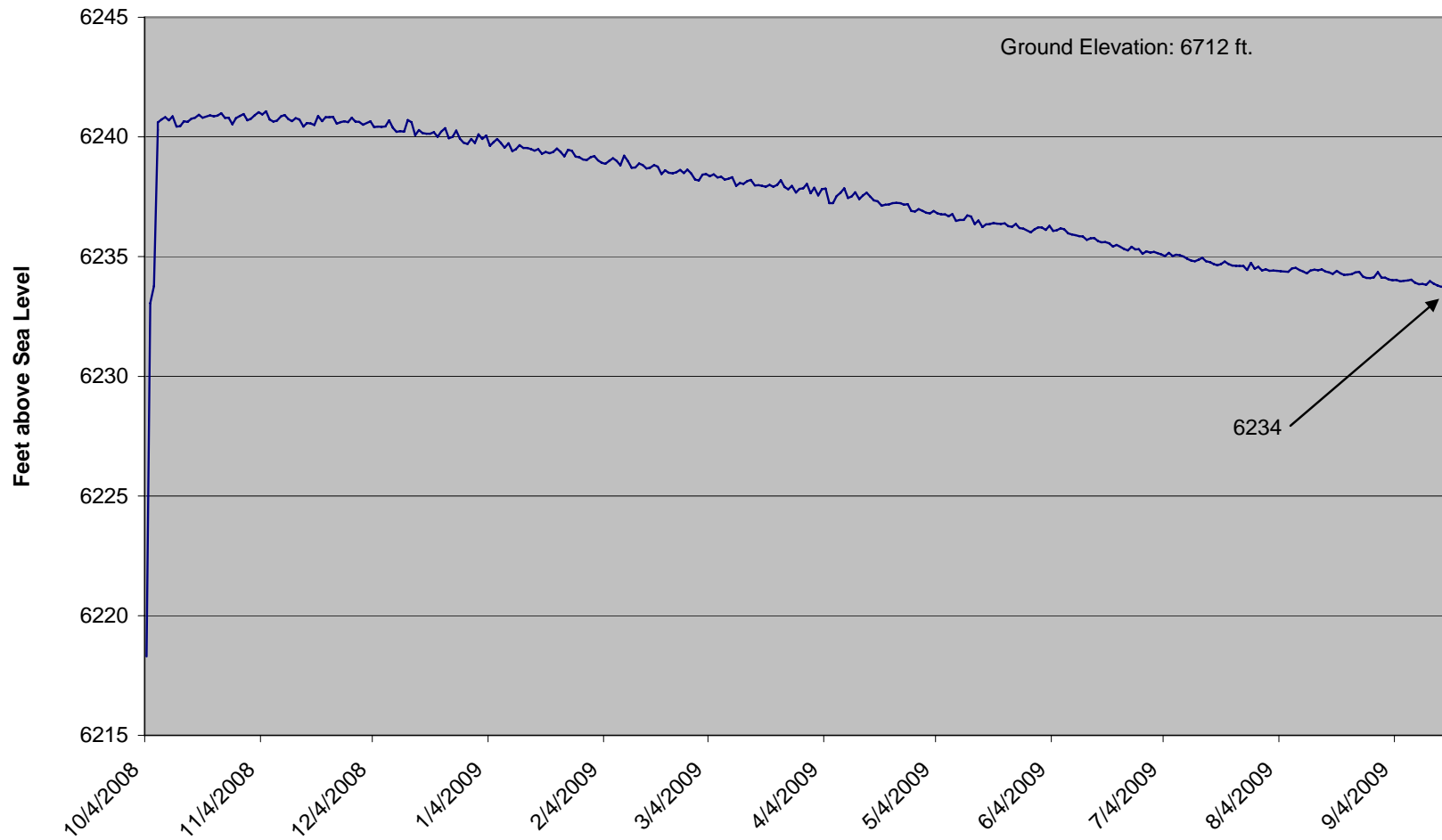
**Bruington WW, Permit # 210526, City Ranches Lot 15**  
**Static Water Level**  
**from 9/30/08 to 9/17/09**



**Coleman WW, Water Level from 10/31/07 to 8/1/09**  
**Permit # 267694 Lot 70 RRR**  
**G.L. elev. 6848'**

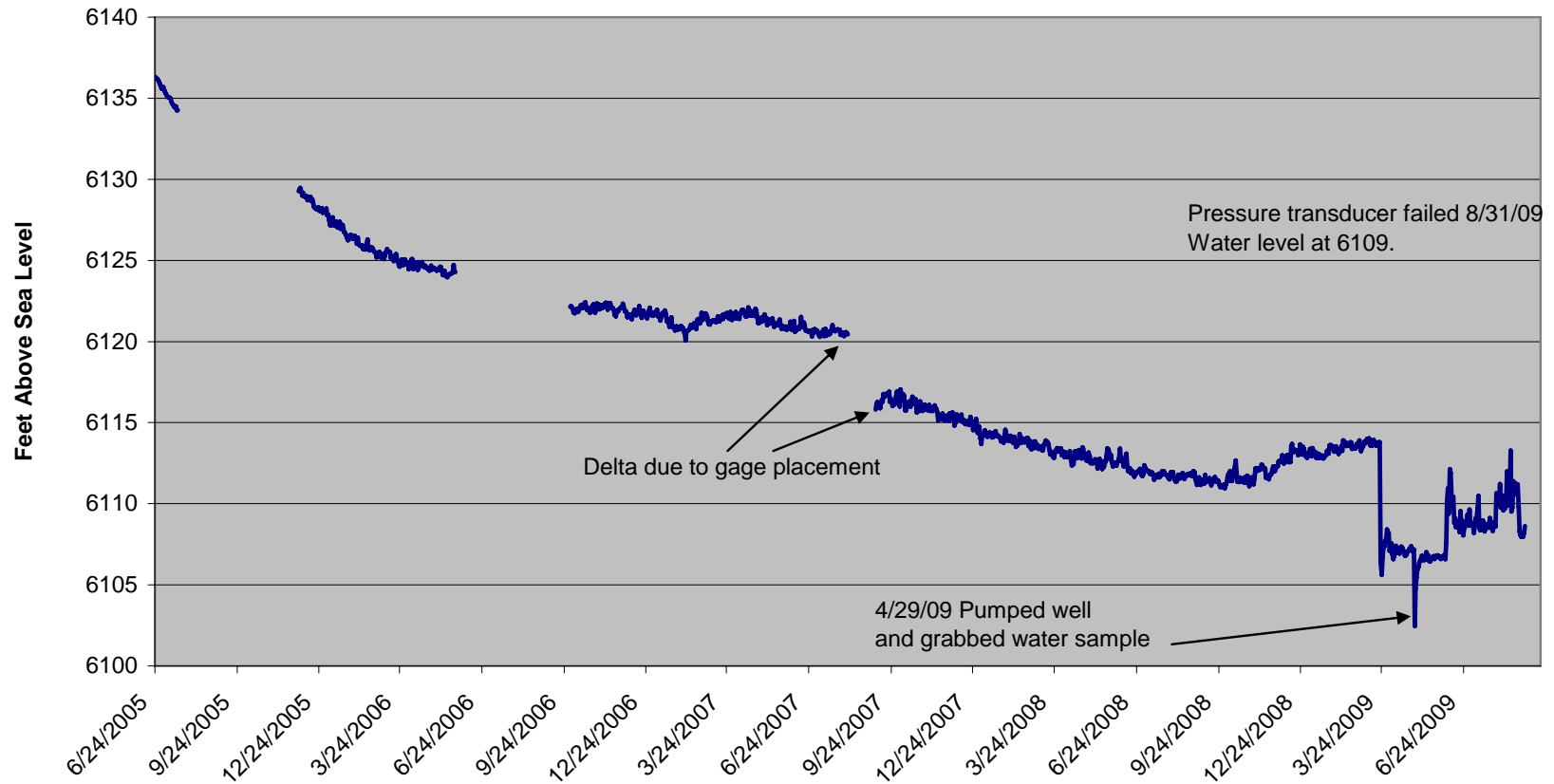


**Evenden WW Permit # 221465**  
**Static Water Level from 10/3/08 to 9/17/09**



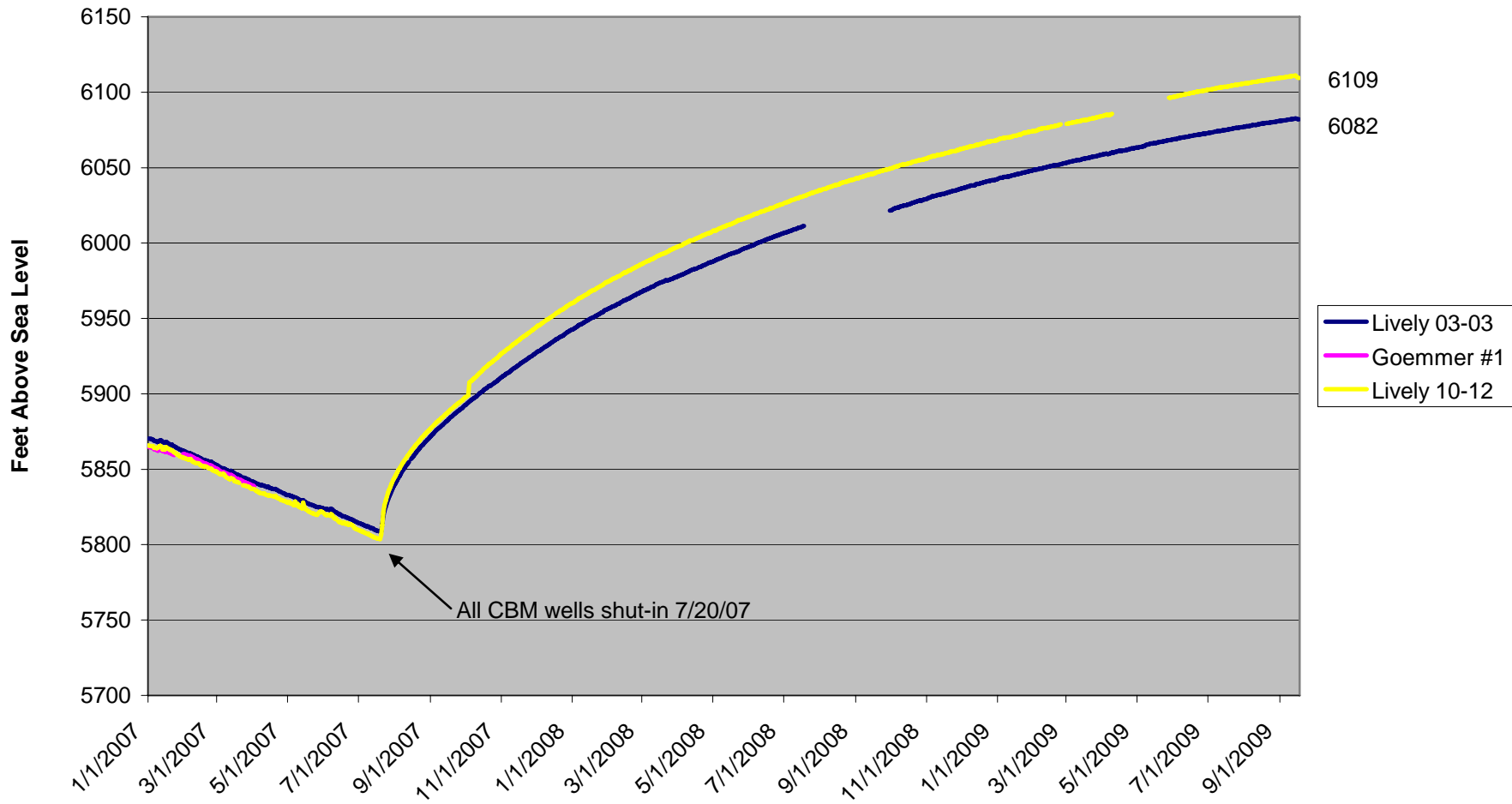
**Meyer WW Permit # 248862**  
**Static Water Level**  
**from 6/24/05 to 8/31/09**

Ground Elevation: 6575 ft.

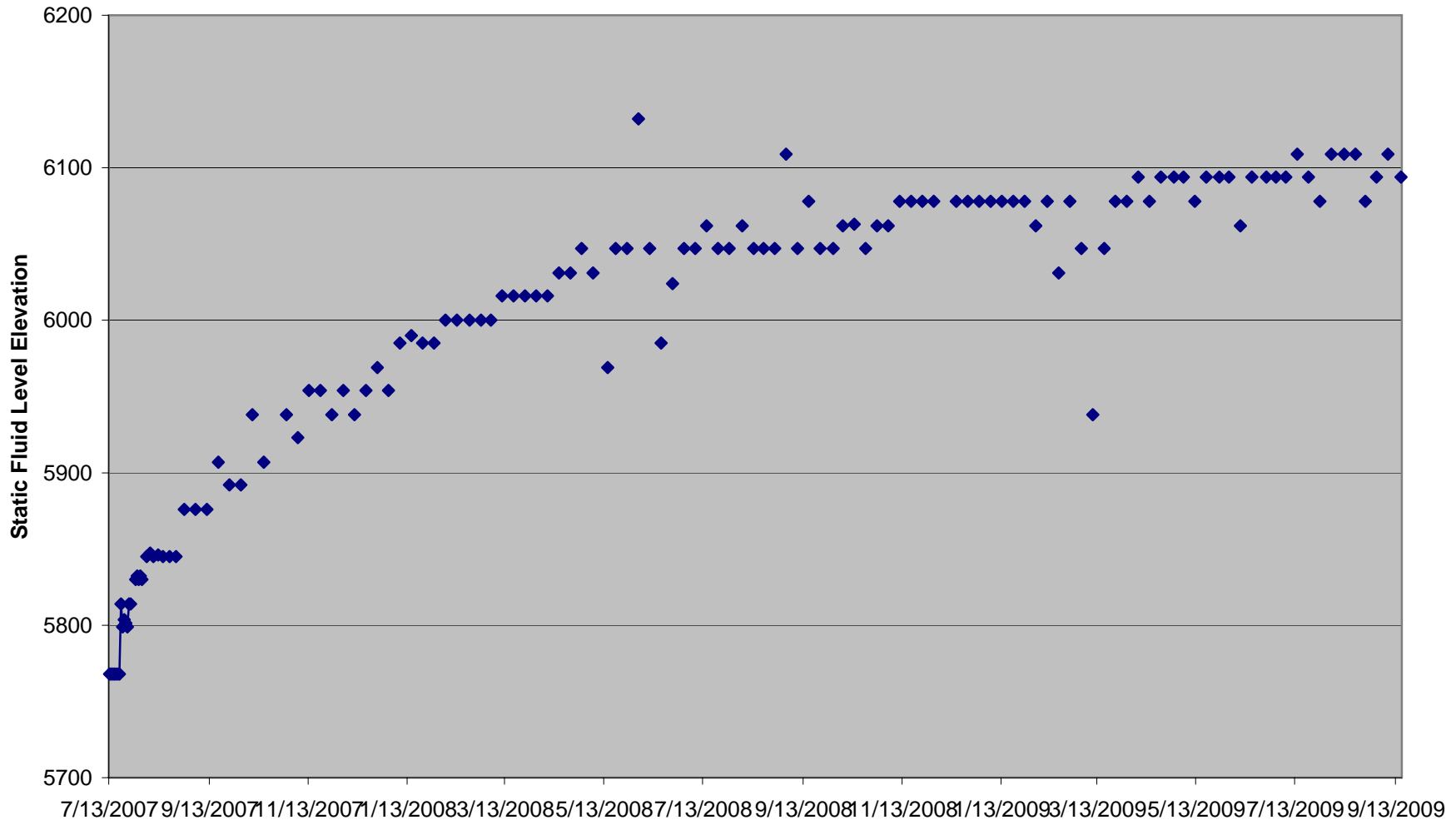


**Attachment 3**  
**Fluid Levels in Petroglyph Production Wells**  
**(Results in psia, unless stated otherwise)**

### Vermejo/Trinidad Monitor Wells Static Water Level from 1/1/07 to 9/17/09

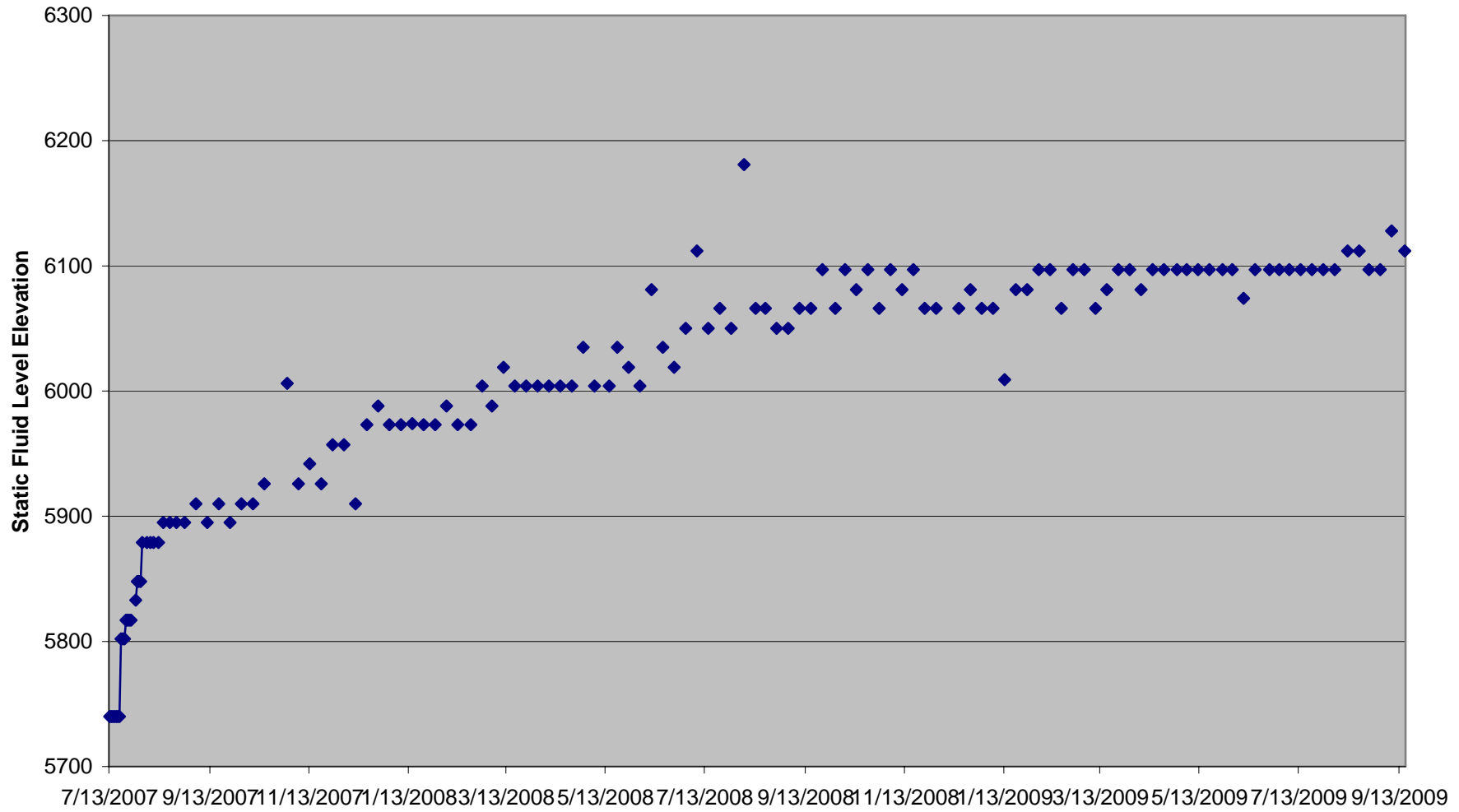


**Lively 02-02**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**

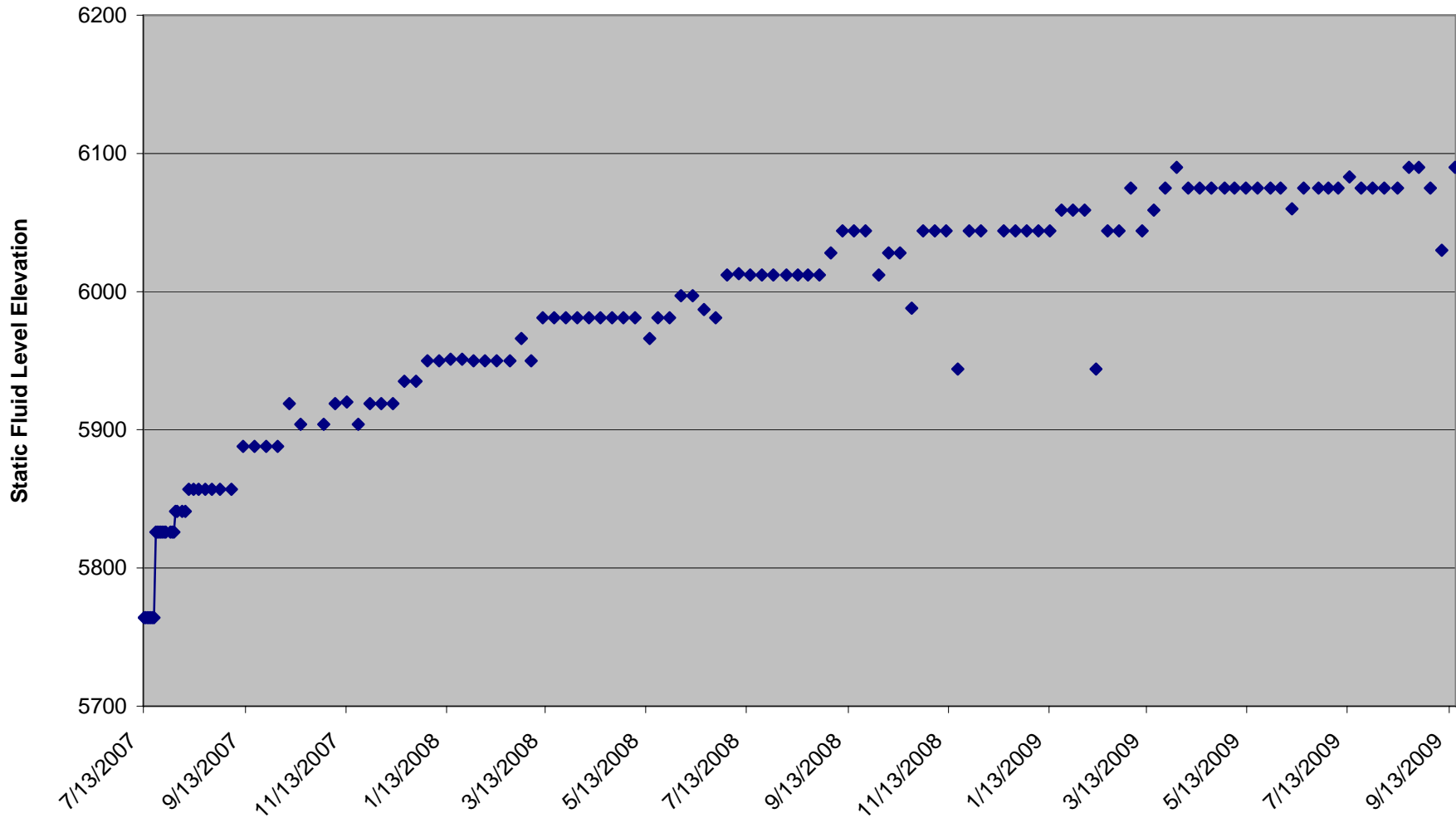




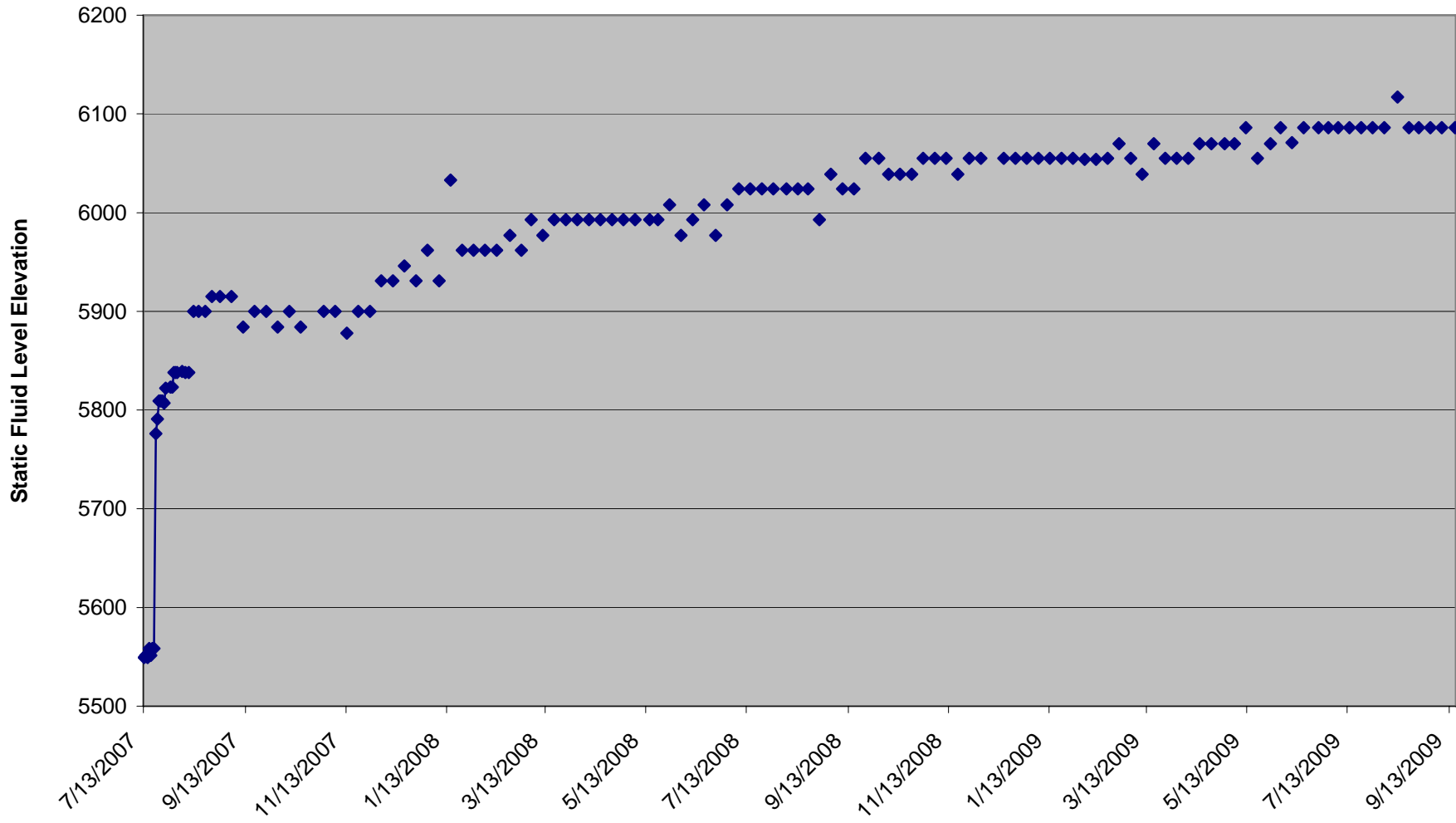
**Lively 02-12**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



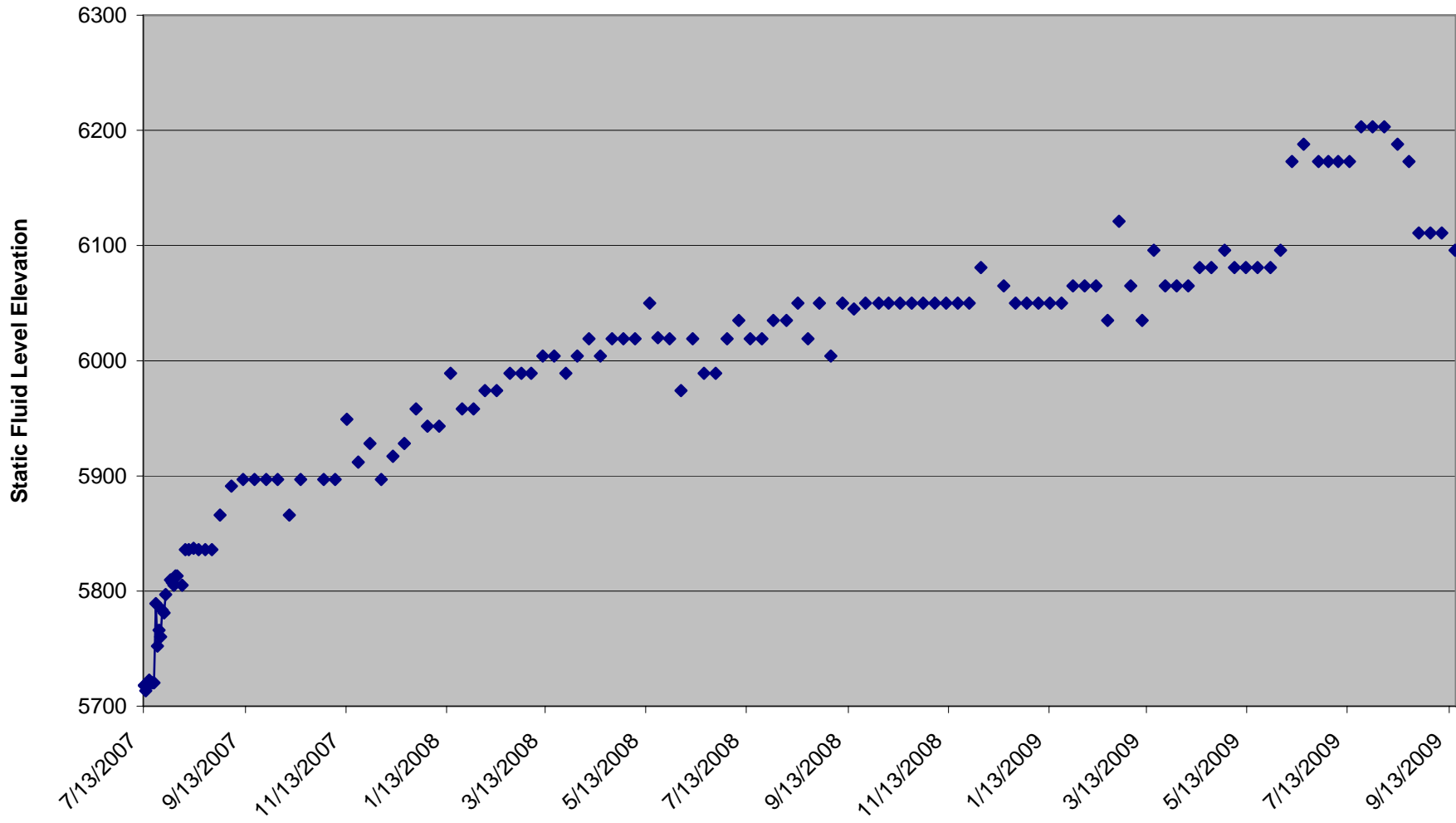
**Lively 03-01**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



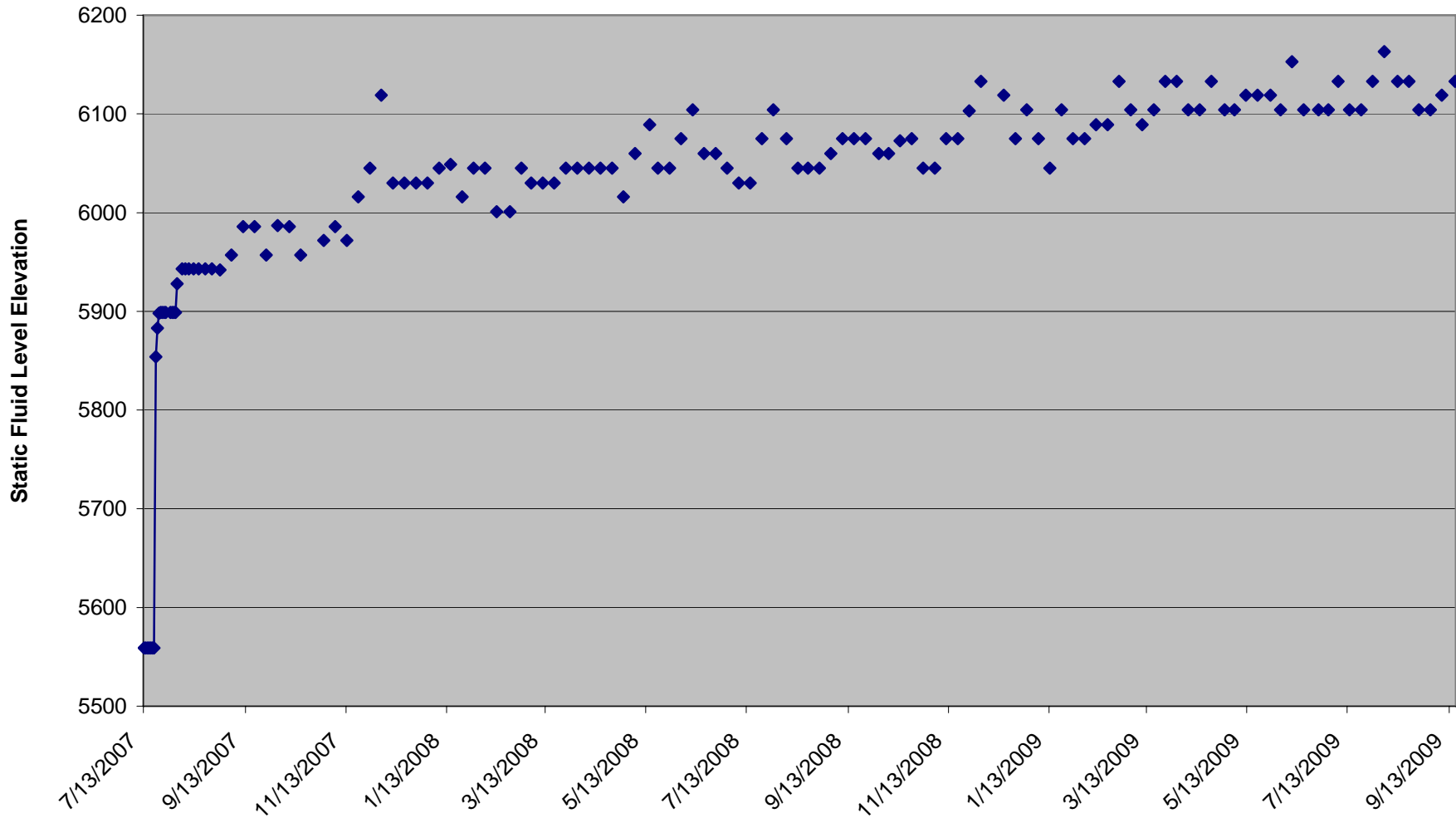
**Lively 03-10**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



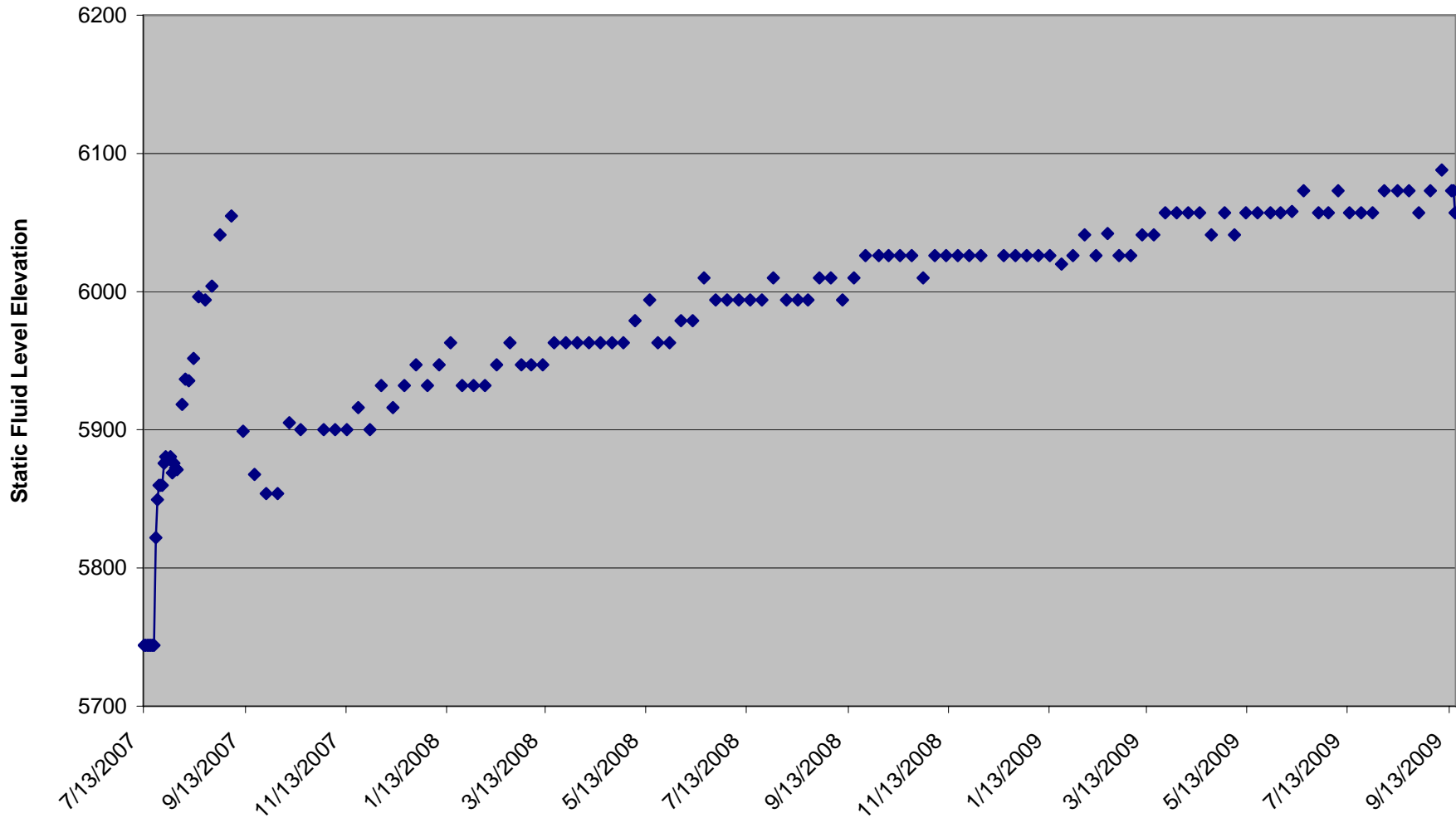
**Lively 03-12**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



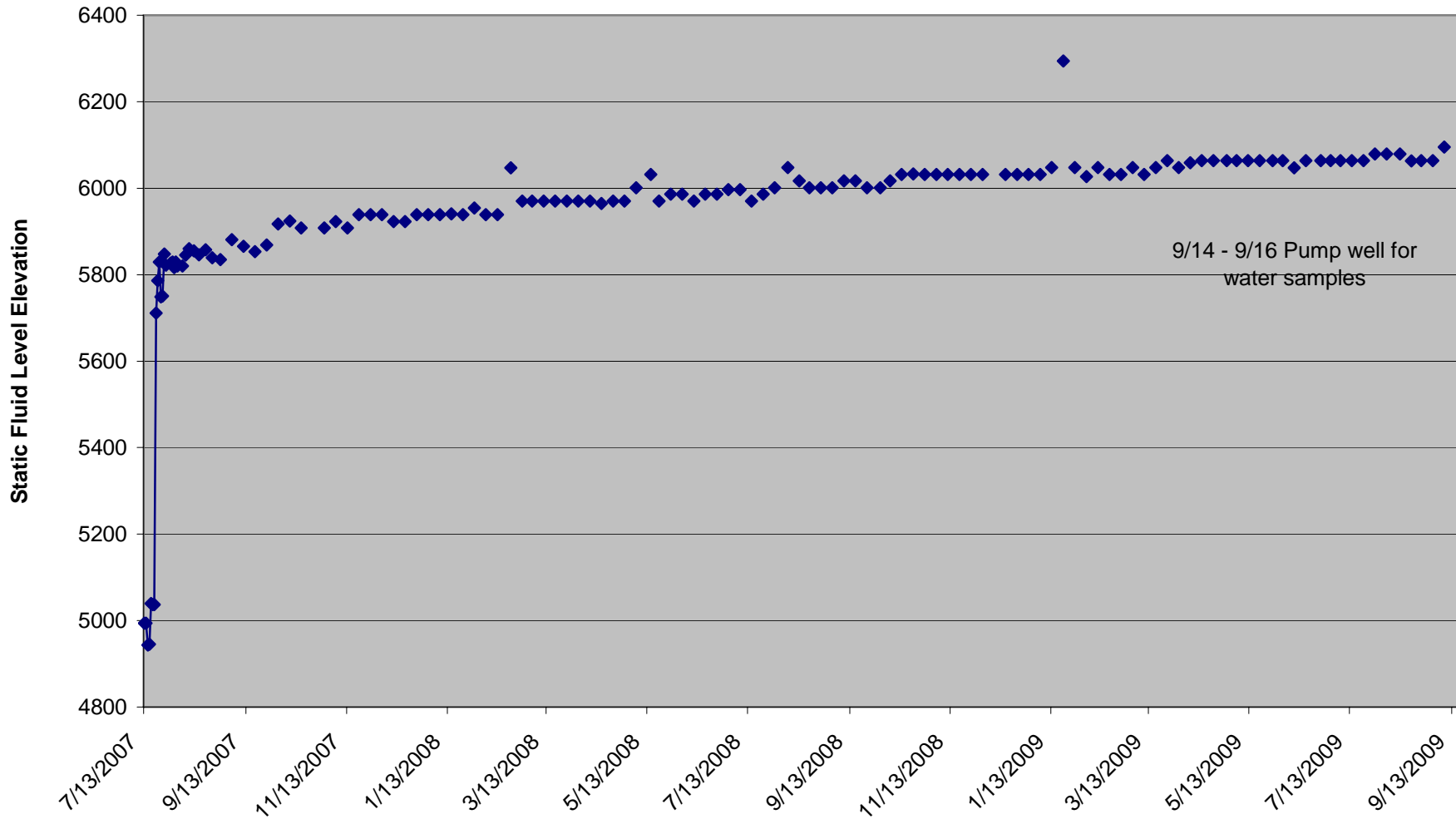
**Lively 10-04**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



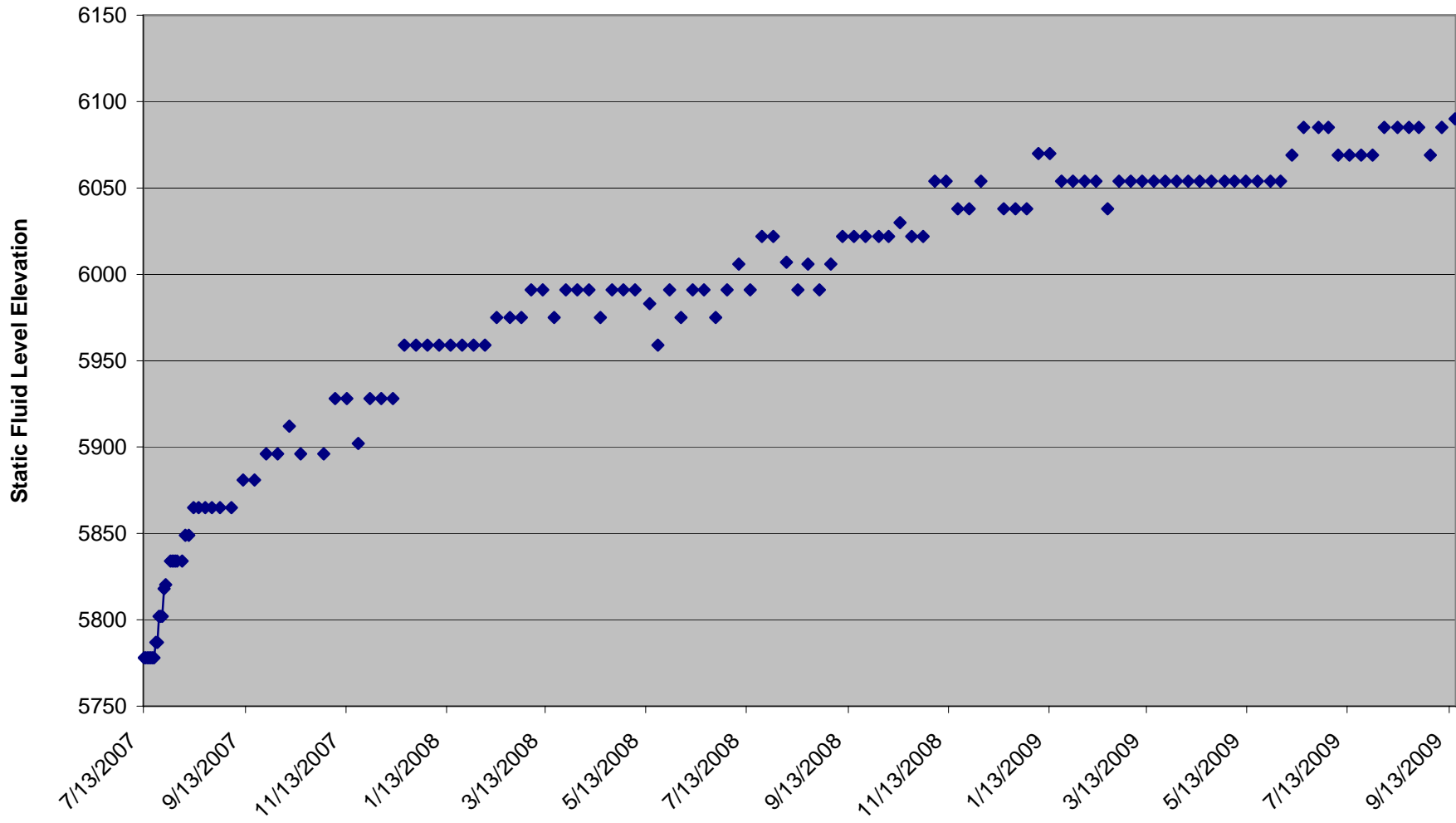
**Rohr 04-10**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



**Rohr 09-10**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**

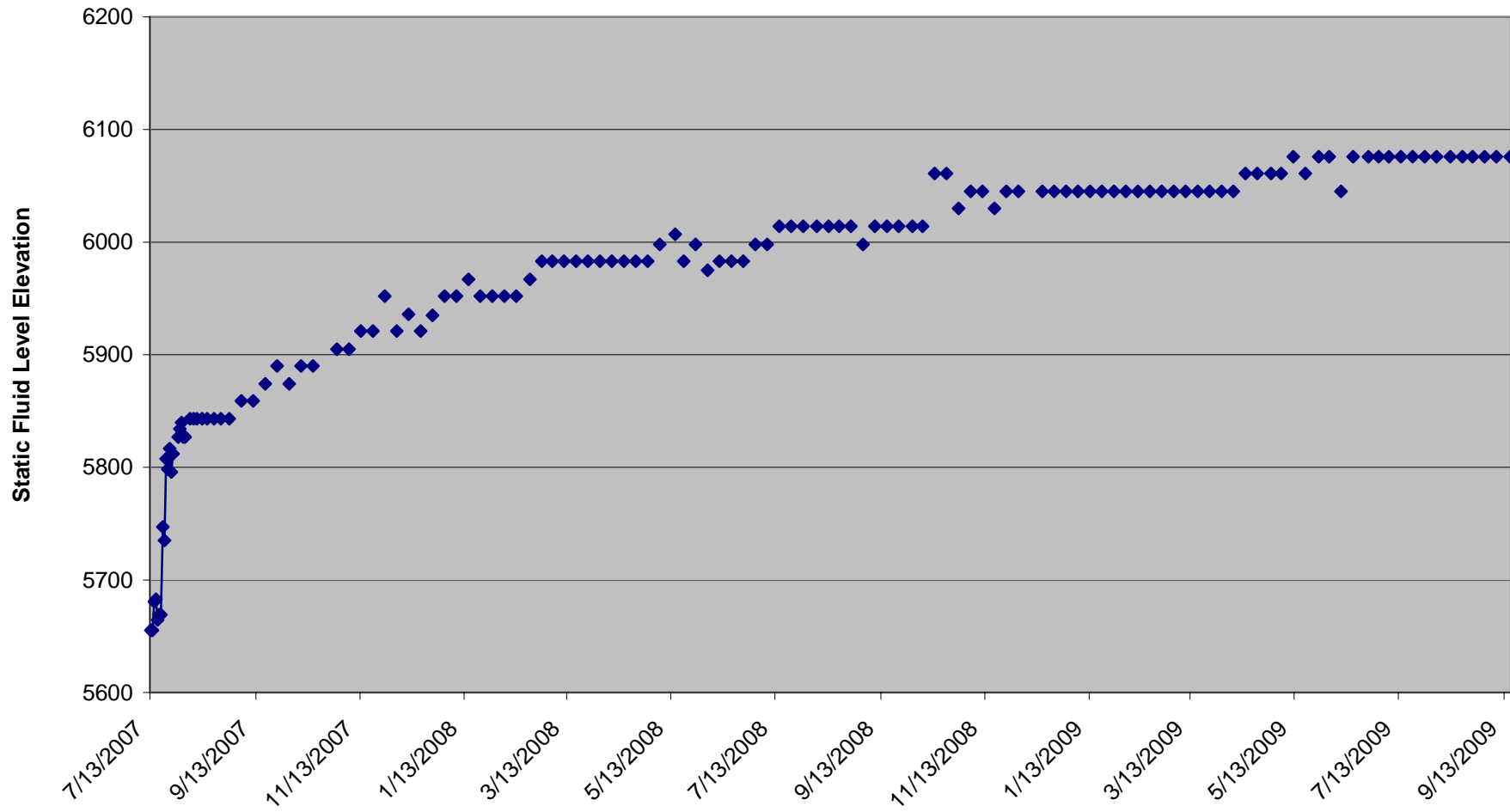


**State 36-02**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**

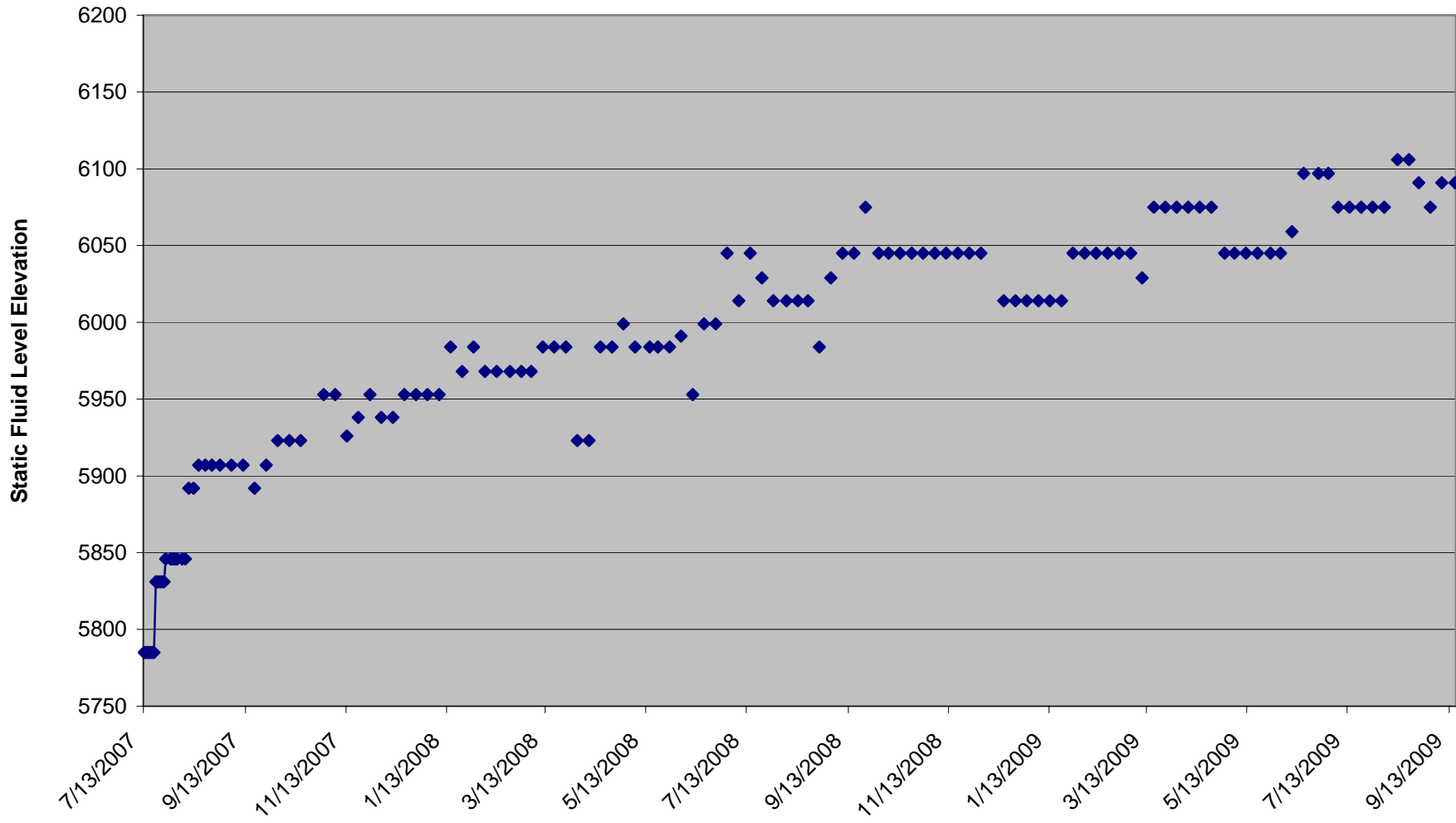




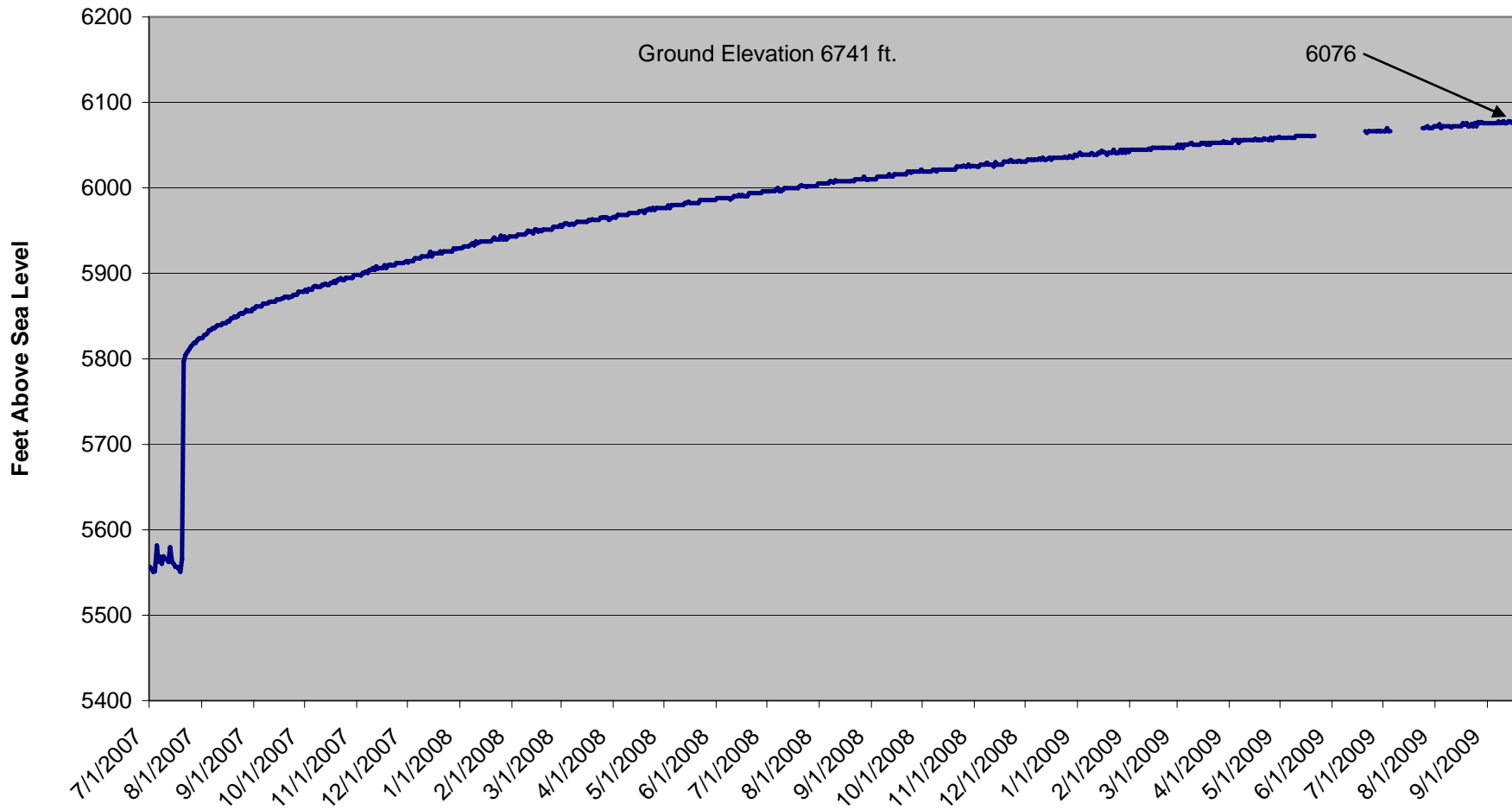
**State 36-05**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



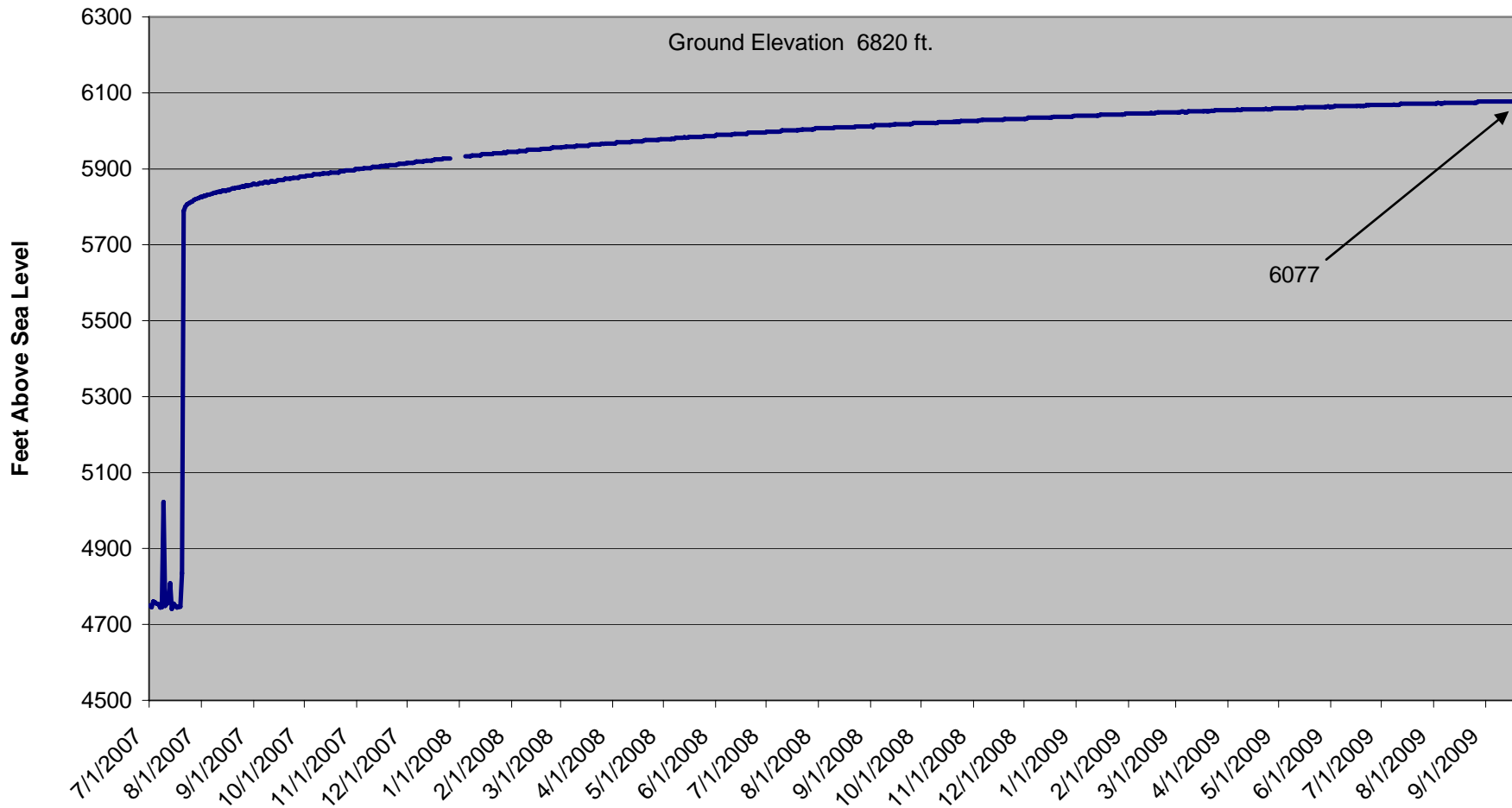
**State 36-11**  
**7/13/07 thru 9/16/09**  
**Wells shut down 7/20/07**



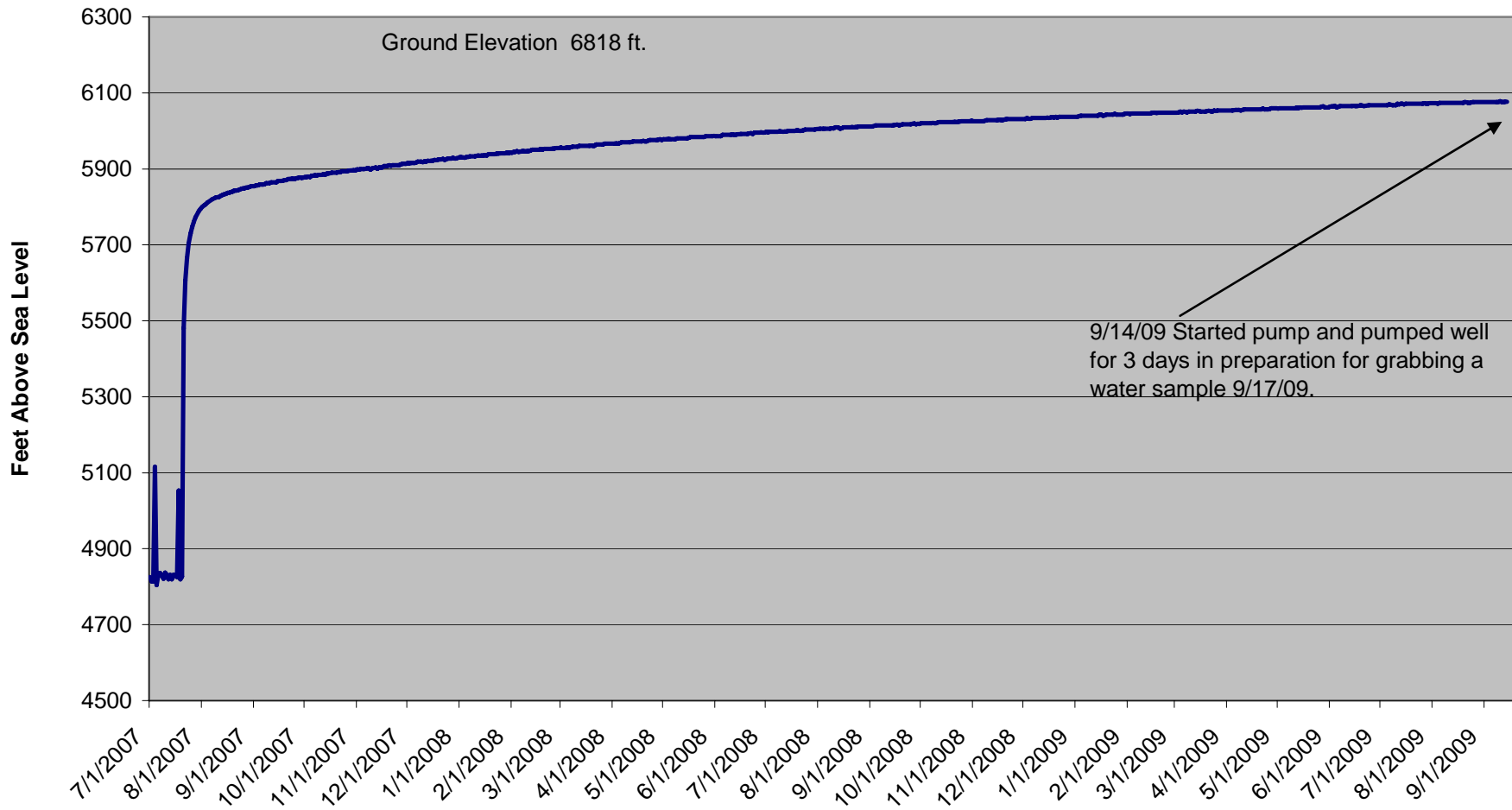
**Rohr 04-14 CBM Well**  
**Static Water Level**  
**from 7/1/07 to 9/16/09**  
**Well shut-in 7/20/07**



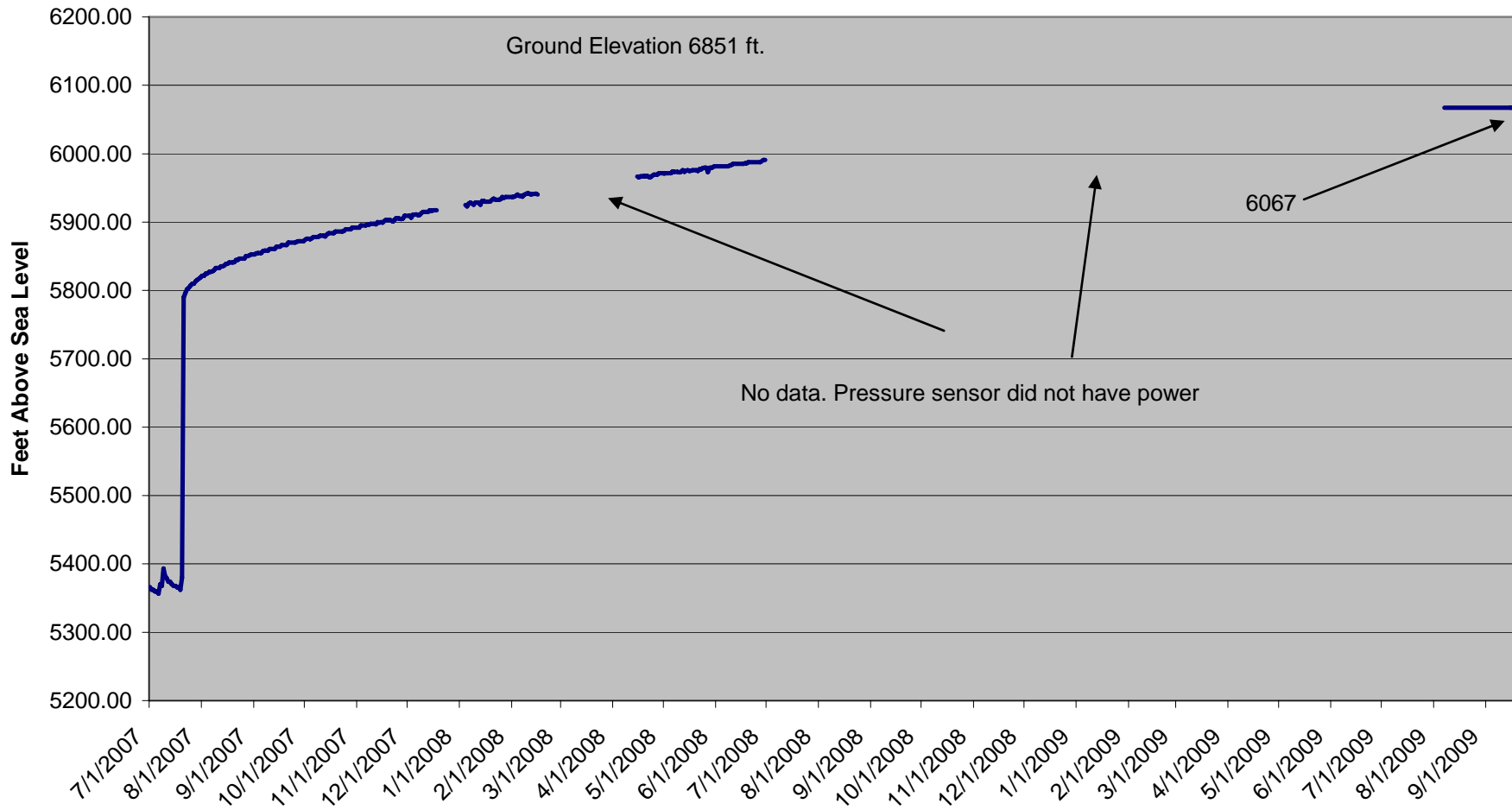
**Rohr 08-01 CBM Well**  
**Static Water Level**  
**from 7/1/07 to 9/17/09**  
**Well shut-in 7/20/07**



**Rohr 09-04 CBM Well  
Static Water Level  
from 7/1/07 to 9/18/09  
Well shut-in 7/20/07**

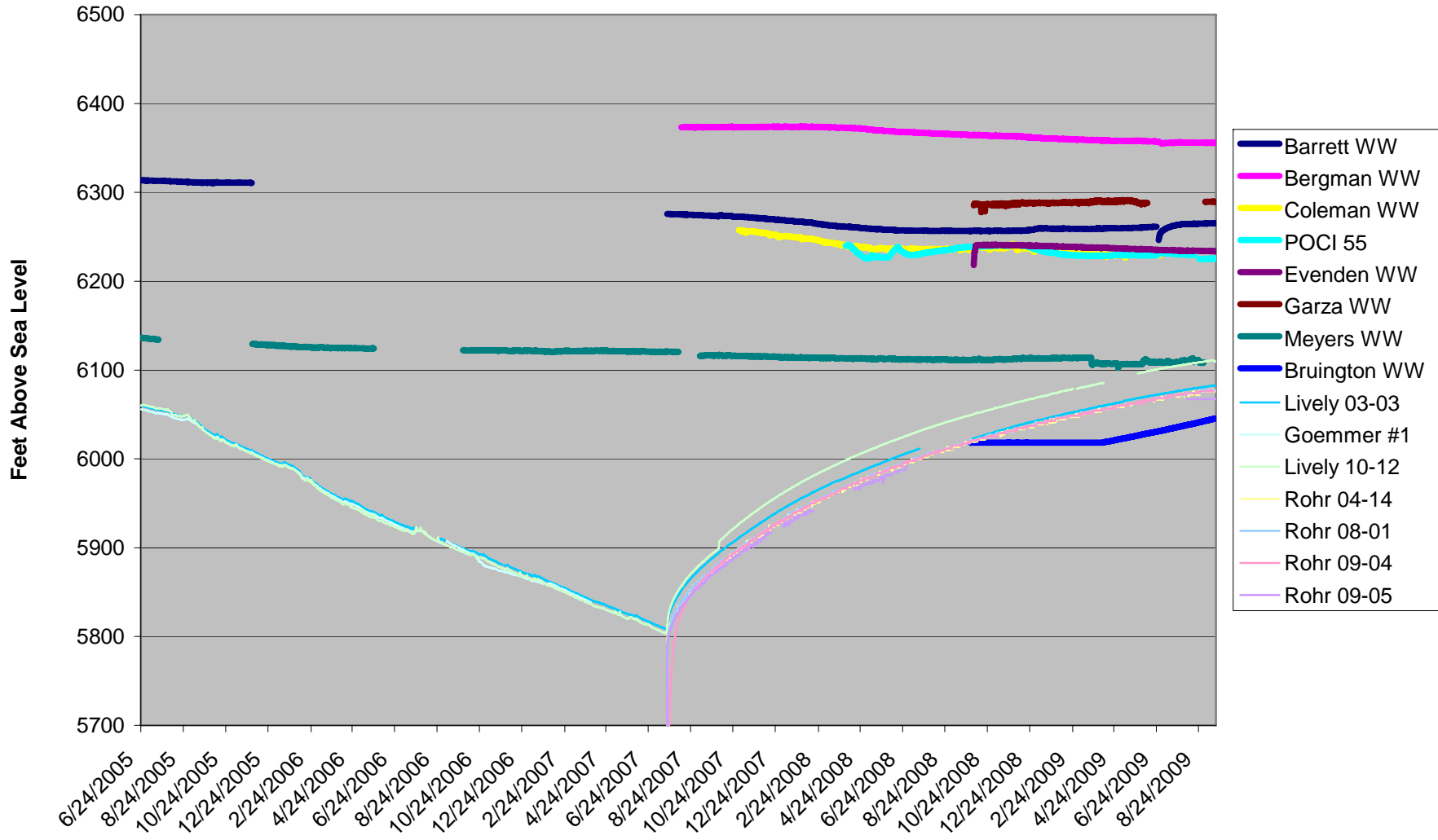


**Rohr 09-05 CBM Well**  
**Static Water Level**  
**from 7/1/07 to 9/17/09**  
**Well shut-in 7/20/07**



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

**CBM and Domestic WW,  
 Water Levels from 6/24/05 to 9/17/09**

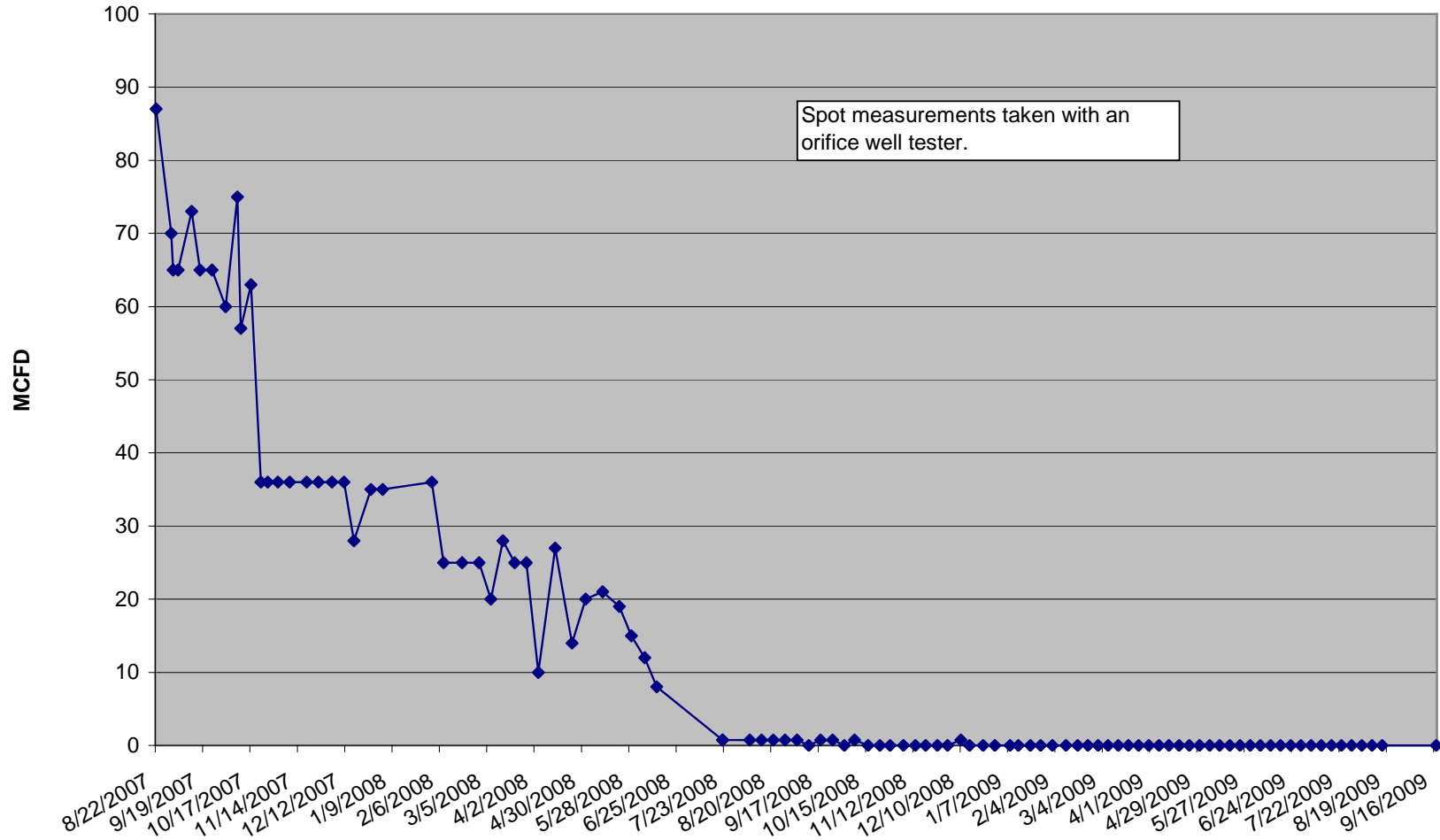




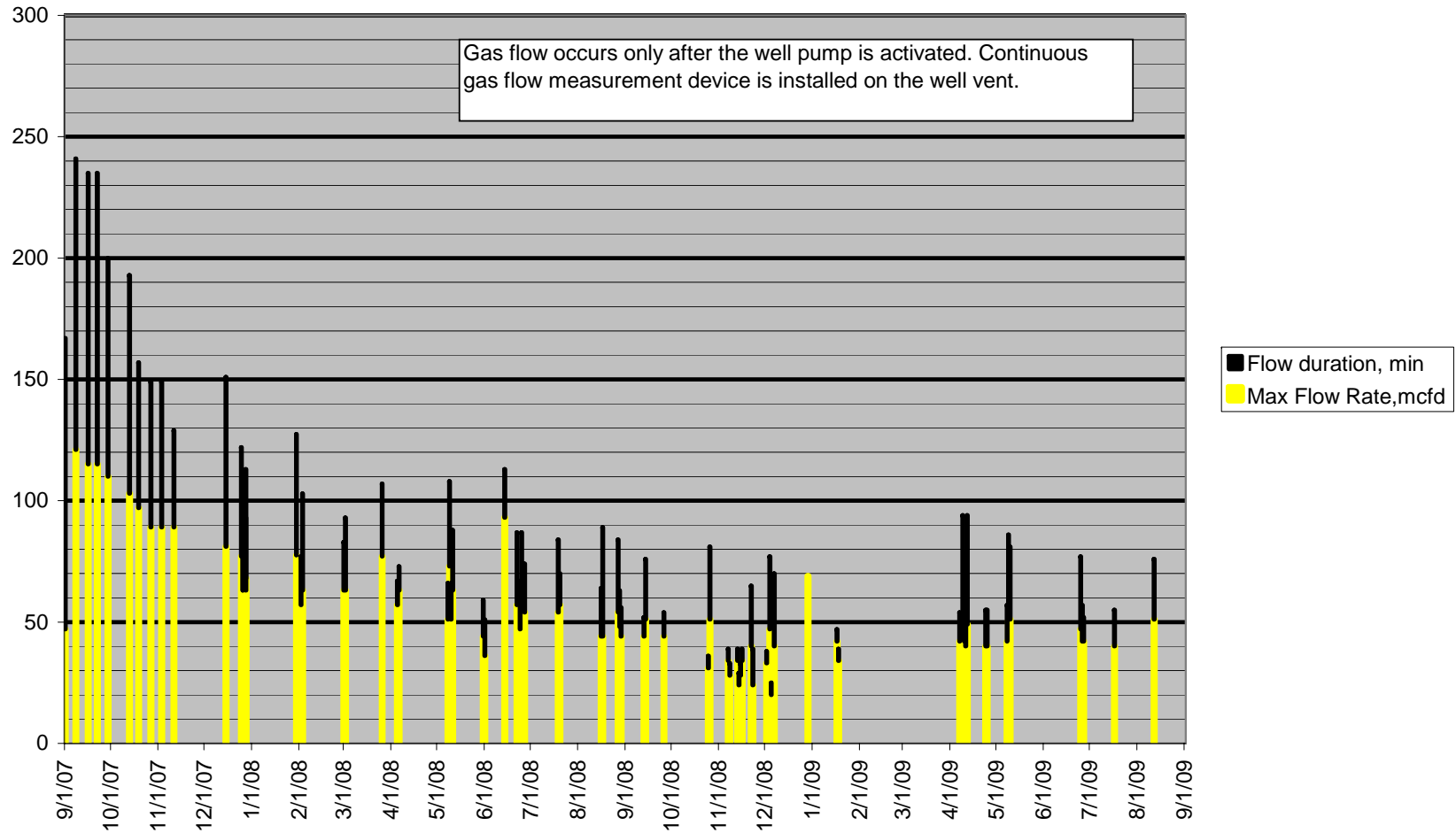
Summary of Production Well Water Levels and Private Well Water Levels						
Well Name	Permit or API #	Ground Elevation ( ft above mean sea level)	Depth of Pressure Sensor (ft)	Formation	General Location	Well Status
Barrett	257994	6707	750	Poison Canyon	In mitigation ring	non-active domestic well
Bergman	244403	6690	400	Poison Canyon	In mitigation ring	non-active domestic well
Coleman	267694	6848	823	Poison Canyon	In mitigation ring	active domestic well
Meyers	248862	6575	600	Raton	Outside 1 mile radius of mitigation ring	non-active domestic well
POCI 55	275819	6690	595	Poison Canyon	In mitigation ring	monitor well
Bruington	210526	6335	320	Vermejo	City Ranch near outcrop	non-active domestic well
Evenden	221465	6712	514	Vermejo-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

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

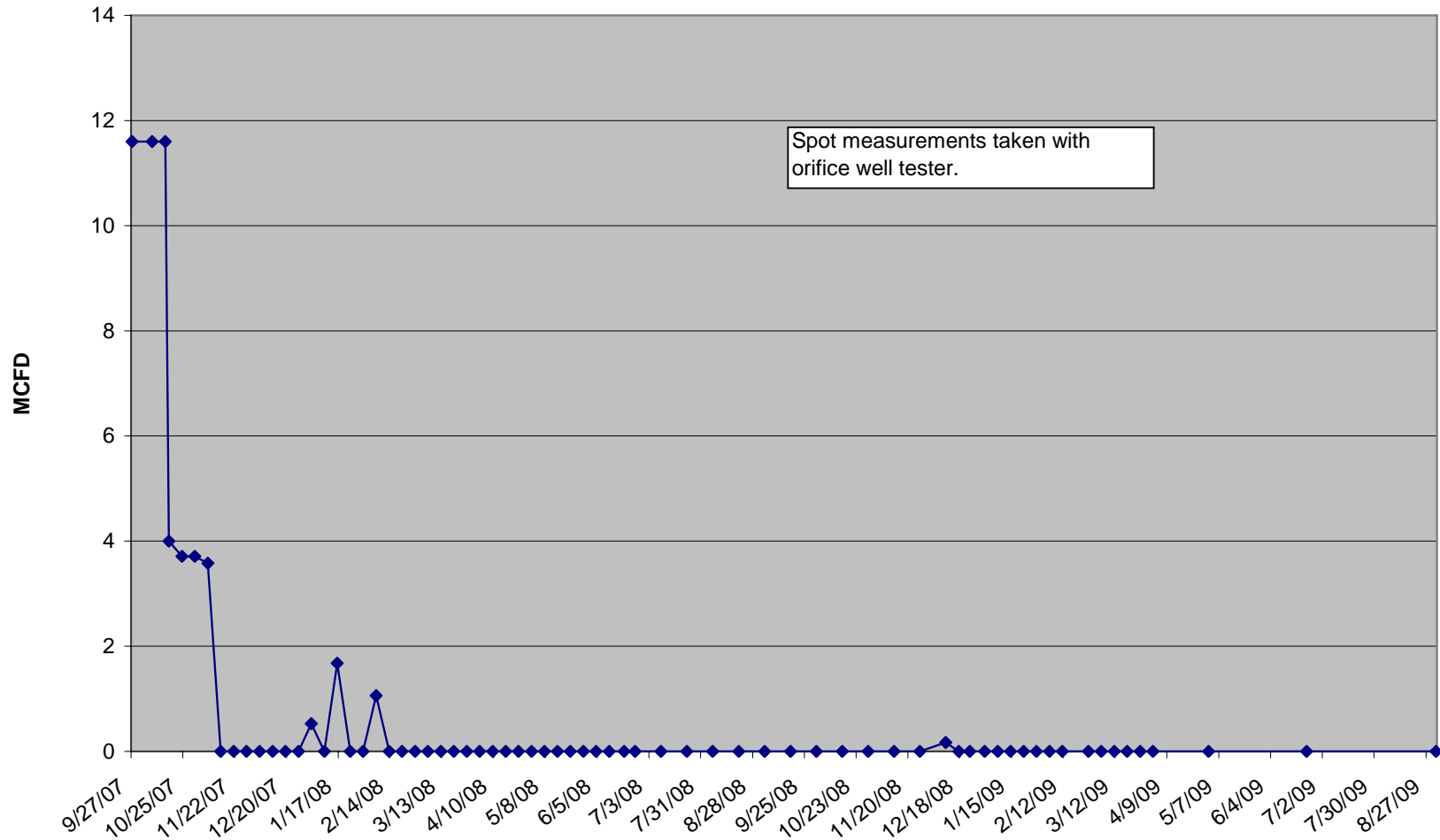
**Bruington WW # 210526 Measured Gas Flow  
from 8/22/07 to 9/17/09**



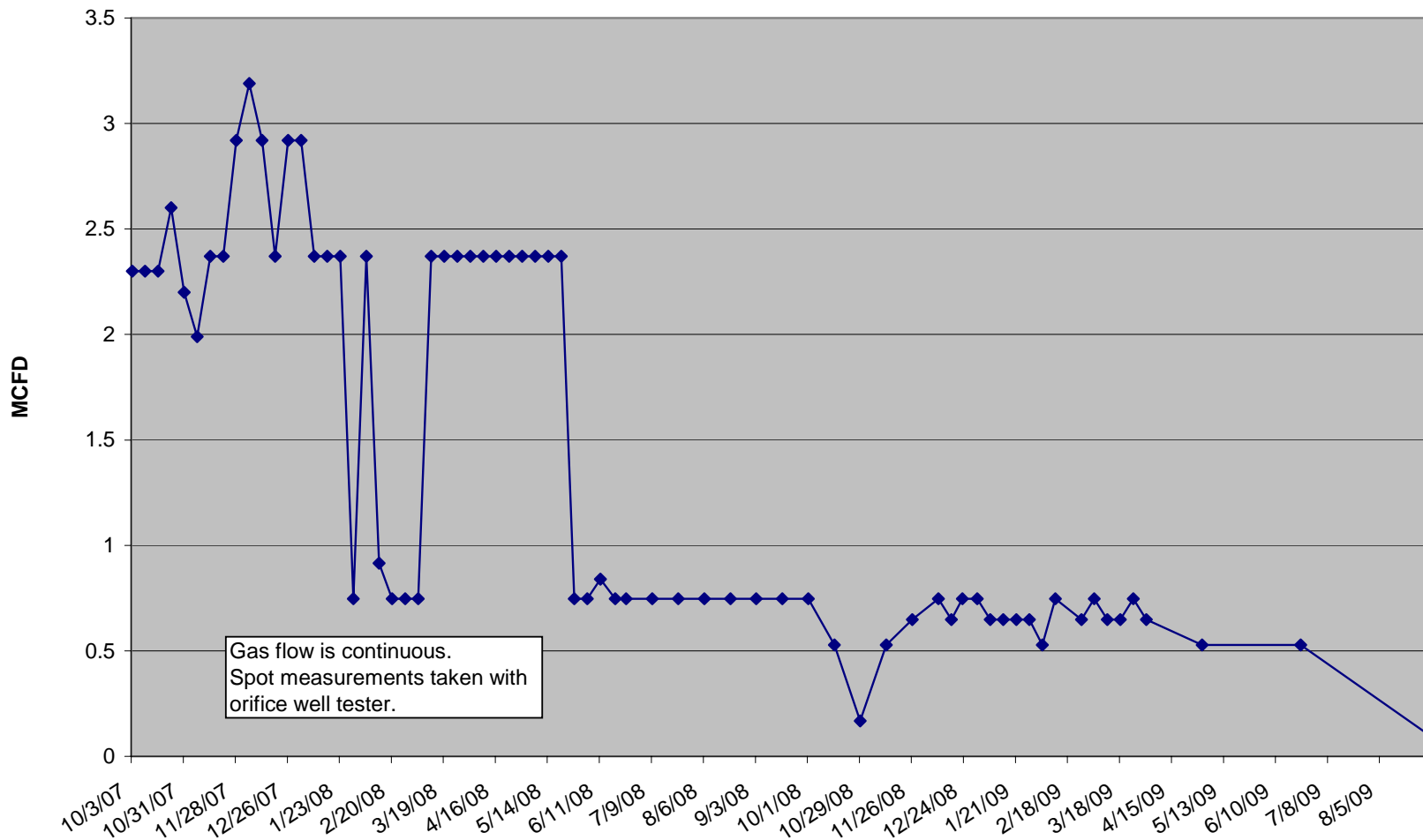
### Coleman WW #267294 Measured Gas Flow from 9/1/07 to 9/1/09



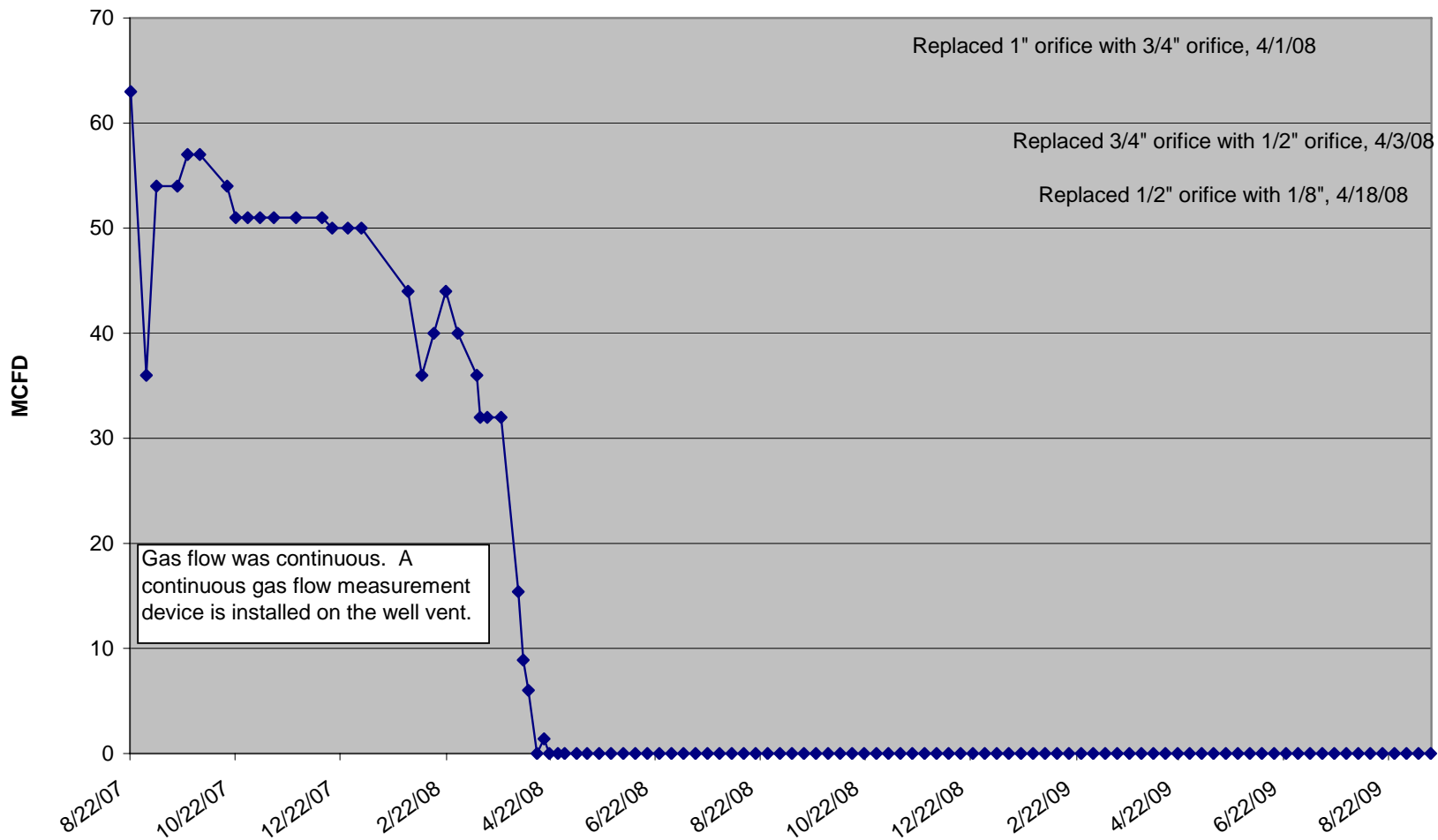
**Angely WW # 238689 Measured Gas Flow  
from 9/27/07 to 9/1/09**



**Bounds WW #181278 Measured Gas Flow  
from 10/3/07 to 9/1/09**



**Smith WW # 239657 Measured Gas Flow  
from 8/22/07 to 9/15/09**



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



