

**Colorado Oil and Gas Conservation Commission  
Denver, Colorado**

**Monitoring Wells Summary Report  
March 2004**

**3M Project Monitoring Program  
La Plata County, Colorado**

Colorado Oil and Gas Conservation Commission  
Applied Hydrology Associates, Inc.  
Denver, Colorado

April 2004

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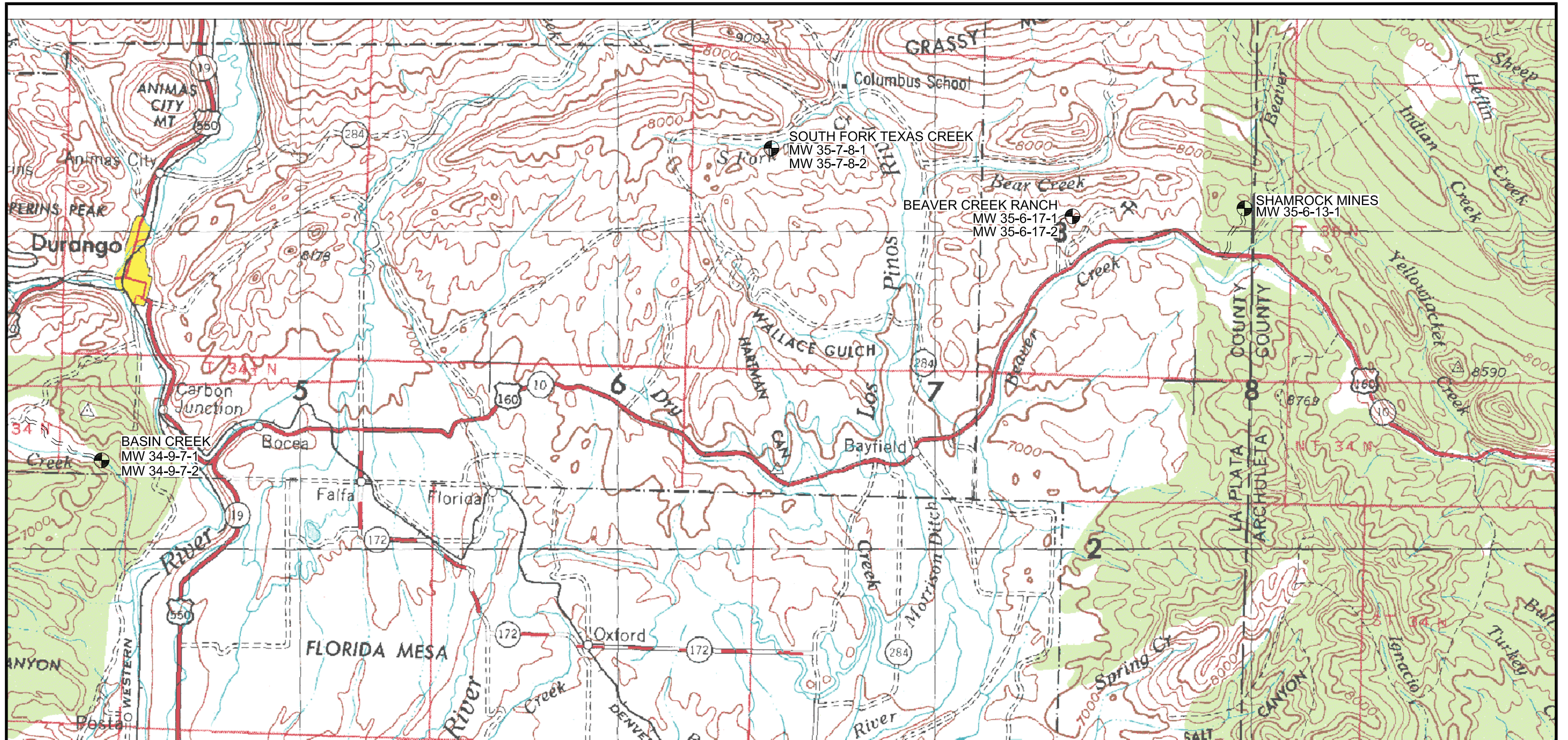
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## **1.0 INTRODUCTION**

The 3M Project Monitoring Program in La Plata County, Colorado was initiated by the Colorado Oil and Gas Conservation Commission (COGCC) in January 2001. This report describes the results of wellhead and bottomhole pressure monitoring at four monitoring well sites through March 31, 2004. The monitoring work was carried out by staff of the COGCC and Applied Hydrology Associates, Inc. (AHA) on behalf of the COGCC.

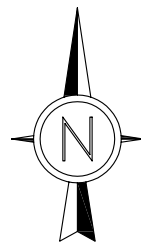
Figure 1 (attached) shows the location of the four monitoring well sites. Table 1 (attached) identifies the monitoring wells, locations, and the depths of completion at the four monitoring well sites. Table 2 (attached) lists the depth and type of pressures transducers used in each monitoring well. Table 3 (attached) provides a chronology of monitoring well installation, operation and maintenance activities from January 2001 through March 31, 2004.






**MONITORING WELL SITE AND DESIGNATION**

SOURCE  
 USGS 1° X 2° SERIES (TOPOGRAPHIC)  
 NJ 13-7  
 DURANGO, COLORADO



0 10,000 20,000  
 FEET  
 CONTOUR INTERVAL 200 FEET


 Applied  
 Hydrology  
 Associates, Inc.

3M Project  
 La Plata County, CO

**Figure 1**  
**3M Site Map**  
**Well Locations**

DESIGN: NLH	DATE: 6/12/02	DRAWING NUMBER:
DRAWN: JLS	SCALE: AS SHOWN	San Juan Dur-Bay.dwg
SCRIPT:		



**Table 1  
3M Project Monitoring Well Completion Summary**

Location	Well ID	Construction Completion Date	Drilled Depth (fbgs)	Cored Intervals (fbgs)	Casing Depth (fbgs)	Casing Stickup (fags)	Well Casing Material	Perforated Interval in Coal seam(s) (fbgs)	Wellhead Design (Figure Number)	Log Type	Logged Depth (fbgs)	Log Date
Basin Creek	MW 34-9-7-1	01/28/01	820		802	1	Schedule 40 galvanized steel pipe	578 - 609	2-1	gamma ray, bulk density, caliper, resistance	819	01/27/01
										64" normal resistivity, 16" normal resistivity, sp	822	01/27/01
										temperature, differential temperature	822	01/27/01
										gamma ray, casing collar locator	763	09/27/01
	MW 34-9-7-2	04/25/02	570	359 - 374 * 498 - 513 578 - 593	561	1.5	Oilfield steel tubing	496 - 526	2-2	gamma ray, casing collar locator	550	05/02/02
South Fork Texas Creek	MW 35-7-8-1	09/20/01	486		463	1.6	Schedule 40 galvanized steel pipe	403 - 416	2-1	gamma ray, bulk density, caliper, resistance	485	09/19/01
										64" normal resistivity, 16" normal resistivity, sp	485	09/19/01
										temperature, differential temperature	485	09/19/01
										gamma ray, casing collar locator	462	09/27/01
	MW 35-7-8-2	09/21/01	420	410 - 425	425	1.6	Schedule 40 galvanized steel pipe	235 - 241 254 - 258 264 - 274	2-1	gamma ray, casing collar locator	420	09/27/01
Beaver Creek Ranch	MW 35-6-17-1	04/04/02	1,645	1,457 - 1,467 1,564 - 1,572	1,631	1.5	Oilfield steel tubing	1,572 - 1,576 1,582 - 1,584	2-4	64" normal resistivity, 16" normal resistivity, sp	1,645	04/03/02
										temperature, differential temperature	1,640	04/03/02
										gamma ray, bulk density, caliper, resistance	1,643	04/03/02
										gamma ray, casing collar locator	1,618	05/02/02
	MW 35-6-17-2	10/04/01	1,550	1,500	2	Schedule 40 galvanized steel pipe	1,437 - 1,449 1,458 - 1,472	2-3	gamma ray, neutron	1,499	10/10/01	
									temperature, 4Pi density	1,493	11/14/01	
									signal amplitude, travel time \ D T, VDL	1,484	11/14/01	
gamma ray, casing collar locator	1,483	11/27/01										
Shamrock Mines	MW 35-6-13-1	05/07/02	627		606	1.5	Oilfield steel tubing	507 - 511 517 - 533 539 - 562	2-2	gamma ray, bulk density, caliper, resistance	626	05/06/02
										64" normal resistivity, 16" normal resistivity, sp	626	05/06/02
										gamma ray, casing collar locator	626	05/10/02

\* Cored interval from initial well drilled in February 2001 that was subsequently plugged and abandoned due to bad cement job.

**Table 2**  
**3M Project Monitoring Well Transducers**

Location	Well ID	Upper Transducer		Lower Transducer	
		Depth (fbgs)	Type and Rating	Depth (fbgs)	Type and Rating
Basin Creek	MW 34-9-7-1	0.5	PXD-261-30 psig	570	PXD-461-500 psia
	MW 34-9-7-2	5	PXD-461-500 psia	485	PXD-461-500 psia
South Fork Texas Creek	MW 35-7-8-1	5	PXD-261-30 psig	390	PXD-461-500 psia
	MW 35-7-8-2	4	PXD-461-500 psia	225	PXD-461-500 psia
Beaver Creek Ranch	MW 35-6-17-1	5	PXD-461-500 psia	1,565	PXD-461-1,000 psia
	MW 35-6-17-2	2.5	PXD-461-1,000 psia	1415*	PXD-461-1,000 psia
Shamrock Mines	MW 35-6-13-1	5	PXD-461-500 psia	500	PXD-461-1,000 psia

\* MW 35-6-17-2 lower transducer raised from 1420 fbgs to 1415 fbgs on August 22, 2003.

**Table 3**  
**3M Project Monitoring Well Chronology**

Location	Well	2001				2002									
		January	September	November	December	January	February	March	April	May	June	July	November	December	
Basin Creek	MW 34-9-7-1	Jan. 24-28: Drill/install well	Sept. 27: Perforate well	Nov. 28: Set up telemetry unit; replace bad xds cables	Surveyed	Jan. 18: Tighten wellhead fittings; rewire telemetry system	Install new batteries in telemetry unit with In-Situ assistance								Lost telemetry communication with datalogger
	MW 34-9-7-2								April 24-25: Drill & install well	May 5: Perforate well May 9: Fish out cable May 22: Install xds	Surveyed				
South Fork Texas Creek	MW 35-7-8-1		Sept. 17-20: Drill/install well; Sept. 27: Perforate well	Nov. 29: Set up telemetry unit; replace bad xd cables	Surveyed	Jan. 18: Tighten wellhead fittings; rewire telemetry unit	Install new batteries in telemetry unit with In-Situ assistance			May 21: Ck for leaks				Dec. 4: Data lost through end of year due to Hermit internal battery failure; lost telemetry communication with datalogger	
	MW 35-7-8-2		Sept. 20-21: Drill/install well Sept. 27: Perforate well	Nov. 29: Set up telemetry unit; replace bad xd cables	Surveyed	Jan. 18: Tighten wellhead fittings				May 21: Ck for leaks					
Beaver Creek Ranch	MW 35-6-17-1						Install new batteries in telemetry unit with In-Situ assistance	Mar. 5- Apr 4: Drill & install well		May 2: Perforate well; May 20-21: Install xds	Surveyed	July 10: Replace lower xd cable with unvented cable		Dec 13: Insp by Raymond Const.- no wellhead gas leak; solar pwr @14.8 v; datalogger batt pack @ 0% capacity; modem pwr off (auto pwr-up disabled or modem memory prob);	
	MW 35-6-17-2		Sept. 22-Oct. 4: Drill/install well	Nov. 26: Perforate well Nov. 27: Set up telemetry unit	Surveyed	Jan. 17 - Install new xd cables with SwageLok fittings; rewire telemetry unit			Apr 8: Pull lower xd cable; no data Apr 8 to May 20	May 21: Install unvented, heavy duty xd cable		Gas leak @ top bushing; July 10: Vent well & ck bushing galls; July 11: Shutin! well	Nov. 14: Vent well; replace valve and reseal all connections	Dec. 19: Data lost through end of year due to bad data logger bkup battery	
Shamrock Mines	MW 35-6-13-1									May 3-7: Drill/install well; May 10: Perforate well; May 20, 21: Install pad, telemetry & data logger systems, & xds	Surveyed			Lost telmetry communication with datalogger	

**Table 3**  
**3M Project Monitoring Well Chronology**

Location	Well	2003						2004						
		January	Feb - May	May	August	October	December	January thru March						
Basin Creek	MW 34-9-7-1	Jan 20: New well 34-9-7-1 upper xd (30 psig, sn 7201); move datalogger ext pwr + lead to + pole on batt charger regul.; replace datalogger bkup batt; re-flash modem memory; enable modem auto pwr-up; start new datalogger test	Telemetry system malfunction; datalogger & power OK	May 20: Replace modem and cell phone; power and datalogger systems OK	Aug 21: Vent both wells and tighten wellhead xd cable strain relief fittings	Oct 8: Conduct rapid blowdown & shutin test								
	MW 34-9-7-2				Aug 21: Vent both wells and tighten wellhead xd cable strain relief fittings	Oct 8: Conduct rapid blowdown & shutin test								
South Fork Texas Creek	MW 35-7-8-1	Jan 20: Move datalogger ext pwr + lead to + pole on batt charger regul.; replace datalogger bkup batt; re-flash modem memory; enable modem auto pwr-up; start new datalogger test	Telemetry system malfunction; datalogger & power OK	May 20: Replace modem and cell phone; power and datalogger systems OK		Oct 8: Conduct well pressure buildup test		No data reported for 1/22/04 to 3/31/04 due to lower pressure transducer malfunction						
	MW 35-7-8-2					Oct 8: Conduct well pressure buildup test		Well pressure data suggest that wellhead transducer cable strain relief fittings leak intermittently in winter						
Beaver Creek Ranch	MW 35-6-17-1	Jan 7 & Jan 21: No wellhead gas leak @ MW35-6-17-2; Jan 21: Move datalogger, modem & solar panel pwr common leads to charger regul. common poles; replace datalogger bkup lith. batt; re-flash modem memory; enable modem auto pwr-up; start new datalogger test	Telemetry system malfunction; datalogger & power OK	May 20: Replace modem and cell phone; power and datalogger systems OK		Oct 7 & 21: conduct well pressure buildup tests								
	MW 35-6-17-2		MW 35-6-17-2: Bushing leak	May 20: Location of wellhead threaded bushing leak identified; wellhead assembly to be redesigned	Aug 20: New flanged wellhead assembly installed; xd cable leak at swagelok fitting	Oct 8 & 21: well pressure buildup tests; wellhead leaks @ pressure >570 psia	Wellhead leaks @ pressure >570 psia	Wellhead leaks @ pressure >570 psia						
Shamrock Mines	MW 35-6-13-1	Jan 21: Move solar pwr common lead to common pole on charger regul.; replaced datalogger bkup lith. batt; re-flash modem memory; enable modem auto pwr-up; start new datalogger test	Telemetry system malfunction; datalogger & power OK	May 20: Replace modem and cell phone; power and datalogger systems OK	Aug 20: Modem not powering up; replaced 12v battery - works	Oct 7: Replace 12v Pb-acid battery, modem works; Oct 8: well pressure buildup tests; Oct 21: Replace solar panel								



**2.0 MONITORING ACTIVITIES AND DATA SUMMARY**

**2.1 MONITORING SITE ACTIVITIES IN FIRST QUARTER 2004**

No monitoring site maintenance or repair activities were performed during the first quarter of 2004. Remote downloading of well pressure measurements automatically recorded at each of the four monitoring sites was performed monthly by AHA in Denver via telemetry.

**2.2 MONITORING WELL PRESSURE DATA SUMMARY**

Well pressure is currently being measured and recorded twice daily (12-hour interval) at all sites. Well pressure and calculated well water level data for the entire period of record for each monitoring well are plotted on the attached annotated charts. The water level in a well is calculated using the depth of the lower transducer and the difference in pressure between upper and lower transducers. Data analyses by site and monitoring well are summarized below. Well pressure measurements recorded by the data logger at each monitoring well site are available upon request to all interested parties.

**2.2.1 BASIN CREEK**

**MW 34-9-7-1**

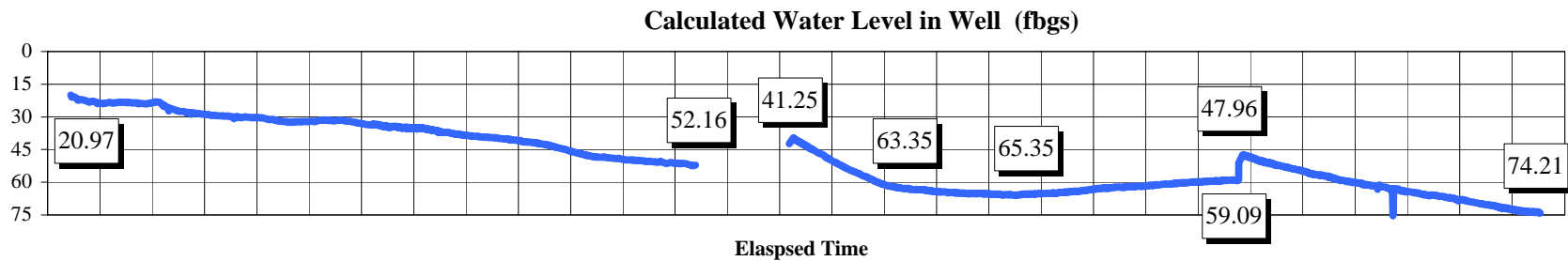
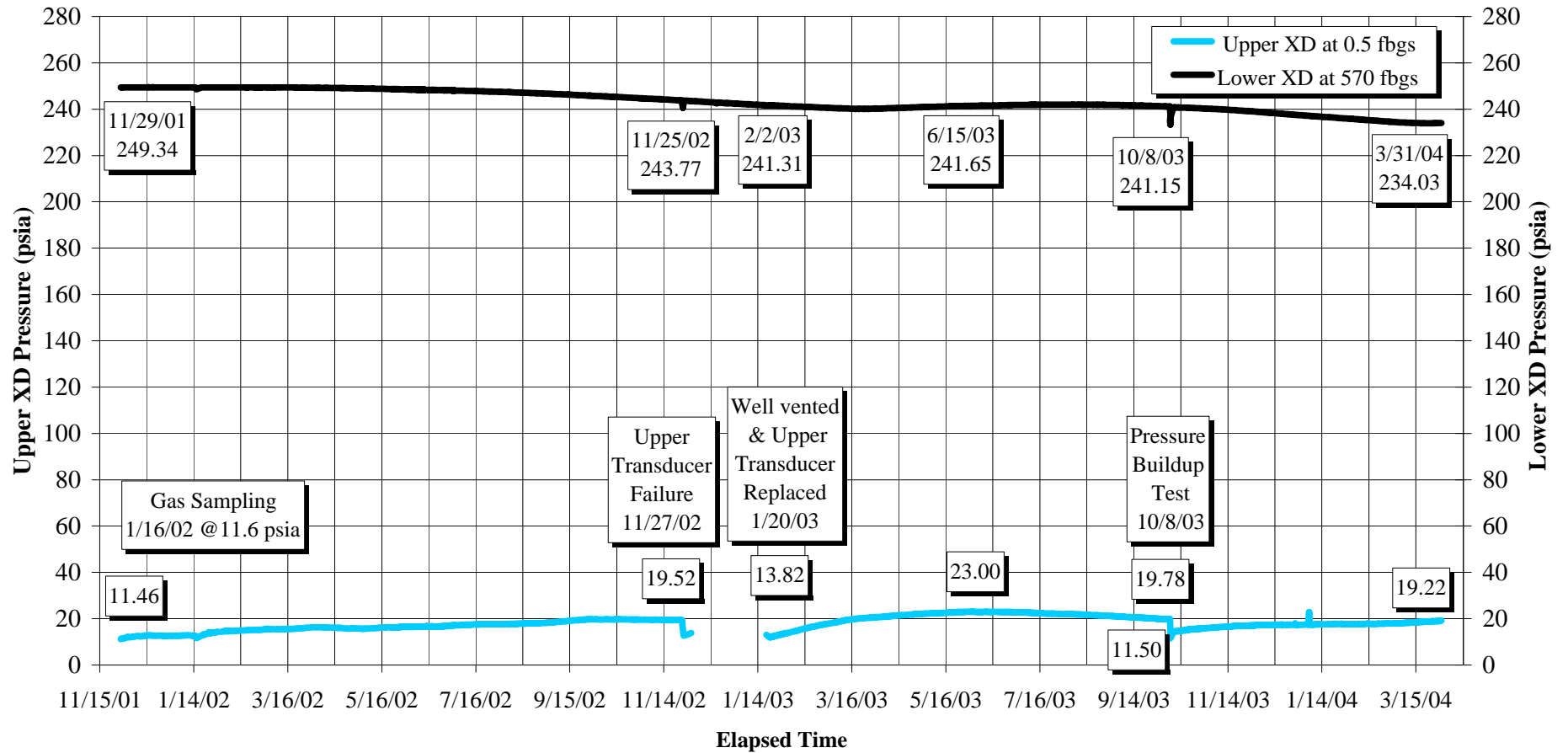
Figure 2 (attached) charts the upper and lower pressure transducer data and the calculated water level in the well for the period of record. Initial and ending monitoring well pressures and calculated water levels in the well are summarized in Table 4 for the period of record. This well has been monitored continuously since November 29, 2001.

**Table 4  
 Well Pressure Data Summary for Basin Creek Monitoring Wells**

<b>Well and Transducer</b>	<b>Period</b>	<b>Initial Pressure psia</b>	<b>Ending Pressure psia</b>	<b>Net Pressure Change psi</b>	<b>Initial Water Level in Well fbgs</b>	<b>Ending Water Level in Well fbgs</b>	<b>Net Water Level Change in Well ft</b>
<b>MW 34-9-7-1 Upper XD</b>	11/29/01 to 3/31/04	11.46	19.22	+7.76	20.97	74.21	-53.24
<b>Lower XD</b>		249.34	234.03	-11.31			
<b>MW 34-9-7-2 Upper XD</b>	05/24/02 to 3/31/04	33.20	27.68	-5.52	4.42	5.36	-0.94
<b>Lower XD</b>		241.42	235.49	-5.93			

The upper transducer chart indicates a trend of gradually increasing pressure at the wellhead and corresponding decline in the water level in the well from December 2001 to July 2003. The

**Figure 2**  
**Pressure Transducer Data**  
**Basin Creek Well MW-34-9-7-1**



short-term interruption in this trend is due to venting of the well on January 20, 2003 to replace the upper transducer. A gradual decline in wellhead pressure and a corresponding rise in the water level in the well are indicated from July to October 2003, prior to the pressure buildup test conducted October 8, 2003.

Since the MW 34-9-7-1 wellhead was vented and shut in on October 8, 2003, the wellhead pressure buildup reached 19.22 psia on March 31, 2004, and the calculated water level in the well declined from 47.96 fbs to 74.21 fbs on March 31, 2003. The bottomhole pressure rapidly returned to previous levels after the buildup test and then declined about 7 psi from 241.15 psia on October 8, 2003 to 234.03 psia on March 31, 2004.

### **MW 34-9-7-2**

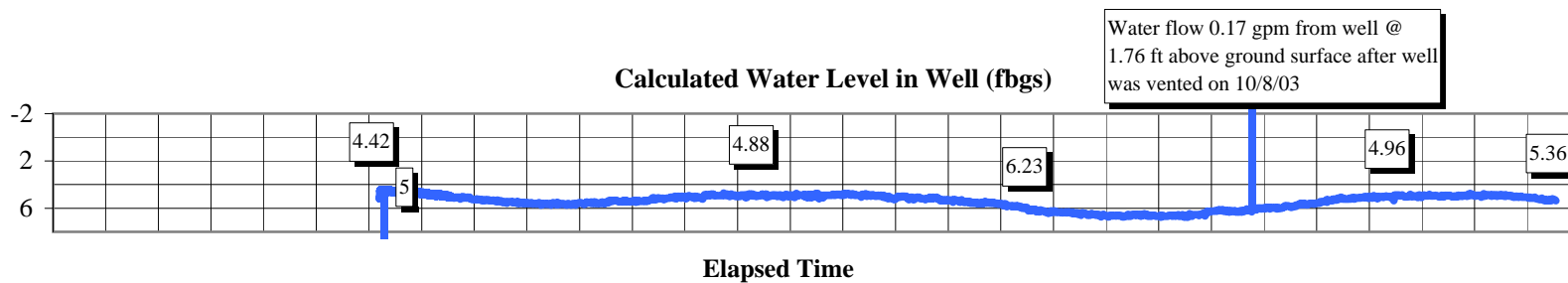
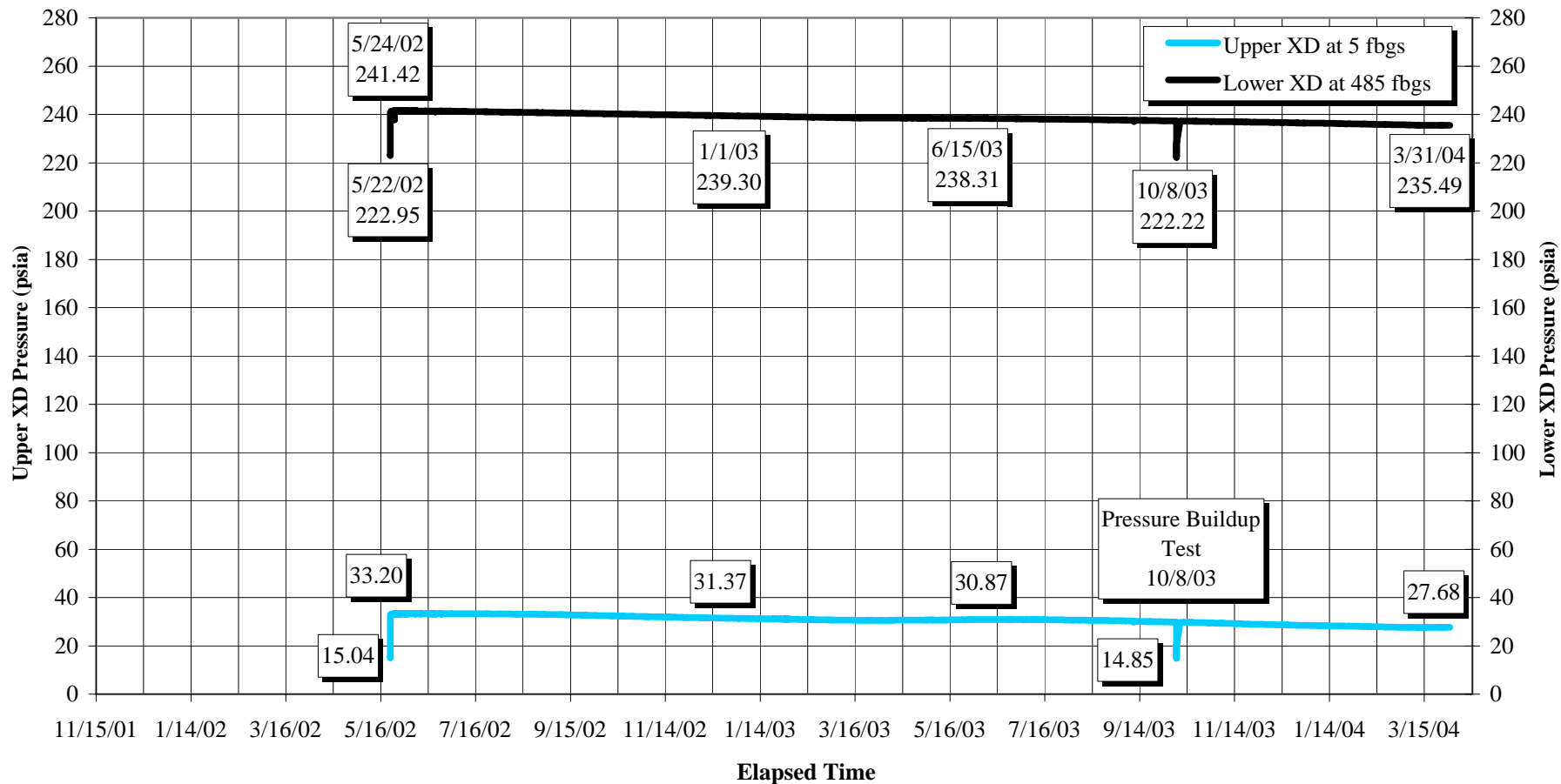
The pressure data for well MW-34-9-7-2 are charted on Figures 3 and 3a (attached). Figure 3 also charts the calculated water level in the well for the period of record. Initial and ending monitoring well pressures and calculated water levels in the well are summarized in Table 4 for the period of record. This well has been monitored continuously since May 24, 2002.

Figure 3 shows a trend of gradually declining wellhead and bottomhole pressures for the period of record. Figure 3a indicates that wellhead and bottomhole pressures are subject to slight seasonal fluctuations in the otherwise declining trend for the period of record.

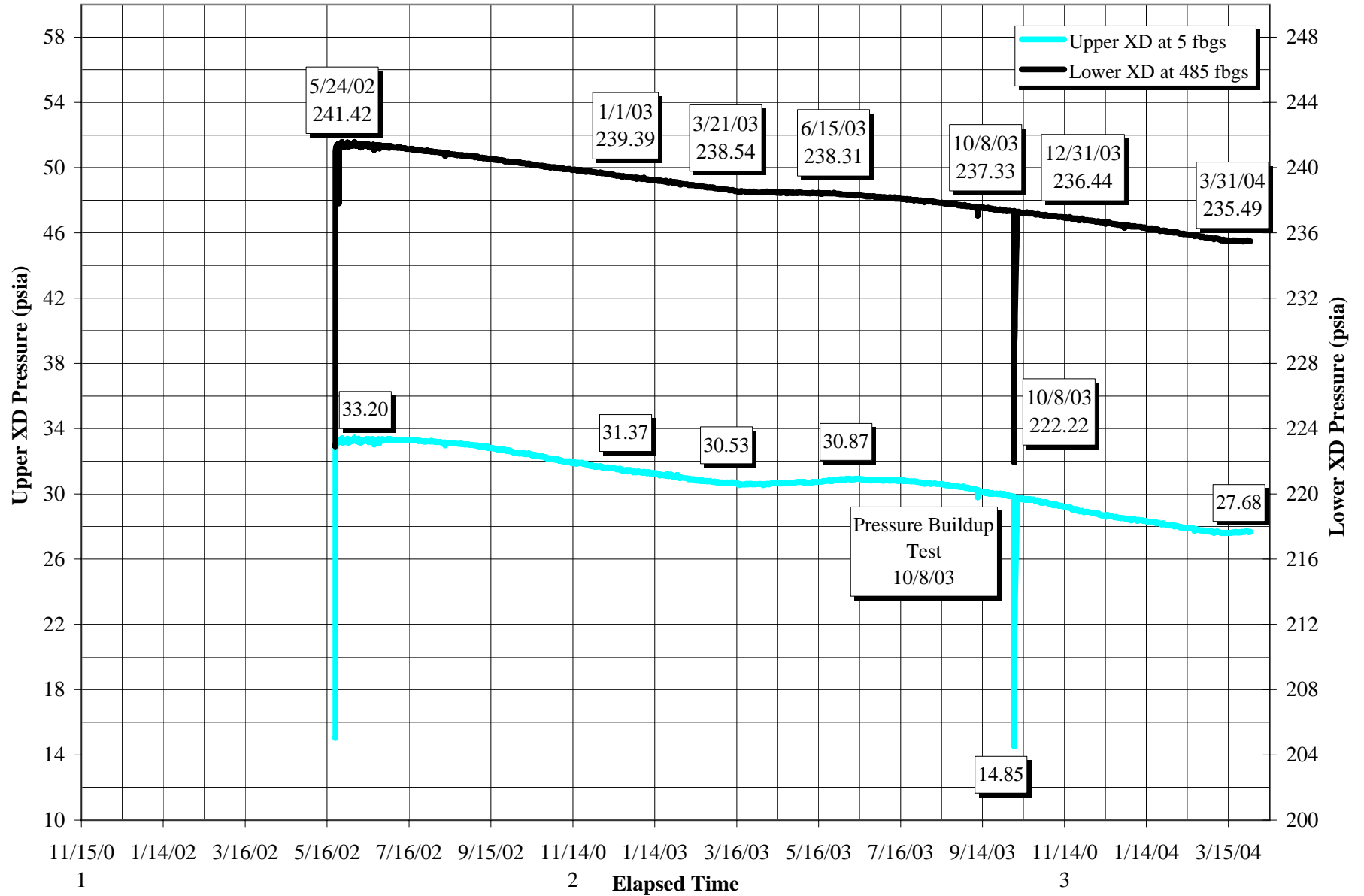
The response to the pressure buildup test conducted on October 8, 2003 included a release of gas and water when the well was vented. One minute after the well was vented on October 8, 2003, water flowed from the wellhead at a measured rate of 0.17 gpm (250 gpd). Wellhead and bottomhole pressures rapidly returned to previous levels after the buildup test.

The upper transducer in this well is suspended at a depth of 5 fbs. The pressure buildup test response data suggest that when this well is shut in the water level is above the upper transducer. If this is the case, the upper transducer is measuring the wellhead pressure and the column of water above it. Therefore, in the spring of 2004, the upper transducer will be reset at the top of the wellhead, above the water level in the well.

**Figure 3**  
**Pressure Transducer Data**  
**Basin Creek Well MW-34-9-7-2**



**Figure 3a**  
**Pressure Transducer Data**  
**Basin Creek Well MW-34-9-7-2**





**2.2.2 SOUTH FORK TEXAS CREEK**

Both monitoring wells have been monitored continuously since November 29, 2001, except for the period between December 4, 2002 and January 20, 2003 when there was a monitoring system power failure.

**MW 35-7-8-1**

Data for MW 35-7-8-1 are charted on Figures 4 and 4a (attached) and summarized in Table 5. Upper transducer data recorded since January 1, 2002 indicate a relatively stable wellhead pressure, ranging between 13.1 psia and 13.8 psia, about 2 psia above atmospheric pressure (11.1 psia at altitude 7500 feet). The wellhead pressure in this well (13+ psia) is about seven times lower than the wellhead pressure in MW 35-7-8-2 (+/- 90 psia).

Between June 15, 2003 and October 8, 2003, the calculated water level in the well declined 17 feet, from about 77.9 fbg to 94.9 fbg, without a corresponding change in wellhead pressure. Subsequent to the October 8, 2003 pressure buildup test, the calculated water level in the well exhibits a rising trend, from 94.9 fbg in mid-November 2003 to 90.4 fbg on January 22, 2004. No bottomhole pressure data is reported after January 22, 2004 to March 31, 2004 due to an apparent lower transducer equipment malfunction. The lower transducer will be replaced in the spring of 2004.

**Table 5**  
**Well Pressure Data Summary for South Fork Texas Creek Monitoring Wells**

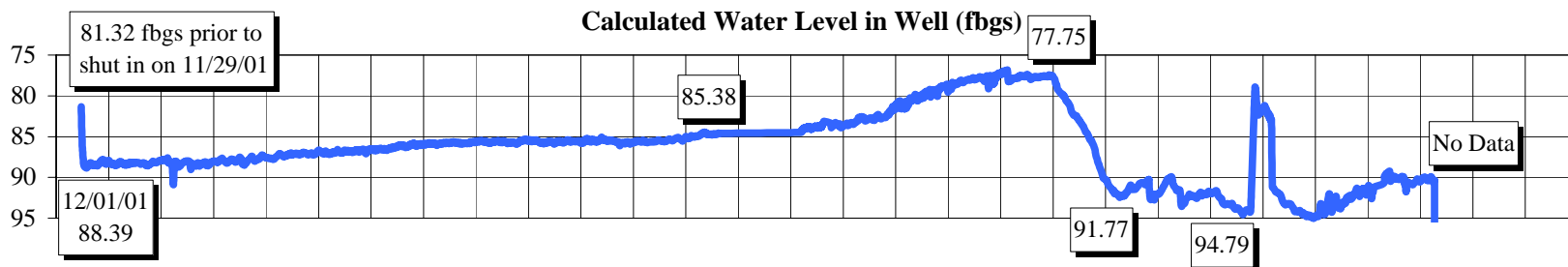
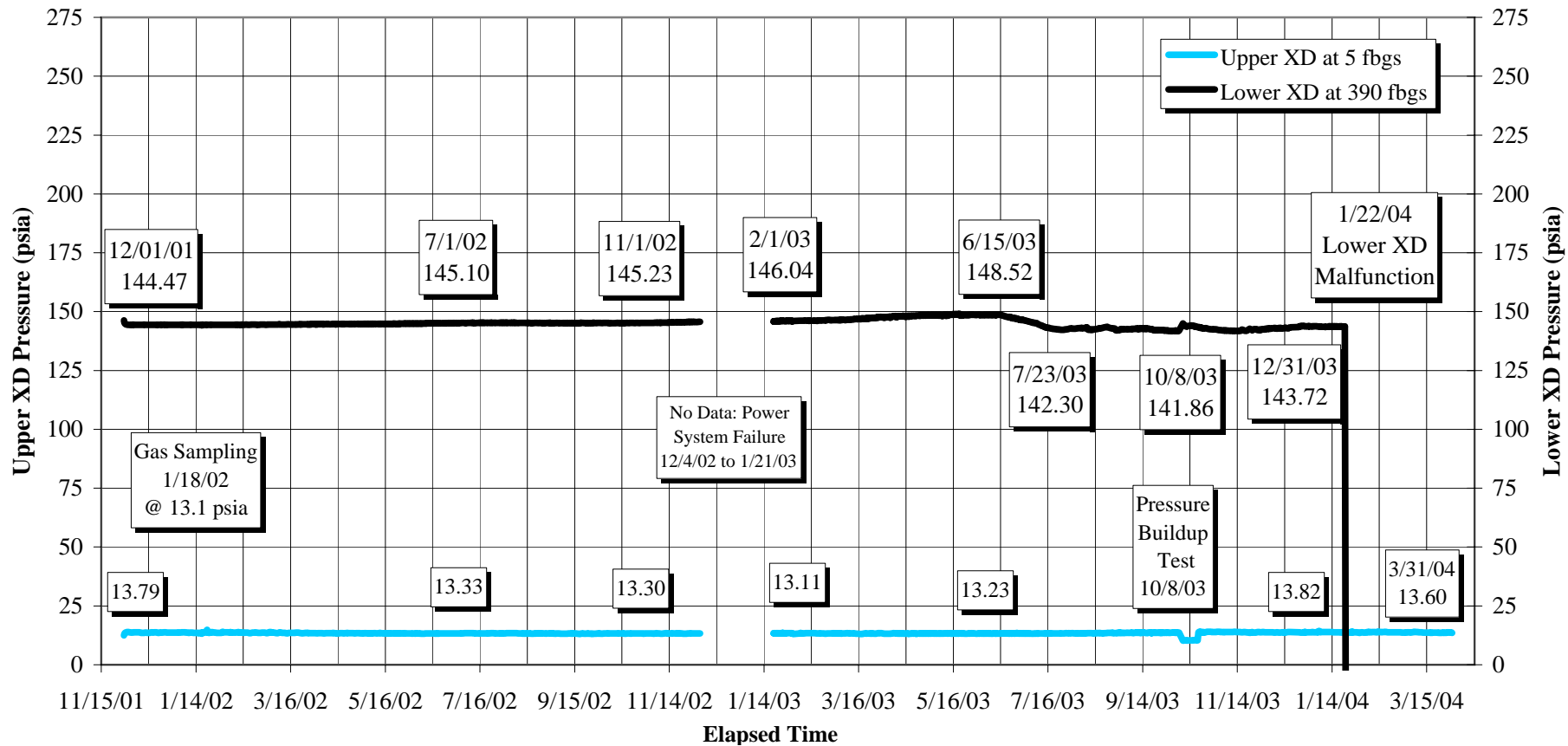
Well and Transducers	Period	Initial Pressure psia	Ending Pressure psia	Net Pressure Change psi	Initial Water Level in Well fbg	Ending Water Level in Well fbg	Net Water Level Change in Well ft
MW 35-7-8-1 Upper XD	12/01/01 to 3/31/04	13.79	13.60	-0.19	88.39	90.40 (1/22/04)	-2.01
Lower XD		144.47	143.69 (1/22/04)	-0.78 (1/22/04)			
MW 35-7-8-2 Upper XD	1/15/02 to 3/31/04	91.33	92.84	1.51	Water level in well is >225 fbg		
Lower XD		91.91	93.38	1.47			

Note: No data for the lower transducer in MW 35-7-8-1 is reported after 1/22/04 due to an equipment malfunction.

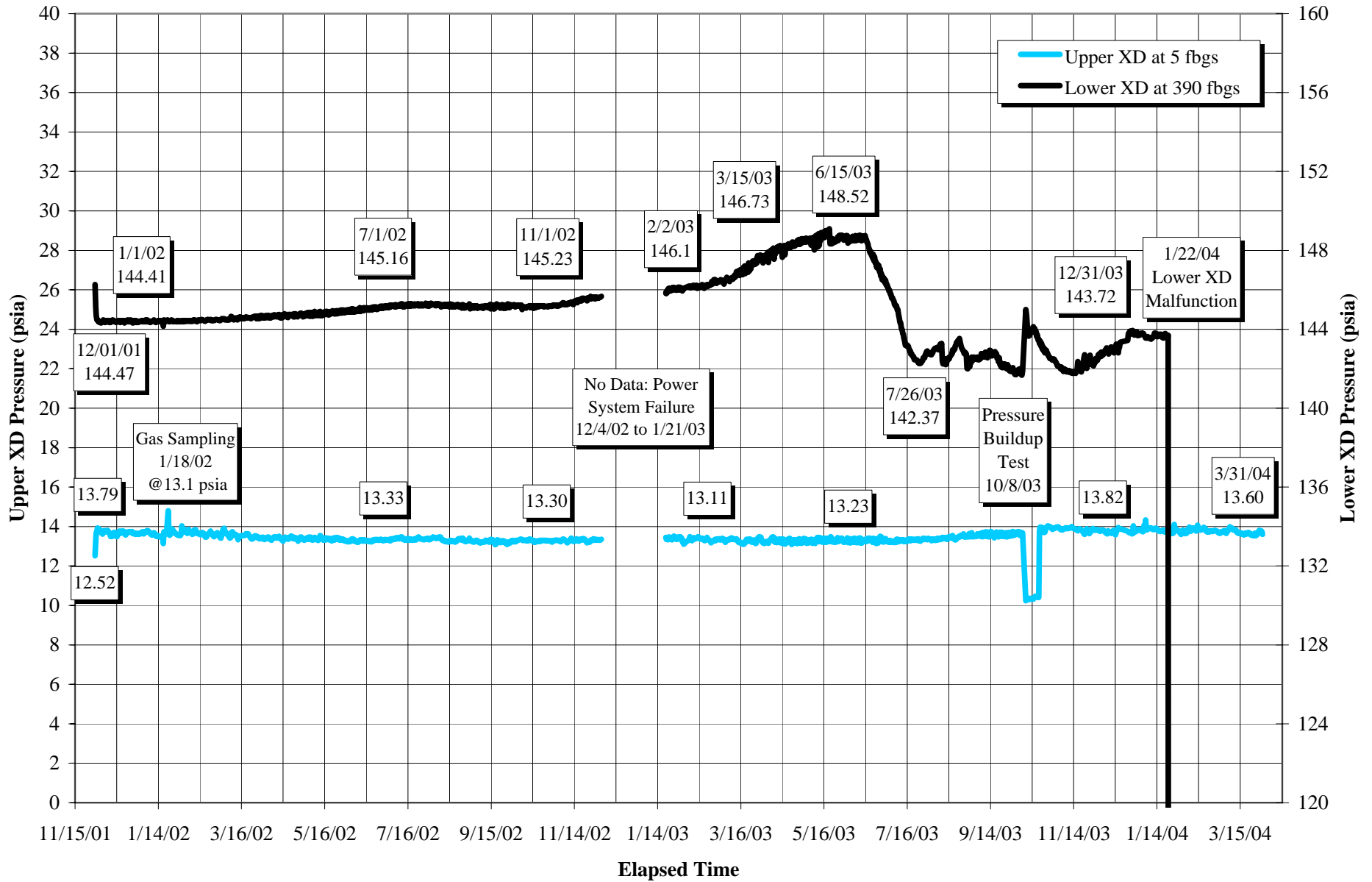
**MW 35-7-8-2**

Figure 5 (attached) charts the pressure data for MW 35-7-8-2, which exhibits an entirely different pressure regime than the deeper monitoring well, MW 35-7-8-1. Figure 5 and Table 5 indicate that both lower and upper transducers are sensing essentially the same pressure. Thus, the water

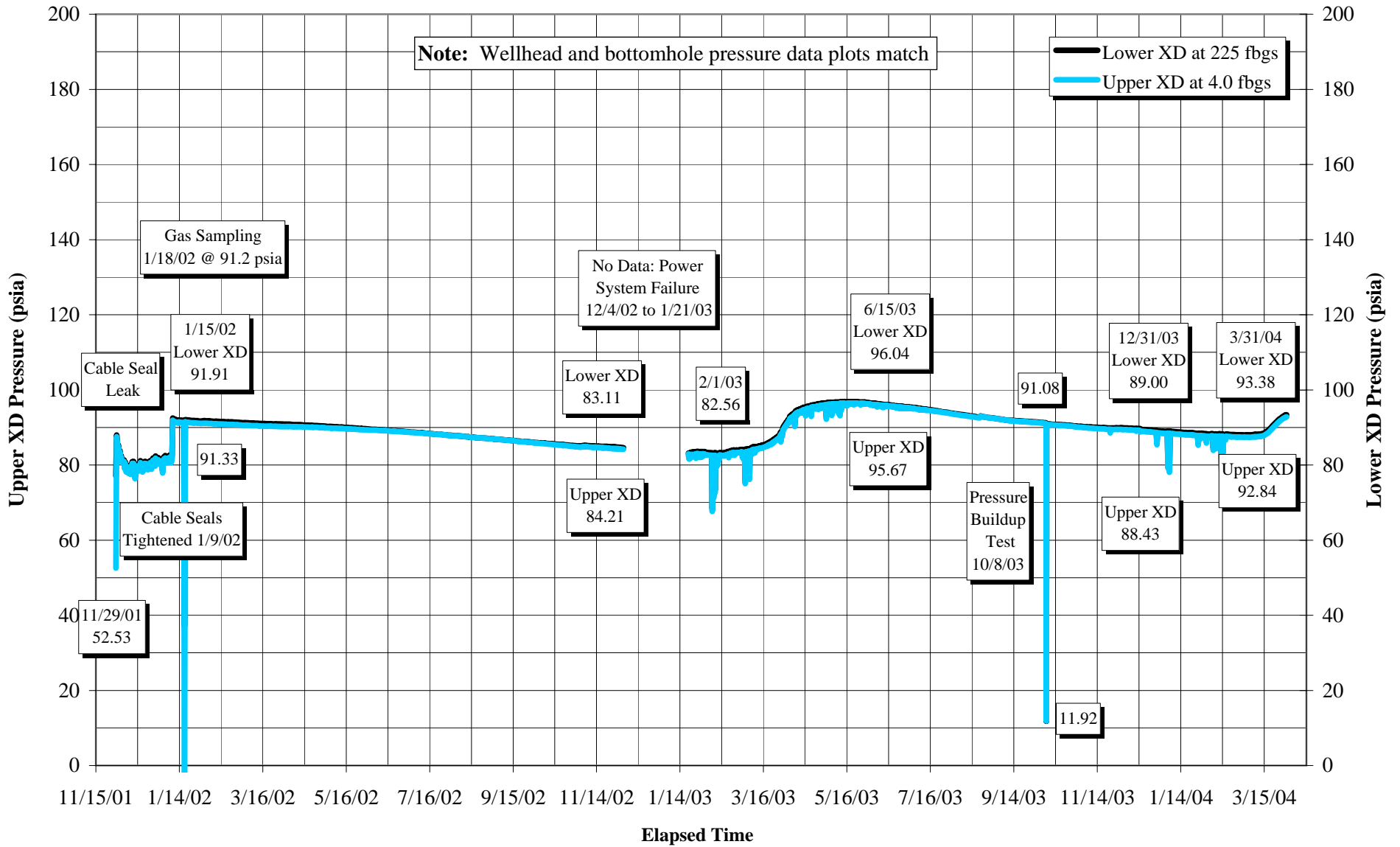
**Figure 4**  
**Pressure Transducer Data**  
**South Fork of Texas Creek Well MW-35-7-8-1**



**Figure 4a**  
**Pressure Transducer Data**  
**South Fork of Texas Creek Well MW-35-7-8-1**



**Figure 5**  
**Pressure Transducer Data**  
**South Fork Texas Creek Well MW-35-7-8-2**



level in the well is deeper than 225 fbs, which is the depth of the lower transducer. The consistently small pressure differential (approximately 0.6 psi) between the two transducers likely is due to a slight difference in instrument calibration.

Table 5 indicates a net increase of about 1.5 psi in the wellhead pressure for the period of record. Figure 5 suggests that wellhead pressure is subject to seasonal fluctuations. In general, the wellhead pressure for the period of record appears to increase by several psi in early spring and then gradually decline until the following spring.

Figure 5 also shows that the downward spikes in the wellhead pressure which occurred in the winter of 2003 were repeated in the winter of 2004, even after both of the wellhead transducer cable strain relief fittings were tightened on August 21, 2003. The strain relief fittings will be replaced with new fittings in the spring of 2004.



### 2.2.3 BEAVER CREEK RANCH

#### MW 35-6-17-1

Monitoring data for MW 35-6-27-1 are charted on Figure 6 (attached) and summarized in Table 6. This well has been monitored almost continuously since May 21, 2002. As described below, the pressure regime for this well is different than the regime exhibited by well MW 35-6-17-2.

Pressure buildup tests were conducted on October 7, 2003 and October 21, 2003. Since these tests, the wellhead pressure increased about 90.9 psi, from 14.36 psia to 105.24 psia on March 3, 2004, and then declined about 12.3 psi, from 105.24 psia to about 92.95 psia on March 31, 2004. For the same period there was a corresponding net decline of 219.08 feet in the calculated water level in the well, from 219.08 fbgs on October 7, 2003 to 408.33 fbgs on March 31, 2004.

**Table 6**  
**Well Pressure Data Summary for Beaver Creek Ranch Monitoring Wells**

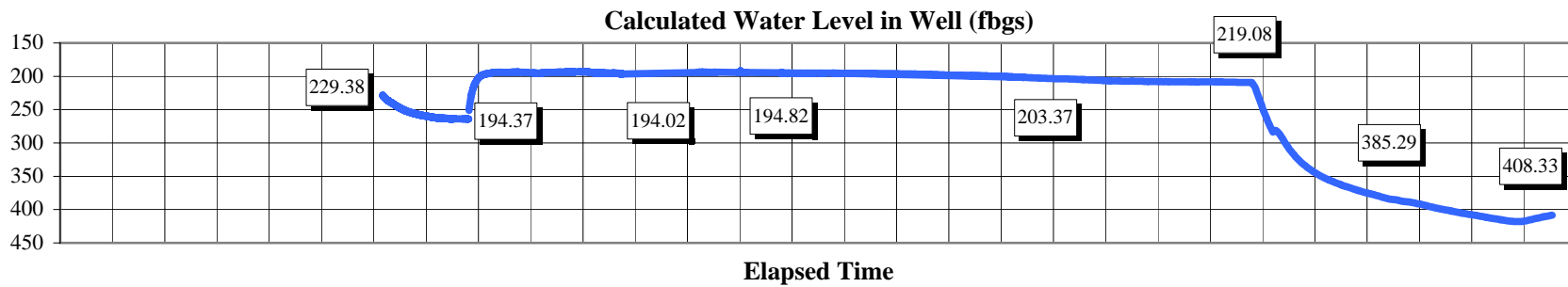
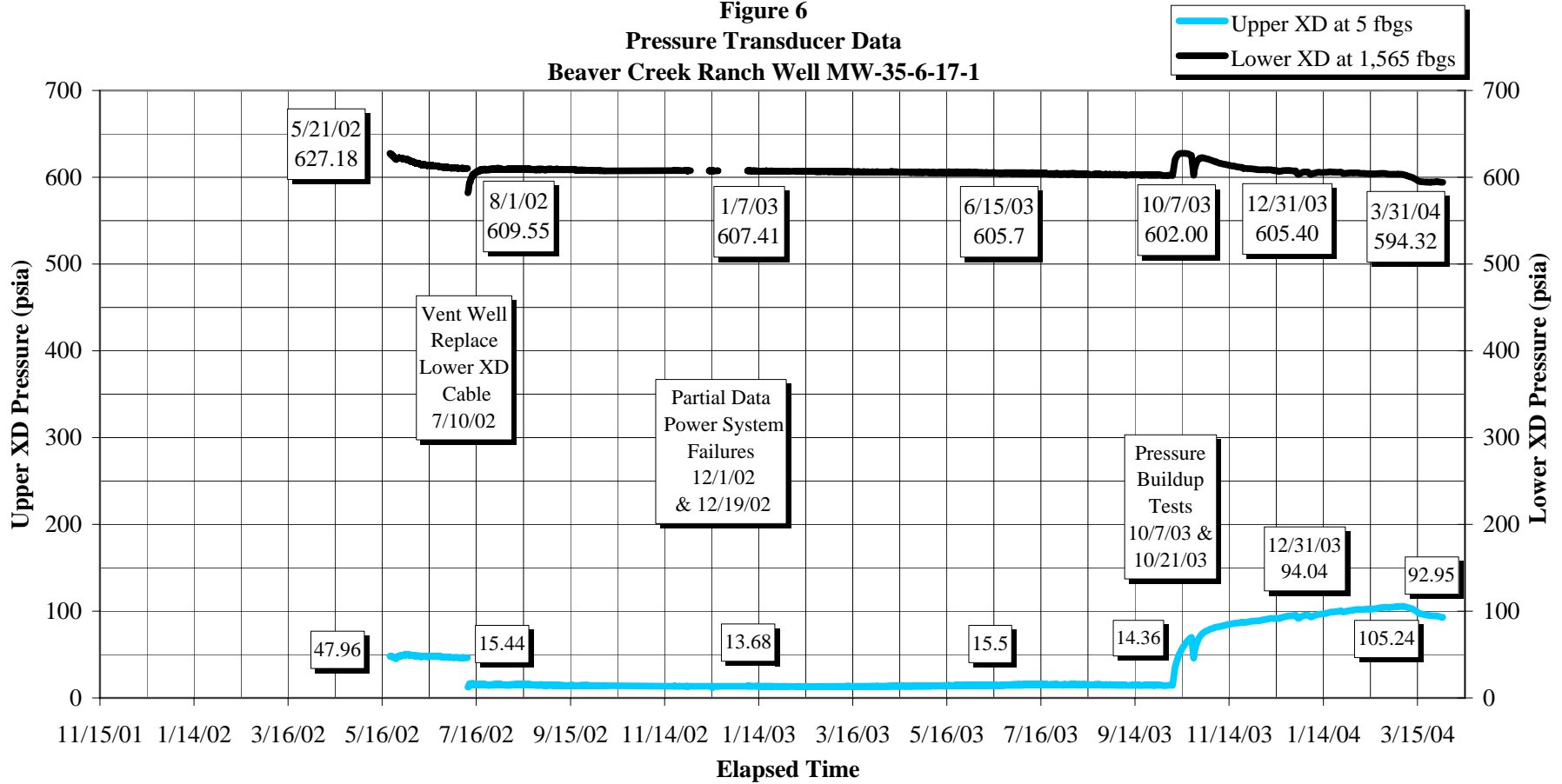
Well and Transducers	Period	Initial Pressure psia	Ending Pressure psia	Net Pressure Change psi	Initial Water Level in Well fbgs	Ending Water Level in Well fbgs	Net Water Level Change in Well ft
MW 35-6-17-1 Upper XD	08/01/02 to 3/31/04	15.44	92.95	77.51	194.37	408.33	-213.96
Lower XD		609.55	594.32	-15.23			
MW 35-6-17-2 Upper XD	06/15/02 to 3/31/04	614.27	565.47	-48.80	1,377.64	1,378.92	-1.28
Lower XD		632.63	581.10	-51.53			

#### MW 35-6-17-2

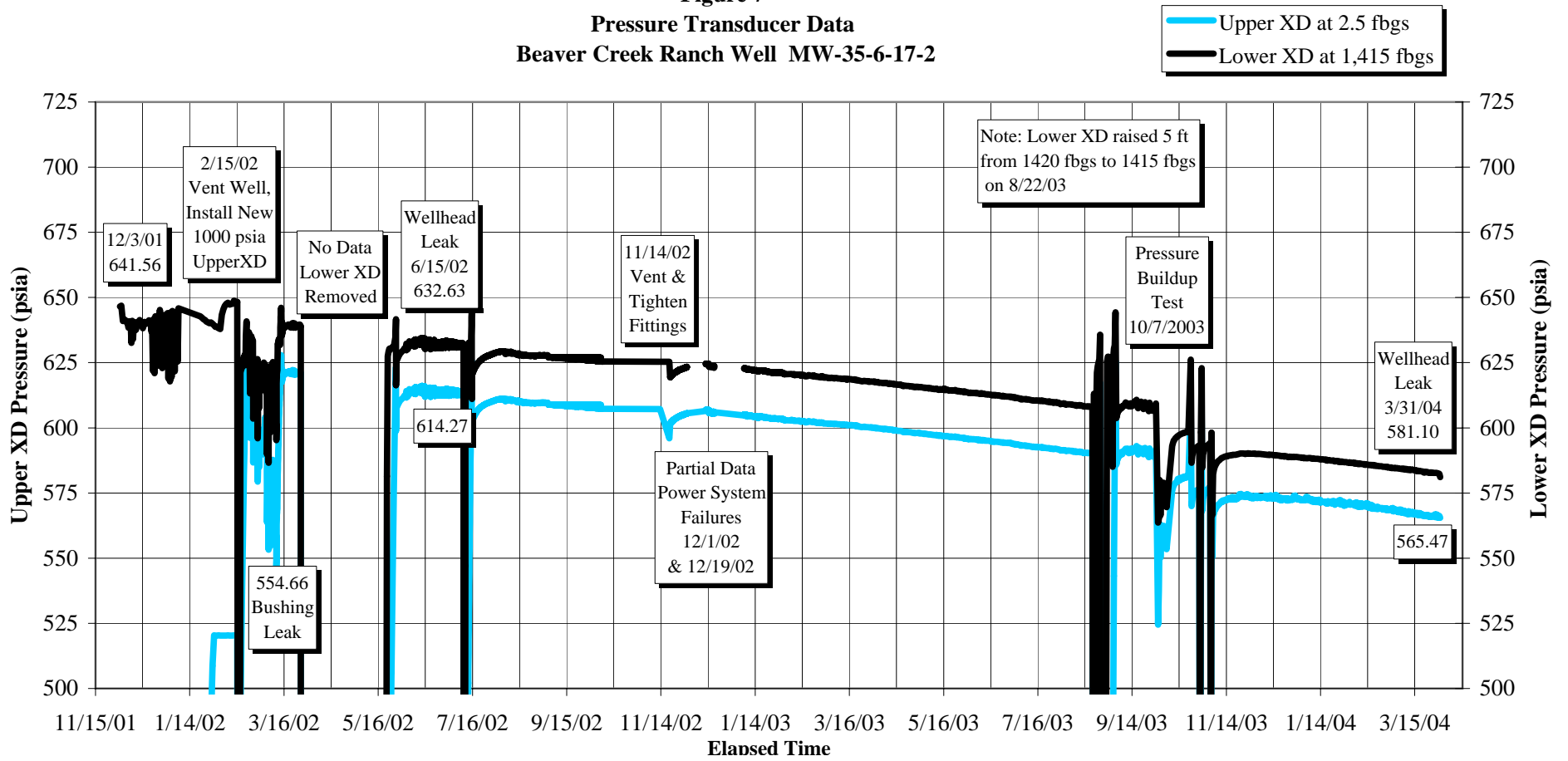
Wellhead pressure and the calculated water level data for MW 35-6-17-2 are charted on Figure 7 (attached) and summarized in Table 6. This well has been monitored since December 3, 2001. Data were not collected between April 8, 2002 and May 20, 2002 due to a damaged lower transducer cable. There are no data for the periods December 1 to December 13, 2002 and December 19, 2002 to January 7, 2003 due to power system failures.

The wellhead pressure has been measured in excess of 600 psia, which is notably higher than in the other 3M monitoring wells. However, the wellhead has not been completely shut in since February 2002 because of a variety of wellhead fitting leaks. Consequently, the pressure data charted on Figure 7 and summarized in Table 6 are only considered to be lower bounds. True pressures and trends cannot be measured until a complete shut in is accomplished.

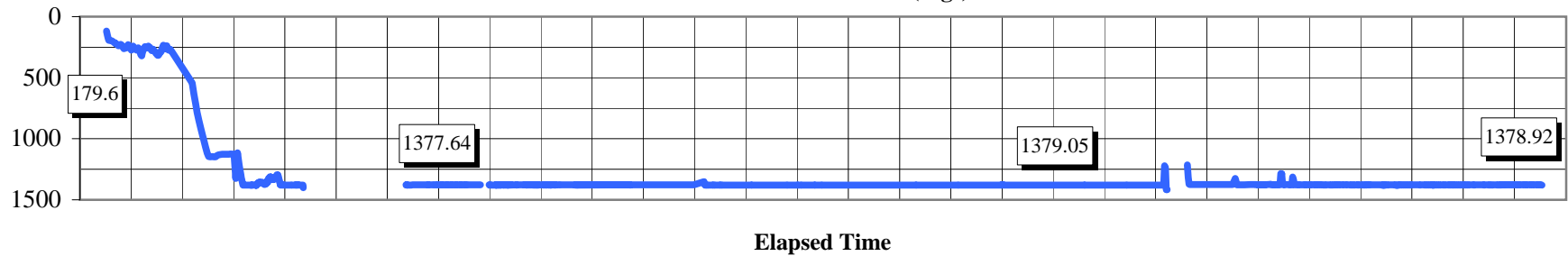
**Figure 6**  
**Pressure Transducer Data**  
**Beaver Creek Ranch Well MW-35-6-17-1**



**Figure 7**  
**Pressure Transducer Data**  
**Beaver Creek Ranch Well MW-35-6-17-2**



**Calculated Water Level in Well (fbgs)**



The flanged wellhead assembly installed on August 20, 2003 eliminated most of the threaded fittings that previously leaked; however, a small gas leak now exists between the flexible transducer cable and the Swagelok fitting. This leak prevents a buildup of wellhead pressure in excess of 575 psia. The well transducer system will be modified in the spring of 2004 to only measure shut-in wellhead pressure at the top of the wellhead without passing flexible transducer cables through the wellhead assembly.

## 2.2.4 SHAMROCK MINES

Well MW 35-6-13-1 monitoring data are charted on Figures 8 and 8a (attached) and summarized in Table 7 for the entire period of record. This well has been monitored continuously since May 22, 2002.

The pressure data continue to be quite stable. The wellhead appears to be at about atmospheric pressure and has only fluctuated within a range of 1 psi (between 11 psia and 12 psia) for the period of record. Atmospheric pressure at this site (altitude 7717 feet) is about 11 psia. The calculated water level in the well exhibits a similar trend, varying within a range of 2.5 feet, between 39 fbg and 41.5 fbg. Both Figures 8 and 8a suggest that the minor fluctuations in wellhead pressure and water level in the well are seasonal.

**Table 7**  
**Well Pressure Data Summary for Shamrock Mines Monitoring Well**

Well and Transducers	Period	Initial Pressure psia	Ending Pressure psia	Net Pressure Change psi	Initial Water Level in Well fbg	Ending Water Level in Well fbg	Net Water Level Change in Well ft
MW 35-6-13-1 Upper XD	5/22/02 to 3/31/04	12.06	11.32	-0.74	39.66	38.53	1.13
Lower XD		211.60	211.35	-0.25			

## 3.0 FUTURE WORK – SECOND QUARTER 2004

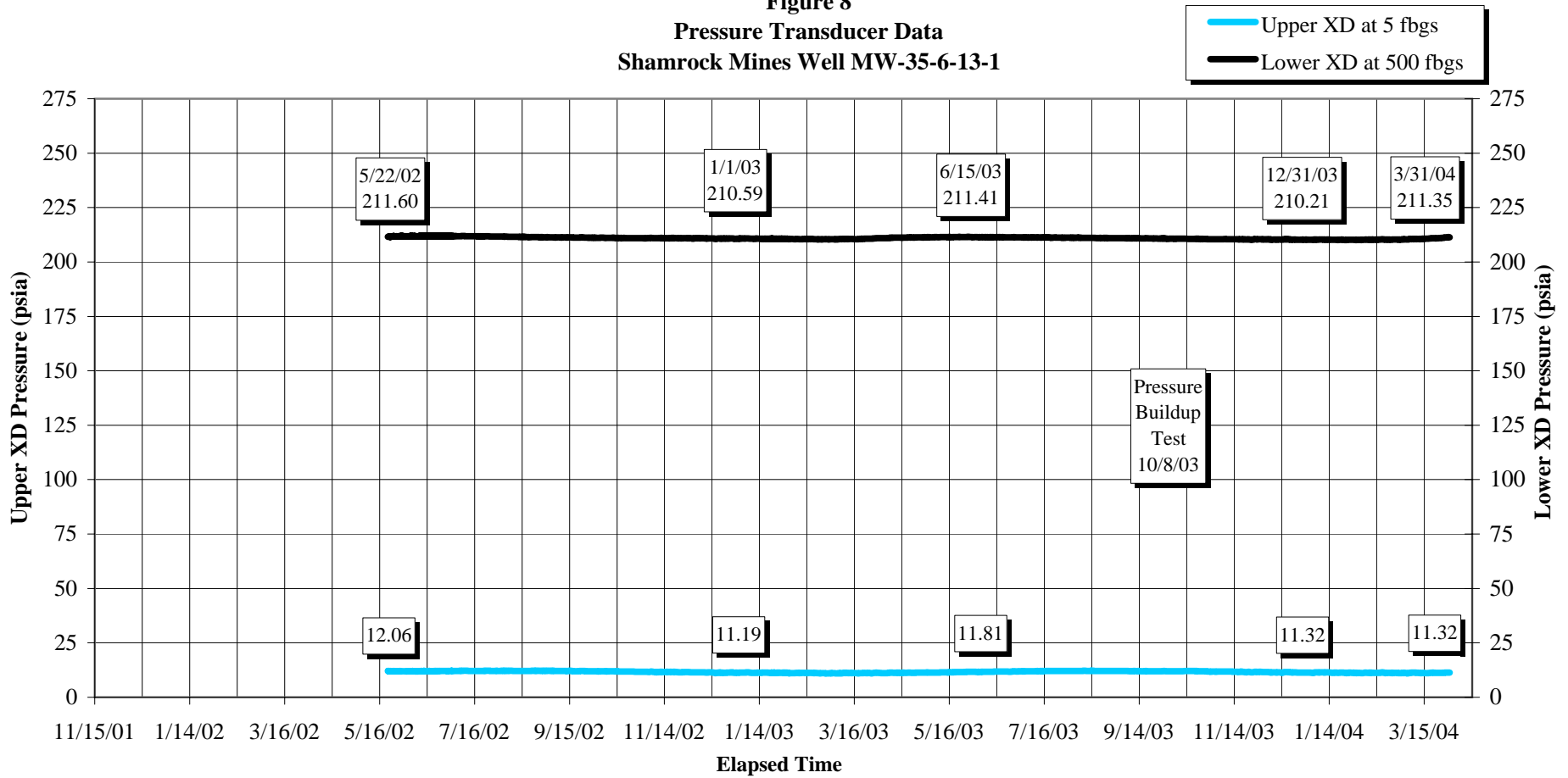
Routine work will continue to include periodic checks of each monitoring system, recorded pressure measurement data downloads via telemetry, and the following site-specific operations activities:

- The upper transducer in Basin Creek well MW 33-9-7-2 will be raised from 5 fbg to the top of the wellhead assembly.
- All wellhead transducer cable strain relief fittings will be replaced at the South Fork of Texas Creek site. In addition, the lower transducer in well MW 35-7-8-1 will be replaced.
- Alternative wellhead assembly designs for safely containing the high wellhead pressure in Beaver Creek Ranch well MW 35-6-17-2 are being evaluated by COGCC and AHA. In conjunction with this evaluation, the upper and lower transducers in well MW-35-6-17-2 will be removed in the spring of 2004 and one of the transducers will be threaded directly into one of the wellhead NPT fittings. This will allow wellhead shut-in pressure to be monitored without passing flexible transducer cables through the wellhead assembly.

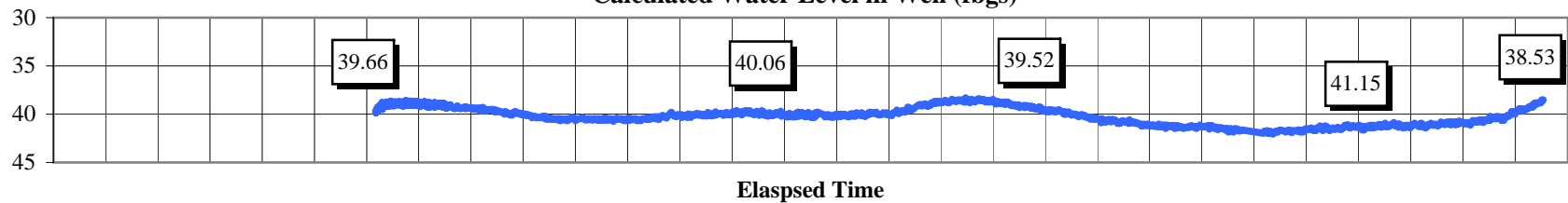
Other operations and maintenance work will be performed as needed.



**Figure 8  
Pressure Transducer Data  
Shamrock Mines Well MW-35-6-13-1**



**Calculated Water Level in Well (fbgs)**



**Figure 8a**  
**Pressure Transducer Data**  
**Shamrock Mines Well MW-35-6-13-1**

