

**Petroglyph Operating Company  
June 2010 Monthly Report**

**Covering the period of 6/2/10 through 7/11/2010**

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

**July 18, 2010**

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## **Petroglyph Operating Company, Inc. Monthly Report – June 2010**

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 July 11, 2010. 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 eighteen months beginning on December 8, 2008. 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 4.5 MCFD at the start of this reporting period. During the period the values fluctuated between approximately 4.5 MCFD and 2.7 MCFD. The final reading for the period (taken on June 28<sup>th</sup>) was also the lowest reading of the period at 2.05 MCFD.

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 2009 and then began a slow and steady decline. During this reporting period the gas flows varied between 0.17 and 0.20 MCFD. The ending reading for the period was 0.20 MCFD on June 28<sup>th</sup>. Recovery 4 has shown variability ranging between 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 showed slightly higher and less range in variability from previous periods with variation between a high of 0.266 MCFD and a low of 0.229 MCFD, ending the period at 0.26 MCFD. 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. During the most recent reporting period the levels declined from 2.37 MCFD at the beginning of the period to 0.71 MCFD on the last reading (taken on July 5<sup>th</sup>).

The average pumping rate for Recovery 1 was 19.4 gpm during the reporting period. 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. Recovery 5 pumped at an average of 6.4 gpm.

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 1.4 to 8.3 gpm during this reporting period with several wells showing an increase in injection rates and several wells showing a decrease in injection rates. 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 18 million gallons of water that have been recovered have been re-injected following methane off gassing and flaring.

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 was issued for public comment and a public meeting was held in Walsenburg on August 10, 2009. The final permit has been signed and issued (May 26, 2010) and became effective on June 25, 2010. Petroglyph has submitted a Sampling Plan required by the UIC Permit and is awaiting EPA approval on the plan to allow start up of the Phase 2 system.

A Colorado Division of Water Resources application for the Phase II system was submitted on February 18, 2009 and additional information to support that application was submitted on June 23<sup>rd</sup> and approved on July 12<sup>th</sup>. Well permits for the production wells to be used for the Phase 2 operations were approved on July 15<sup>th</sup> (after the period covered by this monthly report but within the period prior to report issuance).

The COGCC has provisionally approved Petroglyph's request to move to Phase II contingent upon receipt of other required permits from the EPA and Division of Water Resources. Final staff approval to proceed will be obtained upon receipt of the EPA and Division of Water Resources permits. The COGCC staff is also reviewing the Sampling Plan to ensure it meets their requirements.

## **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. The 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. The

modeling verifies 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 gas analyses received during this reporting period for four samples (Injection 5 Rohr, Recovery 1 Kittleson and Recovery 3 PEI, and Recovery 5 Masters). The results for all dissolved methane sampling available 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. The BLM wellhead continues to show detectable levels of methane at >100 % LEL and 60% CH<sub>4</sub> by volume, a slight drop in methane volume since the last reporting period. The Haupt #1 showed no methane in the June 22<sup>nd</sup> reading. 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 POCI 55 well remained at approximately 6229 feet through the monitoring period with some slight fluctuations of one foot or less. Barrett pressure also remained at approximately the same level with water levels increasing slightly from approximately 6267 feet to approximately 6268 feet. Bergman pressure and associated water levels increased slightly from approximately 6357 feet at the start of the period to approximately 6358 feet at the end of the period.

The Bruington well continues to show an upward trend in water levels with a rise of approximately 5 feet during the reporting period from approximately 6086 feet to approximately 6091 feet. Coleman varied between approximately 6234 feet and

approximately 6236 feet and ended with a drop to approximately 6230 feet. Garza Vela also showed variation up and down through out the period between approximately 6294 feet to approximately 6292 feet ending at approximately 6294 feet. The Meyer well water elevations increased a slight amount from approximately 6113.2 feet to approximately 6114.2 feet. The Gonzalez transducer showed a rise in pressure and associated water levels from approximately 6105.1 feet to approximately 6108.7 feet.

The Evenden transducer was removed and will not be replaced. Based on the information that has been gathered from this well, there is no connection between the well and Petroglyph's operations. The well is completed in the Vermejo in an old coal mine shaft. Water levels have been decreasing while Petroglyph's production well water levels have been increasing.

#### *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'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 have risen in all wells as would be expected, although the rate of rise is leveling off. Six of the wells show little to no overall water level elevation change throughout the period: Lively 03-10, Lively 03-12, Lively 10-04, State 36-11, Rohr 09-10 and Rohr 08-01. Another two wells started and ended the period at the same elevation but experienced one or more fluctuations through the period (Lively 02-02 and Lively 02-12). Five wells showed a slight rise during the monitoring period (Lively 03-03, Lively 10-12, Rohr 09-04, Rohr 09-05 and Rohr 04-14). Lively 04-10, State 36-05, Lively 03-01 and State 36-02 showed wider swings in water levels during the monitoring period which are believed to be more indicative of the use of an echometer than of actual large scale changes in the groundwater levels.

#### *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 indicating a lack of connection between the production wells in the Vermejo Formation and domestic wells in the Poison Canyon



Formation. 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 wells are not showing any gas. The water level recovery of the Bruington well precludes any gas flow so these results continue to show 0 gas flow. Gas flow may resume when the well stabilizes. Gas concentrations at the wellhead are still monitored monthly and reported. The Coleman well previously only showed gas when the well is initially pumped. The well was Pumped twice during the monitoring period to record gas flows. The first recorded 47.2 MCFD for a 25 minute period and the second reading recorded 34.7 MCFD for a 25 minute period. Angely and Bounds readings for May were available. Angely showed no gas and the Bounds well showed a slight decrease from 0.17 MCFD to 0.16 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 has routinely monitored for methane gas levels near 86 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. One new wellhead was added during the reporting period bringing the total wells monitored to 87.

Table 3 shows all of the wellheads that are currently being 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 is included on the table.

Of the 87 wellheads, 6 were not sampled during this reporting period. Sampling may vary during any one reporting period due to a variety of reasons. During this reporting period 65 wellheads were sampled once, 15 wellheads were sampled twice and 1 wellhead was sampled three times.

As shown on Table 3, the comparison of monitoring results for the 81 wellheads sampled during this period with previous results showed that overall gas levels at 54 wellheads

had no change from the previous monitoring period measurements, 53 had no detectable methane and 1 had no change 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 27 wellheads, 20 wellheads showed a decrease in methane with 5 of those being only a slight decrease. 6 wellheads showed an increase in methane with 2 wellheads showing only a slight increase. The remaining well was a new addition and has no historic measurements to allow comparison. It should be noted that all of the wells with detectable methane have shown methane in past measurements. Those wells which show material increases or decreases in this reporting period are those wells which have historically shown wide swings in methane levels from measurement to measurement. The data as presented do not represent significant changes in any well based on review of current and past measurements.

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 to 1.25 miles of the outcrop. Of the 18 wellheads reading detectable methane, 8 are known to have been drilled into the Raton/Vermejo Formations or deeper based on well depths in well logs available from the State Engineer. Of the remaining 10 wells, 5 wells are drilled into the Poison Canyon and located in close proximity to the remediation system. The completion information for five wells is not known.

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

**Within 1 Mile of Remediation System**

- Gas near 25 wellheads routinely monitored
- 2 wellheads were not sampled during this reporting period
- 16 wellheads showed no change with 15 showing no detectable methane gas and 1 showing detectable methane gas
- 5 wellheads showed a decrease in methane levels with one wellhead measuring only a slight decrease
- 2 wellheads showed increased methane levels
- Of the 7 wellheads showing detectable methane 5 are completed in the Poison Canyon Formation and the completion information for the remaining 2 wells is unknown
- One well showed a decrease to no detectable methane

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

- Gas near 21 wellheads routinely monitored
- 2 wellheads were not sampled during this reporting period
- 18 wellheads showed no change and no detectable methane
- 1 wellhead showed an increase during this reporting period
- The 1 wellhead showing detectable methane is known to be drilled into the Raton/Vermejo Formation

### **City Ranch and Other Properties**

- Gas near 15 wellheads routinely monitored
- 2 wellheads were not sampled during the reporting period
- 7 wellheads showed no change and no detectable methane gas
- 6 wellheads showed a decrease in methane levels with 2 wellheads showing only a slight decrease
- Of the 2 wellheads showing detectable methane, both are known to be drilled into the Raton/Vermejo
- 4 wellheads decreased from detectable methane to no detectable methane

### **Silver Spurs Ranch**

- Gas near 24 wellheads routinely monitored
- All wellheads were sampled during the reporting period
- 12 wellheads showed no change and no detectable methane
- 3 wellheads showed an increase in methane levels
- 9 wellheads showed a decrease in methane levels with 2 showing only a slight decrease
- Of the 8 wellheads showing detectable methane, 5 are known to be drilled into the Raton/Vermejo or deeper
- The 3 wellheads showing increases in methane increased from no detectable methane to detectable methane
- 4 wellheads decreased from detectable methane to no detectable methane

### **Black Hawk Ranch**

- The domestic well which is monitored at Black Hawk Ranch (Goza) showed no change and no detectable methane
- The newly added well also showed no detectable 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.

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. Of the wellhead charts included in Attachment 6 only those for Barrett, Bergman, Golden Cycle Land, Houghtling, Hopke, and Smith showed changes in recent readings. All but Bergman were decreases in methane readings at the wellhead. Such changes are consistent with past variations in methane readings and do not represent any new or unusual changes to the well. Other wellheads which were measured show readings which were unchanged from 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.

## **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 5 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

Craig Saldin of Petroglyph participated in a River Ridge Ranch Board of Managers meeting on June 19, 2010.

### 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.
- Once all approvals are received and the EPA and COGCC have agreed to the Sampling Plan, Phase 2 will be initiated. This is expected to occur in mid-July.
- 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  
 (water flows as of 7/7/2010; gas flows as of 6/28/2010)**

<b>Well Number</b>	<b>Total Depth (ft)</b>	<b>PBTD</b>	<b>Injection Tubing Depth</b>	<b>Start-up Date</b>	<b>Average Injection Rate (gpm)</b>	<b>Water Totals (gal)</b>		<b>Notes</b>
Injection 01 Pascual	600	526	458	12/9/2008	1.4	911,000		Average injection rate increased slightly from 1.3 to 1.4 gpm.
Injection 02 Gonzales	600	575	362	12/10/2008	1.4	907,000		Average injection rate increased slightly from 1.2 to 1.4 gpm.
Injection 03 Benevides	725	629	454	12/10/2008	1.5	932,000		Average injection rate increased slightly from 1.4 to 1.5 gpm.
Injection 04 Rohr	675	667	455	12/9/2008	7.5	4,597,000		Average injection rate increased slightly from 6.8 to 7.5 gpm.
Injection 05 Rohr	750	735	458	12/10/2008	8.3	5,553,000		
Injection 06 Masters	725	695	438	12/10/2008	6.4	4,185,000		
Injection 07 Walden	750	713	457	12/10/2008	1.6	824,000		Average injection rate increased slightly from 1.5 to 1.6 gpm.
Injection 08 Haeffner	650	713	365	12/10/2008	see note	4,436		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>		<b>Gas Totals (mcf)</b>	
Recovery 1 Kittleson	715	705	686	12/8/2008	19.40	14,764,000	10,296	
Recovery 3 PEI	625	591	575	12/8/2008	1 (see note)	777,000	787	Intermittent pumping at 4 gpm. Rate over 24 hrs is approx 1 gpm
Recovery 4 Barrett	500	484	463	2/10/2009	(see note)	3,600	353	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
Recovery 5 Masters	847	847	822	12/24/2009	6.4	1,724,000	1,392	

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
<b>Mitigation wells</b>	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 05 Rohr	10/2/09	Methane	7800	Injection Water
	Injection 05 Rohr	11/5/09	Ethane	6.7	Injection Water
	Injection 05 Rohr	11/5/09	Ethene	ND	Injection Water
	Injection 05 Rohr	11/5/09	Methane33	2400	Injection Water
	Injection 05 Rohr	12/1/09	Ethane	7.1	Injection Water
	Injection 05 Rohr	12/1/09	Ethene	ND	Injection Water
	Injection 05 Rohr	12/1/09	Methane	2400	Injection Water
	Injection 05 Rohr	2/1/10	Ethane	7	Injection Water
	Injection 05 Rohr	2/1/10	Ethene	ND	Injection Water
	Injection 05 Rohr	2/1/10	Methane	3,000	Injection Water
	Injection 05 Rohr	3/2/10	Ethane	8.2	Injection Water
	Injection 05 Rohr	3/2/10	Ethene	ND	Injection Water
	Injection 05 Rohr	3/2/10	Methane	3,700	Injection Water
	Injection 05 Rohr	4/5/10	Ethane	11	Injection Water
	Injection 05 Rohr	4/5/10	Ethene	ND	Injection Water
	Injection 05 Rohr	4/5/10	Methane	3,300	Injection Water
	Injection 05 Rohr	5/3/10	Ethane	12	Injection Water
	Injection 05 Rohr	5/3/10	Ethene	ND	Injection Water
	Injection 05 Rohr	5/3/10	Methane	3,100	Injection Water
	Injection 05 Rohr	6/1/10	Ethane	2.6	Injection Water
	Injection 05 Rohr	6/1/10	Ethene	ND	Injection Water
	Injection 05 Rohr	6/1/10	Methane	1,300	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	

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	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 1 Kittleson	10/2/09	Methane	9500	
	Recovery 1 Kittleson	11/5/09	Ethane	7.3	
	Recovery 1 Kittleson	11/5/09	Ethene	ND	
	Recovery 1 Kittleson	11/5/09	Methane	7900	
	Recovery 1 Kittleson	12/1/09	Ethane	7.5	
	Recovery 1 Kittleson	12/1/09	Ethene	ND	
	Recovery 1 Kittleson	12/1/09	Methane	8100	
	Recovery 1 Kittleson	2/1/10	Ethane	10	
	Recovery 1 Kittleson	2/1/10	Ethene	ND	
	Recovery 1 Kittleson	2/1/10	Methane	9900	
	Recovery 1 Kittleson	3/2/10	Ethane	7.4	
	Recovery 1 Kittleson	3/2/10	Ethene	ND	
	Recovery 1 Kittleson	3/2/10	Methane	7,500	
	Recovery 1 Kittleson	4/5/10	Ethane	11	
	Recovery 1 Kittleson	4/5/10	Ethene	ND	
	Recovery 1 Kittleson	4/5/10	Methane	6,000	
	Recovery 1 Kittleson	5/3/10	Ethane	11	
	Recovery 1 Kittleson	5/3/10	Ethene	ND	
	Recovery 1 Kittleson	5/3/10	Methane	5,100	
	Recovery 1 Kittleson	6/1/10	Ethane	15	
	Recovery 1 Kittleson	6/1/10	Ethene	ND	
	Recovery 1 Kittleson	6/1/10	Methane	7,000	
	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	
	Recovery 3 PEI	7/21/09	Ethene	2.4	

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<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	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 3 PEI	10/2/09	Methane	29000	
	Recovery 3 PEI	11/5/09	Ethane	21	
	Recovery 3 PEI	11/5/09	Ethene	ND	
	Recovery 3 PEI	11/5/09	Methane	24000	
	Recovery 3 PEI	11/12/09	Ethane	22	
	Recovery 3 PEI	11/12/09	Ethene	ND	
	Recovery 3 PEI	11/12/09	Methane	24000	
	Recovery 3 PEI	12/1/09	Ethane	20	
	Recovery 3 PEI	12/1/09	Ethene	ND	
	Recovery 3 PEI	12/1/09	Methane	25000	
	Recovery 3 PEI	2/1/10	Ethane	26	
	Recovery 3 PEI	2/1/10	Ethene	ND	
	Recovery 3 PEI	2/1/10	Methane	29000	
	Recovery 3 PEI	3/2/10	Ethane	ND	
	Recovery 3 PEI	3/2/10	Ethene	ND	
	Recovery 3 PEI	3/2/10	Methane	25,000	
	Recovery 3 PEI	4/5/10	Ethane	26	
	Recovery 3 PEI	4/5/10	Ethene	ND	
	Recovery 3 PEI	4/5/10	Methane	16,000	
	Recovery 3 PEI	5/3/10	Ethane	32	
	Recovery 3 PEI	5/3/10	Ethene	ND	
	Recovery 3 PEI	5/3/10	Methane	18,000	
	Recovery 3 PEI	6/1/10	Ethane	37	
	Recovery 3 PEI	6/1/10	Ethene	ND	
	Recovery 3 PEI	6/1/10	Methane	25,000	
	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
	Recovery 5 Masters	5/4/10	Ethane	19	
	Recovery 5 Masters	5/4/10	Ethene	ND	
	Recovery 5 Masters	5/4/10	Methane	13,000	
	Recovery 5 Masters	6/1/10	Ethane	22	
	Recovery 5 Masters	6/1/10	Ethene	ND	
	Recovery 5 Masters	6/1/10	Methane	19,000	
<b>POCI 55</b>	POCI 55	8/19/09	Methane	7800	Pre Phase II



**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	Well	Sample Date	Analyte	Results (In ug/l)	Comments
	POCI 55	8/19/09	Ethene	ND	Pre Phase
	POCI 55	8/19/09	Ethane	11	Pre Phase
<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
	Dee	6/30/09	Ethene	ND	Grabbed during pump testing
	Dee	6/30/09	Methane	5.7	Grabbed during pump testing
	Derowitsch, D	3/1/08	Methane	4,000	
	Derowitsch, D.	1/15/09	Ethane	4.1	
Derowitsch, D.	1/15/09	Methane	2,200		
Derowitsch, D.	4/15/10	Ethane	10		
Derowitsch, D.	4/15/10	Ethene	ND		
Derowitsch, D.	4/15/10	Methane	3,700		
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		

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	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	
	Kerman, T WW	11/30/09	Methane	U	Grabbed from hydrant before cistern
	Kerman, T WW	11/30/09	Ethane	U	
	Kerman, T WW	11/30/09	Methane	0.78	
	Kerman, T House	11/30/09	Ethane	ND	Grabbed from house after cistern
	Kerman, T House	11/30/09	Ethene	ND	
	Kerman, T House	11/30/09	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	
<b>Wells on RRR ex near Mitigation</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	

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
<b>System</b>	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	
	Goodwin, R WW	11/30/08	Ethane	U	Grabbed from hydrant before cistern
	Goodwin, R WW	11/30/08	Ethene	U	
	Goodwin, R WW	11/30/08	Methane	U	
	Goodwin, R Cistern	11/30/09	Ethane	U	Grabbed from cistern
	Goodwin, R Cistern	11/30/09	Ethene	U	
	Goodwin, R Cistern	11/30/09	Methane	U	
	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	
	Sample, Mitch WW	11/30/09	Ethane	U	Grabbed before cistern
	Sample, Mitch WW	11/30/09	Ethene	U	
	Sample, Mitch WW	11/30/09	Methane	48,000	
	Sample, Mitch Cistern	11/30/09	Ethane	23	Grabbed from cistern
	Sample, Mitch Cistern	11/30/09	Ethene	U	
	Sample, Mitch Cistern	11/30/09	Methane	15,000	
	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	
	Evenden, V	10/7/09	Ethane	ND	
	Evenden, V	10/7/09	Ethene	ND	
	Evenden, V	10/7/09	Methane	22,000	
	Fitzner, P	12/1/08	Methane	4,600	
	Fitzner, P WW	11/30/09	Ethane	U	Grabbed from hydrant before cistern
	Fitzner, P WW	11/30/09	Ethene	U	
	Fitzner, P WW	11/30/09	Methane	2,100	
Fitzner, P Cistern	11/30/09	Ethane	U	Grabbed from cistern	

**Table 2: Sampling of Dissolved Gases in Water Wells  
 (results received from June 1, 2010 sampling)**

	<b>Well</b>	<b>Sample Date</b>	<b>Analyte</b>	<b>Results (In ug/l)</b>	<b>Comments</b>
	Fitzner, P Cistern	11/30/09	Ethene	U	
	Fitzner, P Cistern	11/30/09	Methane	2,000	
	Geisklbrecht, G	9/30/08	Methane	ND	
	Geisklbrecht	1/27/10	Ethane	ND	Grabbed at water hydrant
	Geisklbrecht	1/27/10	Ethene	ND	
	Geisklbrecht	1/27/10	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	
	Palmer (GIS)	1/27/10	Ethane	ND	Grabbed at water hydrant
	Palmer (GIS)	1/27/10	Ethene	ND	
	Palmer (GIS)	1/27/10	Methane	ND	
	Stetler	3/20/09	Methane	20,000	
	Stetler	3/20/09	Ethane	50	
	Stetler, J WW	11/30/09	Ethane	100	Grabbed before cistern
	Stetler, J WW	11/30/09	Ethene	U	
	Stetler, J WW	11/30/09	Methane	38,000	
	Stetler, J Cistern	11/30/09	Ethane	U	Grabbed from cistern
	Stetler, J Cistern	11/30/09	Ethene	U	
	Stetler, J Cistern	11/30/09	Methane	22,000	
	Modlish	3/20/09	Methane	0.33	
	Modlish	3/20/09	Ethane	ND	
	Billstrand	7/31/09	Ethane	ND	
	Billstrand	7/31/09	Ethene	ND	
	Billstrand	7/31/09	Methane	0.42	
	Bruington	7/6/09	Ethane	12	Grabbed during pump testing
	Bruington	7/6/09	Ethene	2.4	Grabbed during pump testing
	Bruington	7/6/09	Methane	7,900	Grabbed during pump testing
	Eddleman, P	8/28/09	Ethane	ND	
	Eddleman, P	8/28/09	Ethene	ND	
	Eddleman, P	8/28/09	Methane	29,000	
	Eddleman, P WW	11/30/09	Ethane	U	Grabbed before cistern
	Eddleman, P WW	11/30/09	Ethene	U	
	Eddleman, P WW	11/30/09	Methane	45,000	
	Eddleman, P WWIIA	11/30/09	Ethane	U	Filled 100 gallon stock tank and agitated with small submersible pump for 2.5 hrs then grabbed sample
	Eddleman, P WWIIA	11/30/09	Ethene	U	
	Eddleman, PWWIIA	11/30/09	Methane	2,100	
	Wyland, R	9/8/09	Ethane	ND	
	Wyland, R	9/8/09	Ethene	ND	
	Wyland, R	9/8/09	Methane	3	

Table 2: Sampling of Dissolved Gases in Water Wells (results received from June 1, 2010 sampling)					
	Well	Sample Date	Analyte	Results (In ug/l)	Comments
	Schafer, R	10/2/09	Methane	21	City Ranch
Other	Rohr 04-14	11/11/07	Methane	10,070	CBM water
	Rohr 09-04	11/11/07	Methane	6,350	CBM water
	Rohr 09-04	9/17/09	Ethane	3.6	CBM water pre-phase II
	Rohr 09-04	9/17/09	Ethene	ND	CBM water pre-phase II
	Rohr 09-04	9/17/09	Methane	7300	CBM water pre-phase II
	Rohr 09-10	9/17/09	Ethane	2.1	CBM water pre-phase II
	Rohr 09-10	9/17/09	Ethene	ND	CBM water pre-phase II
	Rohr 09-10	9/17/09	Methane	5900	CBM water pre-phase II
	Rohr 04-10	9/17/09	Ethane	2.3	CBM water pre-phase II
	Rohr 04-10	9/17/09	Ethene	ND	CBM water pre-phase II
	Rohr 04-10	9/17/09	Methane	6400	CBM water pre-phase II

Shading indicates sampling added since last reporting period.

Table 3 Water Well Measurements for the June 2010 Monthly Report						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	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	5/21/10	4/30/10 and 5/21/10	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 December 2008, March 2009 and November 2009 readings.	<ul style="list-style-type: none"> <li>• % LEL decreased from 1 to 0</li> <li>• CH4% volume decreased from 0.5 to 0</li> <li>• O2% increased from 20.7 to 20.9</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
257994	Barrett	7/12/07	6/22/10	6/1/10 and 6/22/10	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. Occasionally (October 6, 2009 and March 16, 2010) higher levels of methane are observed.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt; 100 to 79</li> <li>• CH4% volume decreased from 5.00 to 3.95</li> <li>• O2% increased from 19.5 to 20 on 6/1/10 and then decreased to 19.3 on 6/22/10</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
244403	Bergman	7/6/07	6/22/10	6/11/10 and 6/22/10	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 began to show wider variances in %LEL and CH4 of between >100 and 13.00 and as low as 0 in February 2010.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH4% volume increased from 5.00 to 15.00</li> <li>• O2% decreased from 20.9 to 20</li> <li>• CO and H2S remained unchanged at 0 ppm, however a light H2S odor was reported on 6/22/10</li> </ul>
181278	Bounds	7/12/07	5/21/10	4/30/10 and 5/21/10	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 when H2S readings became more variable with less H2S present in general.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at 100</li> <li>• CH4% volume remained unchanged from previous measurement at 100</li> <li>• O2% volume increased from 0.6 to 1.3</li> <li>• CO increased from 10 to 20 ppm</li> <li>• H2S remained unchanged at 0 with a high reading of 0.4 ppm on 4/30/10</li> </ul>
169043	Burge	3/20/09	6/22/10	6/22/10	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 and detectable methane on 10/1 and 10/6/09.	No change from previous measurements at wellhead and cistern with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
267694	Coleman	7/5/07	6/22/10	6/11/10 and 6/22/10	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 variable and generally higher readings than the wellhead.	At the wellhead and well vent no change from previous measurements with 0% LEL, no detectable methane; O2% volume at 20.9 and CO and H2S at 0 ppm.
235516	Colorado Switzer	7/12/07	6/22/10	6/11/10 and 6/22/10	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	2/19/10	None	No methane has ever been detected at this wellhead.	Sampling attempted 6/22 but gate was locked.
260097	Dee	7/5/07	6/21/10	6/21/10	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 previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
252931	Derowitsch	7/6/07	6/22/10	6/11/10 and 6/22/10	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 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, well vent, and cistern no change from previous measurements for detectable methane with 0% LEL and CH4, O2% volume at 20.9.
235515	English	8/16/07	8/24/09	None	No methane has ever been detected at this wellhead.	Sampling attempted 6/22/10 but gate was locked.

Table 3 Water Well Measurements for the June 2010 Monthly Report						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
16861-F	Golden Cycle Land	7/12/07	6/22/10	5/24/10, 6/11/10, and 6/22/10	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 unchanged at &gt;100</li> <li>• CH<sub>4</sub>% volume increased from 39.00 to 41 with a high of 85 on 6/11/10</li> <li>• O<sub>2</sub>% remained unchanged at 0</li> <li>• CO increased from 137 to 211 ppm</li> <li>• H<sub>2</sub>S increased from 6 to 50 ppm on 5/24/10 and decreased to end the period at 6.5 ppm</li> </ul>
253317	Gonzalez	7/12/07	6/11/10	6/11/10	No methane has ever been detected at this wellhead.	No change from previous measurements at the wellhead with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO or H <sub>2</sub> S. Cistern was not measured.
256504	Hopke	7/5/07	6/22/10	6/11/10 and 6/22/10	Readings consistently measure methane at >100% LEL and at values of CH <sub>4</sub> % 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 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 decreased from 15 to 7 with a high reading of 19 on 6/11/10</li> <li>• O<sub>2</sub>% volume increased from 16.3 to 18.3 with a low reading of 13 on 6/11/10</li> <li>• CO and H<sub>2</sub>S remained unchanged at 0 ppm</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	6/11/10	6/11/10	Methane levels at this wellhead have been consistently >100% LEL with CH <sub>4</sub> % by volume fairly consistently above 20 with an occasional 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 90.00 to 34.00</li> <li>• O<sub>2</sub>% increased from 0 to 13.4</li> <li>• CO and H<sub>2</sub>S remained unchanged at 0 ppm</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>
35292	Kerman/Hanson	7/6/07	6/22/10	6/11/10 and 6/22/10	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 and detectable methane readings in July, August and December 2009. No methane has ever been detected at the cistern.	No change from previous measurements at the wellhead and cistern with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO or H <sub>2</sub> S.
	Lively 10-02	12/22/2008	6/22/10	6/11/10 and 6/22/10	Readings from this well started with mostly 0 to low levels of methane but have been moving upward with late 2009 readings showing detectable levels more consistently with some readings as high as >100 % LEL. CH <sub>4</sub> % volume remains below 5%. Some non detectable readings still also occur with early 2010 showing lower overall readings and many non detect readings.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.
222539	Lively	7/6/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.
16861-F	Masters #1	8/13/07	6/22/10	6/11/10 and 6/22/10	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.
271136	May	7/12/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.
84108-A	McPherson	7/6/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.
84106	Rohr	7/06/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.
123144	Searle	7/11/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O <sub>2</sub> % at 20.9 and no CO <sub>2</sub> or H <sub>2</sub> S.

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239657	Smith	7/5/07	6/22/10	6/11/10 and 6/22/10	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. October 2009 reading showed low levels (18% LEL and 0.9% CH4 by volume).	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 remained unchanged at &gt;100</li> <li>• CH4% volume increased from 20.0 to 22 with a high reading of 31 on 6/11/10</li> <li>• O2% volume decreased from 18 to 15 with a low reading of 13.1 on 6/11/10</li> <li>• CO and H2S remained unchanged at 0 ppm</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	6/22/10	6/22/10	Detectable methane with >100% LEL and CH4 % volume of greater than 70 and limited O2% volume.	<ul style="list-style-type: none"> <li>• % LEL remained unchanged at &gt;100</li> <li>• CH4% volume decreased from 75 to 60</li> <li>• O2% volume increased from 3.3 to 6.4</li> <li>• CO increased from 0 to 3</li> <li>• H2S remained unchanged at 0</li> </ul>
<b>Wells Within or in Close Proximity to River Ridge Ranch Subdivision</b>						
249362	Andexler	9/9/07	6/22/10	6/22/10	Several readings (3/25/09, 7/30/09 and October 2009) have shown less the 0.25% CH4 methane, otherwise no detectable methane.	No change from last measurement at wellhead and cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
215706	Brice	7/12/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
248680	Campbell	8/14/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
20783	Goemmer Cattle	7/12/07	6/11/10	6/11/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
258815	Goodwin	7/12/07	6/22/10	6/22/10	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 showed 2010 showed low levels of methane.	No change from last measurement at the wellhead or cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
249181	Hentschel	9/9/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
259122	Higgins	9/26/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
269435	Hoppe (formerly Goacher)	7/11/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
264581	Ireland	7/12/07	6/22/10	6/22/10	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 last measurement 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.	Sampling attempted 6/21/10 but gate was locked.
93386	Lowry	7/12/07	6/11/10	6/11/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
250369	Martin	7/12/07	6/21/10	6/21/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
248862	Meyer	8/14/07	6/22/10	6/22/10	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 increased from 5 to 45</li> <li>• O2% volume decreased from 16.0 to 15.3</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>



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192203	Rankins	7/12/07	6/21/10	6/21/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
276994	Rhodes	9/9/08	6/22/10	6/22/10	Slight LEL (5%) reported 7/30/09, but no methane detected. No methane has been detected previously or since at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
274468	Roloff	9/9/07	3/15/10	None	No methane had ever been detected at this wellhead except for low levels detected in the 8/25/09 measurement.	Npt measured during this reporting period.
254577	Ryerson	9/9/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
246775	Sharp	9/9/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
267695	Speh	9/4/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
230572	Willis	7/11/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
240947	Wolahan	7/12/07	6/22/10	6/22/10	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 last measurement at wellhead or cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
<b>City Ranch and Other Properties</b>						
	Andreatta/Carsella	8/14/07	3/17/10	None	No methane has ever been detected at this wellhead.	Not measured during this reporting period.
197472	Bartlett	8/15/07	6/22/10	6/22/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
210526	Bruington	8/7/07	6/22/10	6/11/10 and 6/22/10	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. With no detectable methane in March 16, 2010 reading. 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 decreased from &gt;100 to 16</li> <li>• CH4% volume decreased from 5 to 1 with a high reading of 17 on 6/11/10</li> <li>• O2% volume decreased from 11.0 to 20.7 with a low reading of 6.5 on 6/11/10</li> <li>• CO remained unchanged at 0 ppm</li> <li>• H2S increased from 3.5 to 4 ppm with a low reading of 1.5 ppm on 6/11/10</li> </ul> There were no changes at the cistern 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	6/21/10	6/11/10 and 6/21/10	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 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	6/21/10	6/21/10	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 last measurement at wellhead or Well #2 with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
193092	Degan	8/25/08	6/21/10	6/21/10	Initial readings were variable between 0 and >100% LEL and 5% by volume CH4. From 2/17/09 to March 2010 there was no detectable methane.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL decreased from 5 to 0</li> <li>• CH4% volume decreased from 0.25 to 0</li> <li>• O2% volume increased from 20.7 to 20.9</li> <li>• CO and H2S remained at 0 ppm</li> </ul>
	Dernell	8/15/07	6/11/10	6/11/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

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258651	Gonzalez	5/22/08	5/27/10	None	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 as low as 0 for one or more readings. There has been no detectable methane at the cistern.	Not measured during this reporting period.
	Haupt #1	6/1/09	6/22/10	6/22/10	Until December 2009 all readings but one have shown % LEL at >100 with CH4 % by volume at 11 or less. Beginning with December 2009 reading there have been several large variations in readings ranging from >100 to 0 %LEL and 5 to 0 %CH4 by volume.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% volume decreased from 5 to 0</li> <li>• O2% volume increased from 0 to 20.9</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
203536	Hurley	8/2/07	6/22/10	6/22/10	Readings have fairly consistently shown >100% LEL and CH4 % by volume between 10 and 50 with several much lower readings, most recently in July and October 2009 and March 2010. 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 decreased from 92 to 0</li> <li>• CH4% volume decreased from 4.6 to 0</li> <li>• O2% volume increased from 20.7 to 20.9</li> <li>• CO remained unchanged at 0</li> <li>• H2S increased from 0.5 to 2.5 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	6/21/10	6/21/10	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.	No change from last measurement at wellhead or cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S. At the 2 <sup>nd</sup> Well: <ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 18</li> <li>• CH4% volume decreased from 5.00 to 0.9</li> <li>• O2% volume increased from 0 to 15.5</li> <li>• CO remained unchanged at 0</li> <li>• H2S decreased from 2 to 1.5 ppm</li> </ul>
193520X	McEntee	8/2/07	6/11/10	6/11/10	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 two low level detections; one on 4/22/09 and one on 10/20/09.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL decreased from 6 to 0</li> <li>• CH4% volume decreased from 0.30 to 0</li> <li>• O2% volume increased from 17.6 to 20.9</li> <li>• CO and H2S remained unchanged at 0</li> </ul> At the east wellhead: no changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
191345	Pennington	8/7/09	6/22/10	6/22/10	Four readings have occurred at this well; showing detectable methane at levels of >100% LEL and CH4% by volume at 15 or less except for 10/20/09 reading which showed lower methane levels (25% LEL and 1.25% CH4 by volume)..	No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
121013	Schafer	8/15/07	6/11/10	6/11/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
248983	Tobias	8/3/07	6/22/10	6/22/10	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 decreased from &gt;100 to 90</li> <li>• CH4% volume decreased from 5 to 4.5</li> <li>• O2% volume decreased from 20.7 to 18.6</li> <li>• CO increased from 0 to 143 ppm</li> <li>• H2S increased from 0 to 4 ppm</li> </ul>

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<b>Silver Spurs Ranch</b>						
268180	Billstrand	8/12/08	6/21/10	6/21/10	No methane has been detected at this wellhead except for low readings on 5/6/09 and 1/10/10.	No change from last measurement with 0% LEL, no detectable methane, and no CO2 or H2S, except an increase in O2 volume from 18.8 to 20.9
215807	Brown	12/8/08	6/21/10	6/21/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
222294	Cramer	8/3/07	6/21/10	6/21/10	Most methane readings have been at or near 0 with periodic higher readings.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% volume decreased from 5 to 0</li> <li>• O2% volume increased from 0 to 20.9</li> <li>• CO decreased from 125 to 0 ppm</li> <li>• H2S decreased from 5 to 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.
192509	Eddleman, Paul	1/17/08	6/18/10	6/18/10	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 more consistently higher.	The first well is now sealed and abandoned. At the 2 <sup>nd</sup> Well: <ul style="list-style-type: none"> <li>• % LEL decreased from 41 to 36</li> <li>• CH4% volume decreased from 2.05 to 1.80</li> <li>• O2% volume increased from 0 to 4.2</li> <li>• CO increased from 0 to 51 ppm</li> <li>• H2S increased from 0 to 1.5 ppm</li> </ul>
226536	Eddleman, Todd	1/17/08	6/18/10	6/18/10	Methane readings have been widely variable from 0 to >100% LEL and 5% by volume CH4.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 5</li> <li>• CH4% volume decreased from 5 to 0.25</li> <li>• O2% volume increased from 0 to 18.7</li> <li>• CO remained unchanged at 0</li> <li>• H2S increased from 0 to 6 ppm</li> </ul>
221465	Evenden	8/2/07	6/21/10	6/21/10	Methane readings have generally been at or near 0 with no detectable methane since 3/24/09 and one higher reading on 1/12/09 (>100% LEL and 5% by volume methane).	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S
	Fischer	1/26/09	6/21/10	6/21/10	Only two readings have detected low levels of methane (2/17/09 and 2/18/10), other readings have not detected methane.	No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
214145A	Fitzner	11/18/08	6/21/10	6/21/10	Methane levels have been generally at 0 but occasionally shows wide swings to >100 % LEL and 5 % CH4 by volume.	No change from last measurement at wellhead and cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
31935	Garza-Vela	1/30/08	6/18/10	6/18/10	Generally there is 0 to low methane levels except for an occasional low level reading.	<ul style="list-style-type: none"> <li>• % LEL increased from 0 to 10</li> <li>• CH4% volume increased from 0 to 0.50</li> <li>• O2% volume decreased from 20.9 to 4.2</li> <li>• CO and H2S remained unchanged at 0</li> </ul>
196372	Geiselbrecht	8/12/08	6/21/10	6/21/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
246350	Gumpert	7/29/08	6/21/10	6/21/10	Methane readings have been widely variable with most readings either 0 or >100% LEL and 5% by volume CH4.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 6</li> <li>• CH4% volume decreased from 5.0 to 0.30</li> <li>• O2% volume increased from 7 to 19.2</li> <li>• CO remains unchanged to 0 ppm</li> <li>• H2S increased from 0 to 1 ppm</li> </ul>
196371	Lyon	8/15/07	6/21/10	6/21/10	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.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 6</li> <li>• CH4% volume decreased from 5.0 to 0.30</li> <li>• O2% volume increased from 4.4 to 14</li> <li>• CO remains unchanged at 0 ppm</li> <li>• H2S increased from 0 to 1 ppm</li> </ul>

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Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
271524-A	Modlish	1/30/08	6/18/10	6/18/10	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 last measurement with 0% LEL, no detectable methane, and no CO2 or H2S, with a decrease in O2 from 19.8 to 0
28093MH	Morine	9/10/08	6/21/10	6/21/10	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 last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
35227MH	Morris	10/8/08	6/21/10	6/21/10	Methane readings swing widely between 0 and 100 % LEL and 0.00 and 5.00 % CH4 by volume.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
190327	Palmer	8/12/08	6/21/10	6/21/10	No methane was ever been detected at this wellhead until low levels were detected in 10/19/09 and 11/6/09 readings and again on 1/19/2010.	<ul style="list-style-type: none"> <li>• % LEL increased from 0 to 7</li> <li>• CH4% volume increased from 0 to 0.45</li> <li>• O2% volume decreased from 20.9 to 9.9</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
197128	Roberts	4/08/08	6/21/10	6/21/10	Methane readings have historically been widely variable from 0 to >100% LEL and 5% by volume CH4.	<ul style="list-style-type: none"> <li>• % LEL decreased from 16 to 3</li> <li>• CH4% volume decreased from 0.80 to 0.15</li> <li>• O2% volume increased from 19.7 to 20.6</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
271748	Sample	3/10/08	6/21/10	6/21/10	Until July 2009 most of the readings from this wellhead have been no or low levels of detectable methane with higher readings on 5/22/08, 6/3/08, and 5/20/09. More consistent methane readings have occurred beginning in July 2009.	At the wellhead: <ul style="list-style-type: none"> <li>• % LEL decreased from 6 to 0</li> <li>• CH4% volume decreased from 0.30 to 0</li> <li>• O2% volume increased from 17.1 to 20.9</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.
192144	Snow	8/2/07	6/21/10	6/21/10	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.	<ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% volume decreased from 5.0 to 0</li> <li>• O2% volume increased from 4.9 to 19.4</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
213070	Stephens	8/12/08	6/21/10	6/21/10	No methane had ever been detected at this wellhead except for low levels detected on 10/19/09.	<ul style="list-style-type: none"> <li>• % LEL increased from 0 to 9</li> <li>• CH4% volume increased from 0 to 0.45</li> <li>• O2% volume decreased from 20.9 to 14.4</li> <li>• CO and H2S remained unchanged at 0 ppm</li> </ul>
261753	Wahl	8/5/09	6/21/10	6/21/10	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.
234839	Waltz	8/12/08	6/21/10	6/21/10	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.
234836	White, Jim	1/4/08	6/21/10	6/21/10	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: <ul style="list-style-type: none"> <li>• % LEL decreased from &gt;100 to 0</li> <li>• CH4% volume decreased from 5.0 to 0</li> <li>• O2% volume increased from 0 to 20.9</li> <li>• CO and H2S remained unchanged at 0</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.
219376	White, Orlie	8/2/07	6/21/10	6/21/10	Methane values historically at low to 0 with higher values on 5/22/08 and from 9/10/08 to 10/29/08. Four detectable methane readings in 2009; on 3/26, 9/29, 10/19 and 12/17. In 2010 detectable methane appears to be increasing.	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 June 2010 Monthly Report						
Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
<b>Black Hawk Ranch</b>						
218719	Goza	1/14/09	6/22/10	6/22/10	No methane has ever been detected at this wellhead except for 1/19/10 and 3/17/10 readings.	No changes from previous measurement with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
206745	Harbecke	6/11/10	6/22/10	6/11/10 and 6/22/10		Initial readings at this well showed 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

<b>Table 4 Methane Readings Schedule (5 March 2010)</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		
Golden Cycle Land (Goemmer)	River Ridge			X			
Burge	La Veta Pines				X		
Barrett	River Ridge			X			
Hopke	River Ridge		X	X			
Masters #1	River Ridge			X			
Coleman	River Ridge			X			
BLM 15-12	La Veta Pines				X		
Lively 10-02	River Ridge			X			

<b>Table 4 Methane Readings Schedule (5 March 2010)</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>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	X			
<b>Hurley</b>	City Ranch	X	X		X		
<b>Tobias</b>	City Ranch			X			

<b>Table 4 Methane Readings Schedule (5 March 2010)</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>
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		
Billstrand	Silver Spurs				X		



<b>Table 4 Methane Readings Schedule (5 March 2010)</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>
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		
<b>Black Hawk Ranch</b>							
Goza	Black Hawk				X		

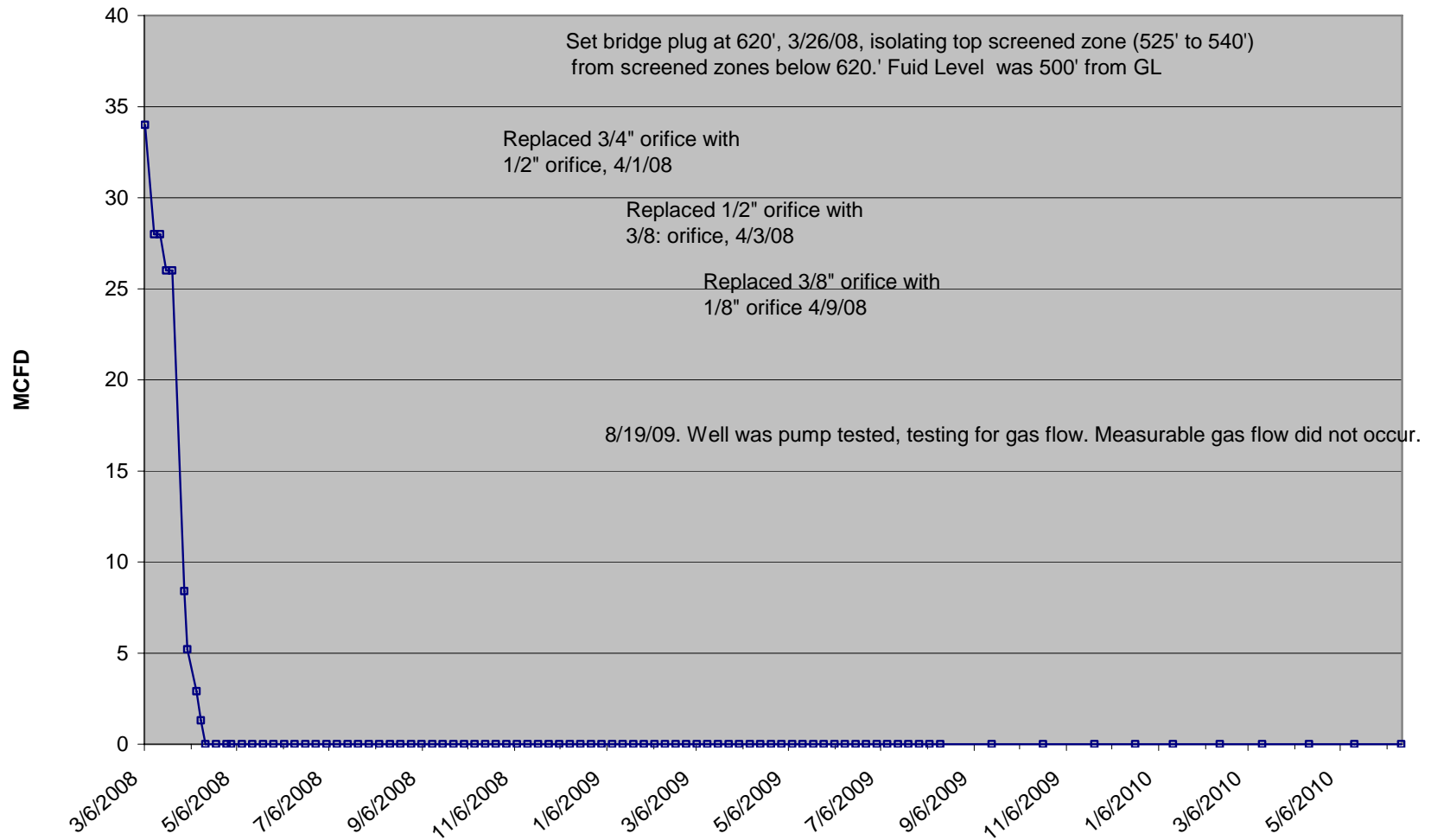
Rohr will be checked Quarterly with Rankin, Lowry, and Goemmer Cattle.  
 John Fischer location is a mine vent. If possible vent will be monitored with RMLD quarterly.

<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
Bounds	To date has not received water provided by PEI
Houghtling	Added to the list in January 2010

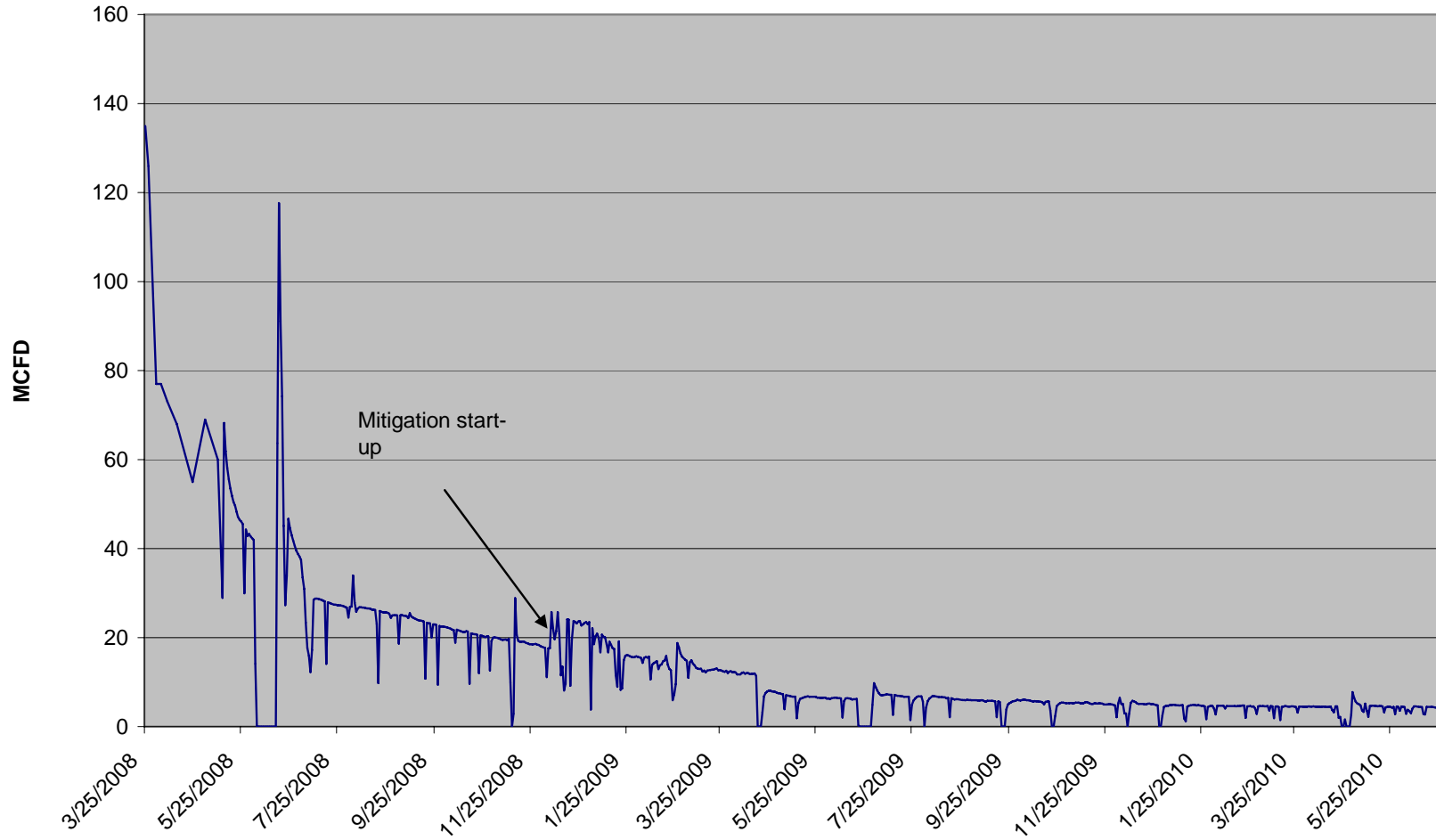
No new residences have been added during this reporting period.

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

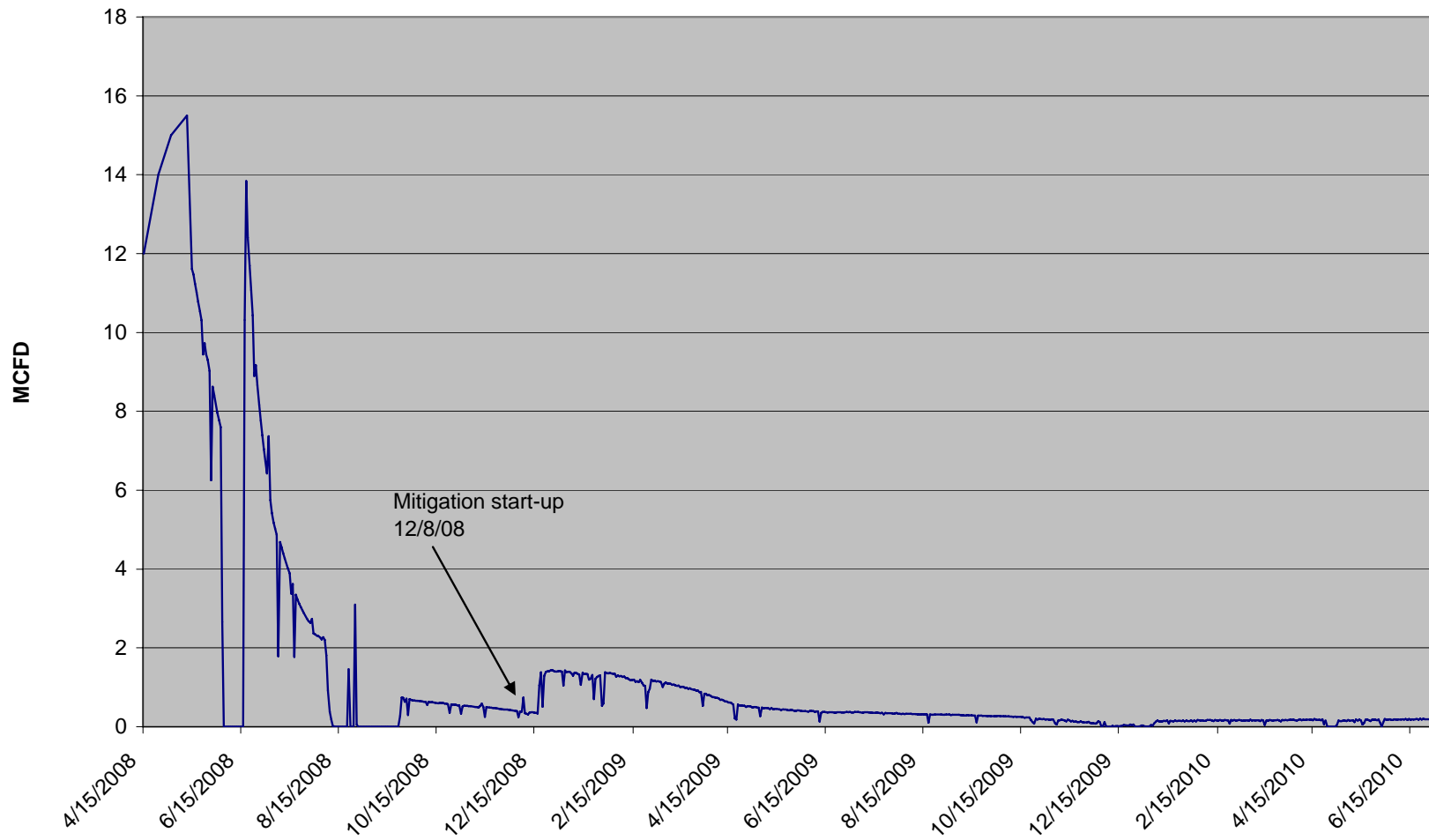
### POCI 55 MW Gas Flow from 3/6/08 to 6/15/10



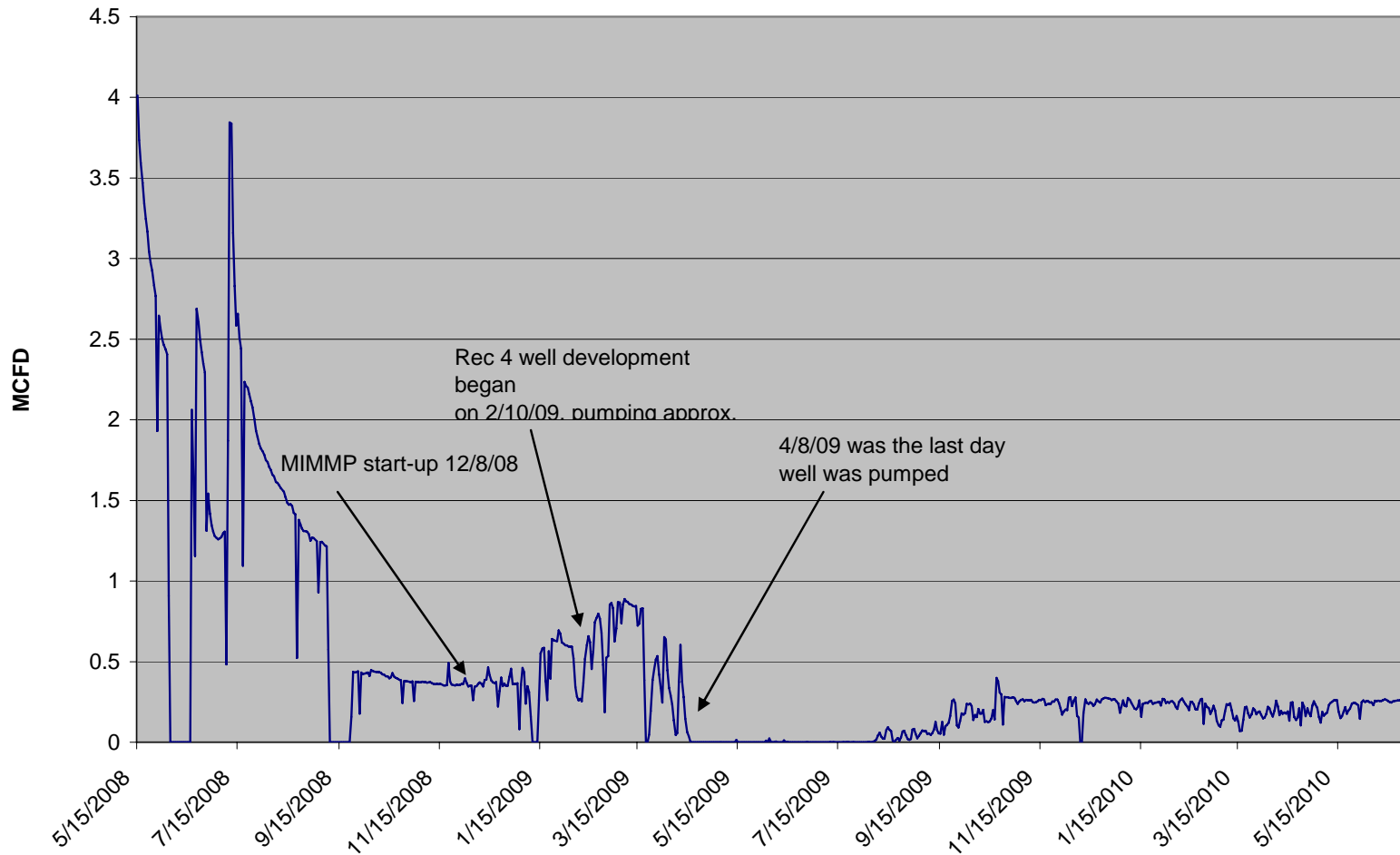
**Recovery 1 Kittleson Gas Flow  
from 3/25/08 to 6/28/10**



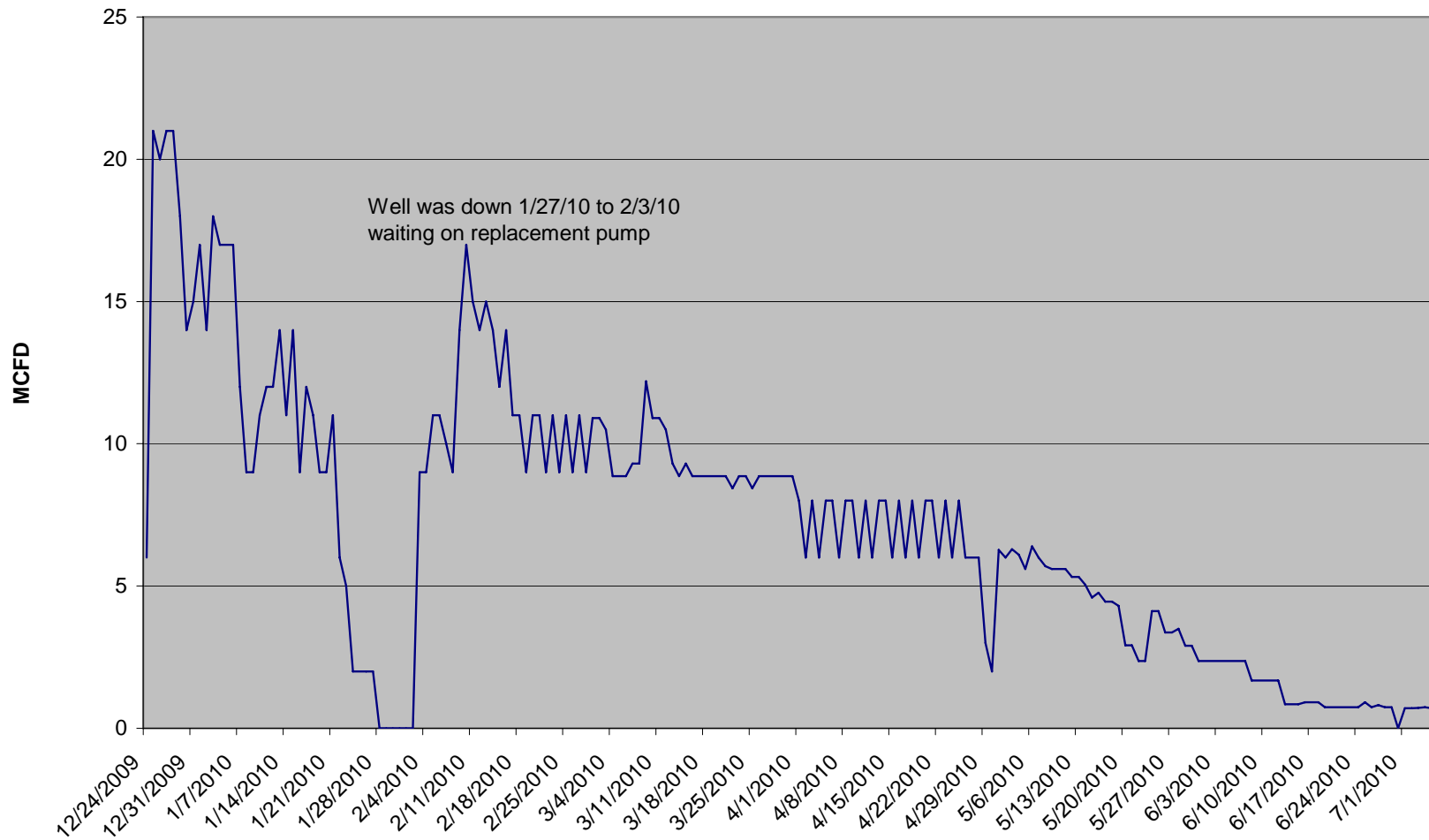
**Recovery 3 PEI Gas Flow  
from 4/15/08 to 6/28/10**



### Recovery 4 Barrett Gas Flow from 5/15/08 to 6/28/10



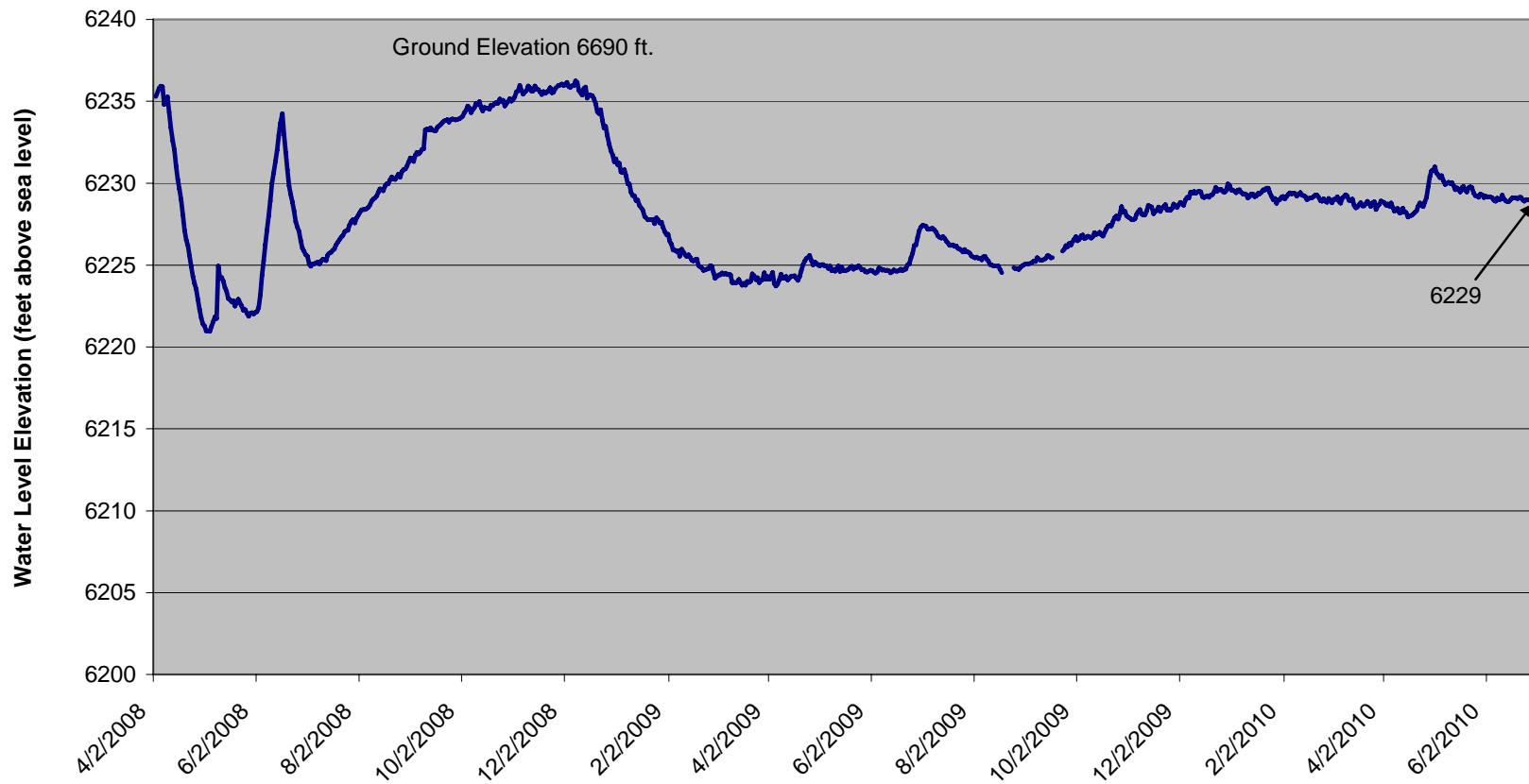
**Recovery 5 Masters Gas Flow (Masters WW 257113) from  
12/24/09 to 7/5/10**





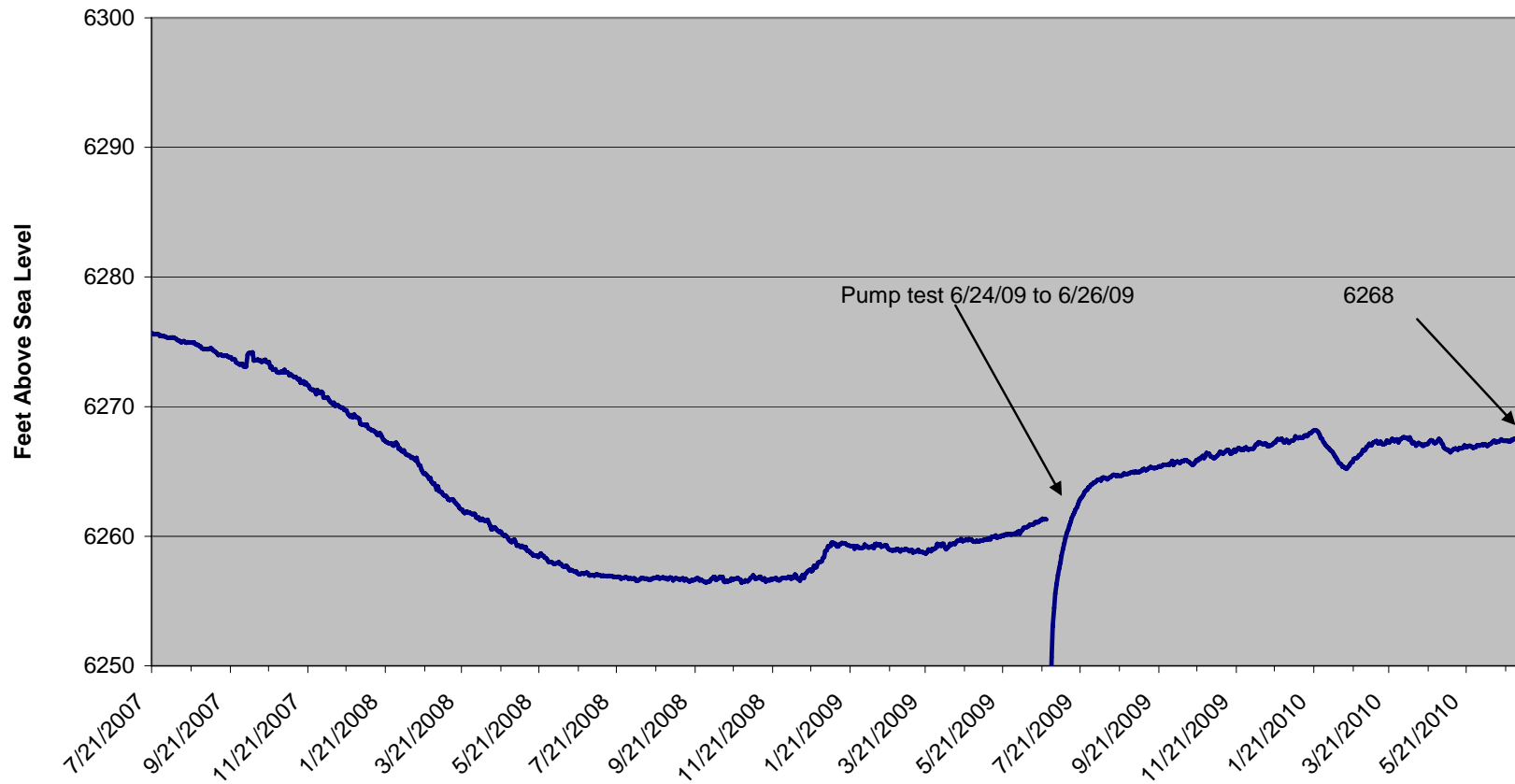
**Attachment 2**  
**Graphs of Pressure and Fluid Level Data From**  
**POCI 55, Barrett, Bergman, Bruington, Coleman, Evenden, Garza-Vela and Meyer**

**POCI 55 Monitor Well,  
Static Water Level Elevation  
from 4/2/08 to 6/30/10  
Permit # 275819  
Lot 55 RRR, SE SW Sec 3 29S 67W, GL elev. 6690'**



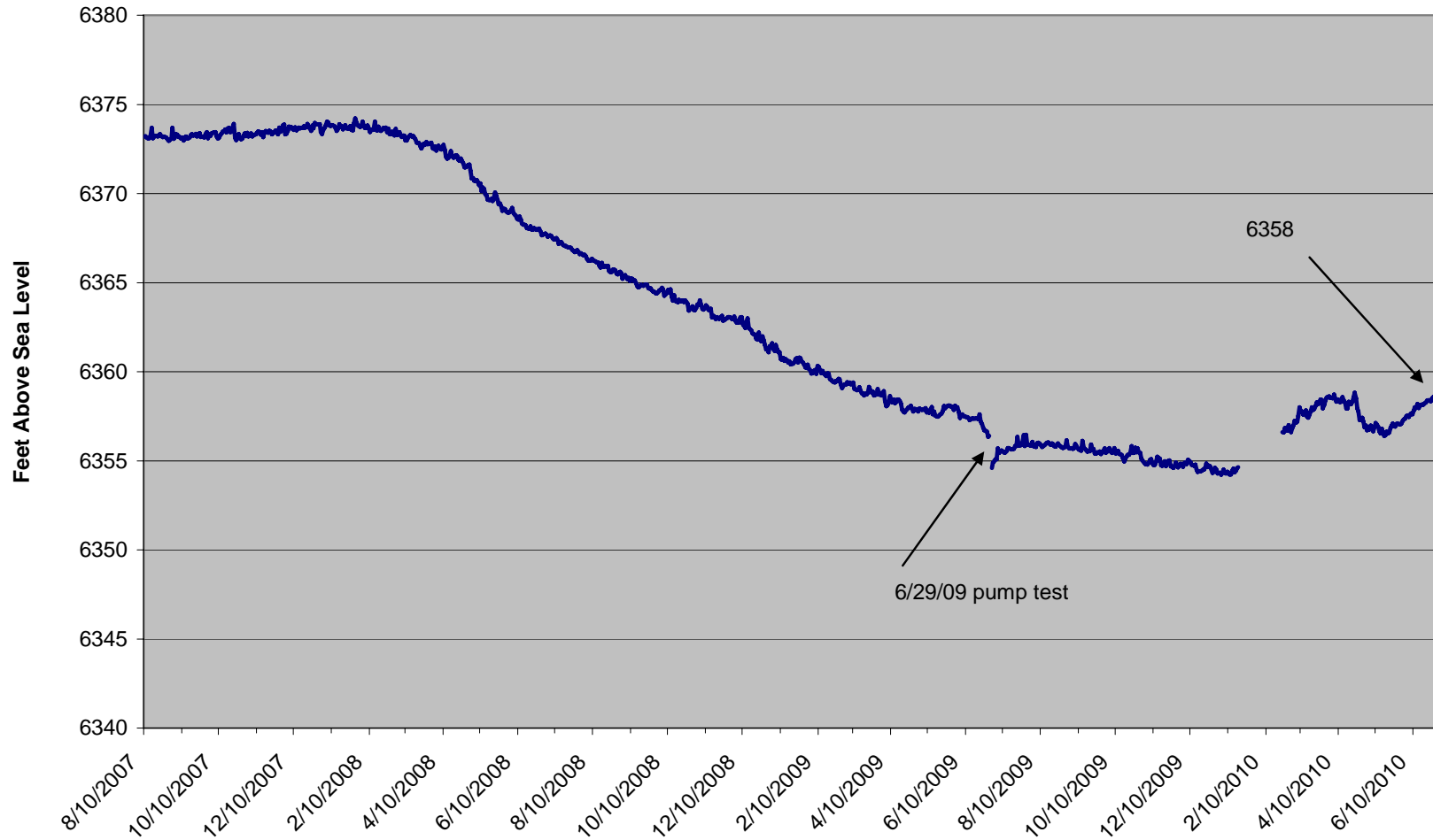
**Barrett WW**  
**Static Water Level from 7/21/07 to 6/30/10**  
**Permit # 257994**  
**Lot 57 RRR**

Ground Elevation 6707 ft.

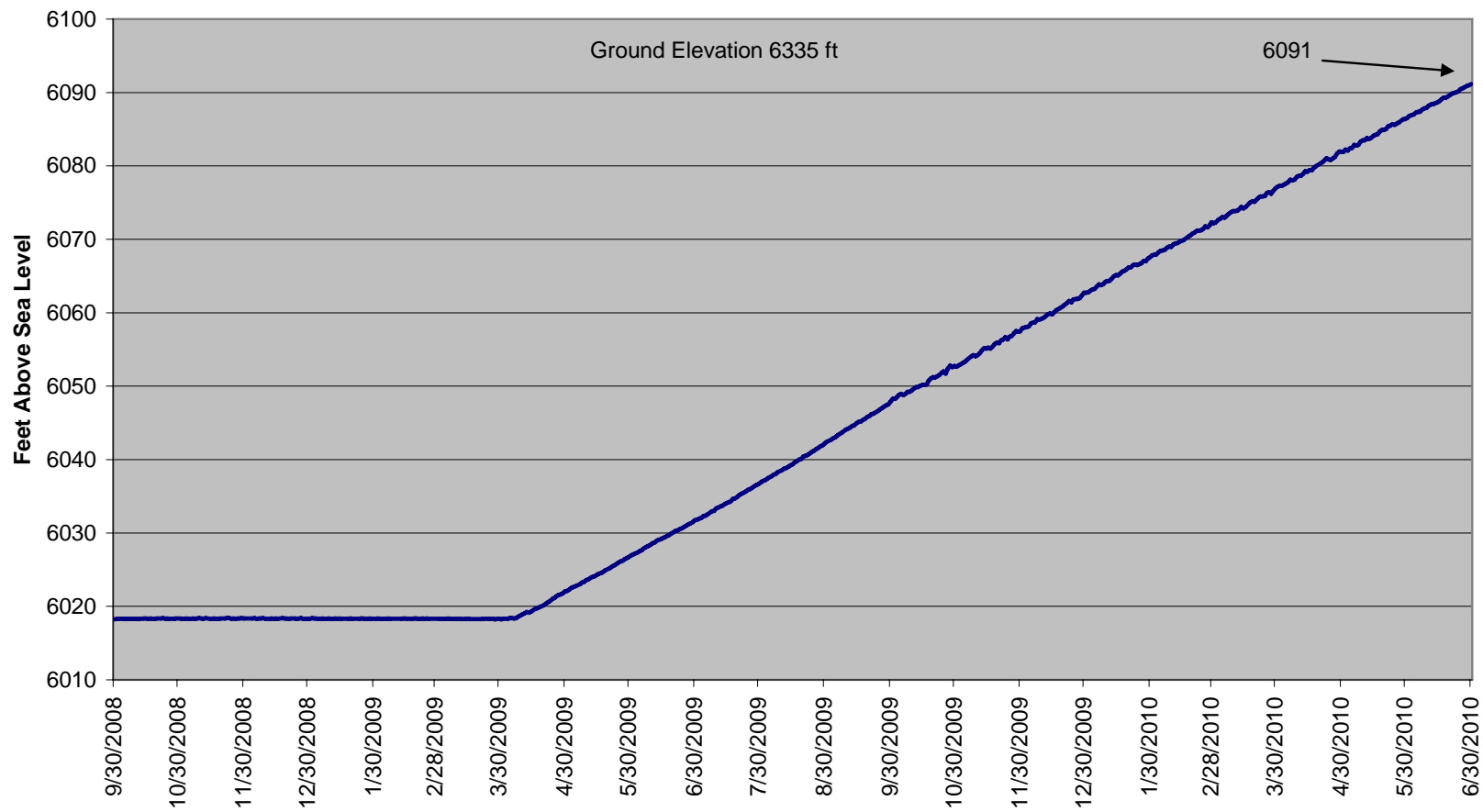


**Bergman WW, Static Water Level from 8/10/07 to 6/30/10**  
**Permit # 244403, Lot 48 RRR**

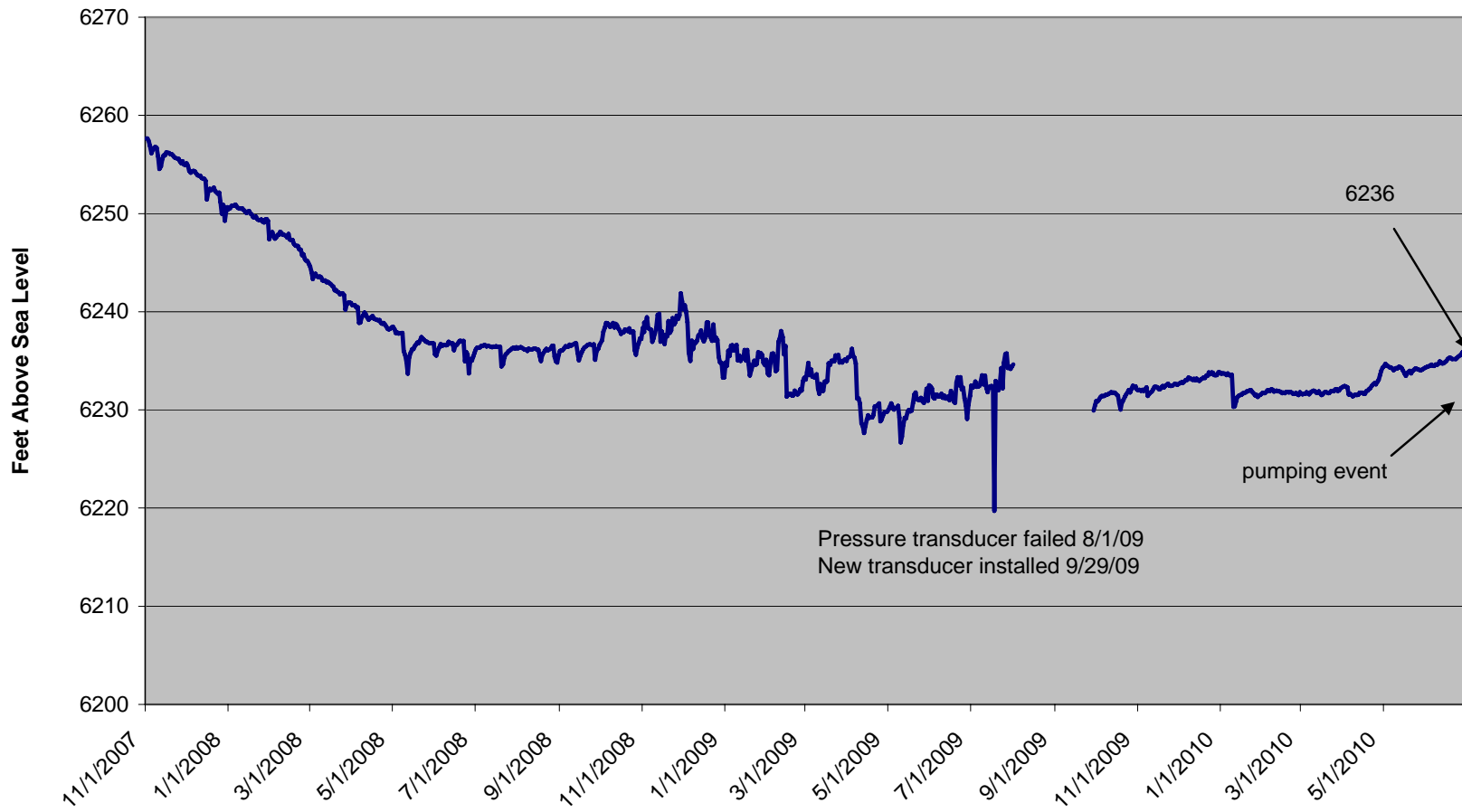
Ground Elevation: 6690 ft.



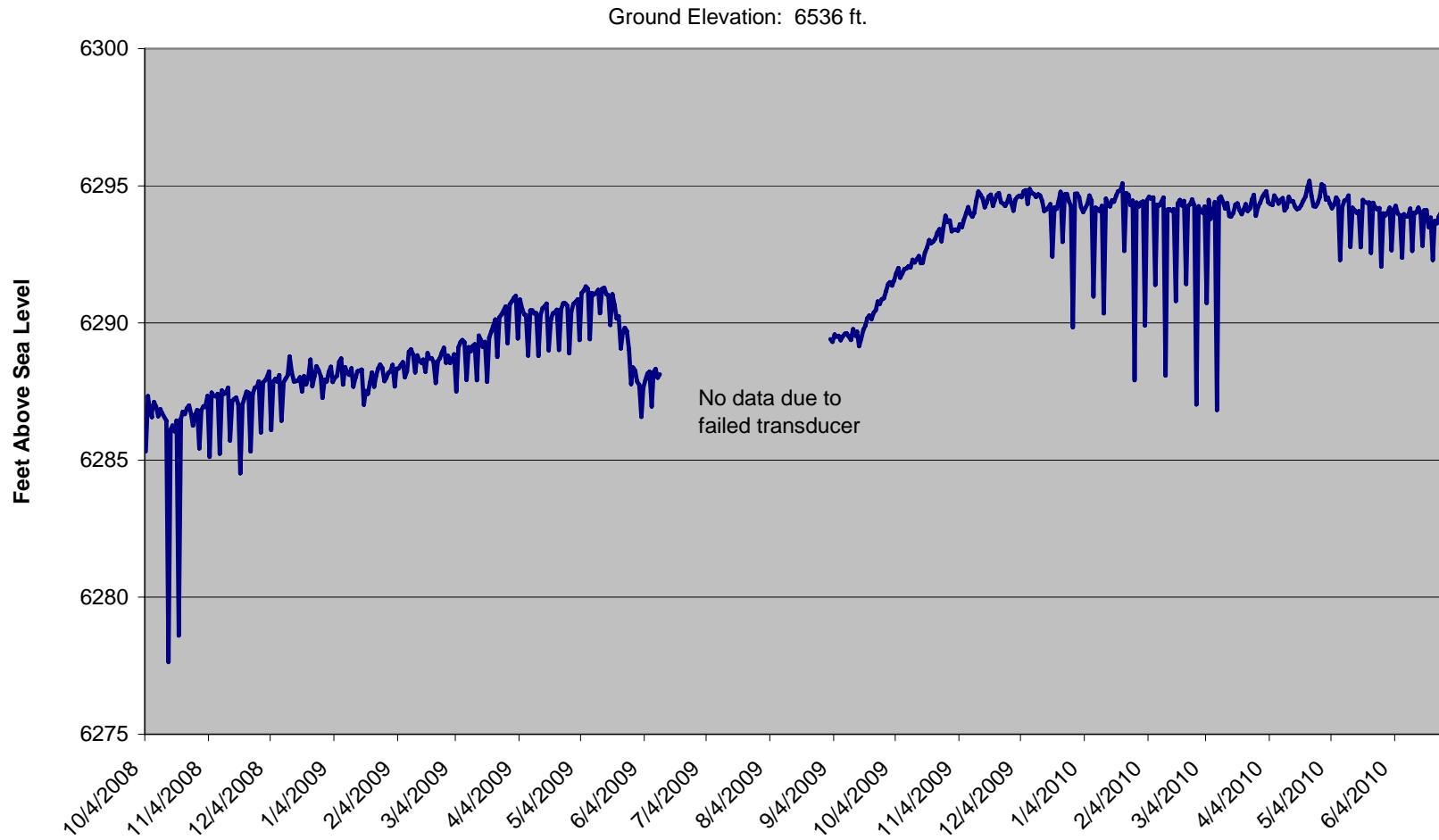
**Bruington WW, Permit # 210526, City Ranches Lot 15**  
**Static Water Level**  
**from 9/30/08 to 6/30/10**



**Coleman WW, Water Level from 11/1/07 to 6/30/10**  
**Permit # 267694 Lot 70 RRR**  
**G.L. elev. 6848'**

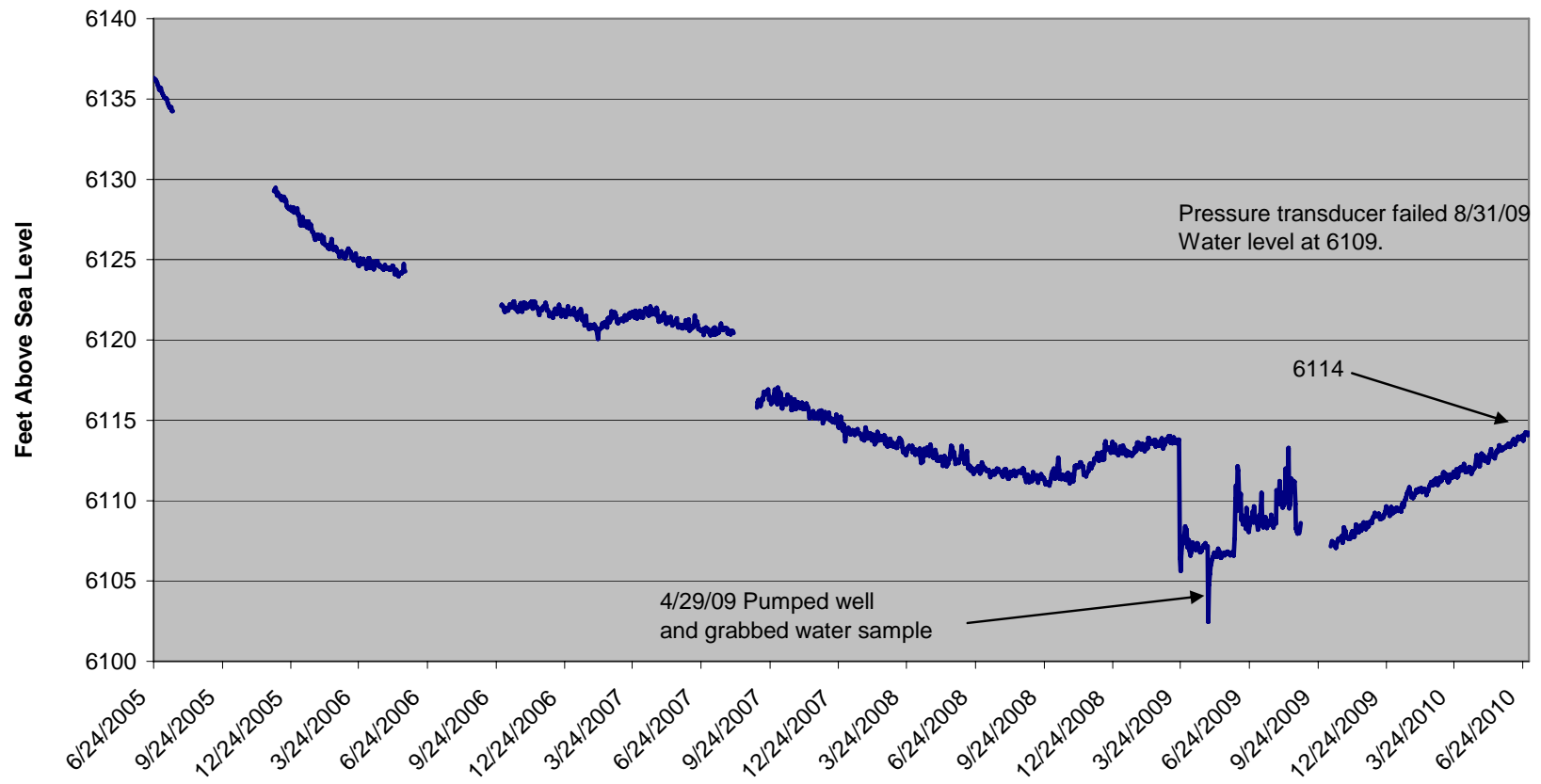


**Garza WW, Water Level from 10/3/08 to 6/30/10**  
**Permit # 206886, Lot 60 Silver Spurs Ranch**



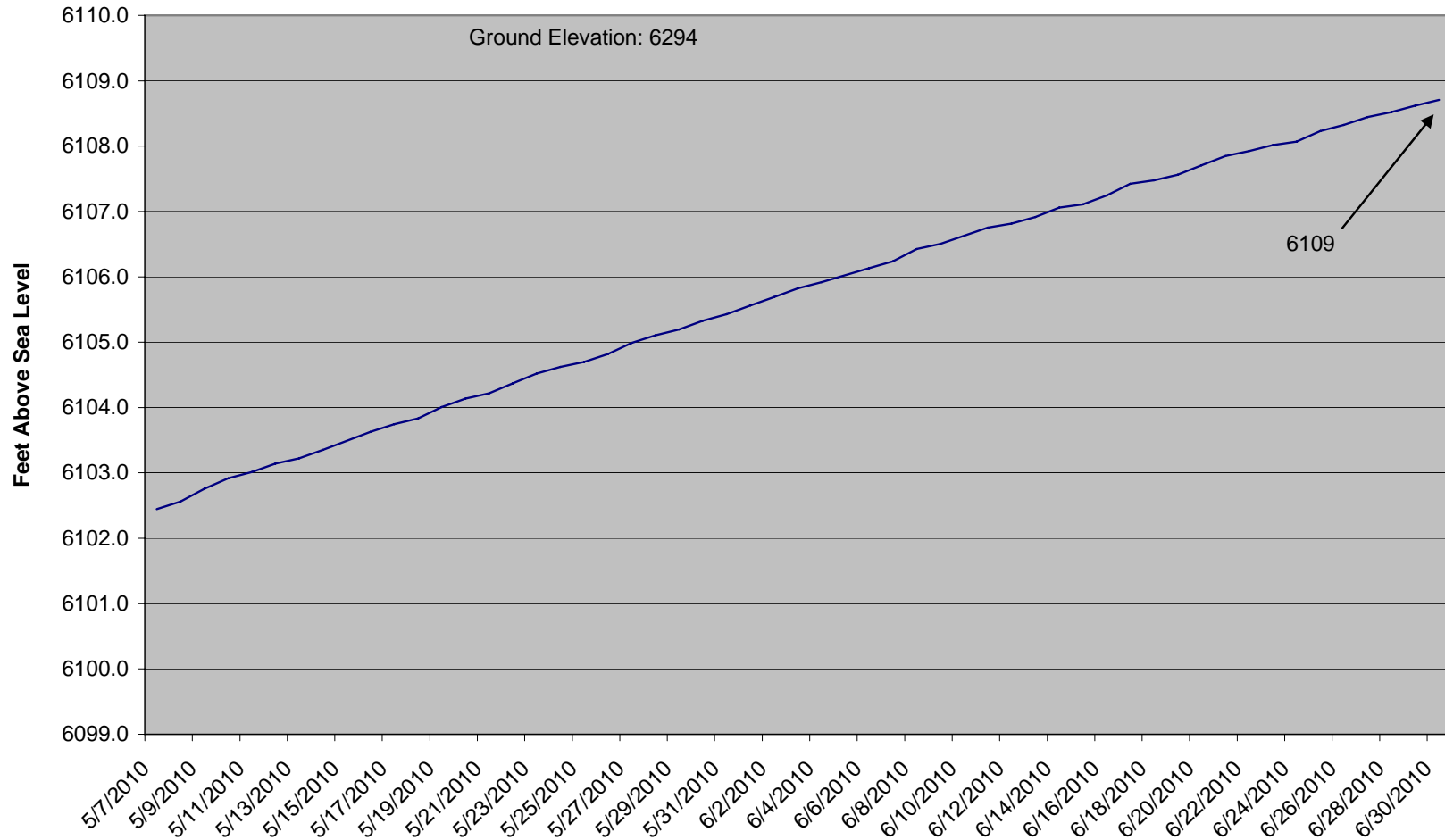
**Meyer WW Permit # 248862**  
**Static Water Level**  
**from 6/24/05 to 7/1/10**

Ground Elevation: 6575 ft.



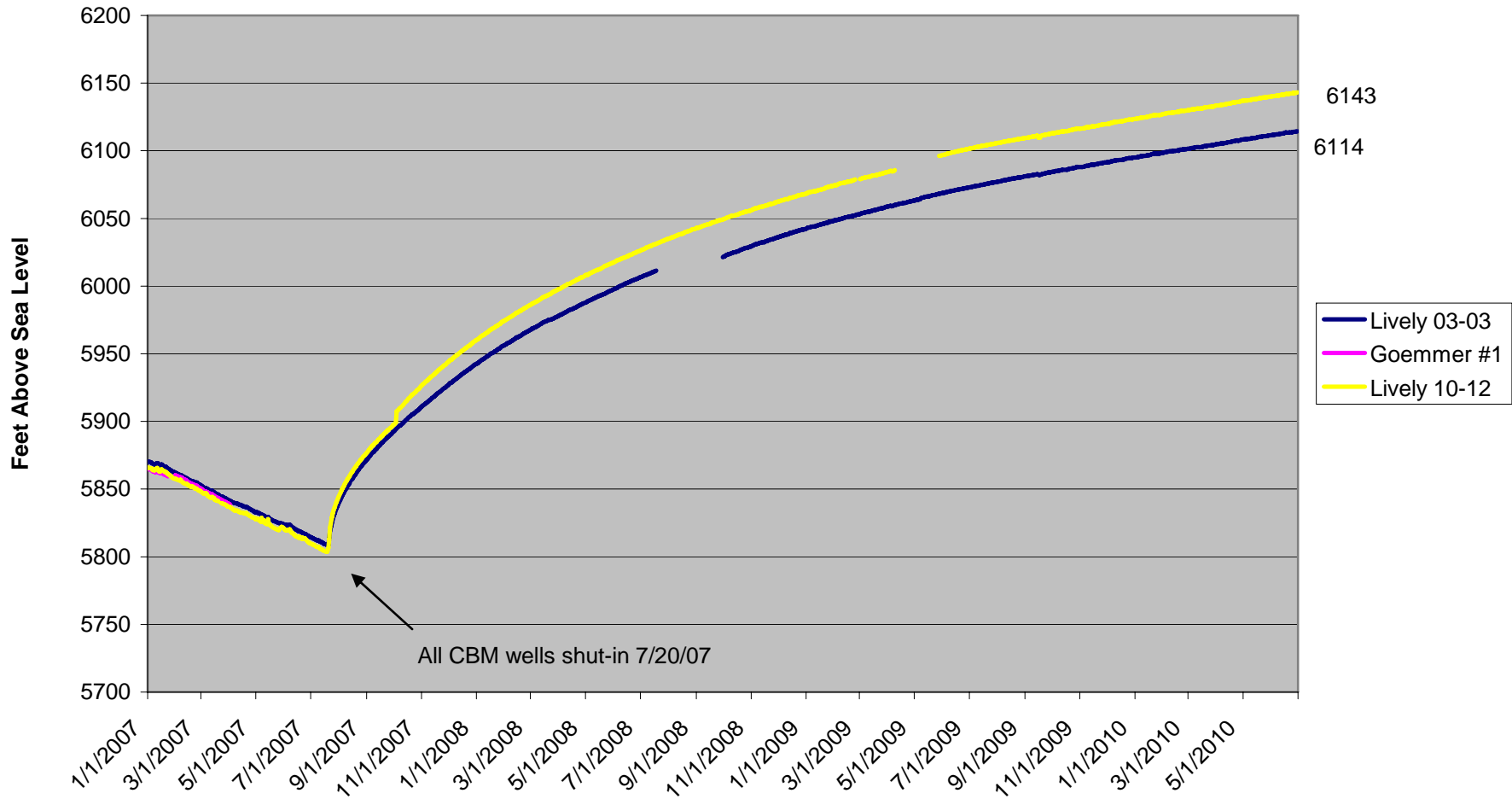


**T. Gonzales WW, Permit #285651, City Ranches Lot 79A**  
**Static Water Level from 5/7/10 to 6/30/10**

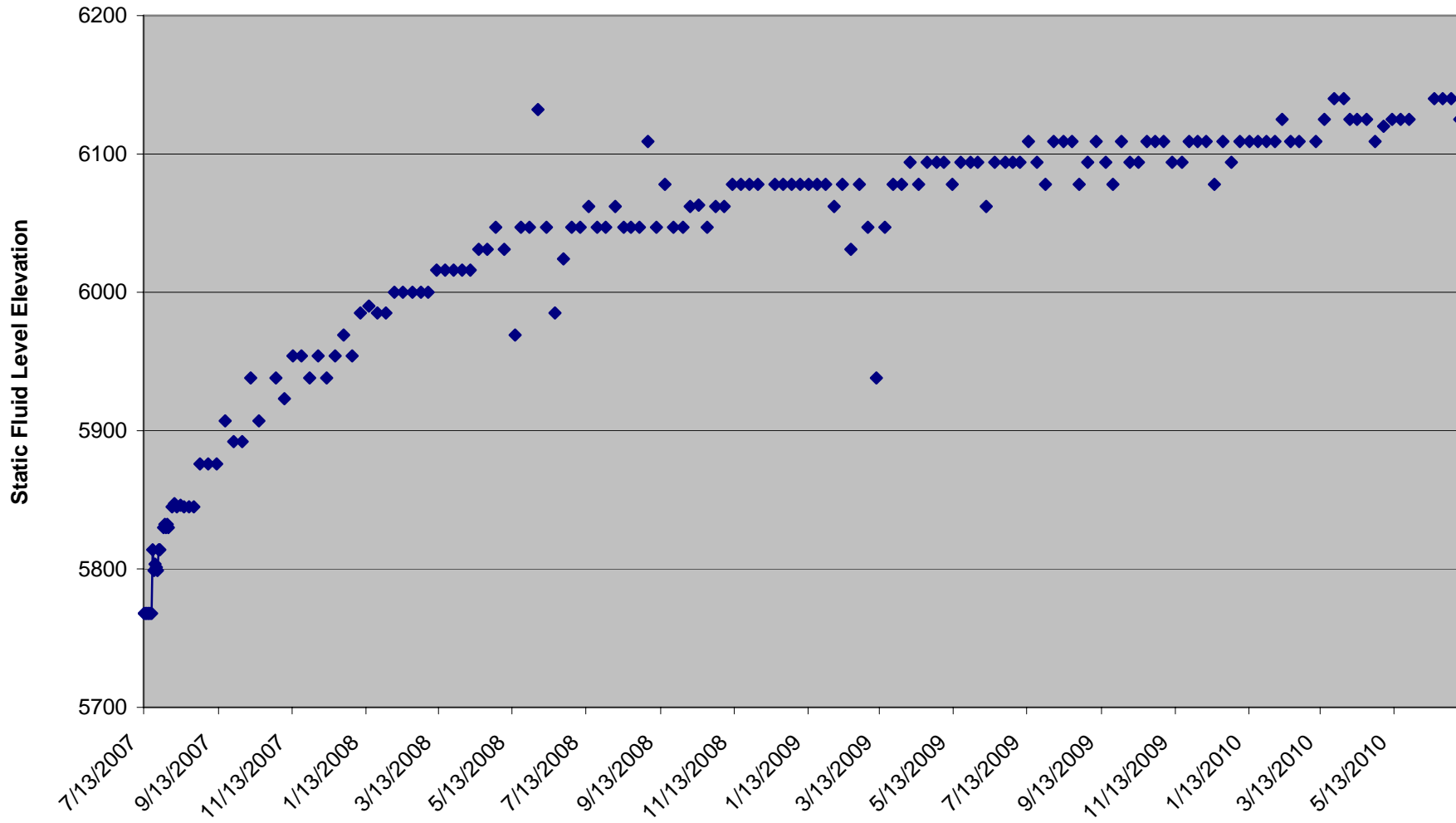


**Attachment 3**  
**Fluid Levels in Petroglyph Production Wells**

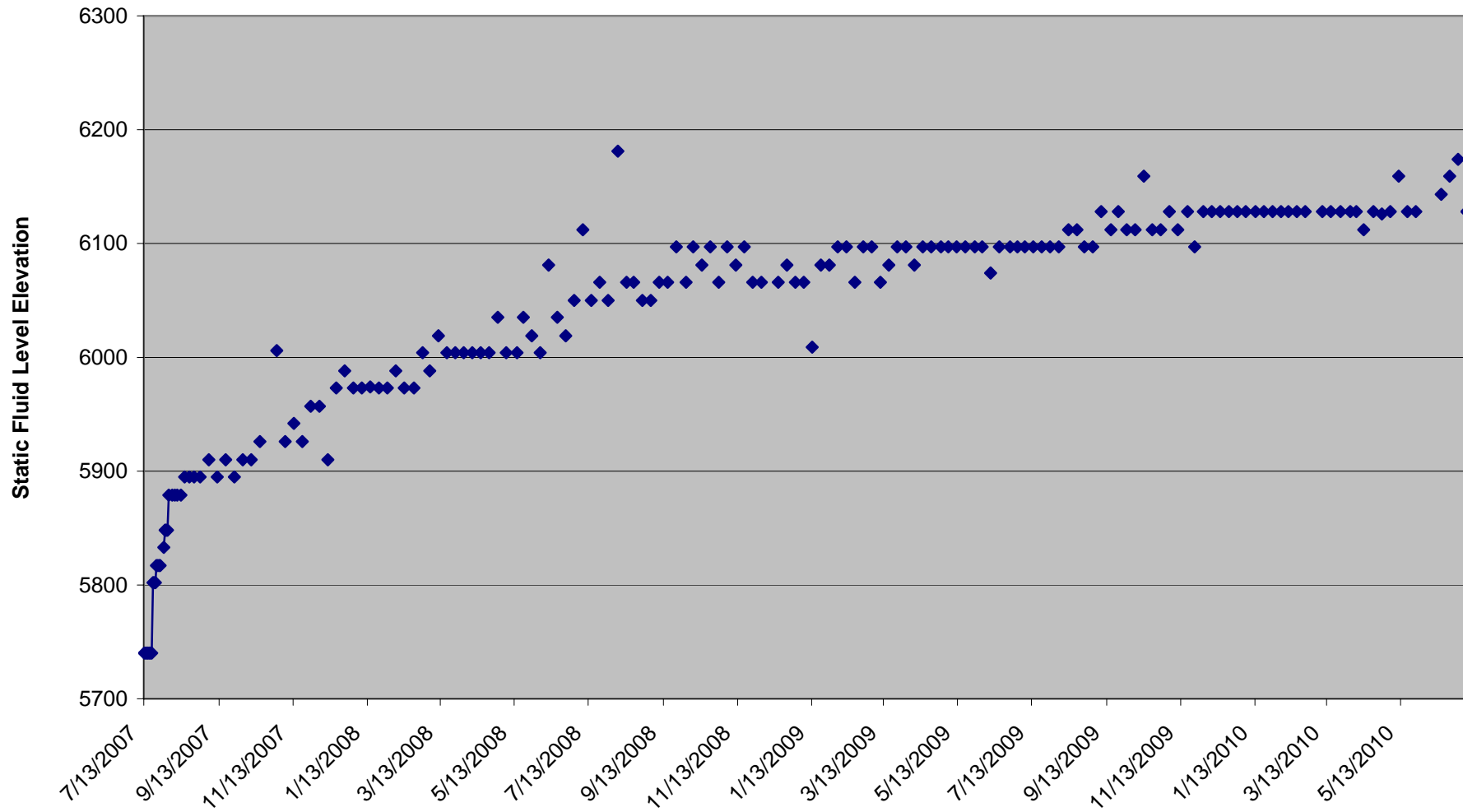
### Vermejo/Trinidad Monitor Wells Static Water Level from 1/1/07 to 6/30/10



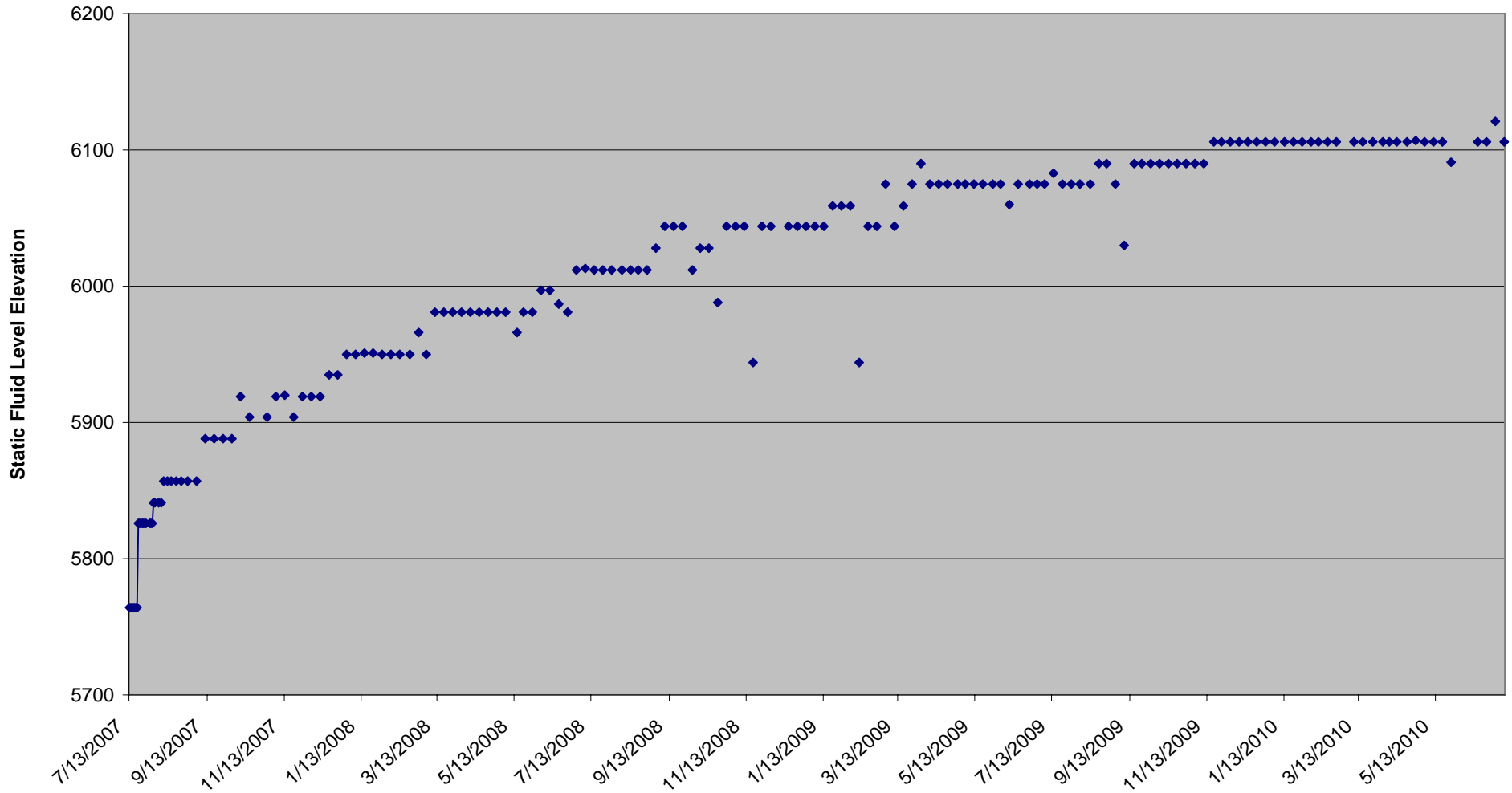
**Lively 02-02**  
**7/13/07 thru 7/6/10**  
**Wells shut down 7/20/07**



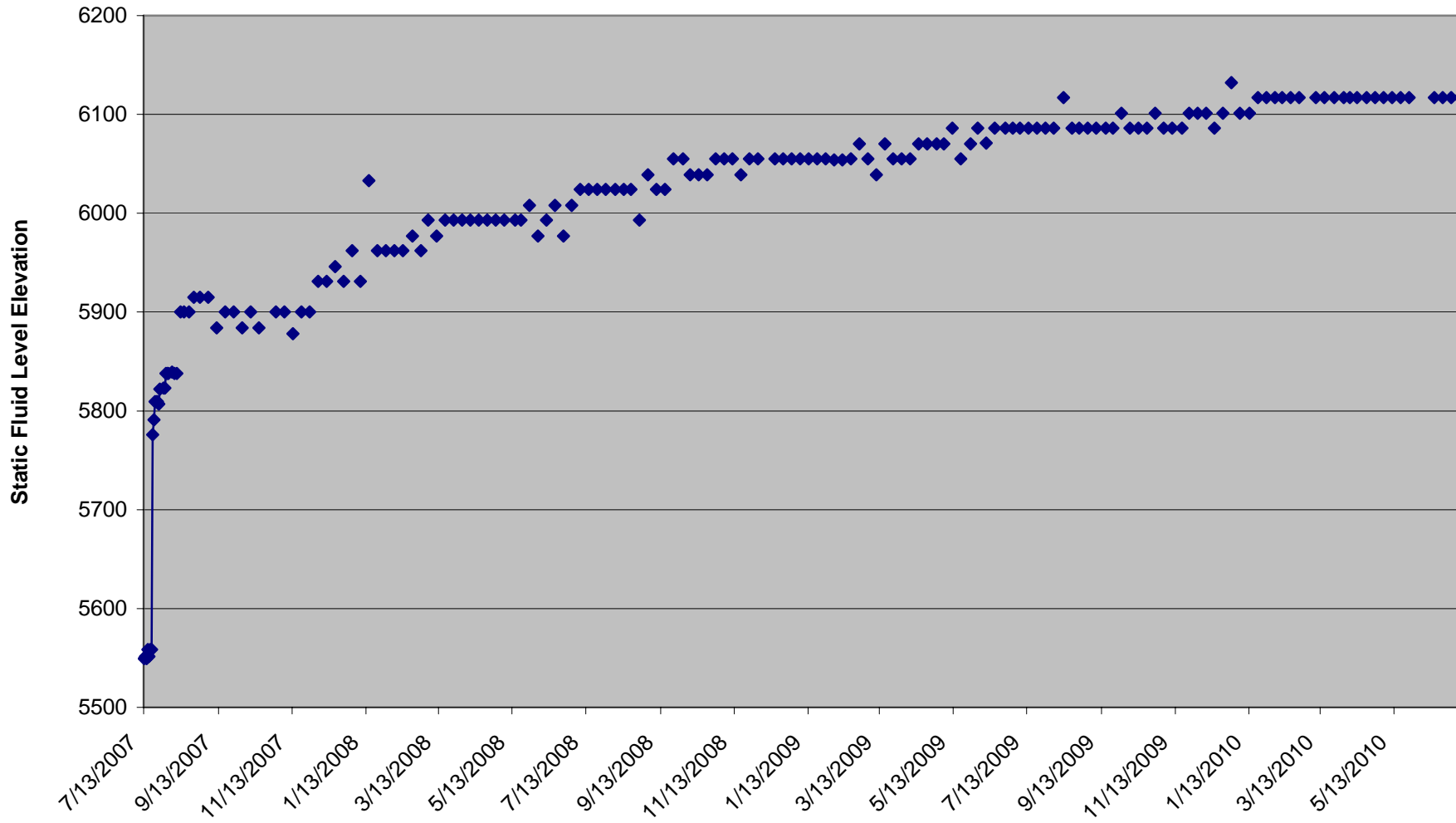
**Lively 02-12**  
**7/13/07 thru 7/6/10**  
**Wells shut down 7/20/07**



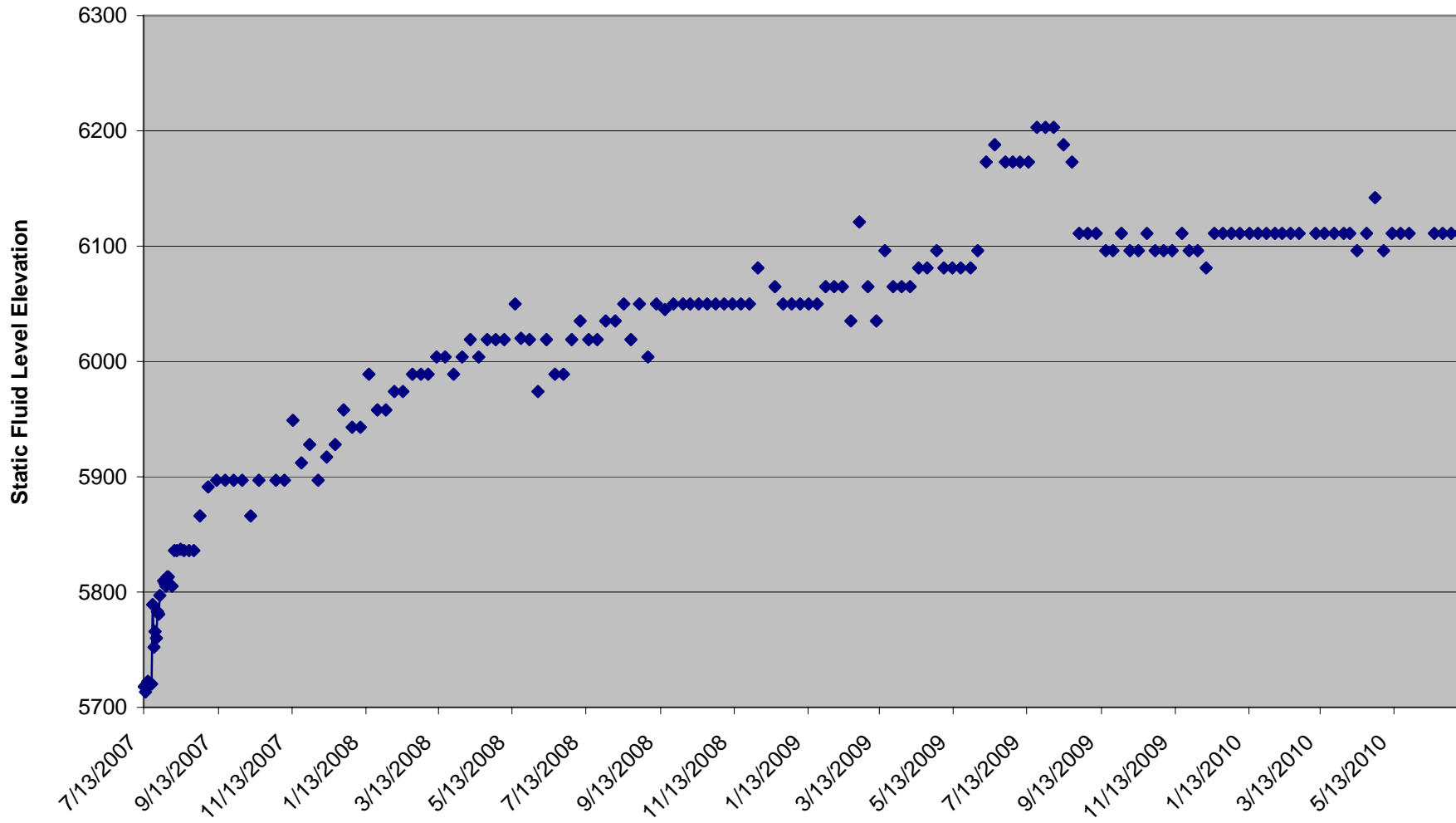
**Lively 03-01**  
**7/13/07 thru 07/06/10**  
**Wells shut down 7/20/07**



**Lively 03-10**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**

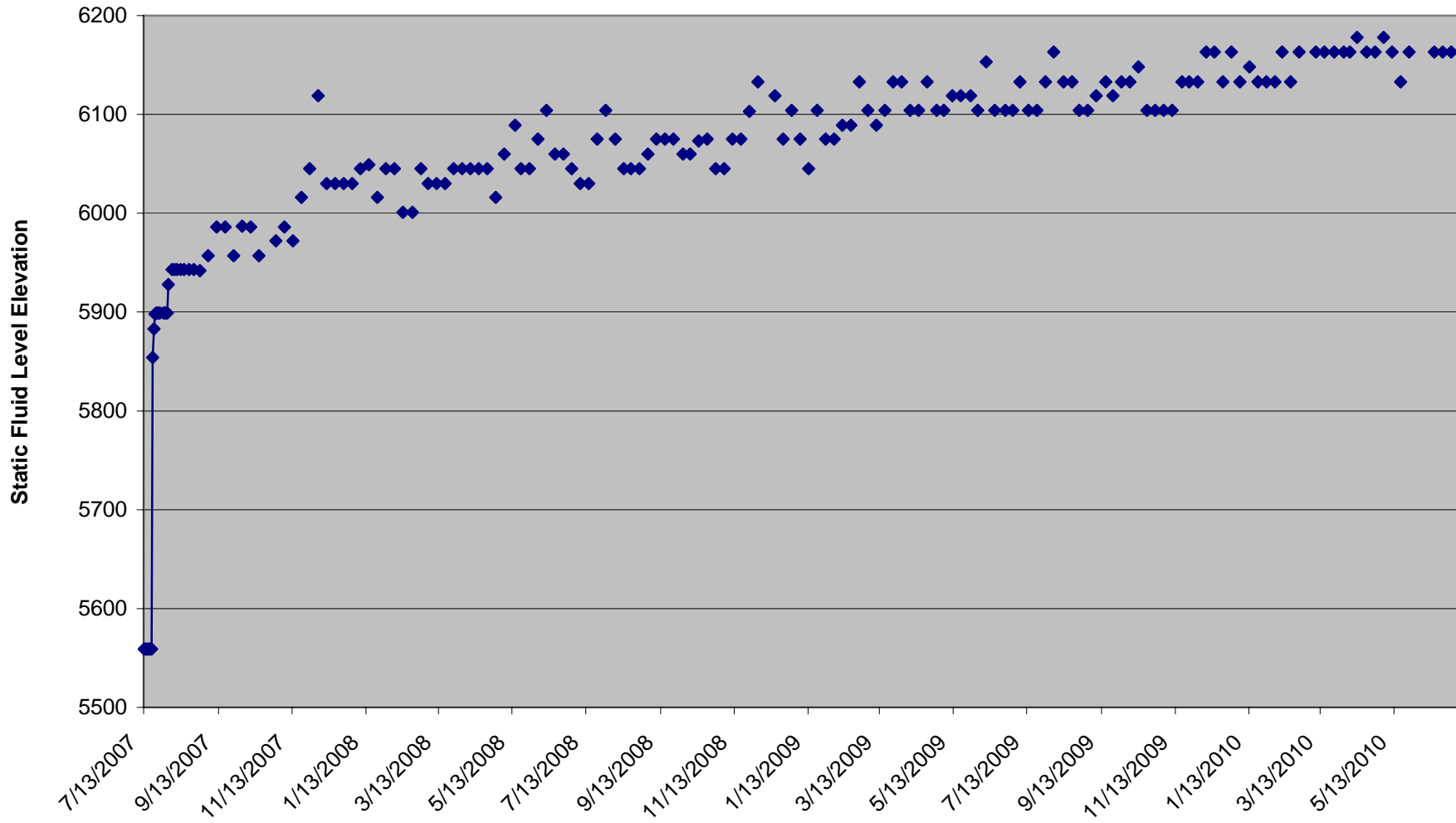


**Lively 03-12**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**

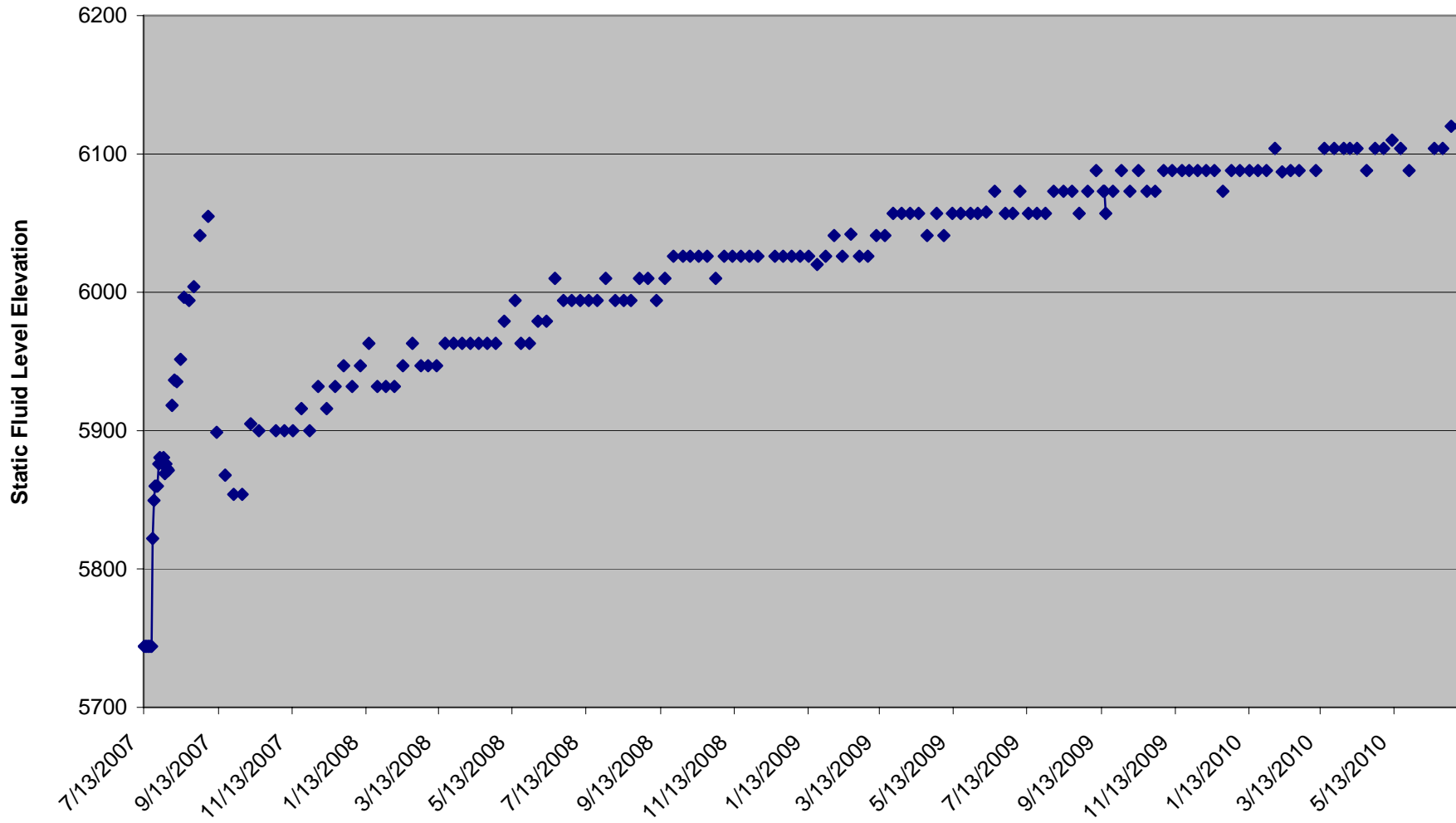




**Lively 10-04**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**

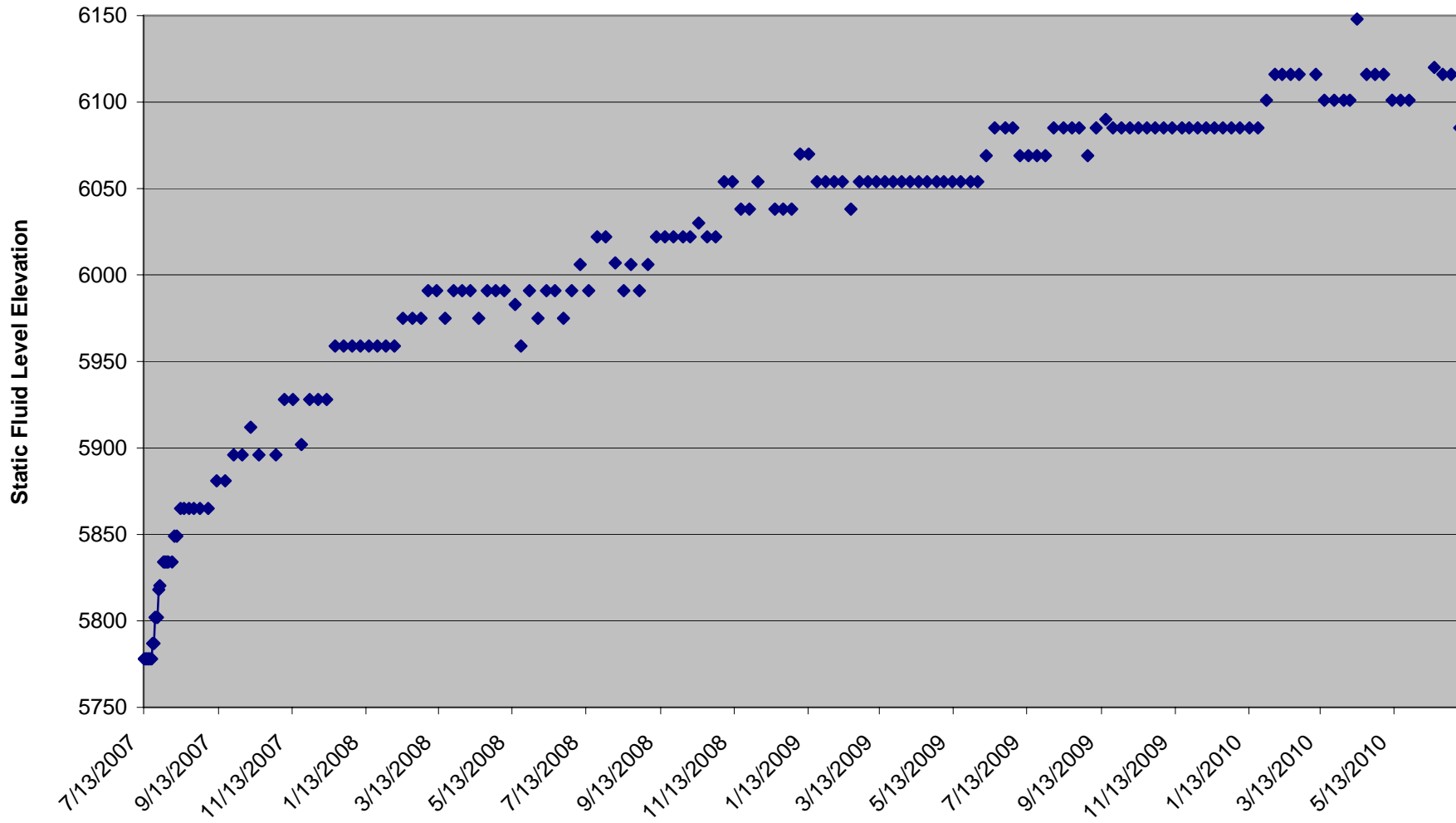


**Rohr 04-10**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**

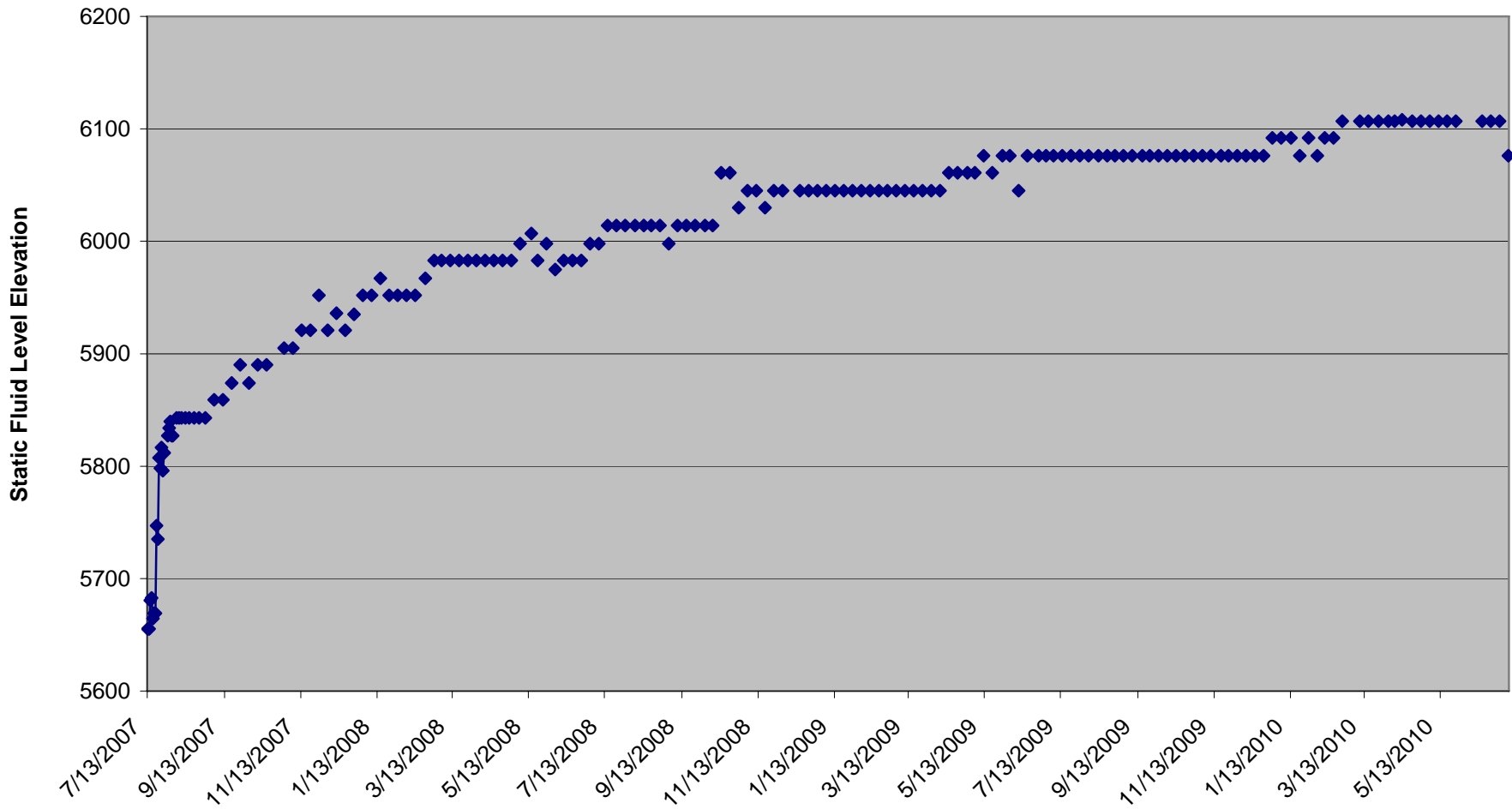




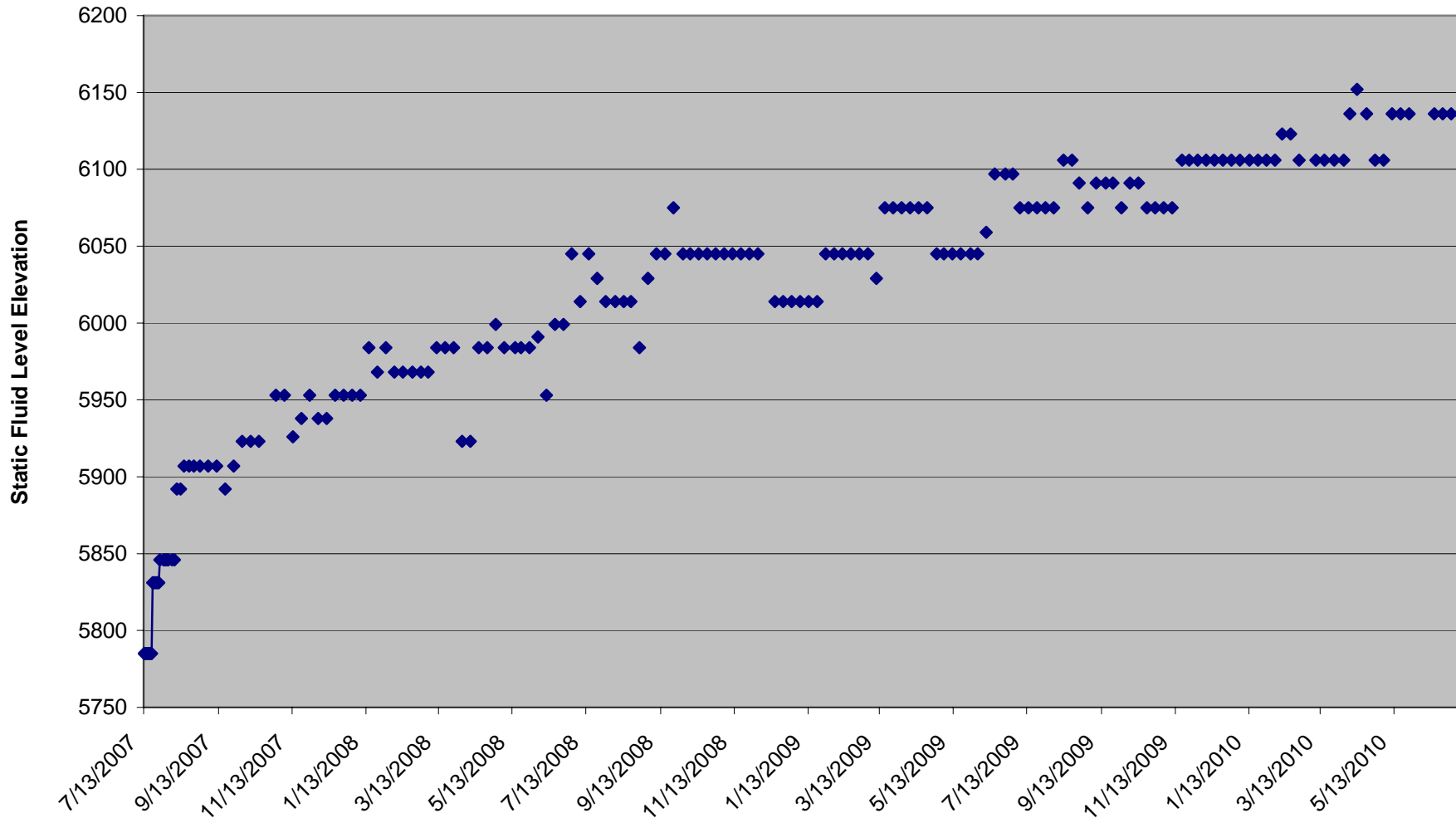
**State 36-02**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**



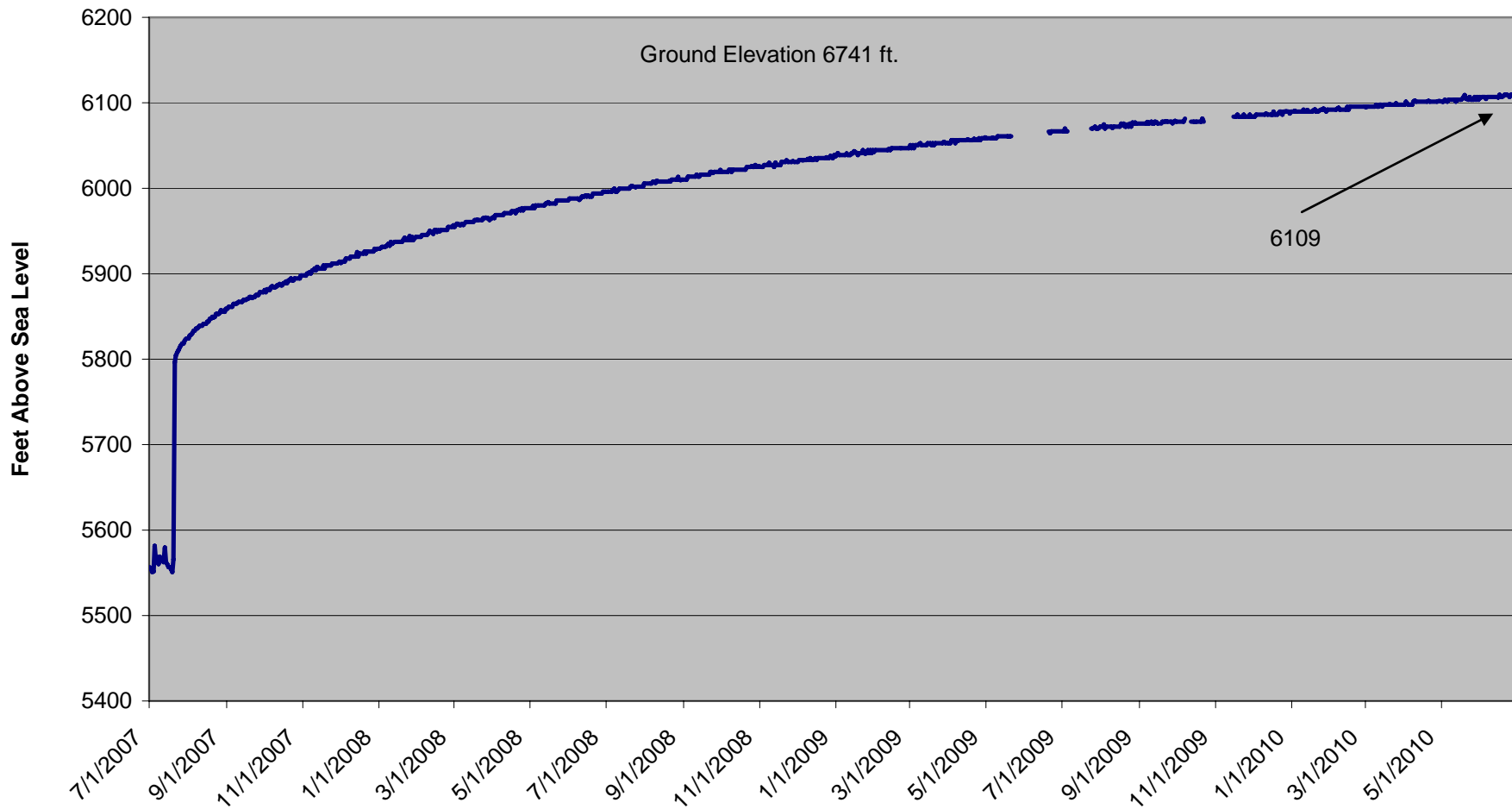
**State 36-05**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**



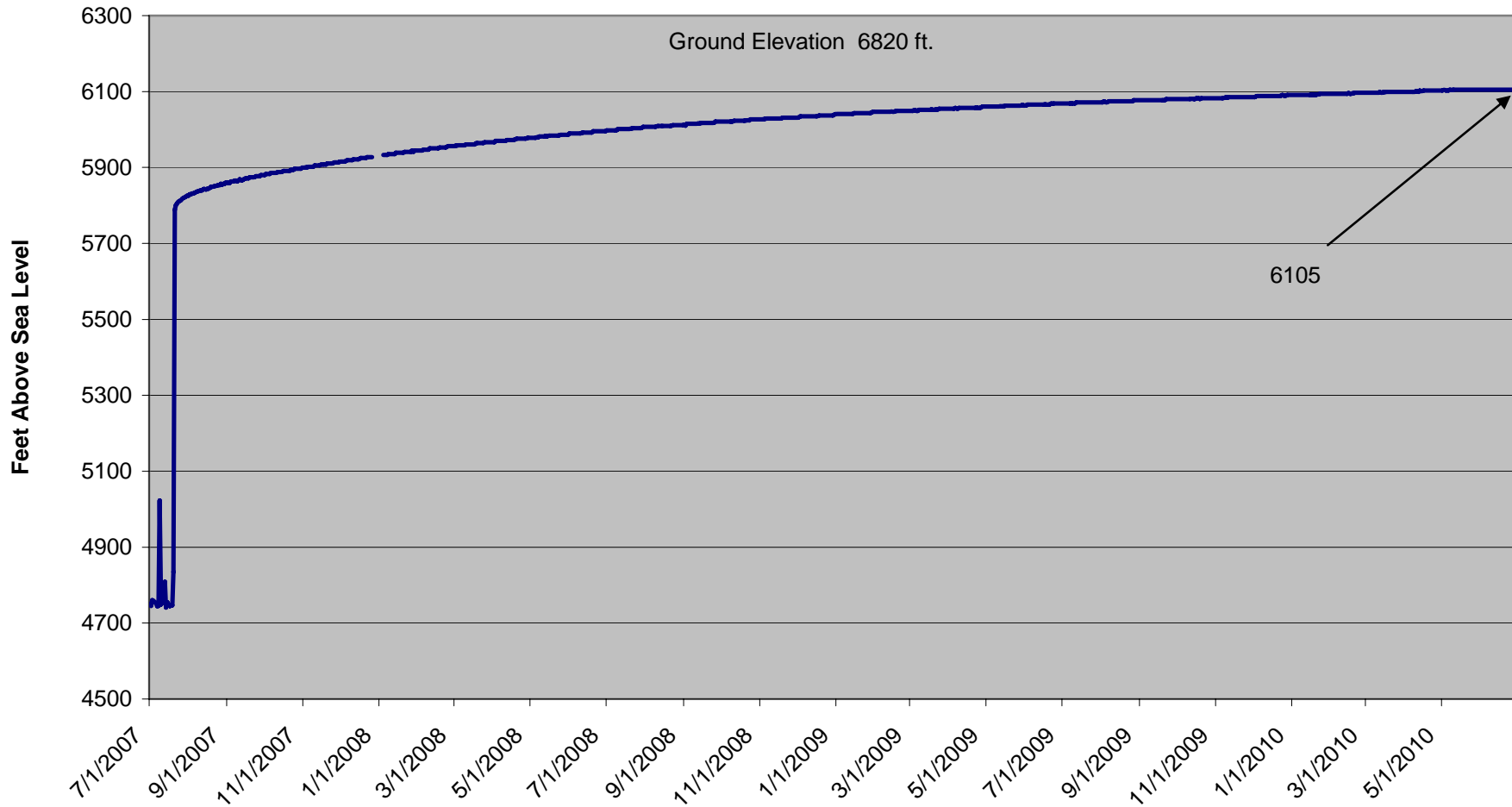
**State 36-11**  
**7/13/07 thru 7/06/10**  
**Wells shut down 7/20/07**



**Rohr 04-14 CBM Well  
Static Water Level  
from 7/1/07 to 6/29/10  
Well shut-in 7/20/07**

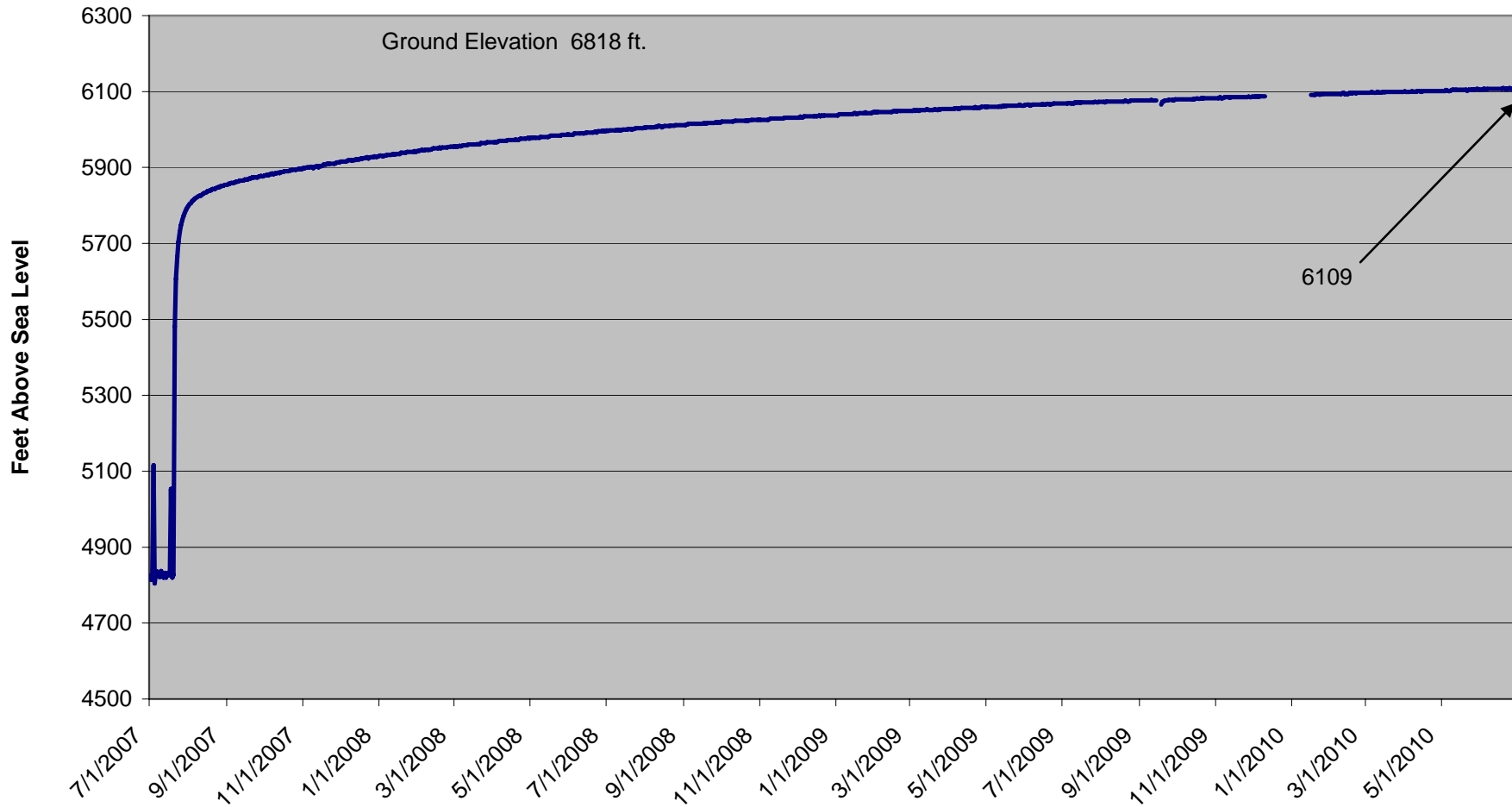


**Rohr 08-01 CBM Well**  
**Static Water Level**  
**from 7/1/07 to 6/29/10**  
**Well shut-in 7/20/07**

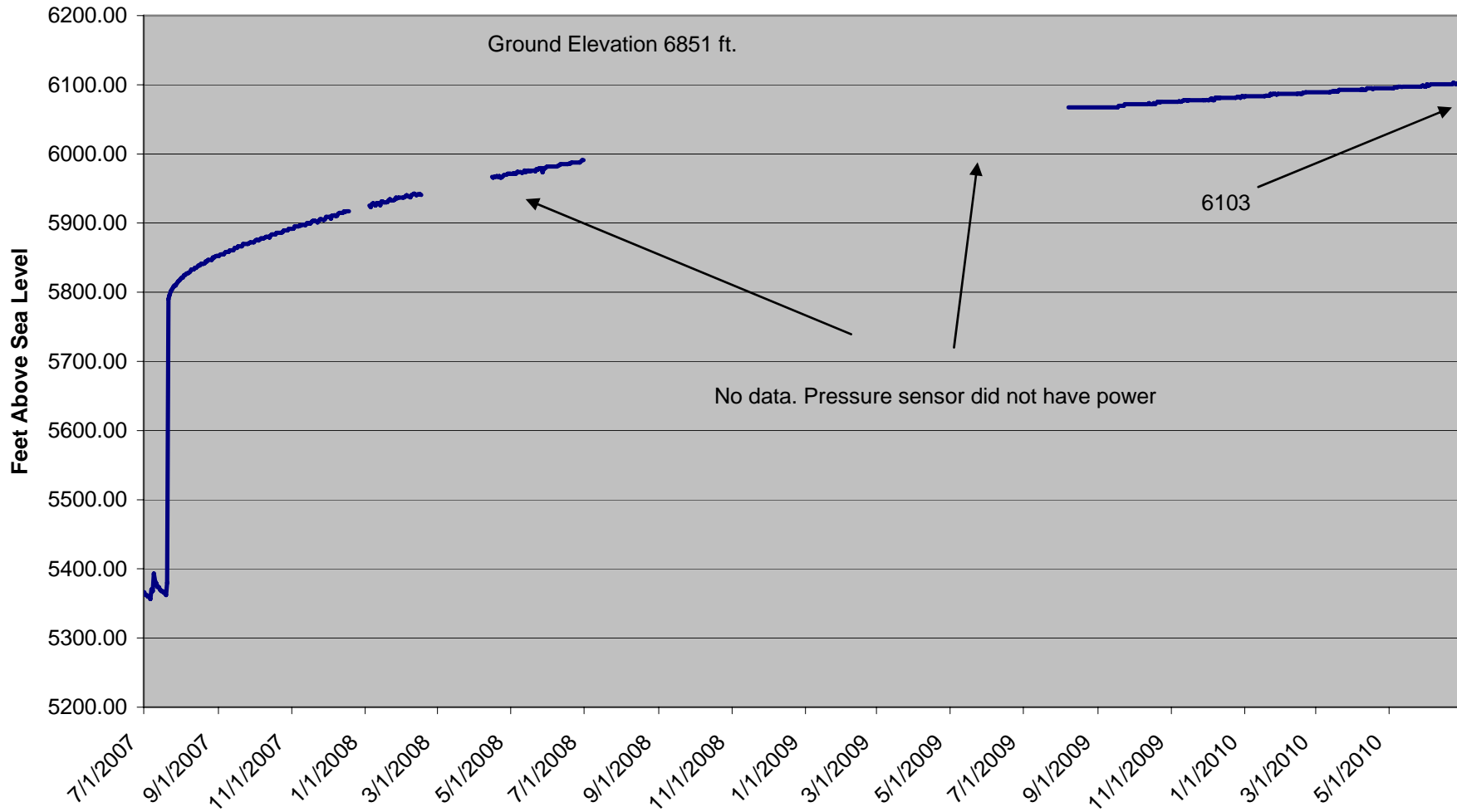




**Rohr 09-04 CBM Well**  
**Static Water Level**  
**from 7/1/07 to 6/29/10**  
**Well shut-in 7/20/07**

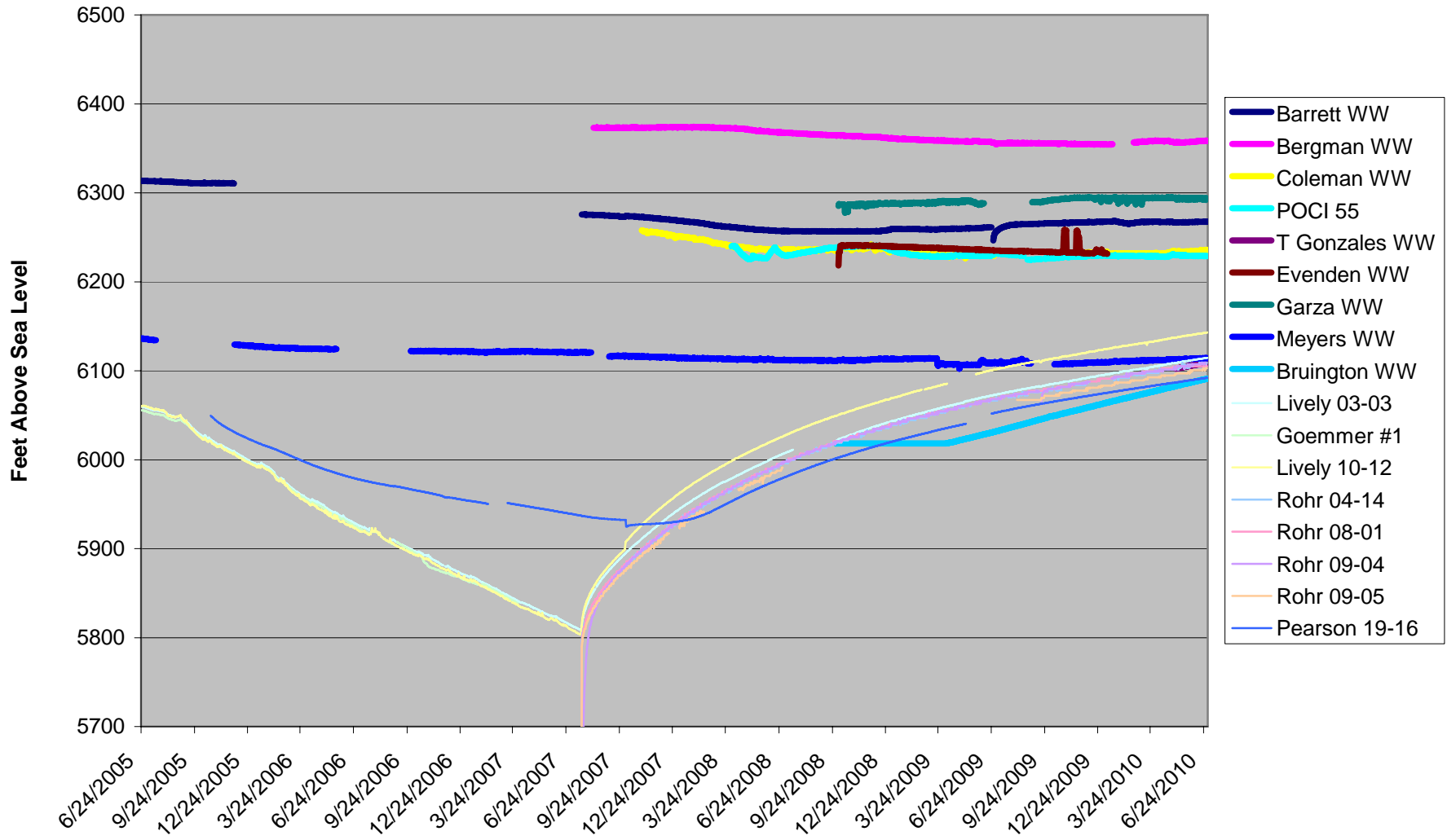


**Rohr 09-05 CBM Well Static Water Level  
from 7/1/07 to 6/29/10  
Well shut-in 7/20/07**

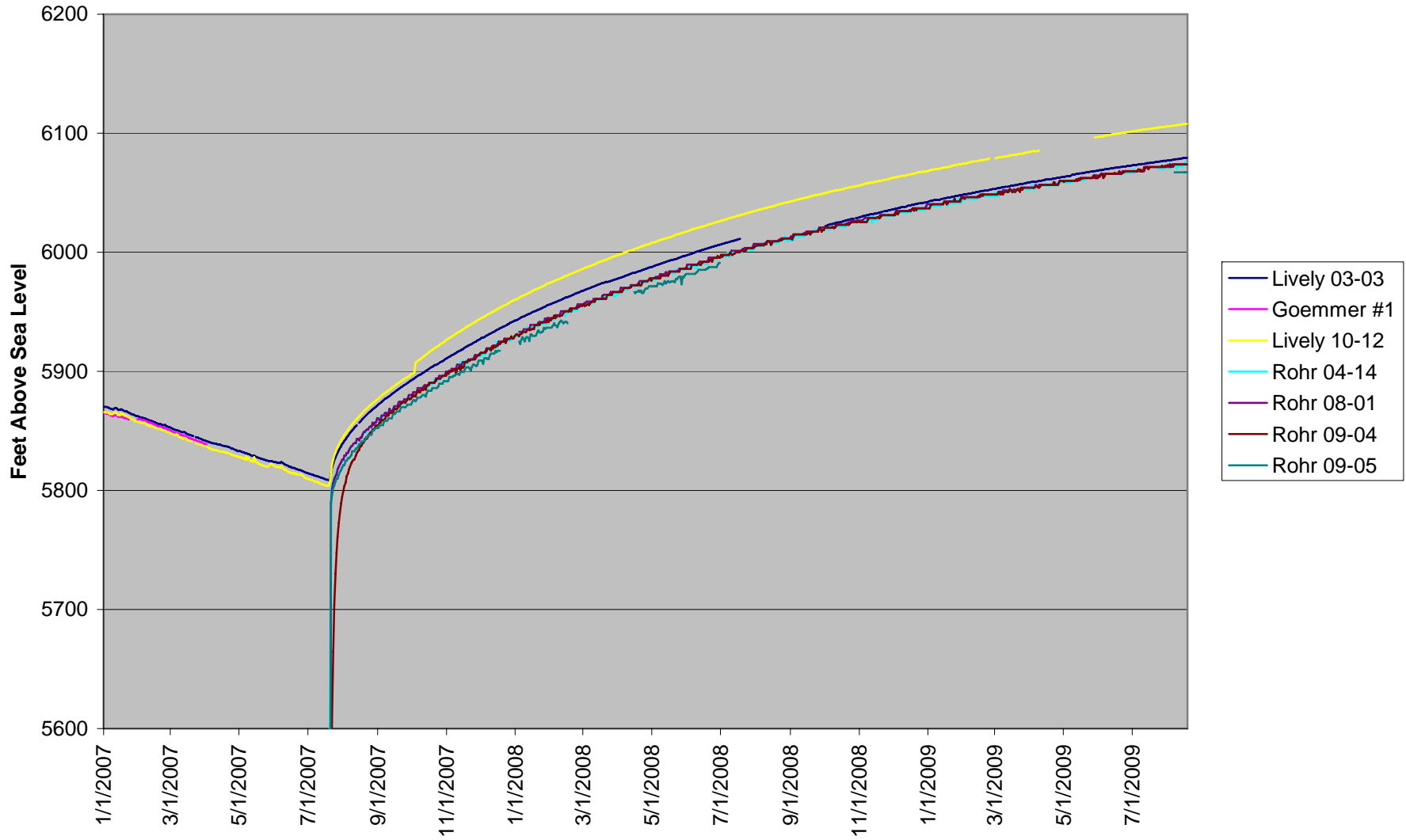


**Attachment 4**  
**Comparison of Fluid Levels in Production Wells and Private Wells**

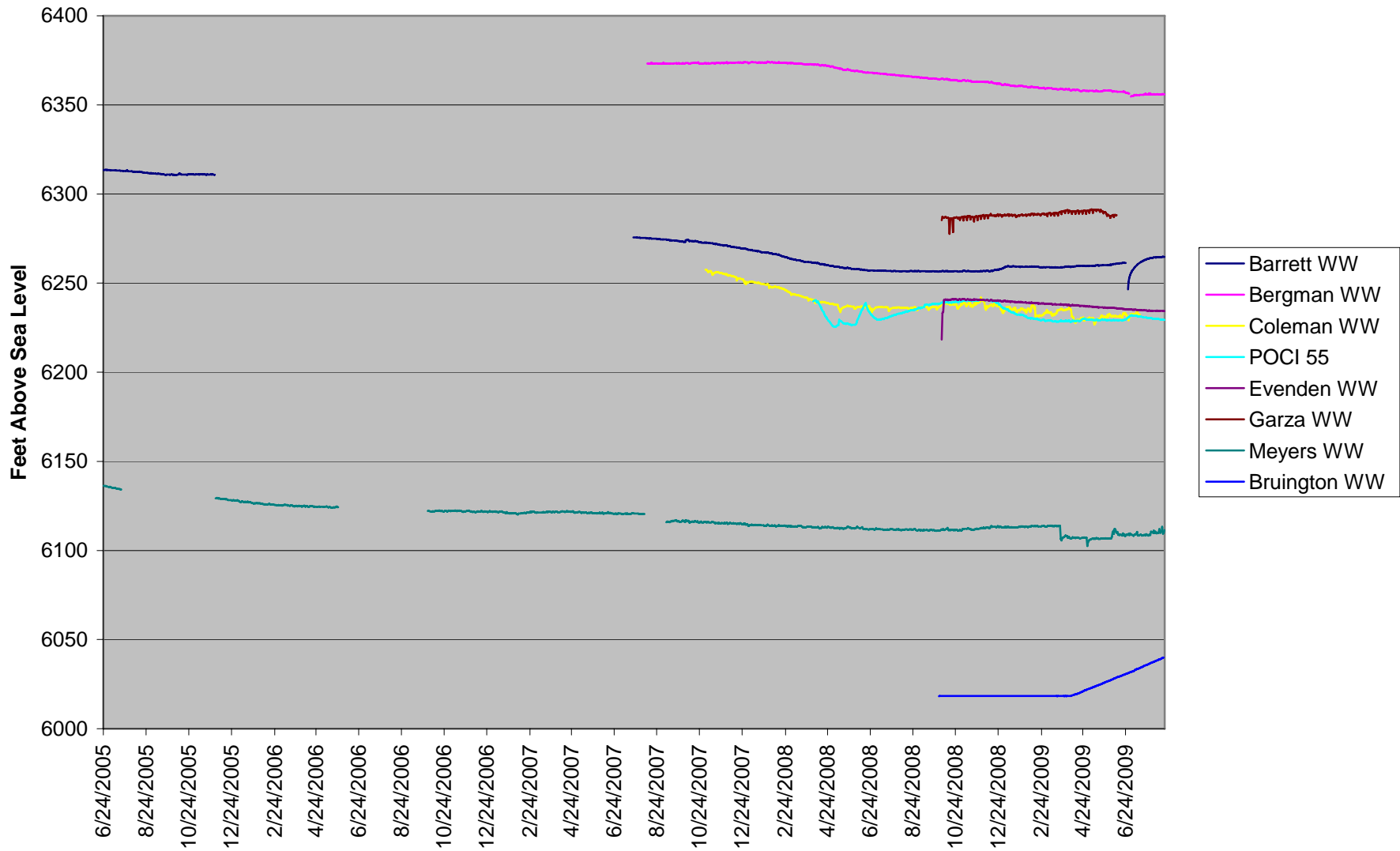
### CBM and Domestic WW, Water Levels from 6/24/05 to 6/30/10



### CBM Monitor Wells Water Level



### Domestic Water Wells Water Levels

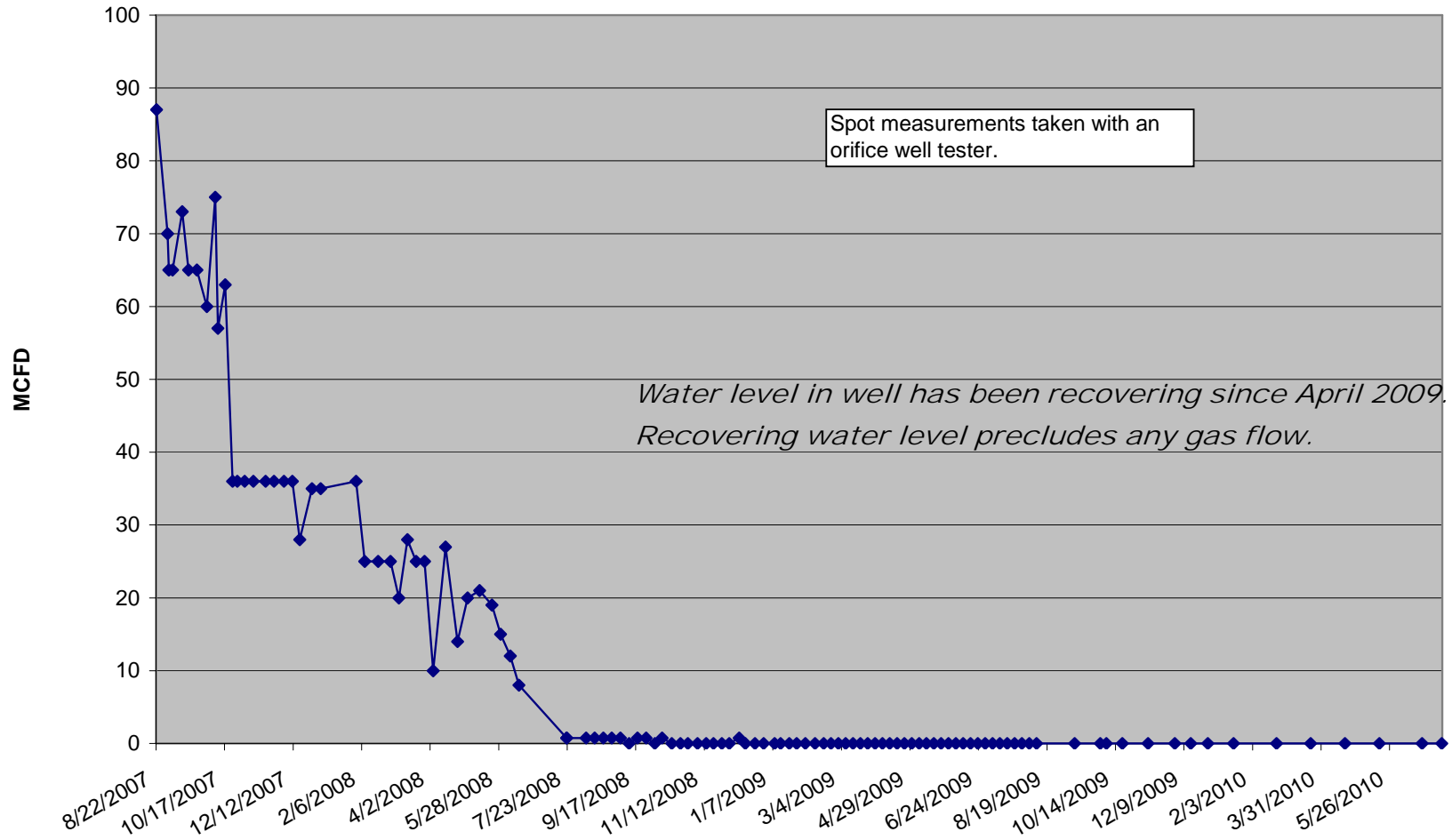


Summary of Production Well Water Levels and Private Well Water Levels						
Well Name	Permit or API #	Ground Elevation ( ft above mean sea level)	Depth of Pressure Sensor (ft)	Formation	General Location	Well Status
Barrett	257994	6707	750	Poison Canyon	In mitigation ring	non-active domestic well
Bergman	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

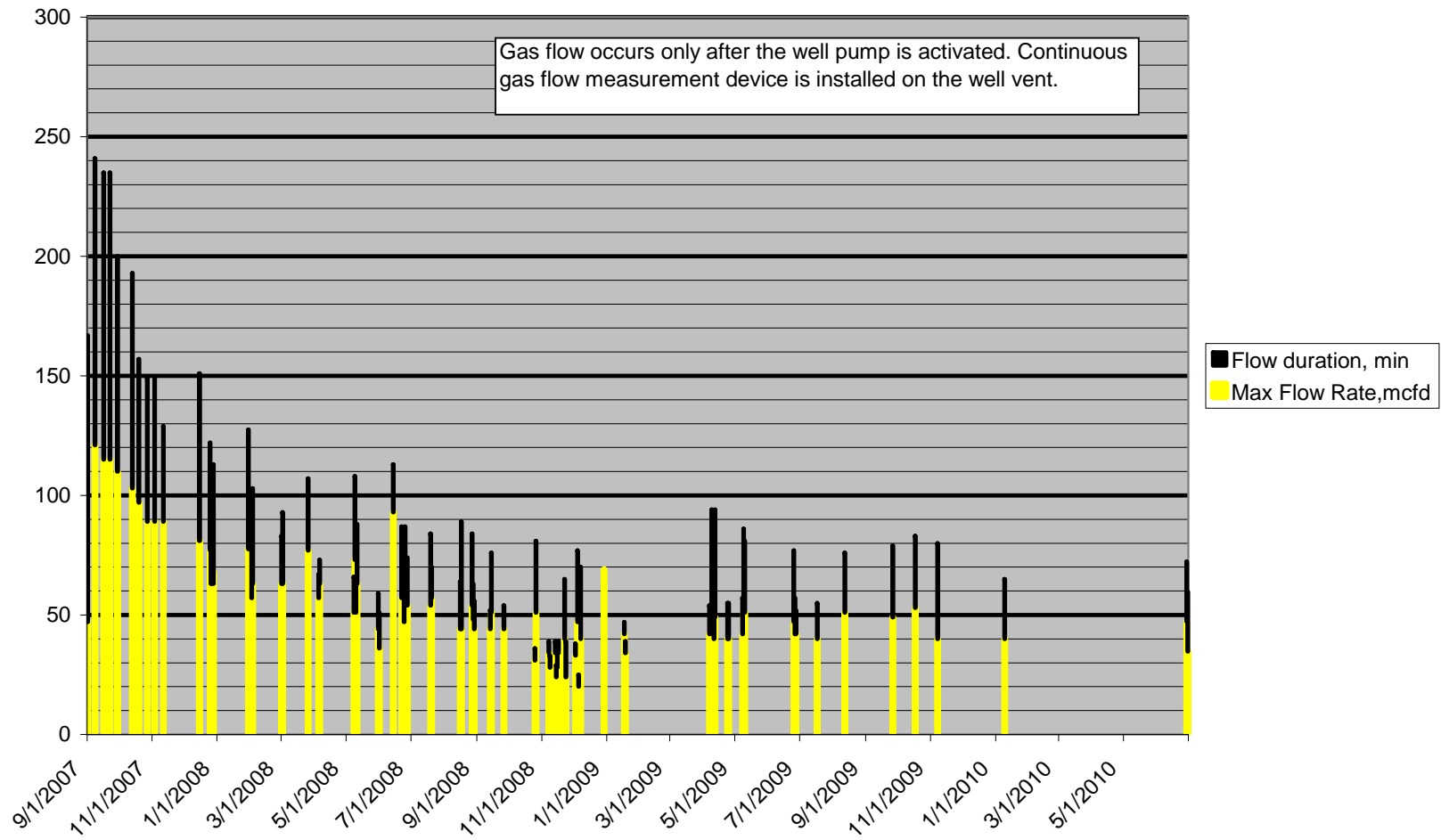
**Attachment 5**  
**Gas Flow Measurements at Bruington, Coleman, Angely, Bounds, and Smith**



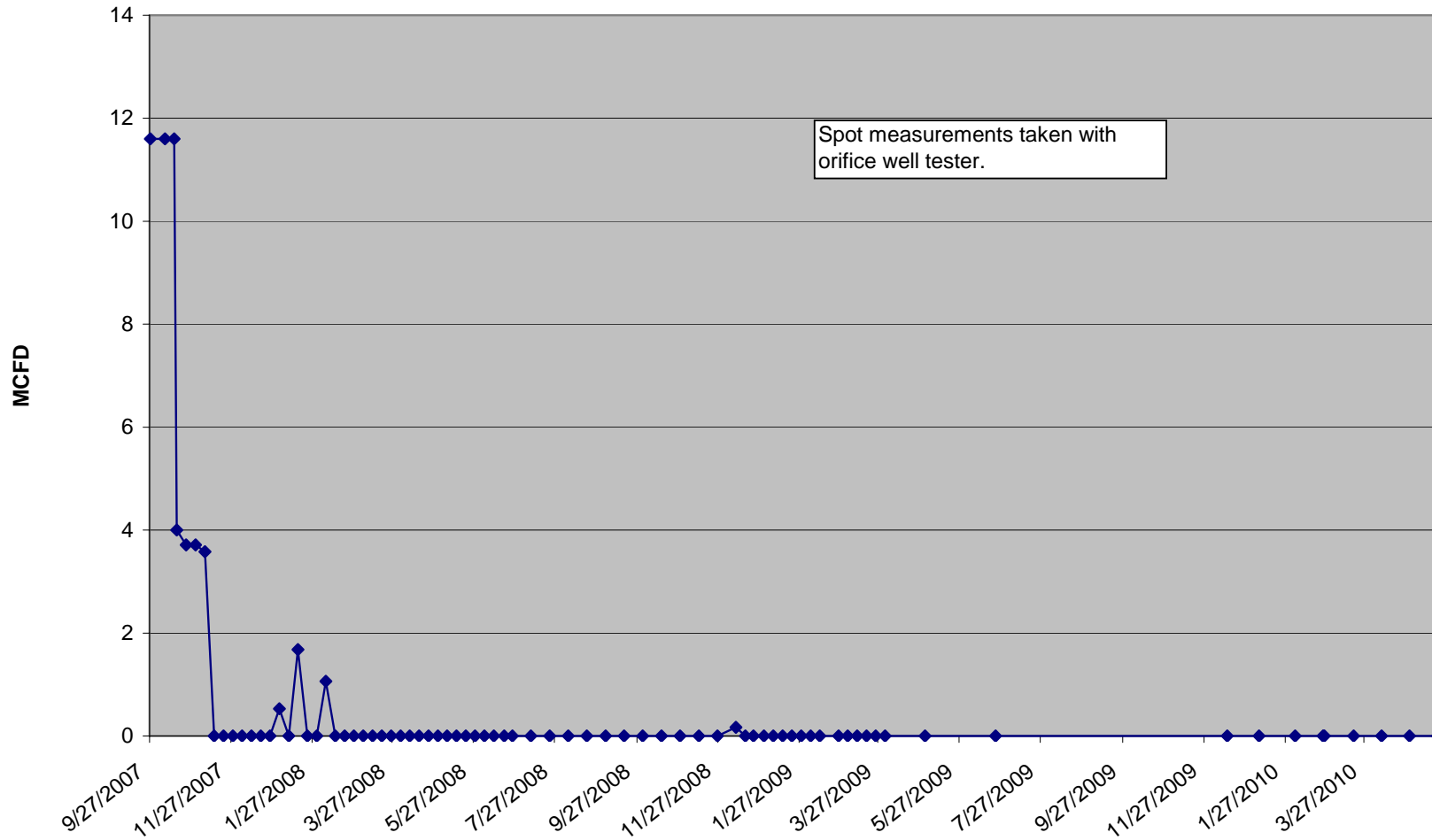
**Bruington WW # 210526 Measured Gas Flow  
from 8/22/07 to 7/1/10**



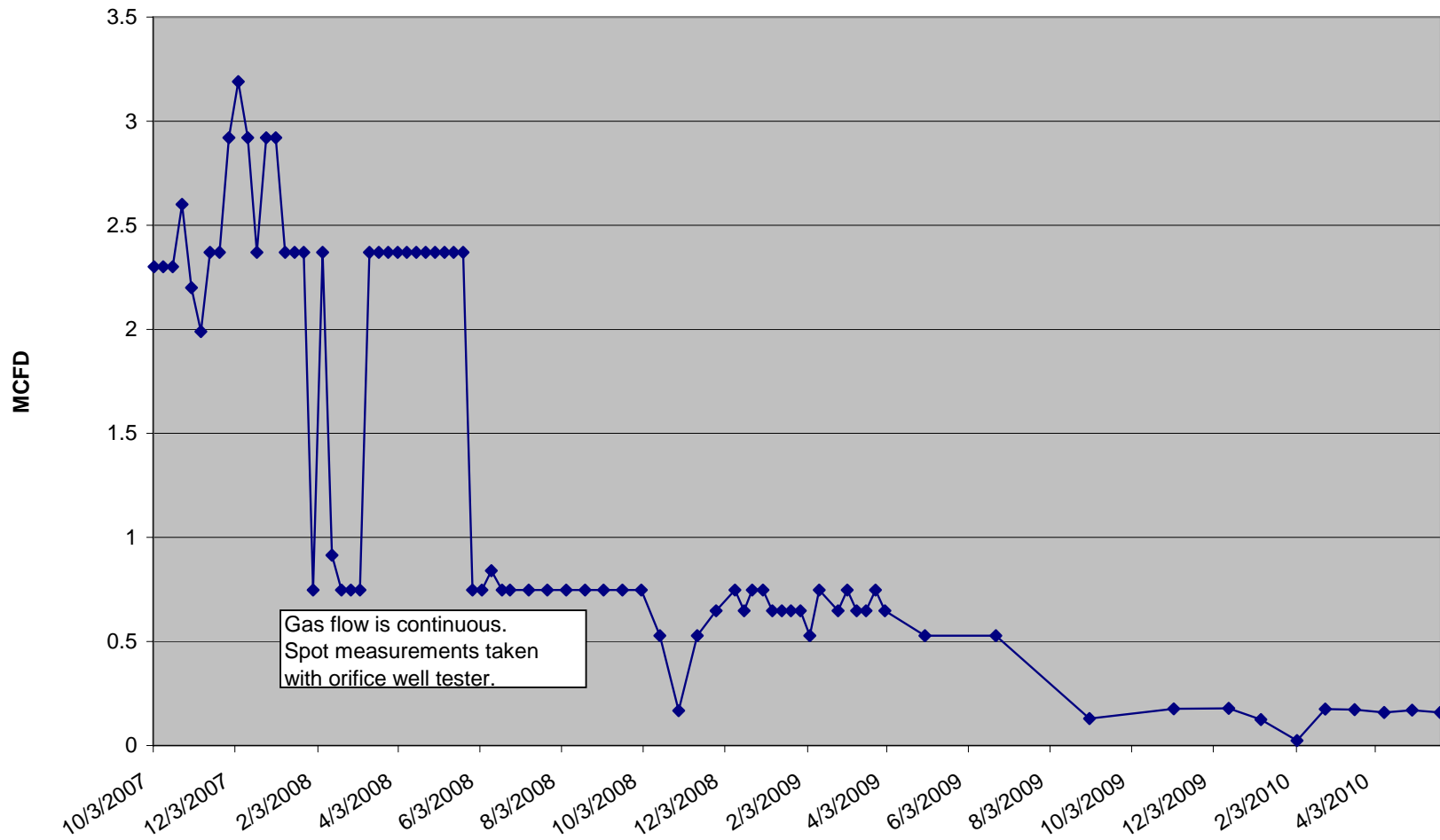
### Coleman WW #267294 Measured Gas Flow from 9/1/07 to 6/30/10



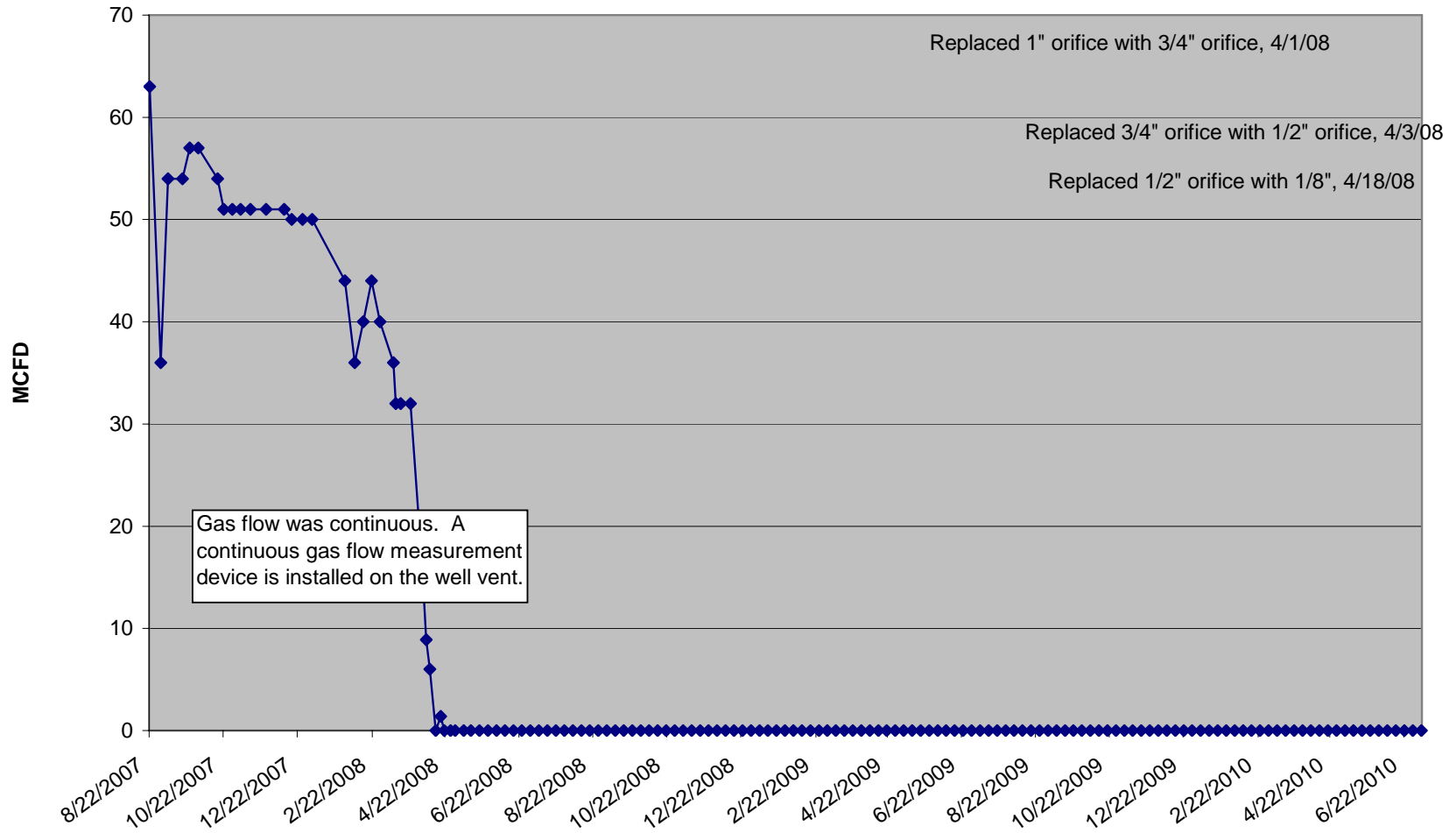
**Angely WW # 238689 Measured Gas Flow  
from 9/27/07 to 5/21/10**



**Bounds WW #181278 Measured Gas Flow  
from 10/3/07 to 5/21/10**



**Smith WW # 239657 Measured Gas Flow  
from 8/22/07 to 7/6/10**



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

