



entire LPB



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March 21, 2007

Mr. Brian Macke, Director  
Colorado Oil and Gas Conservation Commission  
1120 Lincoln St., Suite 801  
Denver, CO 80203

Dear Brian:

**COGCC Order No. 112-156, Fruitland Coal Infill Well Pressure Data Requirement**

**Well – NEIL GAS UNIT 34-13 NO. 4**

API No. 05-067-09100-00  
Location – 34N 08W 13 SW-SUL, La Plata County  
Date of First Delivery – 5/2/06

**Initial Pressure Information**

Pressure – 812 PSIA @ 0' KB (Deviated Well; Driller's Depth – 2,916' KB)  
Date Measured – 5/2/06  
Shut-in Time – 4.5 Days  
Method – Read surface casing pressure gauge, measured fluid level, corrected to true vertical depth of ~2,500' KB

**Two – Three Month Pressure Information**

No test obtained due to poor well performance (low gas rate relative to water rate)

**Subsequent Pressure Test Information**

Pressure – 808 PSIA @ 0' KB (Deviated Well; Driller's Depth – 2,916' KB)  
Date Measured – 3/1/07  
Shut-in Time – 15 Days  
Cumulative Recovery @ Shut-in – 38 MMCF  
Method – Read surface casing pressure gauge, measured fluid level, corrected to true vertical depth of ~2,500' KB



I've attached analysis information regarding each of the above tests.

Also attached, you will find some performance data plots. On the first graph, note the degradation in gas rate (shown in red) shortly after the well was returned to production (RTP) following the 15-day pressure build-up test. Generally, we see the "flush production" spike that is evident here immediately after RTP on most of the wells we test. However, this higher rate is usually maintained for a considerably longer period of time. It is very unusual to see the rate drop precipitously below the stabilized rate prior to shut-in. I mentioned in my informal note to you of 2/23/07 that this well had a conventional insert pump and we were more confident in being able to obtain this test successfully than in the deviated wells with the more commonly installed progressive cavity (PC) pumps because of the torque issue I mentioned to you in my note. This is a good example of the risks in testing the 80-acre infill, highly deviated wells – even for one which had a better chance for success than most.

I should also note there was some confusion regarding the reported pressure for the second test reported here. I was monitoring our Automation system for the entire 15-day period it was shut-in. I had the fluid level shot and the well returned to production after the casing pressure, as reported by the Automation system, reached 959 PSIG. I converted that to a BHP value of 1,029 PSIA. I chose to report the lower pressure (808 PSIA) for several reasons:

- 1.) It agreed closely with the initial test pressure of 812 PSIA. This probably makes sense, because the well had accumulated only 38 MMCF when it was shut in for the second test.
- 2.) The straight-hole, 160-acre infill well Neil 33-34 No. 2 on the same quarter section tested 900 PSIA at bottom hole after 35 days of shut-in and with no fluid level above the formation. The pressure bomb was run to 2,426' KB.

I wanted to expound a bit in this letter to again underscore the difficulty we experience in obtaining pressure information on our deviated wells. It also highlights the potential for incurring waste in instances where we cannot recover timely our pre-test production rate. Additionally, however, this example demonstrates a clear need for the second well on this quarter section given the very little, if any, true reservoir pressure depletion between the No. 4 well and the (2005 completion) No. 2 well.

Yours very truly,



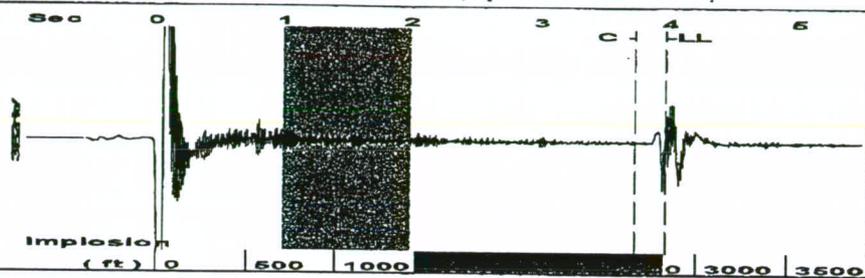
Roger Gierhart  
San Juan North/Asset

cc: Well File

## Initial Infill Well Pressure with Sonic Fluid Level

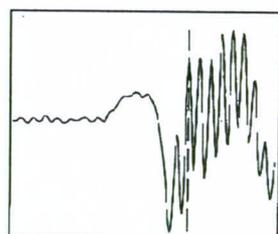
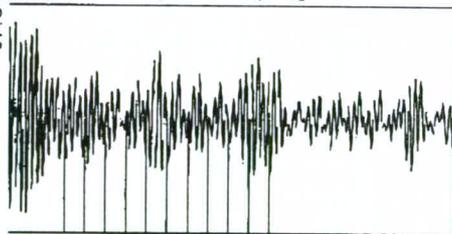
Data	Input		
Well	NEIL GAS UNIT 34-13 NO. 4		
API Number	05067091000000		
Date and time of Sonolog shot	05/02/2006 12:41:02 PM		
SI Casing Pressure, PSIG	724		
Gas / Liquid Interface Pressure, PSIG	768		
Liquid Level, ft	2,831 (Driller's Depth)		
Pump Intake Depth, ft	2,916 (Driller's Depth)		
Equivalent Gas Free Liquid HT, TVD	73		
<b>Calculations</b>			
Bottomhole Pressure, PSIG	800		
Bottomhole Pressure, PSIA	812		
Reference Depth, Ft	2,916 (Driller's Depth)		

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 05/02/06 12:41:02)



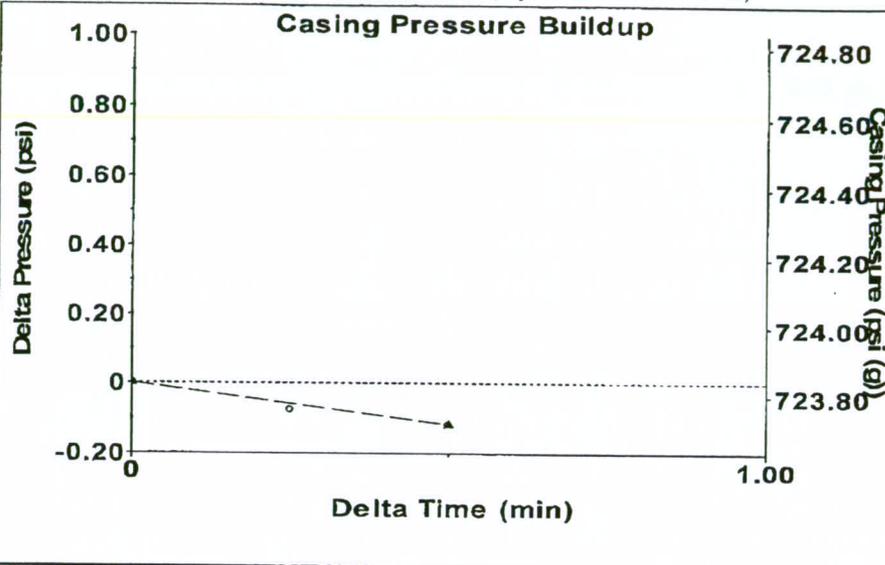
Filter Type High Pass Automatic Collar Count Yes Time 3.97 sec  
 Manual Acoustic Velo 1408.89 ft/s Manual JTS/sec 22.2222 Joints 89.2907 Jts  
 Depth 2830.51 ft

[ 1.0 to 2.0 (Sec) ]



Analysis Method: Automatic

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 05/02/06 12:41:02)



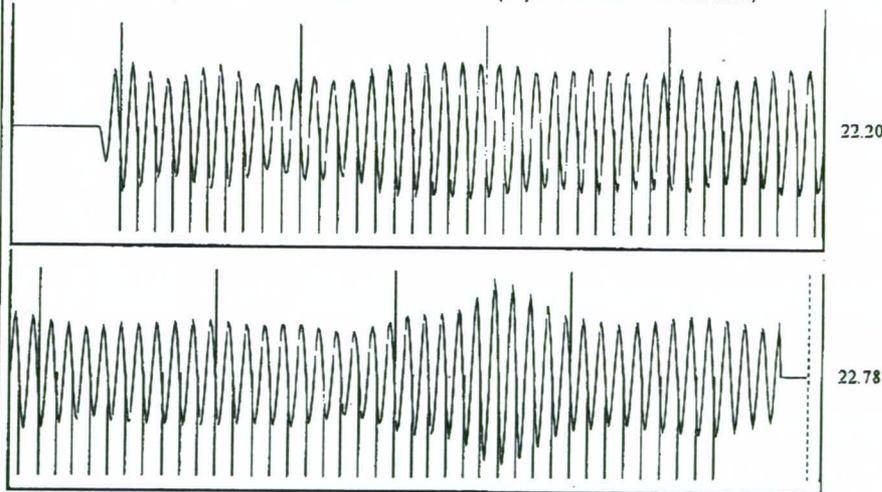
Change in Pressure -0.12 psi PT 7134  
 Change in Time 0.50 min Range 0 - ? psi

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 05/02/06 12:41:02)

Production		Potential	Casing Pressure	Producing
Oil	-*-	-*- BBL/D	723.8 psi (g)	Annular Gas Flow
Water	-*-	-*- BBL/D	Casing Pressure Buildup	0 Mscf/D
Gas	-*-	-*- Mscf/D	-0.1 psi	% Liquid
			0.50 min	100 %
IPR Method	Vogel	Gas/Liquid Interface Pressure	768.3 psi (g)	Liquid Level
PBHP/SBHP	-*-	768.3 psi (g)		2830.51 ft
Production Efficiency	0.0			Formation Depth
				2963.00 ft
Oil	40 deg API			Pump Intake Pressure
Water	1.05 Sp.Gr.H2O			791.7 psi (g)
Gas	0.57 Sp.Gr.AIR			Producing BHP
				813.1 psi (g)
Acoustic Velocity	1425.95 ft/s			Static BHP
				-*- psi (g)
Pump Intake Depth	2916.00 ft			
Total Gaseous Liquid Column HT (TVD)	73 ft			
Equivalent Gas Free Liquid HT (TVD)	73 ft			



Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 05/02/06 12:41:02)



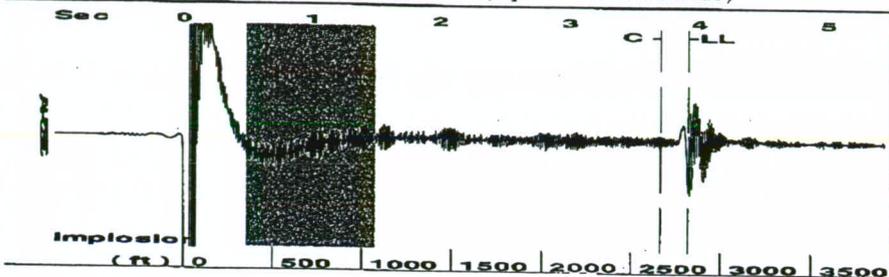
Acoustic Velocity 1425.95 ft/s Joints counted 78  
 Joints Per Second 22.4913 jts/sec Joints to liquid level 89.2907  
 Depth to liquid level 2830.51 ft Filter Width 20.2222  
 Automatic Collar Count Yes Time to 1st Collar 0.268 3.736

## Subsequent Infill Well Pressure with Sonic Fluid Level

Data	Input		
Well	NEIL GAS UNIT 34-13 4		
API Number	05067091000000		
Date and time of Sonolog shot	03/01/2007 12:34:21 PM		
SI Casing Pressure, PSIG		717	
Gas / Liquid Interface Pressure, PSIG		758	
Liquid Level, ft		2,819	(Driller's Depth)
Pump Intake Depth, ft		2,916	(Driller's Depth)
Equivalent Gas Free Liquid HT, TVD		87	
<b>Calculations</b>			
Bottomhole Pressure, PSIG		796	
Bottomhole Pressure, PSIA		808	
Reference Depth, Ft		2,916	(Driller's Depth)

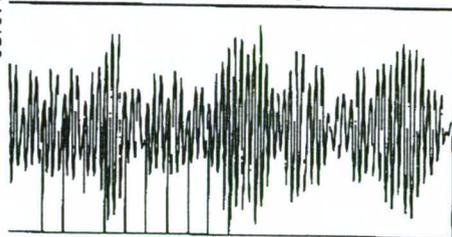
2 1/2  
03-07-2007  
05:07:58 a.m.  
Line 1  
375 7531

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 03/01/07 12:34:21)



Filter Type High Pass Automatic Collar Count Yes Time 3.926 sec  
Manual Acoustic Veloc 1378.26 ft/s Manual JTS/sec 21.7391 Joints 88.9164 Jts  
Depth 2818.65 ft

[0.5 to 1.5 (Sec)]



Analysis Method: Automatic

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 03/01/07 12:34:21)

<b>Production</b>		<b>Casing Pressure</b>	
Current	Potential		Producing
Oil -*-	-* BBL/D	716.7 psi (g)	
Water -*-	-* BBL/D	Casing Pressure Buildup	
Gas -*-	-* Mscf/D	0.0 psi	
		0.50 min	
<b>IPR Method</b>	<b>Vogel</b>	<b>Gas/Liquid Interface Pressure</b>	
PBHP/SBHP	-*-	758.4 psi (g)	
<b>Production Efficiency</b>	<b>0.0</b>		
Oil 40 deg.API		<b>Liquid Level Depth</b>	
Water 1.05 Sp.Gr.H2O		2818.65 ft	
Gas 0.55 Sp.Gr.AIR		<b>Tubing Intake Depth</b>	
		2916.00 ft	
<b>Acoustic Velocity</b>	<b>1435.89 ft/s</b>	<b>Formation Depth</b>	
		2963.00 ft	

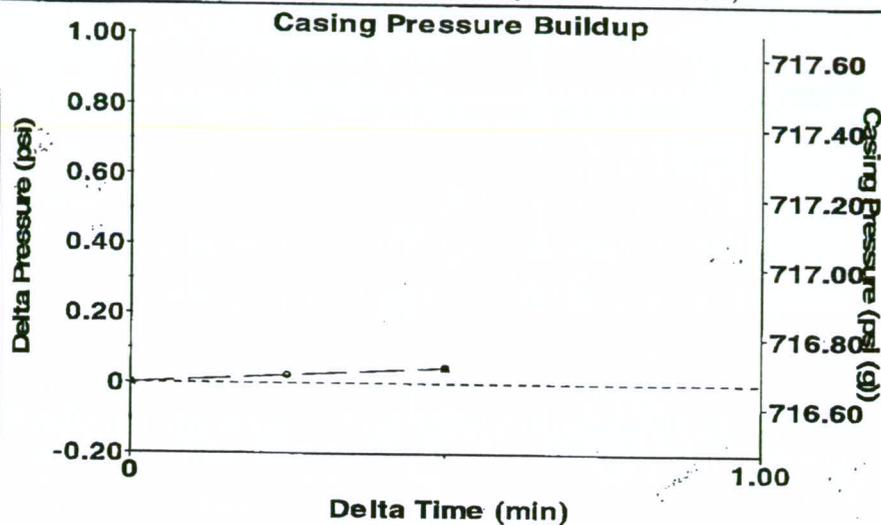


<b>Liquid Stream Below Tubing</b>	
Oil 0 %	
Water 100 %	
<b>Liquid Below Tubing</b>	
92 %	
<b>Tubing Intake</b>	
786.3 psi (g)	
<b>Producing BHP</b>	
806.0 psi (g)	
<b>Static BHP</b>	
-* psi (g)	

**Formation Submergence**  
Total Gaseous Liquid Column HT (TVD) 97 ft  
Equivalent Gas Free Liquid HT (TVD) 87 ft

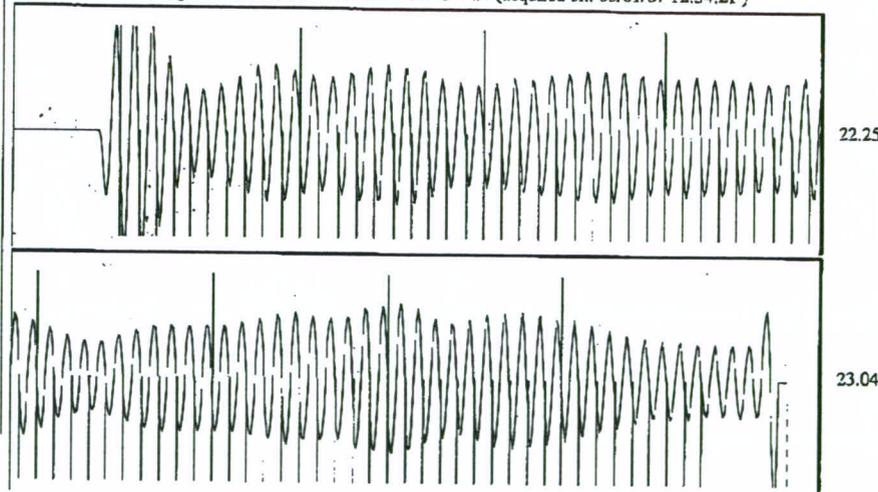
Acoustic Test

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 03/01/07 12:34:21)



Change in Pressure 0.04 psi PT 7134  
Change in Time 0.50 min Range 0 - 2 psi

Group: AREA1 EAST Well: neil 34-13-1 #4 (acquired on: 03/01/07 12:34:21)

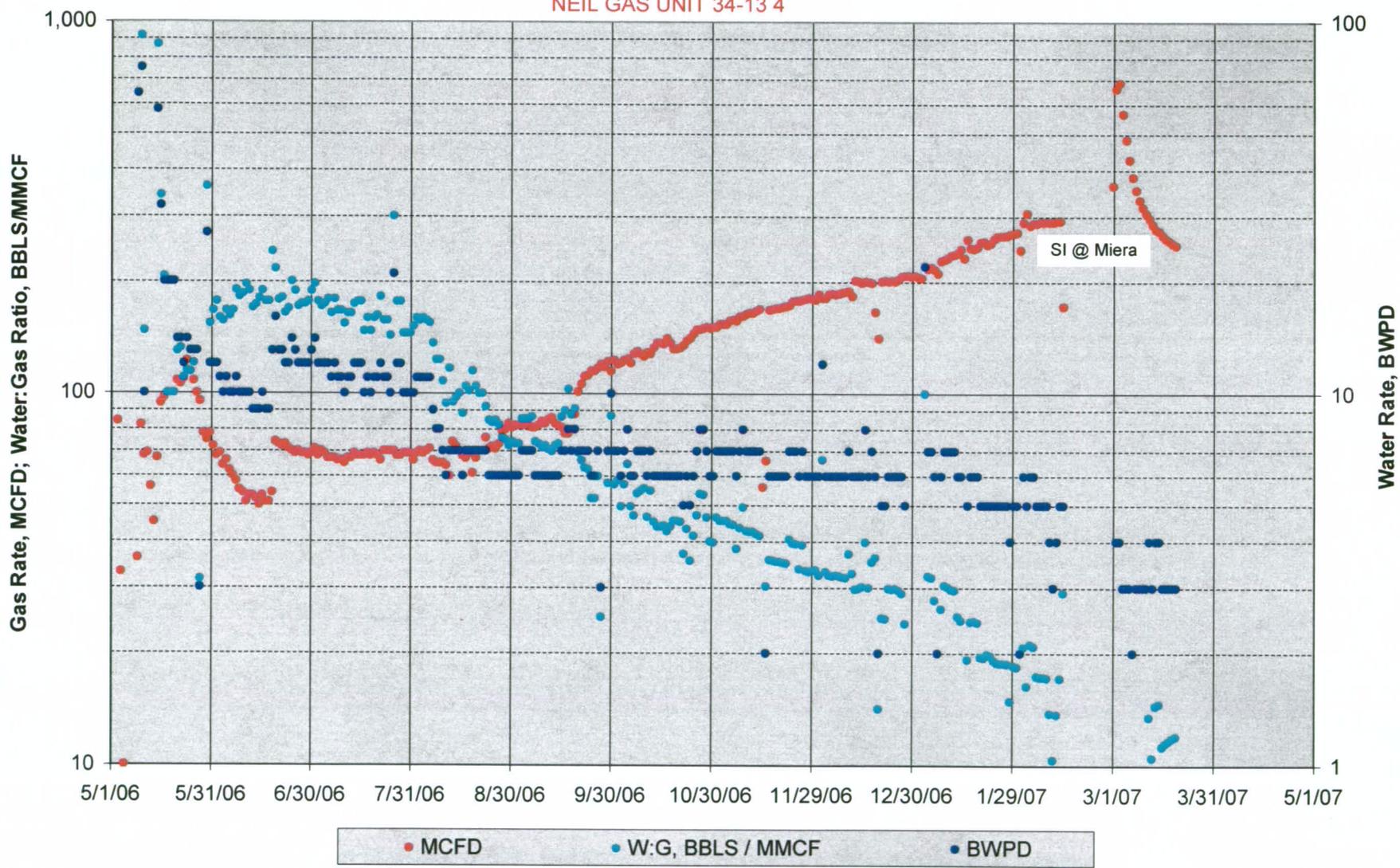


<b>Acoustic Velocity</b>	1435.89 ft/s	<b>Joints counted</b>	78
<b>Joints Per Second</b>	22.6481 jts/sec	<b>Joints to liquid level</b>	88.9164
<b>Depth to liquid level</b>	2818.65 ft	<b>Filter Width</b>	19.7391 23.7391
<b>Automatic Collar Count</b>	Yes	<b>Time to 1st Collar</b>	0.268 3.712

Cum Gas @ 3/20/07, MMCF = 45

### Well Performance

NEIL GAS UNIT 34-13 4

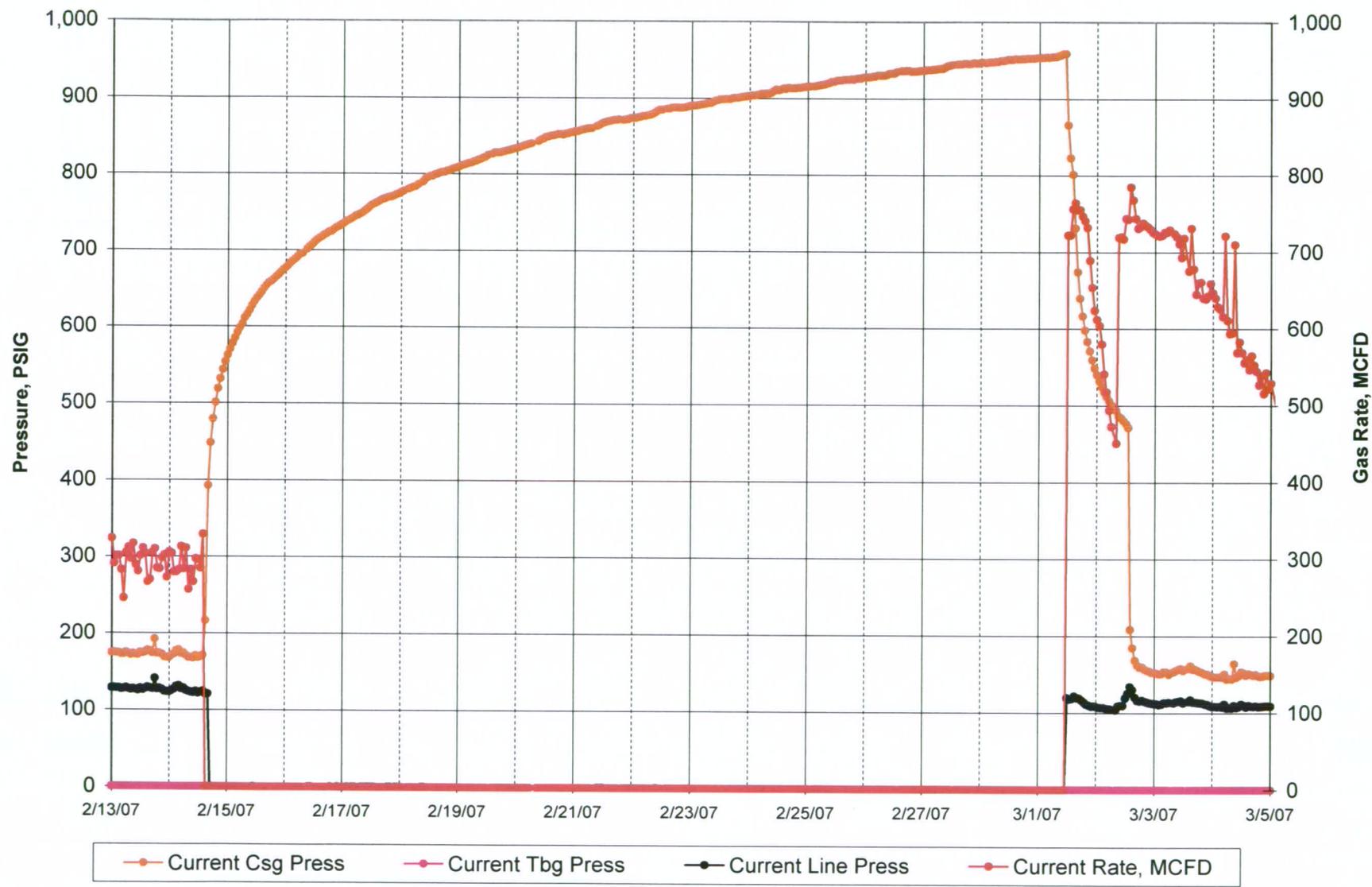


Bottomhole Pressure Calculation from Automation Casing Pressure Build-up Assuming no Fluid Above the Formation

Effective Date	Dry BTU	Specific Gravity	N2 Mole Percent	CO2 Mole Percent	C1 Mole Percent	C2 Mole Percent	C3 Mole Percent	IC4 Mole Percent	NC4 Mole Percent	IC5 Mole Percent	C6 Mole Percent
8/19/06	988.79	0.581	0.040	2.636	97.163	0.143	0.009	0.003	0.002	0.000	0.004
9/8/06	988.16	0.582	0.049	2.687	97.106	0.142	0.007	0.002	0.002	0.000	0.005
3/12/07	988.59	0.585	0.040	2.866	96.875	0.132	0.004	0.000	0.000	0.076	0.007
<b>Average</b>	988.51	0.583	0.043	2.730	97.048	0.139	0.007	0.002	0.001	0.025	0.005

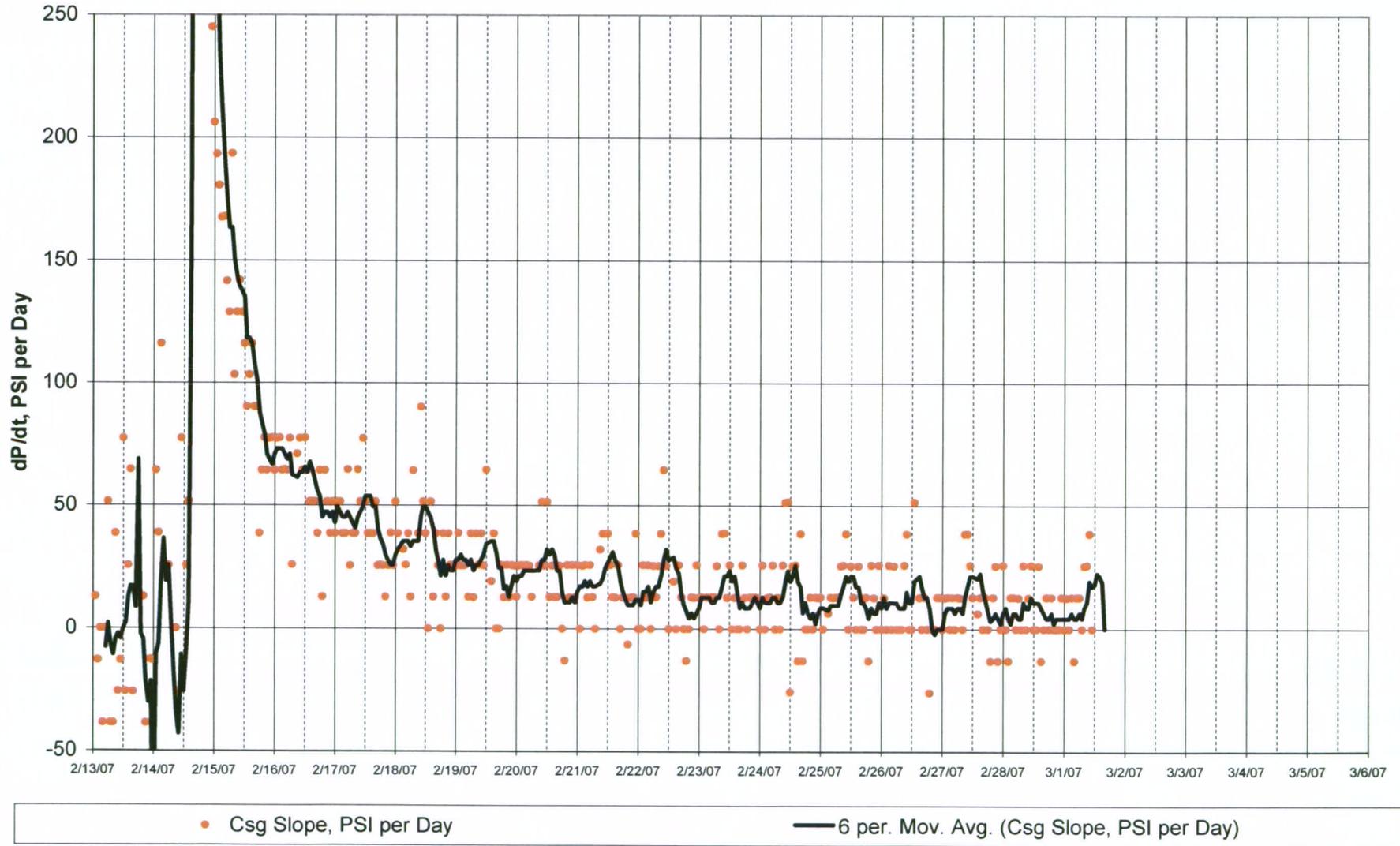
calculated BOTTOMHOLE PRESSURE PSIA	RATE MMSCFD	WELLHEAD PRESSURE PSIA	reservoir	gas	tubing	tubing	wellhead	co2	h2s	n2
			temperature F	gravity	dia inches	length feet (TVD)	temperature F	mole fraction	mole fraction	mole fraction
1,029	0.01	970	115	0.583	1.995	2,500	60	0.0273	0	0.00043

### NEIL GAS UNIT 34-13 4; API - 05067091000000



# Change in Pressure with Respect to Time

NEIL GAS UNIT 34-13 4; API - 05067091000000



**NEIL GAS UNIT 34-13 4; API - 05067091000000**

Maximum Pressure PSIG	SI	RTP	Days SI
959	2/14/07 2:00 PM	3/1/07 11:00 AM	14.9
Cumulative Recovery at SI, MMCF =			38