

ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☒ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners
 [B] ☐ Offset Operators, Leaseholders or Surface Owner
 [C] ☐ Application is One Which Requires Published Legal Notice
 [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
 [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
 [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Carolyn Haynie
Print or Type Name

Signature

NM Petro Eng Tech Assistant

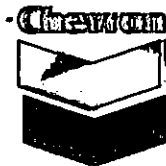
Title

Date

chay@chevron.com
e-mail Address

3-26-14

- IPI
 - CHEVRON USA INC
 4323
 wells
 - VGW4 #4
 30-025-31833
 - VGW4 #5
 30-025-31834
 - VGW4 #4
 30-025-31835
 - VGW4 #10
 30-025-31836
 - VGW4 #11
 30-025-31837
 - VGW4 #27
 30-025-31869
 - VGW4 #28
 30-025-31784
 - VGW4 #30
 30-025-31786
 Pool



Sean P. Heaster
Petroleum Engineering

MidContinent Business Unit
Chevron North America
Exploration and Production
Company
15 Smith Road
Midland, TX 79705
Tel 432-687-7366
Fax 432-687-7871
SHeaster@chevron.com

March 26, 2014

New Mexico Oil Conservation Division
1200 South St. Francis Drive
Santa Fe, NM 87505

Water Injection Pressure Increase Request
Injection Order R-9714
Maximum Wellhead Injection Pressure
Vacuum Glorieta West Unit Wells
Lea County, NM

Attn: Engineering Department:

Chevron respectfully requests that the maximum water allowable injection pressure for the following eight wells in the Vacuum Glorieta West Unit, be increased. A step rate test was performed for these wells and is included for your review in the attachments.

VGWU #	4	API 30-025-31833	increase from	<u>1200 to 2100</u> PSI
VGWU #	5	API 30-025-31834	increase from	<u>1200 to 2100</u> PSI
VGWU #	9	API 30-025-31835	increase from	<u>1200 to 2050</u> PSI
VGWU #	10	API 30-025-31836	increase from	<u>1200 to 2075</u> PSI
VGWU #	11	API 30-025-31837	increase from	<u>1200 to 1600</u> PSI
VGWU #	27	API 30-025-31869	increase from	<u>1200 to 1860</u> PSI
VGWU #	28	API 30-025-31784	increase from	<u>1200 to 2350</u> PSI
VGWU #	30	API 30-025-31786	increase from	<u>1200 to 2075</u> PSI

Injection Pressure Increase approval will allow Chevron to utilize the full pressure capability of its injection facility.

If additional information is required, please contact me at SHeaster@chevron.com or call me at 432-687-7366.

Sincerely,

Sean P. Heaster
Petroleum Engineer
New Mexico Area
Midland, TX



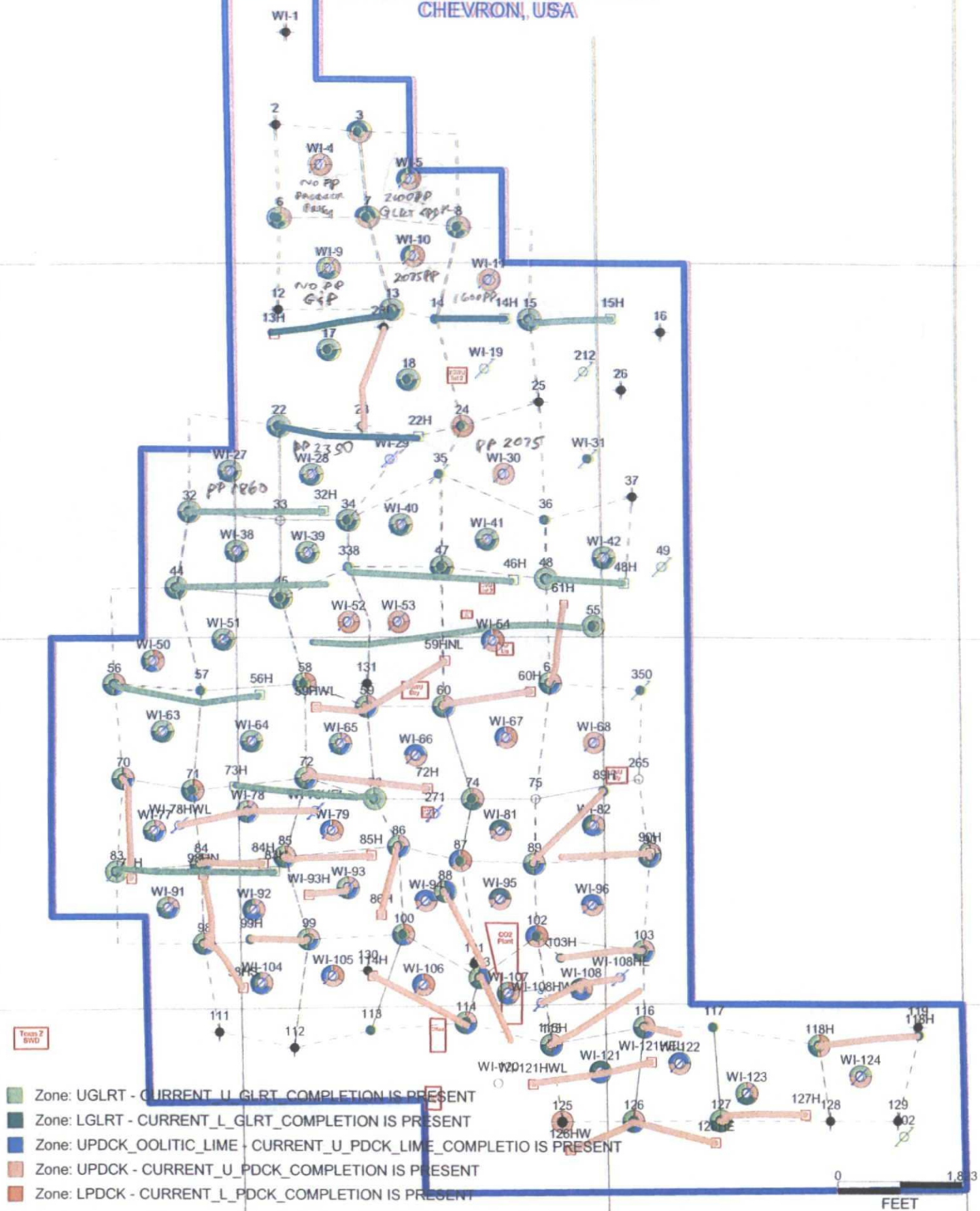
VACUUM GLORIETA WEST UNIT

WATER INJECTION PRESSURE INCREASE REQUEST

INJECTION Order R-9714

Well	API	Location	UL/SEC/TWS/RGE	Co	Date of Step Rate Test	Perforations	From Current PSI	To	Requested PSI Increase
VGWU # 4	30-025-31833	1410' FSL & 1300' FWL	L-24-17S-34E	LEA	2/25/2014	6063' - 6302'	1200	to	<i>2250 psi</i> 2100
VGWU # 5	30-025-31834	1209' FSL to 2582' FWL	N-24-17S-34E	LEA	12/18/2013	5971' - 6317'	1200	to	<i>2050 psi</i> 2100
VGWU # 9	30-025-31835	73' FNL & 1411' FWL	C-25-17S-34E	LEA	12/19/2013	5928' - 6283'	1200	to	<i>2000 psi</i> 2050
VGWU # 10	30-025-31836	100' FSL & 2628' FWL	N-24-17S-34E	LEA	2/25/2014	6047' - 6301'	1200	to	<i>2025 psi</i> 2075
VGWU # 11	30-025-31837	246' FNL & 1554' FEL	B-25-17S-34E	LEA	12/19/2013	6072' - 6114'	1200	to	<i>1550 psi</i> 1600
VGWU # 27	30-025-31869	2359' FSL & 64' FEL	I-26-17S-34E	LEA	2/25/2014	5860' - 6123'	1200	to	<i>1810 psi</i> 1860
VGWU # 28	30-025-31784	2304' FSL & 1127' FWL	L-25-17S-34E	LEA	1/16/2014	5860' - 6130'	1200	to	<i>2300 psi</i> 2350
VGWU # 30	30-025-31786	2305' FSL & 1391' FEL	J-25-17S-34E	LEA	1/16/2014	6034' - 6097'	1200	to	<i>2025 psi</i> 2075

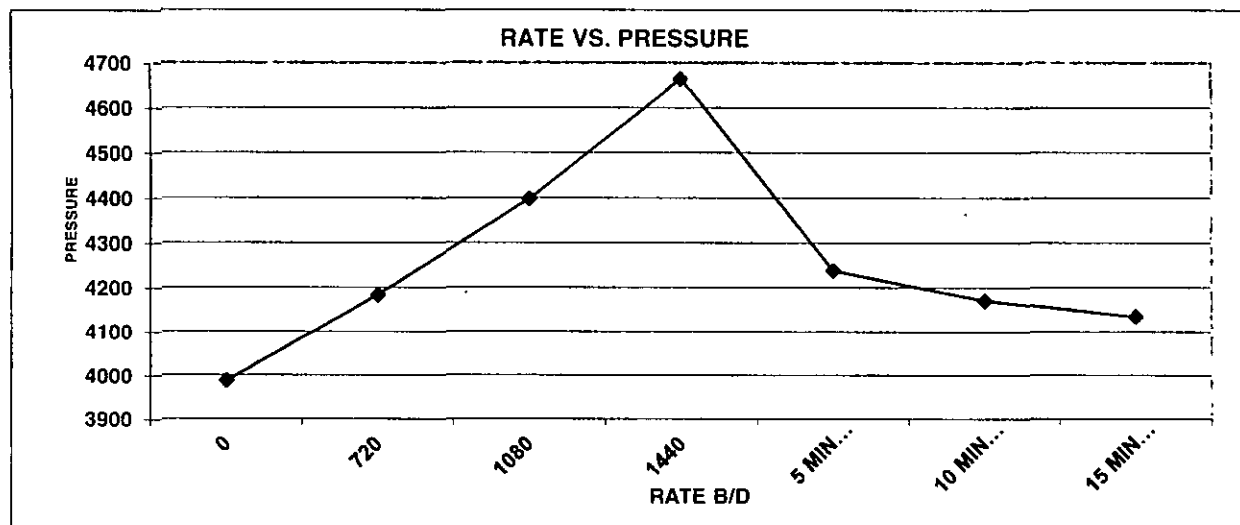
VACUUM GLORIETA WEST UNIT CHEVRON, USA



Archer

STEP RATE TEST

STEP RATE TEST					
RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	2/25/2014	10:30 AM	3987	1200	
720	2/25/2014	10:45 AM	4183	1490	
1080	2/25/2014	11:00 AM	4398	1900	
1440	2/25/2014	11:15 AM	4664	2300	
5 MIN FALL OFF	2/25/2014	11:20 AM	4238	1675	
10 MIN FALL OFF	2/25/2014	11:25 AM	4170	1600	
15 MIN FALL OFF	2/25/2014	11:30 AM	4134	1590	
Company: CHEVRON				Recorded By:	T. STANCZAK
Well: VACUUM GLORIETTA WEST # 4				Witnessed By:	
Field: VACUUM				Truck Number:	104
County: LEA				District:	LEVELLAND
State: NEW MEXICO				Tool Number:	
Injecton: WATER				Test Type:	STEP RATE TESTS
Shut In Time: 11:15 AM				NO FRAC WAS ACHIEVED	
Total Shut In Time: 15 MIN.					
Tubing Size: 2.375" ✓					
Open Hole: N/A					
Perforations: 6063'-6302'					
Plug Back Depth 6316'					



Northern well

$$\begin{array}{r} 2300 \text{ psi} \\ - 50 \text{ / safety} \\ \hline 2250 \text{ psi} \end{array}$$

$$\frac{2250 \text{ psi}}{6063 \text{ ft}} = 0.37 \text{ psi/ft}$$

CHEVRON

VACUUM GLORIETTA WEST UNIT # 4

February 25, 2014

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 4
Field - Pool:	VACUUM
Status:	INJECTING
Test Information	
Type of Test:	STEP RATE
Gauge Depth:	5990'
Production Interval:	6063'-6302'
Production Through:	TUBING
Tubing Pressure:	2300 PSI
Casing Pressure:	0 PSI
Shut In Time	11:15 AM
Status:	INJECTING
Temperature @ Run Depth	99.31 degF
Surface Temperature:	80.92 degF
Comments	
NO FRACTURE WAS ACHIEVED. LOGGER WAS UNABLE TO GO TO NEXT STEP DUE TO THE TUBING PRESSURE BEING TOO HIGH. LOGGER SAT DOWN AT 5999' IN PACKER.	

ARCHER

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 4		
Well License:		Unique Well Identifier:	30-025-31833
Company:	CHEVRON		
Field	VACUUM		

Location:		County:	LEA
Formation:		State:	NM
Purpose:	STEP RATE TEST	Country:	USA

Total Depth:	5999'	ID Borehole:	N/A
Packer Depth:	5996'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6425'	ID Production Tubing:	2"
Depth at which tubing is landed:	5996'	ID Drill Pipe:	N/A

ARCHER

Gradient Data Report

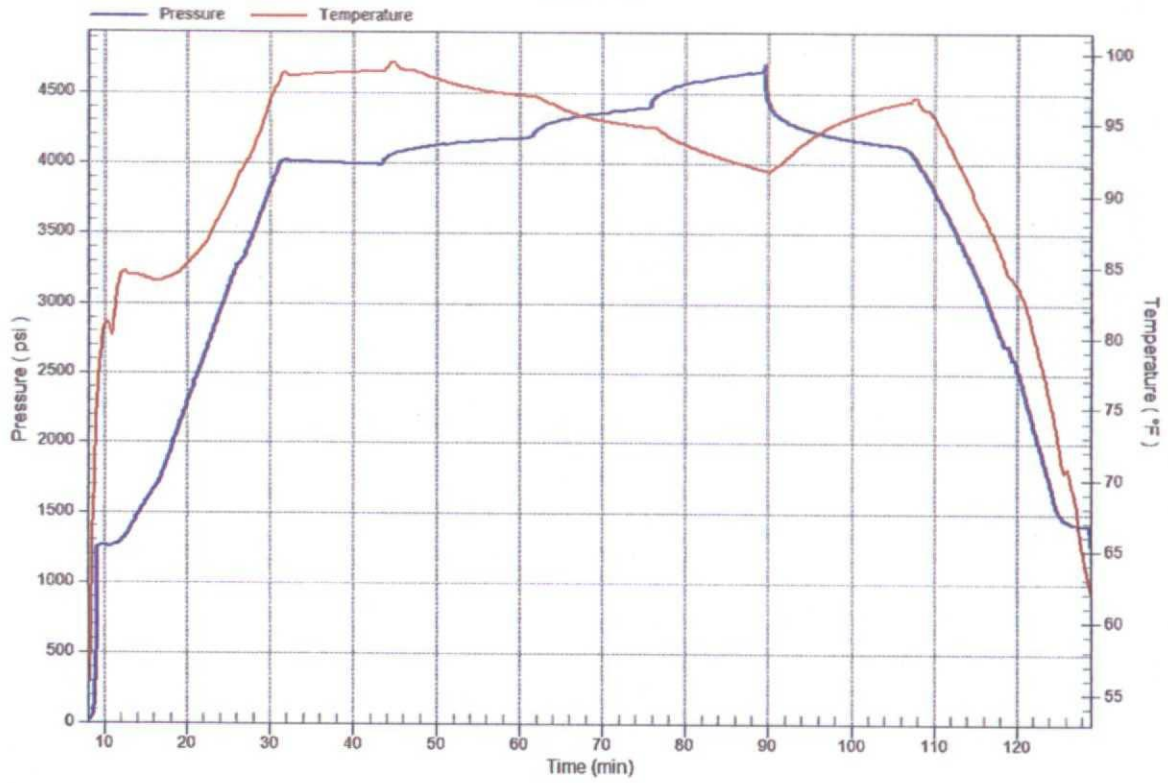
CHEVRON
VACUUM GLORIETTA WEST UNIT # 4

Gradient Data Table

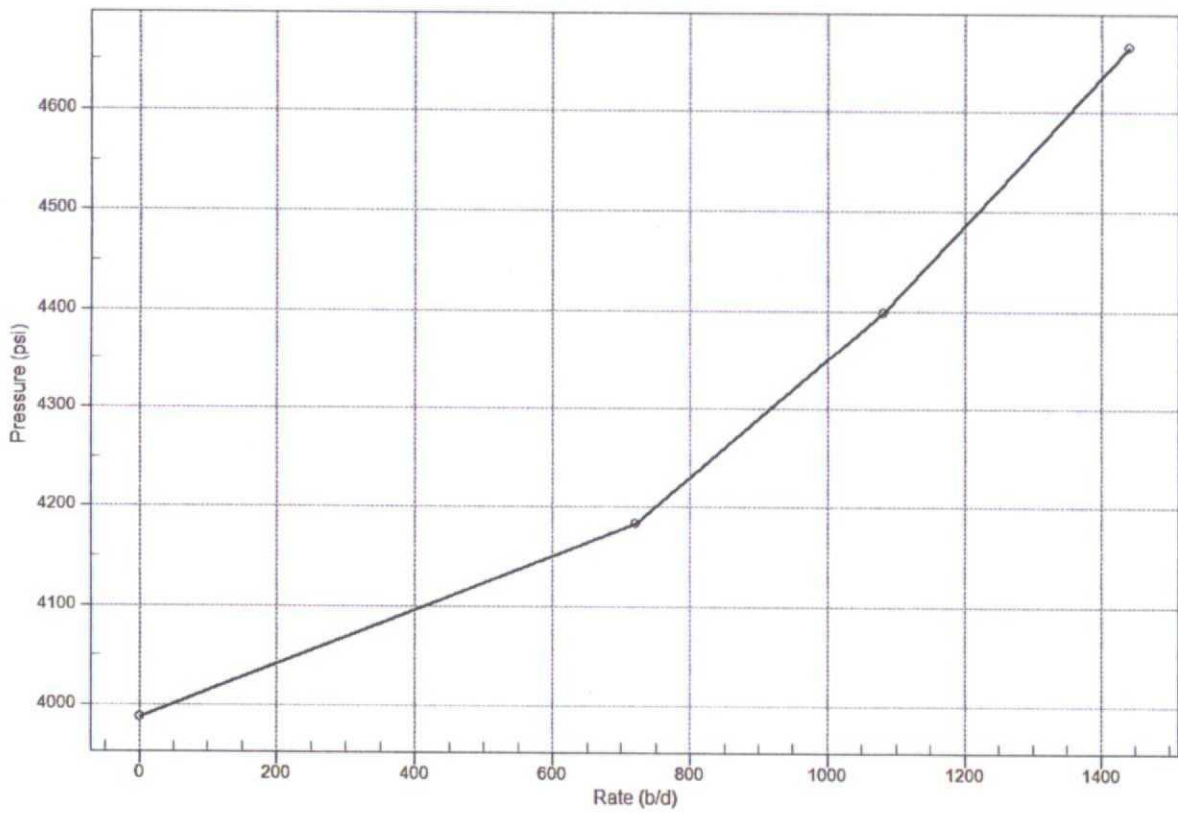
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3987.84	98.61	0.0000
720.00	4183.32	96.85	0.2715
1080.00	4398.36	94.70	0.5973
1440.00	4664.08	91.74	0.7381

ARCHER

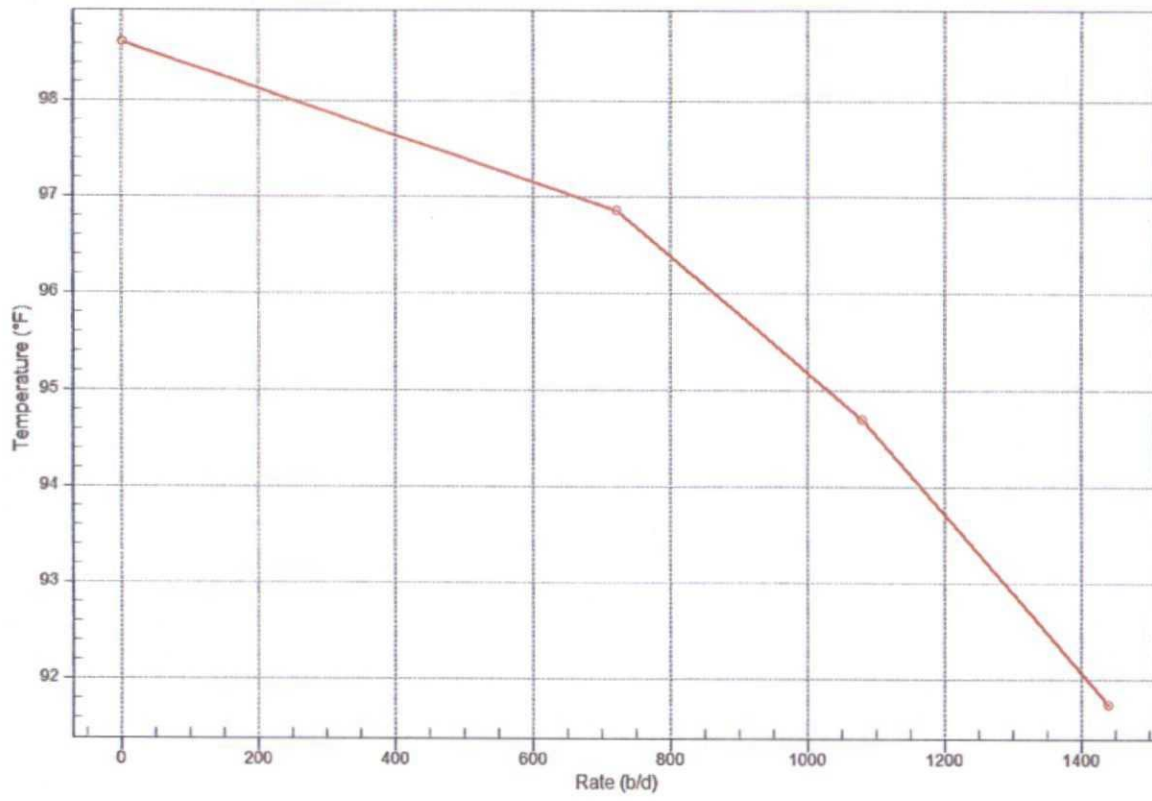
VGWU # 4



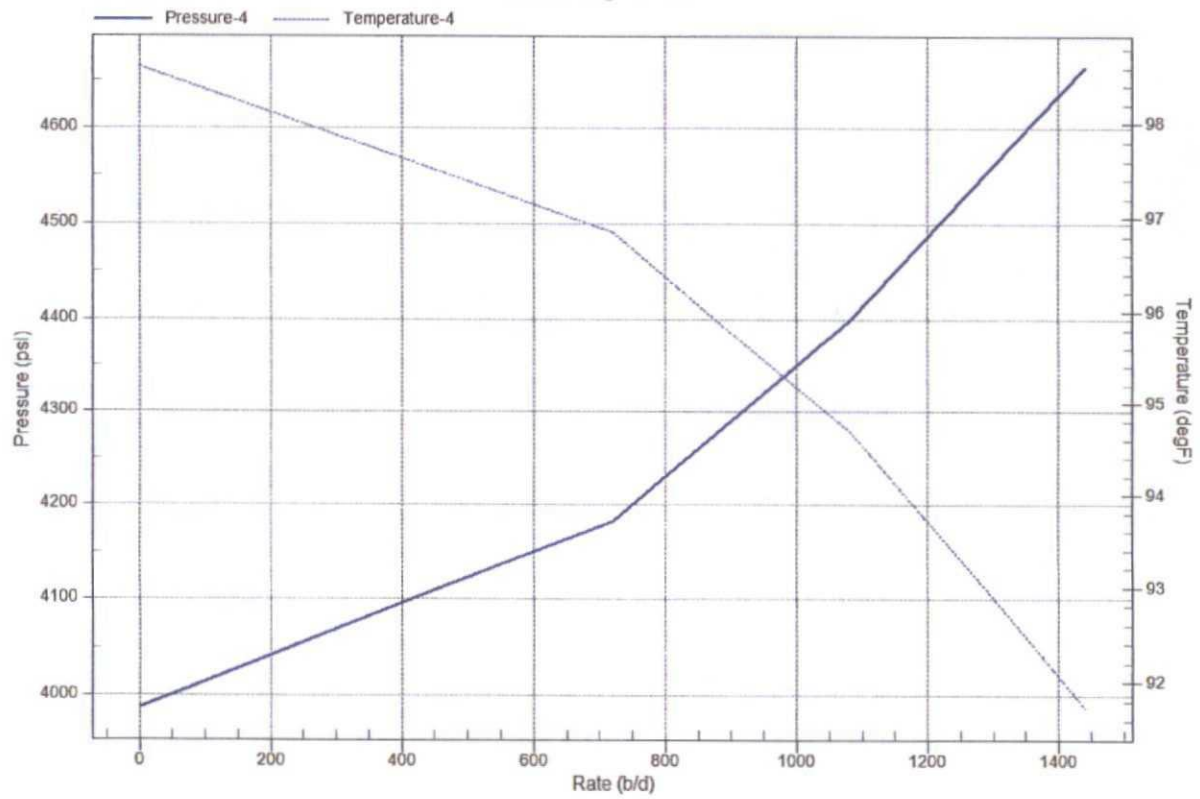
Pressure vs. Rate



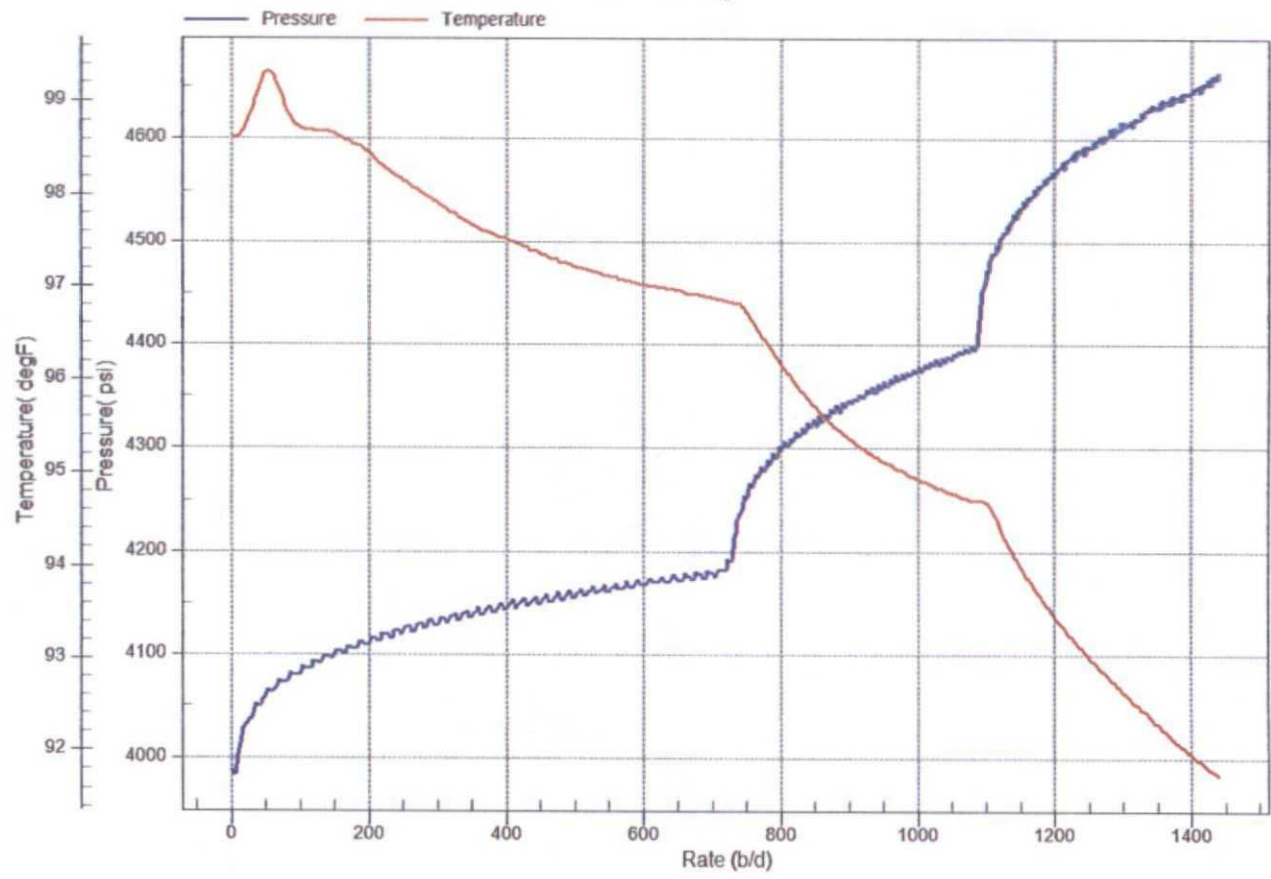
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU WI-4
API No. 30-025-31833
Active Injection Well

Well Location

1410' FSL & 1300 FWL
Unit Letter L
Section 24
Township 17-S
Range 34-E
Lea County, New Mexico
Elevation: 4011' GL

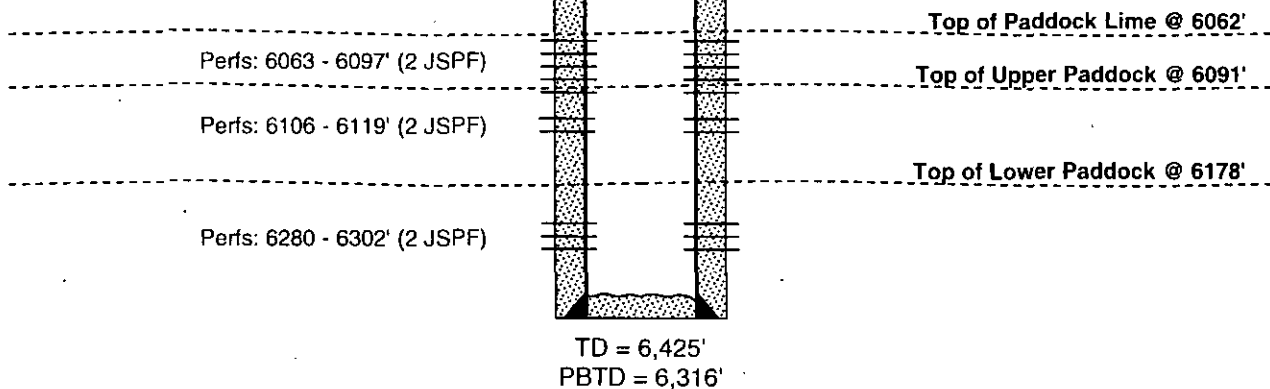
History

04/29/93: Spud Well
05/18/93: Perforate 6,063-97', 6,106-19',
6,280-302' w/ 2 JSPF (138 Holes) Acidize w/
3,000 gal 15% HCl.
08/25/93: Begin injection of water approx 900
bbl.
01/22/01: Fix Pkr failure, set Pkr @ 5,996'
and return to injection.

11" Hole
8-5/8" 24# WC-50 CSG set @ 1620'
CMT w/ 650 sks (CIRC 113 sks)

7-7/8" Hole
123 JTS 5 1/2" 15.5# WC-50 CSG & 22 JTS
17# WC-70 CSG set @ 6425'
CMT w/ 1750 sks (CIRC 127 sks)

2-3/8" Duo-Line TBG, ID 1.81"/Flare 1.75"
Hudson Loc-Set PKR @ 5996', ID 1.80"

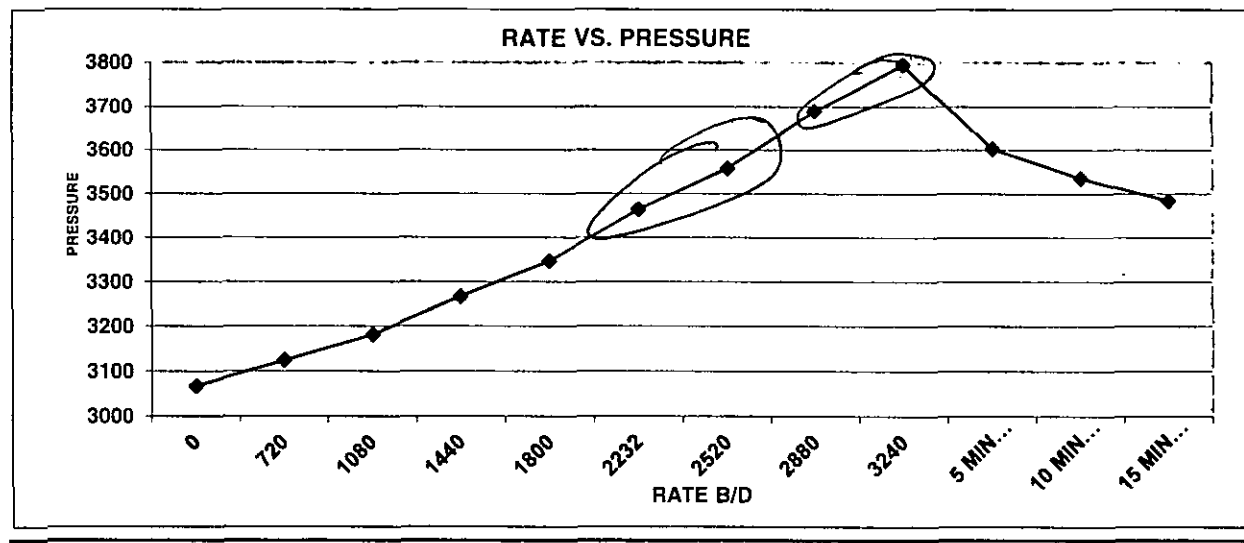




STEP RATE TEST

grayws2@aol.com

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	12/18/2013	3:35 PM	3067	290	
720	12/18/2013	3:50 PM	3124	410	
1080	12/18/2013	4:05 PM	3181	605	
1440	12/18/2013	4:20 PM	3267	810	
1800	12/18/2013	4:35 PM	3347	975	
2232	12/18/2013	4:50 PM	3464	1300	
2520	12/18/2013	5:05 PM	3558	1500	
2880	12/18/2013	5:20 PM	3689	1990	
3240	12/18/2013	5:35 PM	3795	2100	POSSIBLE FRAC
5 MIN FALL OFF	12/18/2013	5:40 PM	3603	910	
10 MIN FALL OFF	12/18/2013	5:45 PM	3536	875	
15 MIN FALL OFF	12/18/2013	5:50 PM	3484	850	
Company:	CHEVRON			Recorded By:	T. STANCZAK
Well:	VACUUM GLORIETTA WEST # 5			Witnessed By:	
Field:	VACUUM			Truck Number:	104
County:	LEA			District:	LEVELLAND
State:	NEW MEXICO			Tool Number:	
Injecton	WATER			Test Type:	STEP RATE TESTS
Shut In Time:	5:35 PM			POSSIBLE FRAC ACHIEVED @ 3240 B/D 3795 BOTTOM HOLE PRESSURE 2100 SURFACE PRESSURE	
Total Shut In Time:	15 MIN.				
Tubing Size:	2.375"				
Open Hole:	N/A				
Perforations:	5971'-6317' ✓				
Plug Back Depth	6406'				



5971' x 4" 2645 psi

2000 psi
-50 psi safety
2050 psi

$$\frac{2050 \text{ psi}}{5971 \text{ ft}} = 0.34 \text{ psi/ft}$$

CHEVRON

VACUUM GLORIETTA WEST # 5

December 18, 2013

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST # 5
Field - Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEER RATE TEST
Gauge Depth:	5950'
Production Interval:	5971'-6317'
Production Through:	TUBING ✓
Tubing Pressure:	2100 psi ✓
Casing Pressure:	0 psi ✓
Shut In Time	5:35 PM ✓
Status:	INJECTION
Temperature @ Run Depth	99.03 degF
Surface Temperature:	78.26 degF
Comments	
POSSIBLE FRAC ACHIEVED @ 3240 B/D 3795 BOTTOM HOLE PRESSURE 2100 SURFACE PRESSURE	

GRAY WIRELINE

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST # 5	Unique Well Identifier:	30-025-31834
Well License:			
Company:	CHEVRON		
Field	VACUUM		

Location:	County:	LEA
Formation:	State:	NM
Purpose:	Country:	USA

Permanent Datum	Elevation:	4001'
Vertical Zero Entity	Distance above PD:	14'

Total Depth:	N/A	ID Borehole:	N/A
Packer Depth:	5919'	ID Production Casing:	5.5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6475'	ID Production Tubing:	2"
Depth at which tubing is landed:	5919'	ID Drill Pipe:	N/A

GRAY WIRELINE

Gradient Data Report

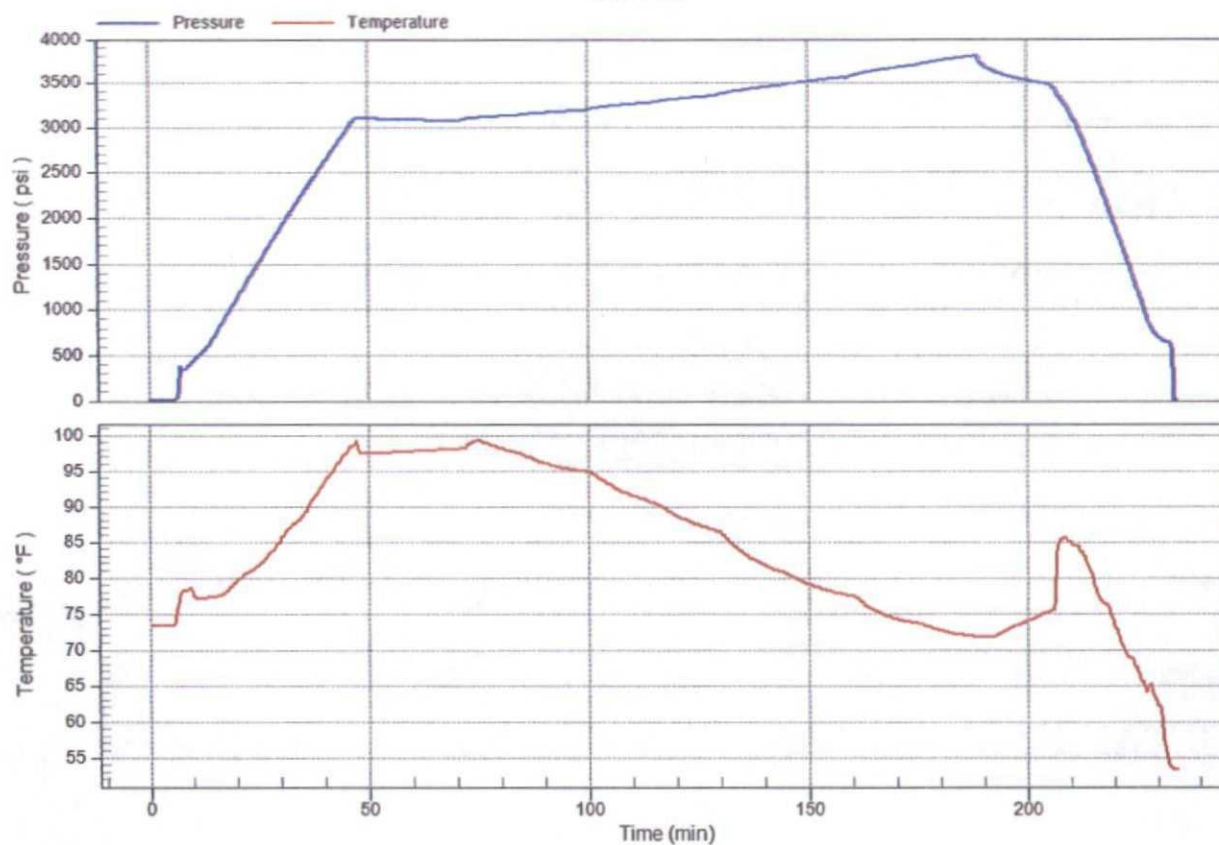
CHEVRON
VACUUM GLORIETTA WEST # 5

Gradient Data Table

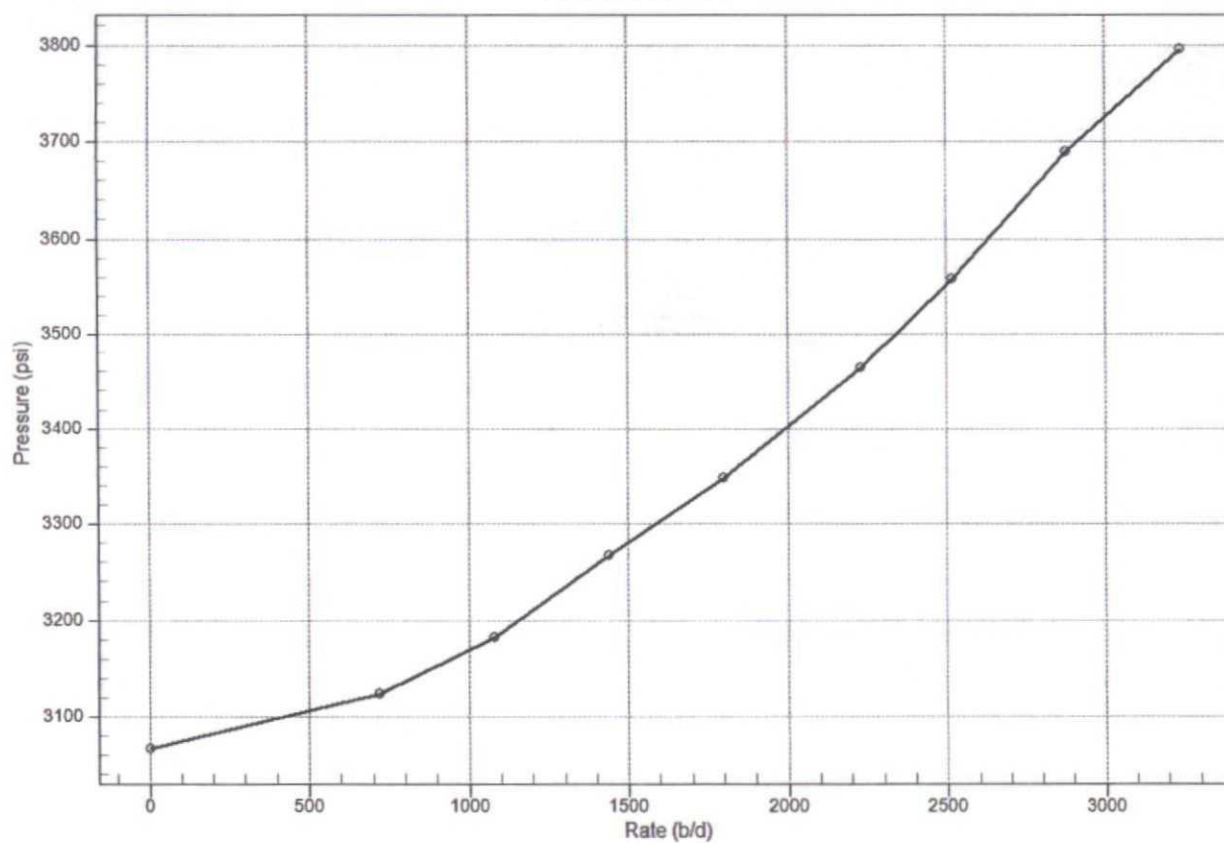
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3067.08	98.04	0.0000
720.00	3124.54	97.52	0.0798
1080.00	3181.85	94.87	0.1592
1440.00	3267.41	90.64	0.2377
1800.00	3347.56	86.55	0.2226
2232.00	3464.45	80.77	0.2706
2520.00	3558.62	77.51	0.3270
2880.00	3689.41	73.68	0.3633
3240.00	3795.46	71.70	0.2946

GRAY WIRELINE

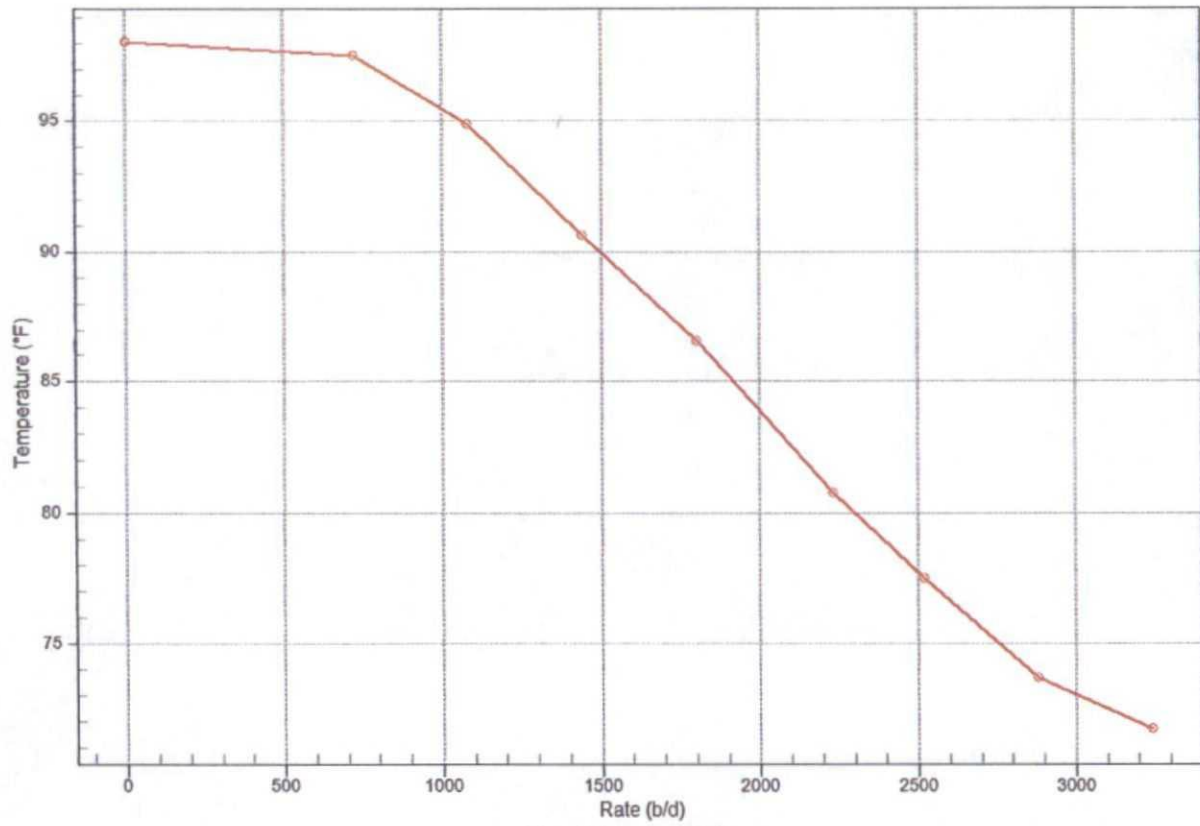
VGW # 5



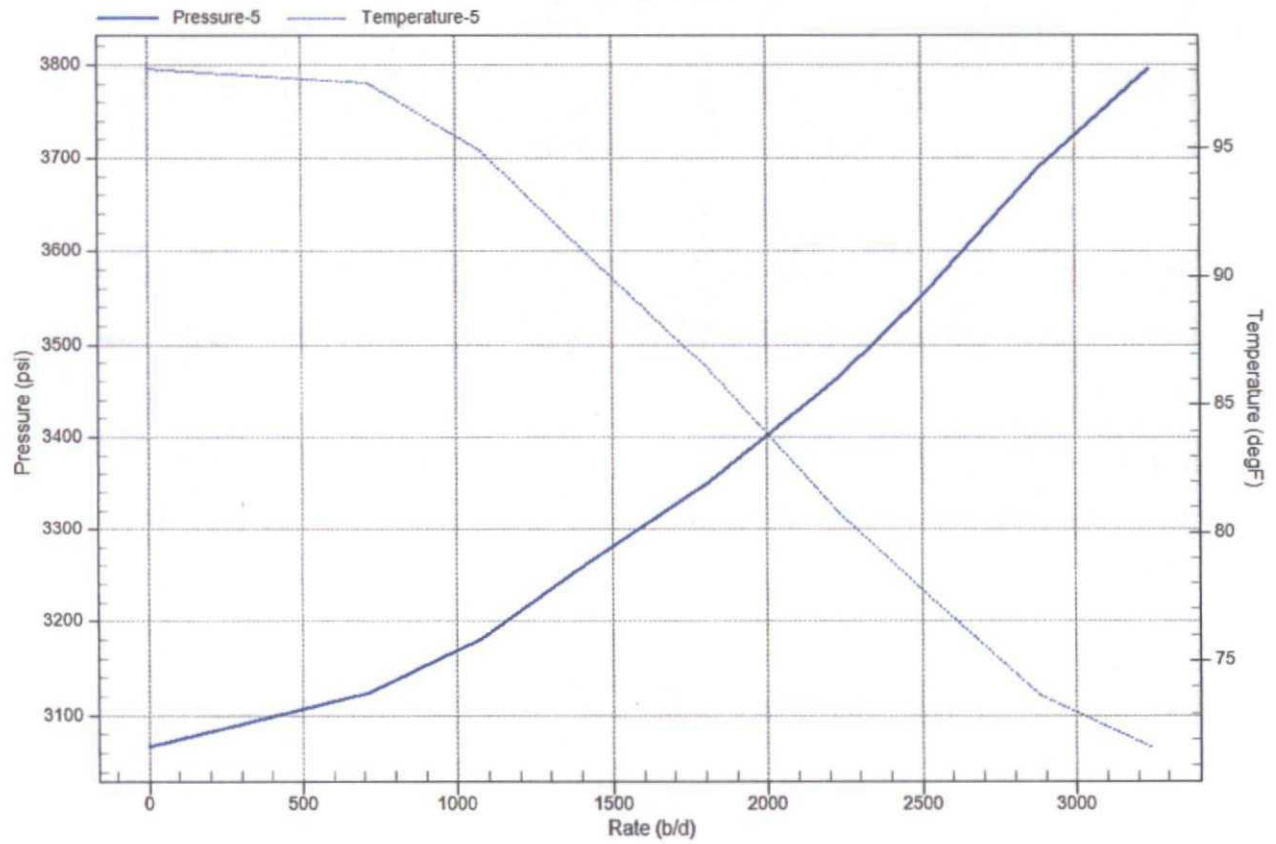
Pressure vs. Rate



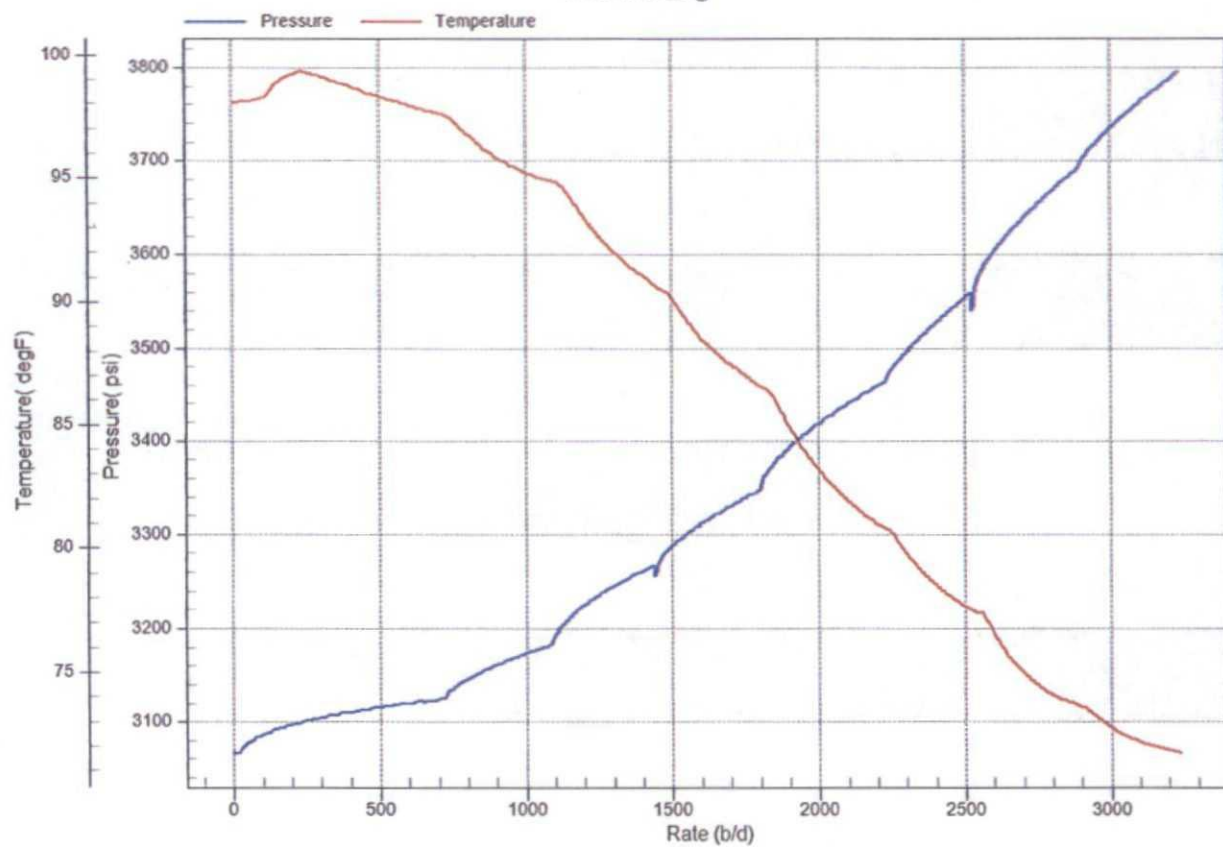
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU 5 (WIW)
API No. 3002531834
Active Injection Well

Well Location

Wellbore number 428785
QU3096
Unit N
1209 FSL & 2582 FWL
Sec 24, T17S, R34E
GR 4001'
KB 4015'

4/18/93- Spud

11" hole
8-5/8" 24# WC 50 CSG set @ 1630'
650 sxs, Circ 180 sxs

7 7/8" hole
5-1/2" 17#, 15.5# WC 50 CSG set @ 6475'
cmt 1750 sxs
Did not circ, TOC 800' TS

5/93 Completion. Perfs 6071-6317'. Acid
3500 gals 15% HCL

8/06 Add Glorieta pay-RTP. Perf 5971-
74,5986-90,5997-99,6004-08,6031-
35. Dump 40 50# sx sand to try to fill csg to
6060'. Tag sand @ 6030. C/O to 6060'. Tag
sand @ 6060'. Stim perfs 6032-6034,5987-
5989,5971-5973,5997-6007'. 188 jts 2-
7/8" WS to 5925'. Acid perfs 5971-6035
w/3000 gals 15% HCL. Tag @ 6060 w/194
jts. C/O to 6106. Set pkr @ 5926'. Injecting
1291 bwpd.

Perforations: 5971-74,5986-90,5997-
99,6004-08, 6031-35, 6071-6122, 6282-
86, 6291-96, 6299-6317

Top of Glorieta @ 5966

Pkr @ 5926'

Glorieta Marker @ 6026'

Top of Paddock Lime @ 6080'

1999 profile most wtr
exiting 6080'-6120'

Top of Lower Paddock @ 6182'

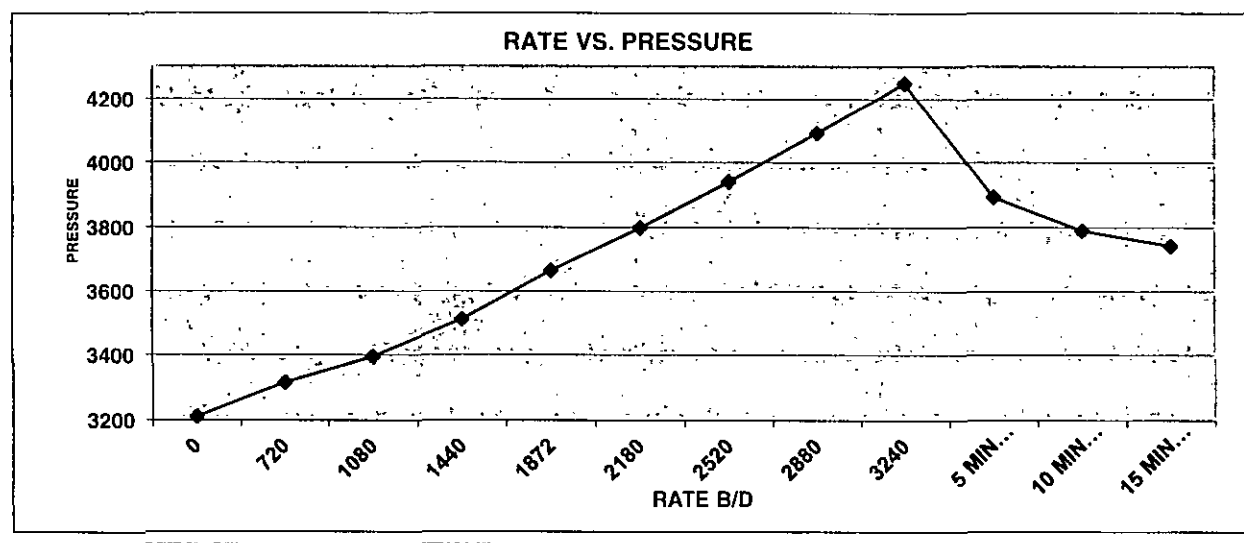
PBTD 6406'
TD =6475'



STEP RATE TEST

graywsi2@aol.com

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	12/19/2013	11:21 AM	3211	440	
720	12/19/2013	11:35 AM	3316	590	
1080	12/19/2013	11:50 AM	3395	740	
1440	12/19/2013	12:05 PM	3511	950	
1872	12/19/2013	12:20 PM	3665	1160	
2180	12/19/2013	12:36 PM	3798	1375	
2520	12/19/2013	12:51 PM	3941	1600	
2880	12/19/2013	1:06 PM	4092	1875	
3240	12/19/2013	1:21 PM	4247	2050	
5 MIN FALL OFF	12/19/2013	1:26 PM	3894	1190	
10 MIN FALL OFF	12/19/2013	1:31 PM	3790	1110	
15 MIN FALL OFF	12/19/2013	1:36 PM	3743	1090	
Company:	CHEVRON			Recorded By:	T. STANCZAK
Well:	VACUUM GLORIETTA WEST # 9			Witnessed By:	
Field:	VACUUM			Truck Number:	104
County:	LEA			District:	LEVELLAND
State:	NEW MEXICO			Tool Number:	
Injecton	WATER			Test Type:	STEP RATE TESTS
Shut In Time:	1:21 PM			NO FRACTURE WAS ACHIEVED.	
Total Shut In Time:	15 MIN.				
Tubing Size:	2.375"				
Open Hole:	N/A				
Perforations:	5928'-6283				
Plug Back Depth	6190'				



$$\frac{2050 \text{ psi} - 50}{2050 \text{ psi}}$$

$$\frac{2000 \text{ psi}}{5928'} = 0.34 \text{ ft}$$

CHEVRON

VACUUM GLORIETTA WEST UNIT # 9

December 19, 2013

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA UNIT # 9
Field - Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP-RATE TEST
Gauge Depth:	5925'
Production Interval:	5928'-6283'
Production Through:	TUBING
Tubing Pressure:	2050 psi
Casing Pressure:	0 psi
Shut In Time	1:21 pm
Status:	INJECTION
Temperature @ Run Depth	100.64 degF
Surface Temperature:	76.53 degF
Comments	
NO FRACTURE WAS ACHIEVED.	

GRAY WIRELINE

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 9
Well License:	Unique Well Identifier: 30-025-31835
Company:	CHEVRON
Field	VACUUM

Location:	County: LEA
Formation:	State: NM
Purpose:	Country: USA

Permanent Datum	Elevation: 4008'
Vertical Zero Entity	Distance above PD: 14'

Total Depth:	N/A	ID Borehole:	N/A
Packer Depth:	5914'	ID Production Casing:	5.5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6464'	ID Production Tubing:	2"
Depth at which tubing is landed:	5914'	ID Drill Pipe:	N/A

GRAY WIRELINE

Gradient Data Report

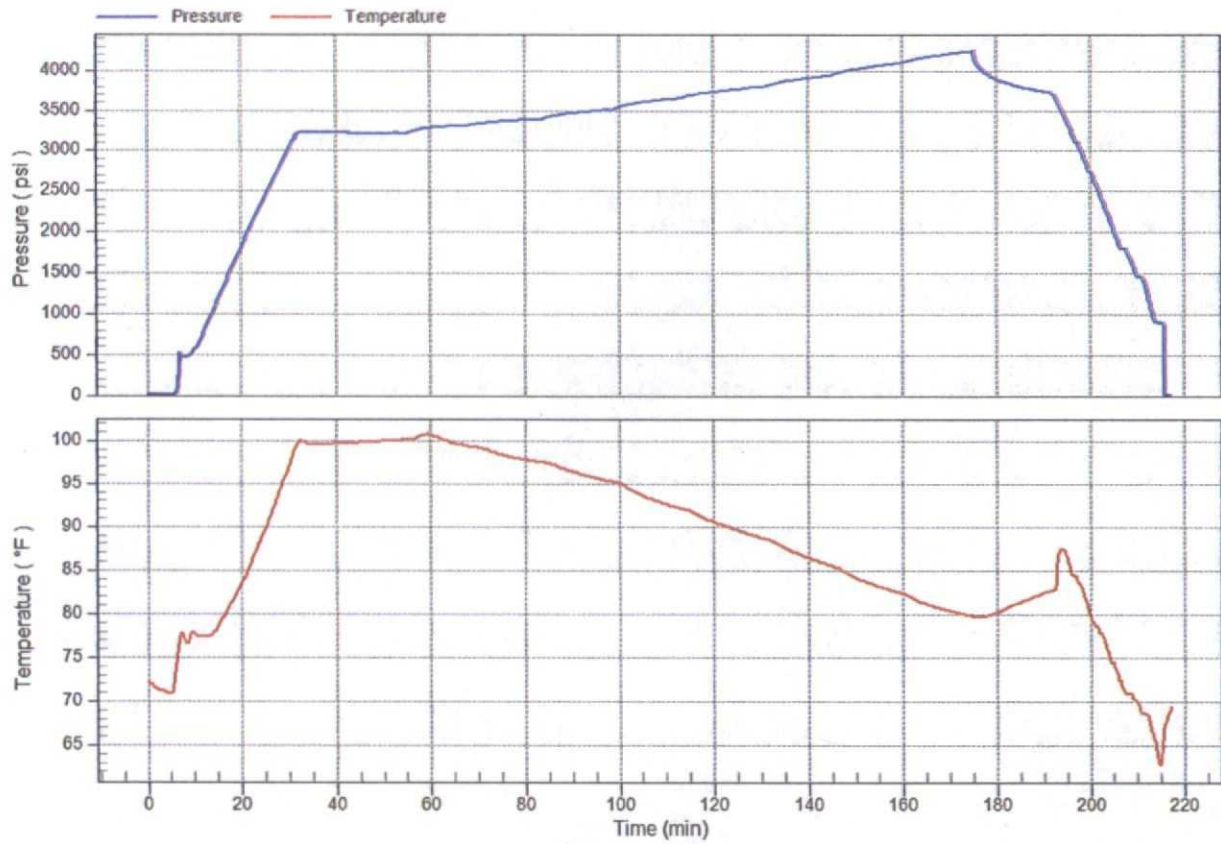
CHEVRON
VACUUM GLORIETTA UNIT # 9

Gradient Data Table

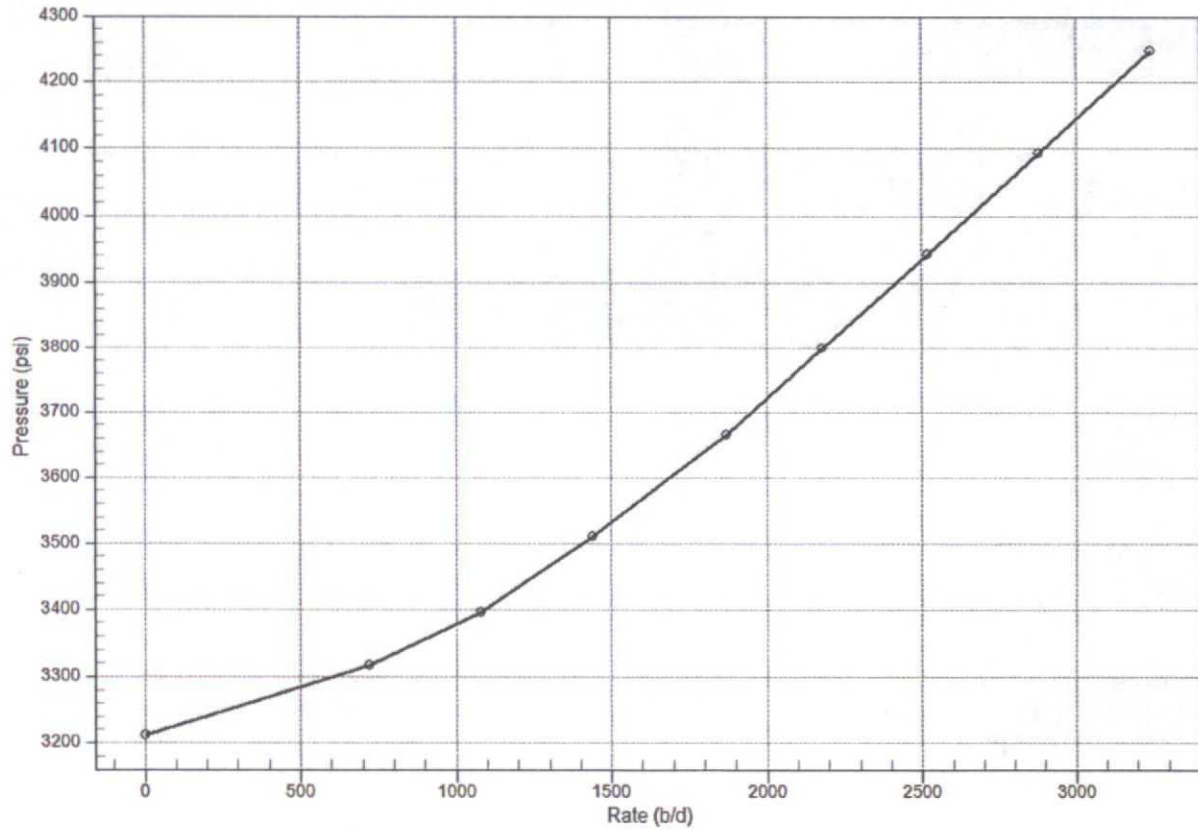
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3211.28	100.13	0.0000
720.00	3316.03	99.25	0.1455
1080.00	3395.33	97.42	0.2203
1440.00	3511.61	95.16	0.3230
1872.00	3665.43	91.98	0.3561
2180.00	3798.46	88.58	0.4319
2520.00	3941.99	85.50	0.4221
2880.00	4092.75	82.38	0.4188
3240.00	4247.87	79.70	0.4309

GRAY WIRELINE

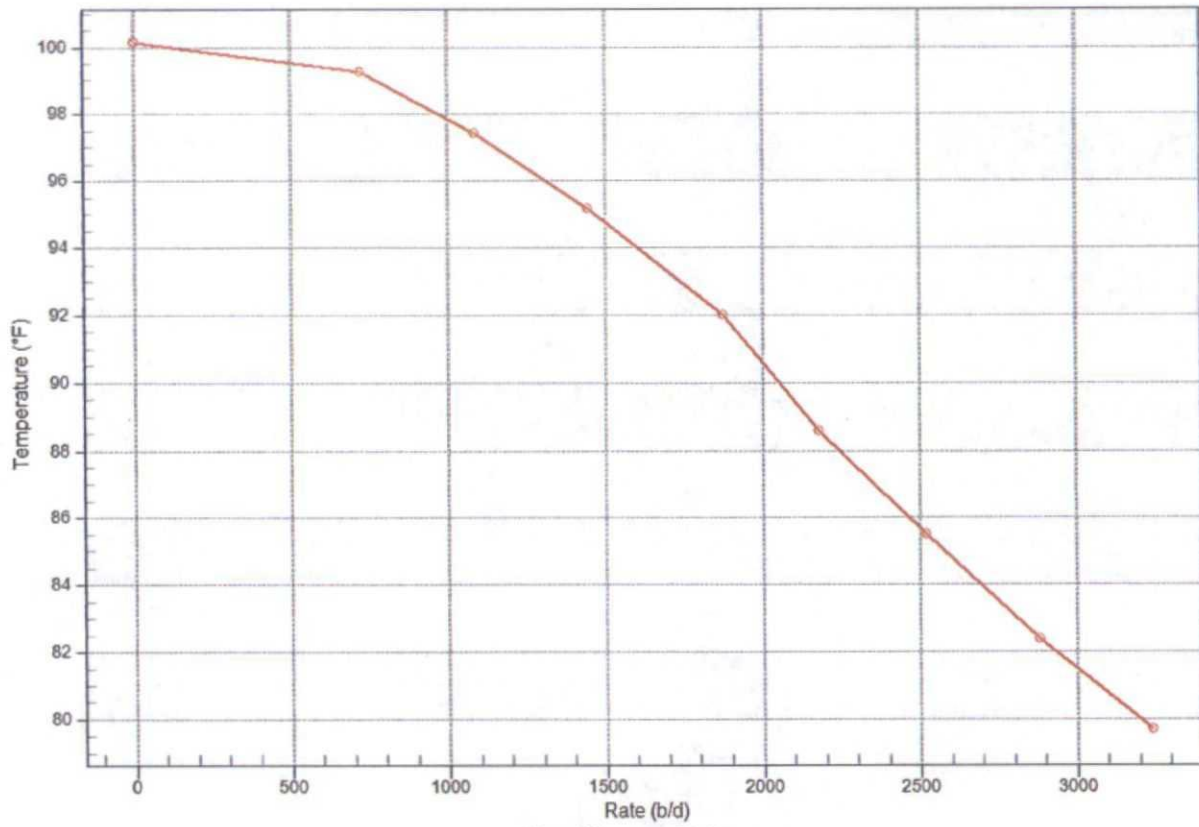
VGWU # 9



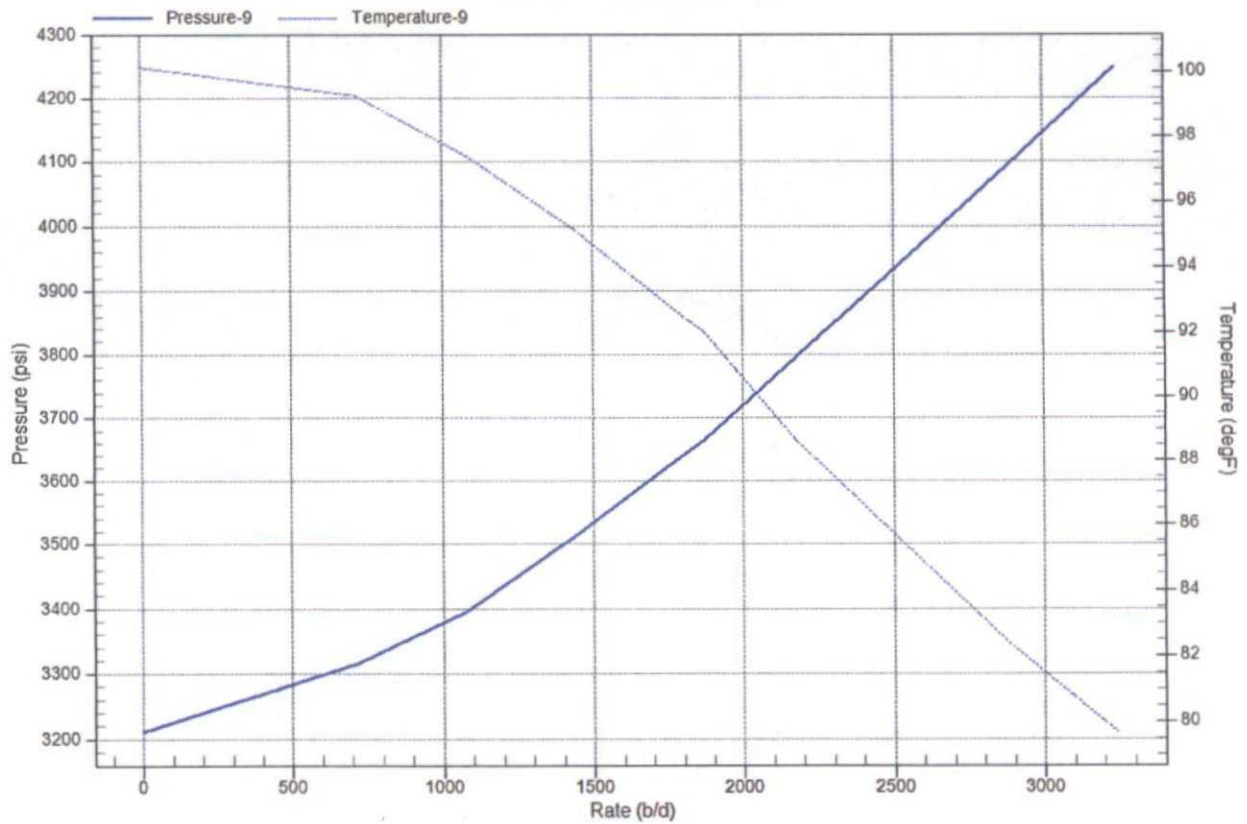
Pressure vs. Rate



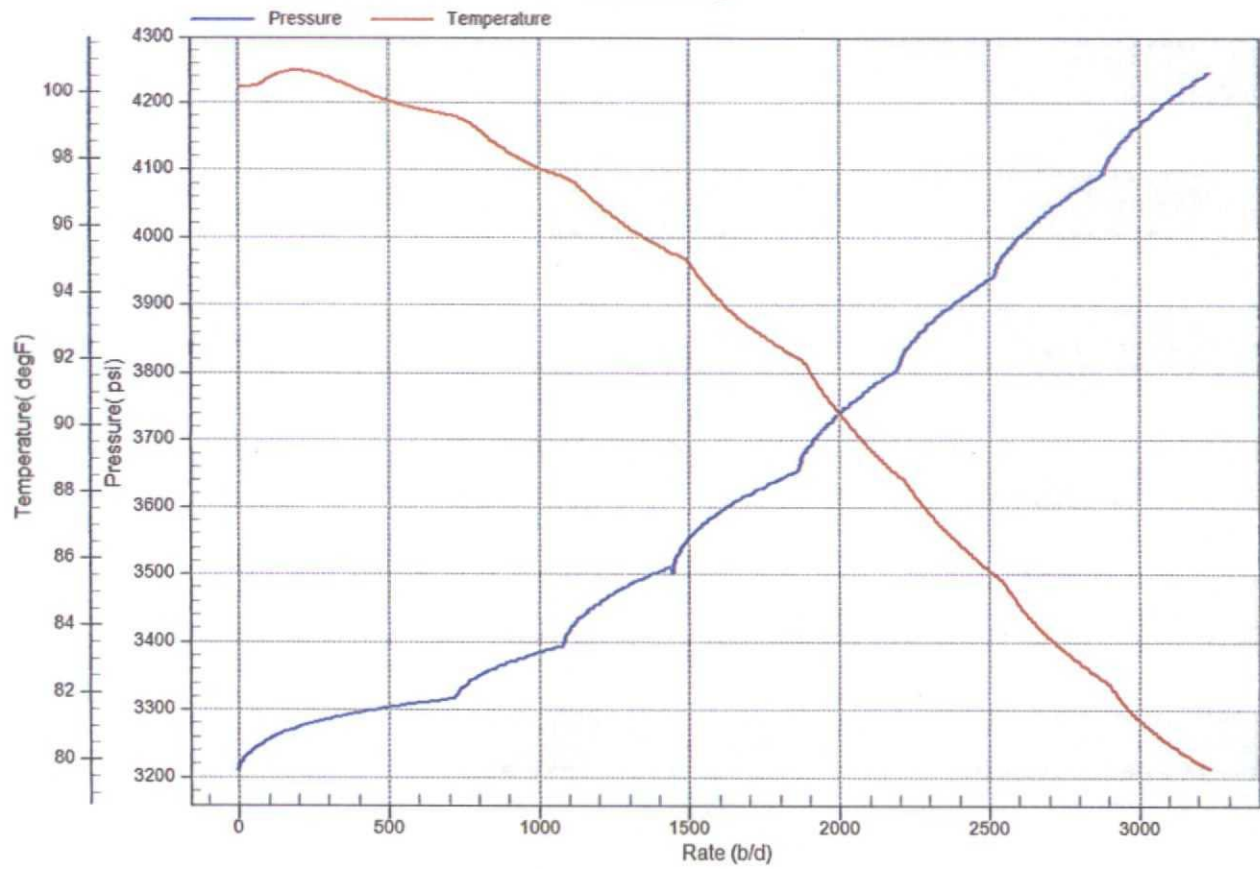
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU WI-9
API No. 30-025-31835

Active Injection Well

11" Hole
8-5/8" 24# WC-50 CSG @ 1580'
CMT w/ 650 sks (CIRC 74 sks)

Well Location

73' FNL & 1411' FWL
Unit Letter C
Section 25
Township 17-S
Range 34-E
Lea County, New Mexico
Elev: 4008' GR, 4022' KB

7-7/8" Hole, 5-1/2" CSG - 22 Jts 17# & 131 Jts
15.5# WC-50 set @ 6464'
CMT w/ 1600 sks, CIRC 208 sks

5/06 W/CIBP to 6200' & set
Dump 10' cmt on CIBP
Acidize perms 5928'-6000' w/3000 gals. HCL acid

Set pkr @ 5914

Top of Glorieta @ 5919'

2-3/8" CMT Line TBG, ID 1.69"
No Info (Assume Prof. Nipple w/ ID 1.43")

Perfs: 5928-29, 5933-37, 5941-45, 5955-57
5962-64, 5970-73, 5988-92, 5996-6000
Acidz w/3000 gals 15% HCL

Bad csg fr 6041-6053

Top of Paddock Lime @ 6033'

Perfs: 6031 - 6068' (2JSPF)

Top of Upper Paddock @ 6056'

Top of Lower Paddock @ 6149'

Perfs: 6251 - 6283' (2JSPF)

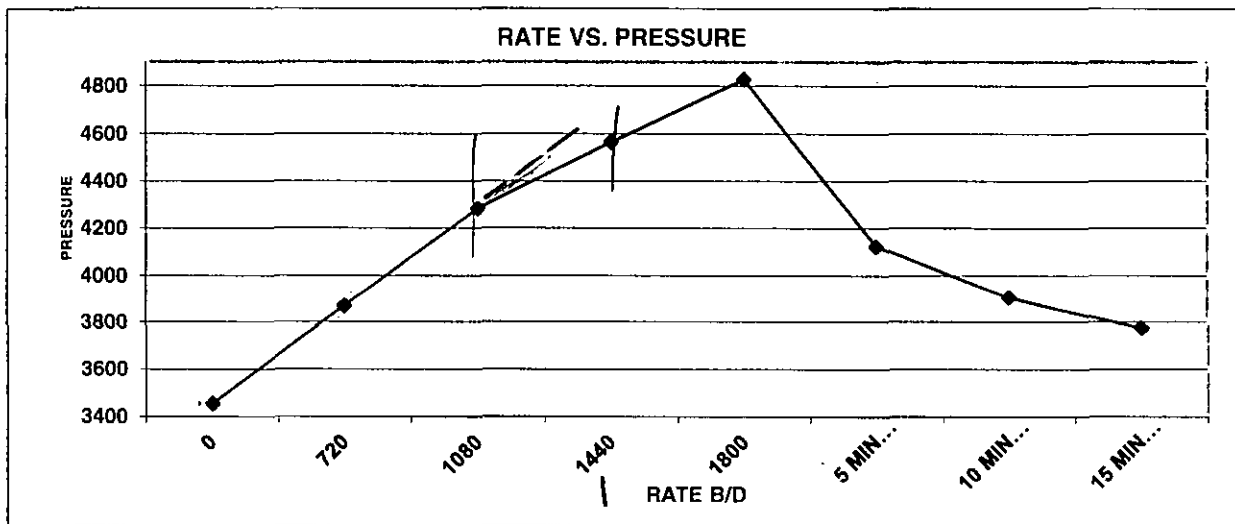
CIBP @ 6200
topped with 10' cement

TD = 6464'

Archer

STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	2/25/2014	1:15 PM	3455	700	
720	2/25/2014	1:30 PM	3870	1200	
1080	2/25/2014	1:45 PM	4283	1800	
1440	2/25/2014	2:00 PM	4565	2100	FRAC
1800	2/25/2014	2:15 PM	4828	2450	
5 MIN FALL OFF	2/25/2014	2:20 PM	4124	1500	
10 MIN FALL OFF	2/25/2014	2:25 PM	3906	1325	
15 MIN FALL OFF	2/25/2014	2:30 PM	3774	1250	
Company: CHEVRON				Recorded By: T. STANCZAK	
Well: VACUUM GLORIETTA WEST # 10				Witnessed By:	
Field: VACUUM				Truck Number: 104	
County: LEA				District: LEVELLAND	
State: NEW MEXICO				Tool Number:	
Injecton: WATER				Test Type: STEP RATE TESTS	
Shut In Time: 2:15 PM				FRAC @ 1440 B/D	
Total Shut In Time: 15 MIN.				4511 BOTTOM HOLE PRESSURE	
Tubing Size: 2.375"				2075 SURFACE PRESSURE	
Open Hole: N/A					
Perforations: 6047'-6301'					
Plug Back Depth: 6350'					



2075 psi
 - 50 safety
 2025 psi

2025 psi / 6047 ft = 0.33

CHEVRON

VACUUM GLORIETTA WEST UNIT # 10

February 25, 2014

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 10
Field - Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE
Gauge Depth:	5965'
Production Interval:	6047'-6301'
Production Through:	TUBING
Tubing Pressure:	2450 PSI
Casing Pressure:	0 psi
Shut In Time	2:15 PM
Status:	INJECTION
Temperature @ Run Depth	98.94 degF
Surface Temperature:	85.25 degF
Comments	
FRAC @ 1440 B/D 4511 BOTTOM HOLE PRESSURE 2075 SURFACE PRESSURE LOGGER SAT DOWN AT 5970 IN PACKER.	

ARCHER

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 10		
Well License:		Unique Well Identifier:	30-025-31836
Company:	CHEVRON		
Field:	VACUUM		

Location:		County:	LEA
Formation:		State:	NM
Purpose:	STEP RATE TEST	Country:	USA

Total Depth:	5970'	ID Borehole:	N/A
Packer Depth:	5974'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6360'	ID Production Tubing:	2"
Depth at which tubing is landed:	5974'	ID Drill Pipe:	N/A

ARCHER

Gradient Data Report

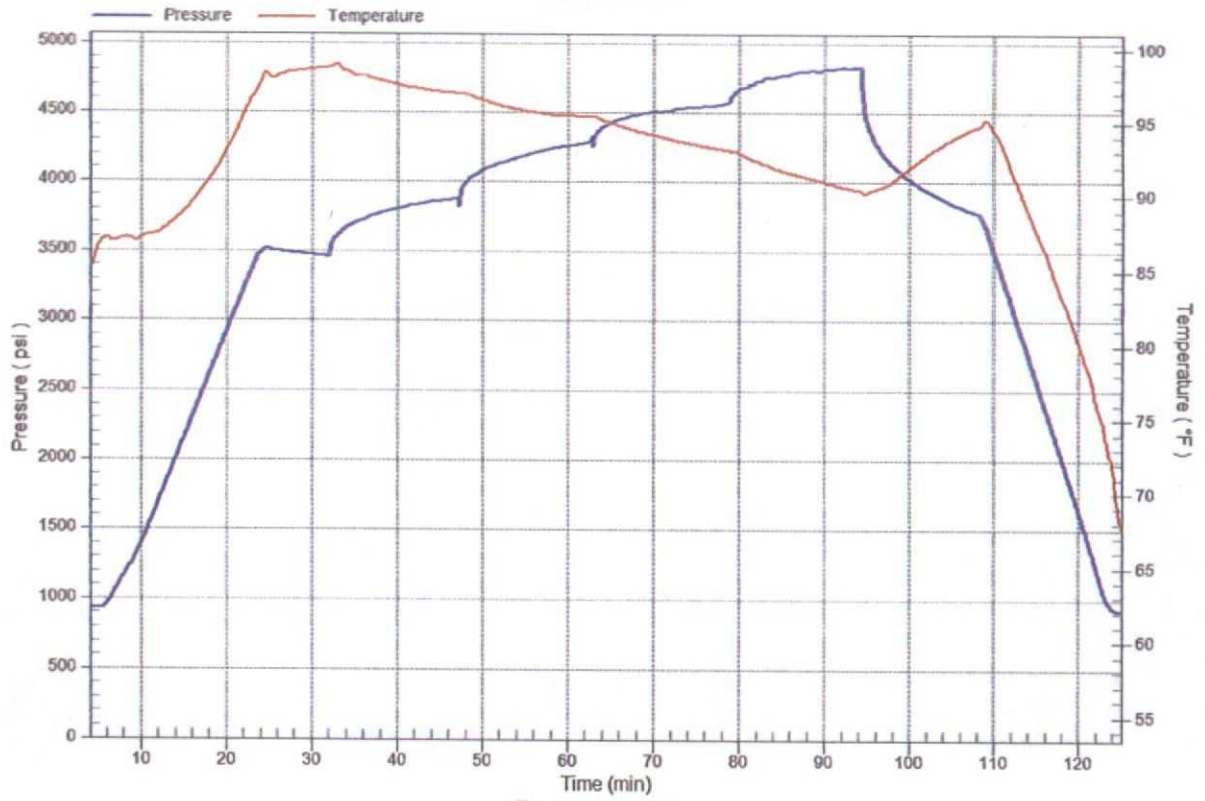
CHEVRON
VACUUM GLORIETTA WEST UNIT # 10

Gradient Data Table

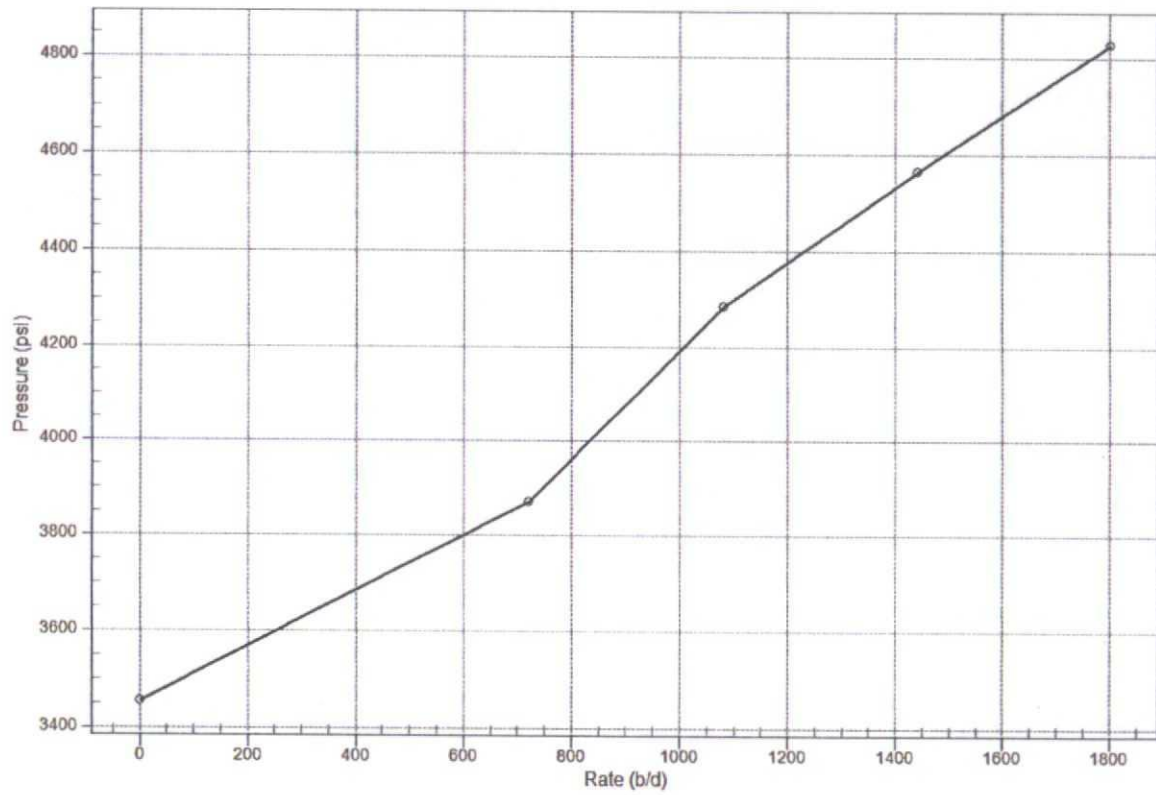
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	3455.68	98.71	0.0000
720.00	3870.52	96.94	0.5762
1080.00	4283.62	95.36	1.1475
1440.00	4565.18	93.09	0.7821
1800.00	4828.61	90.37	0.7317

ARCHER

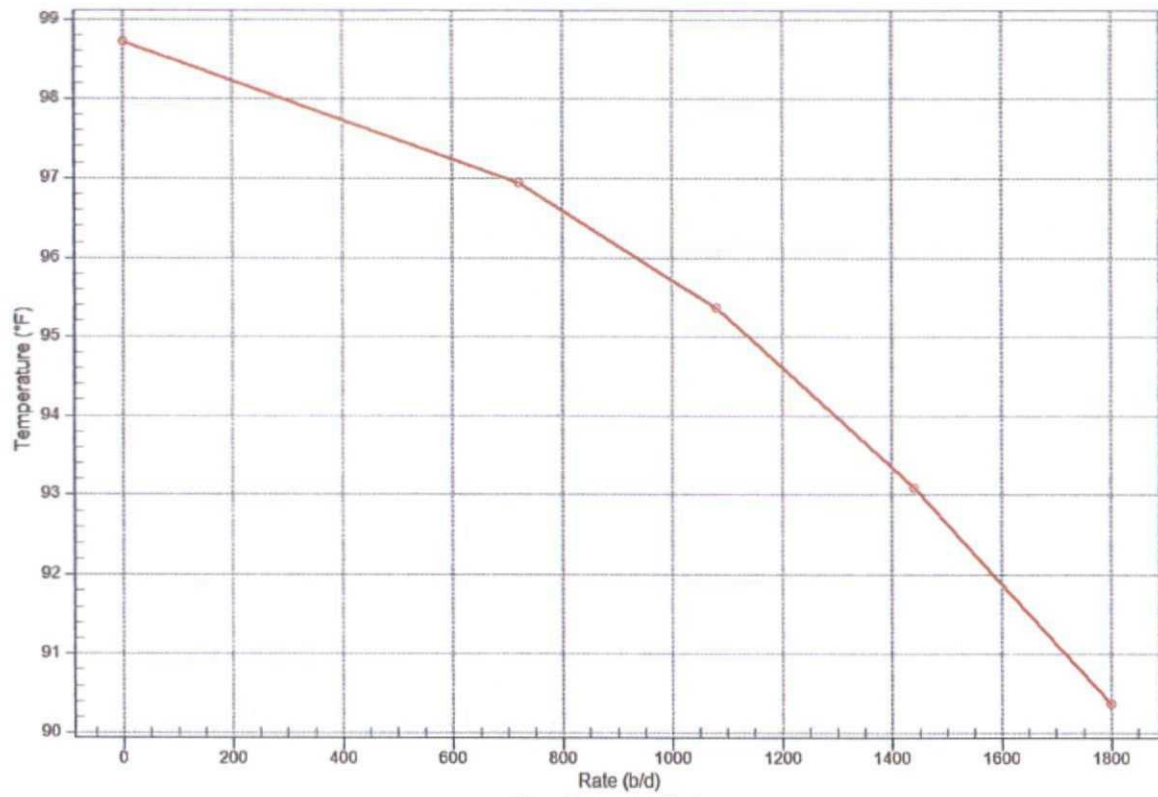
VGWU # 10



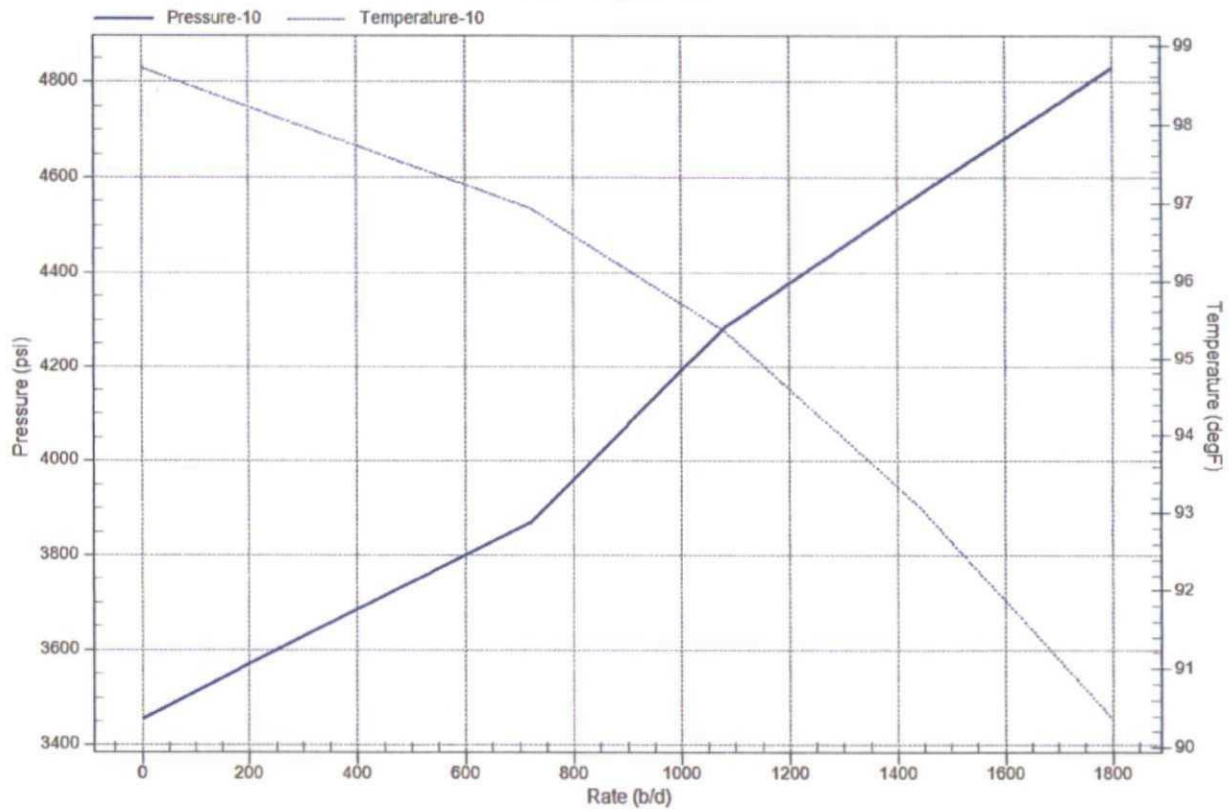
Pressure vs. Rate



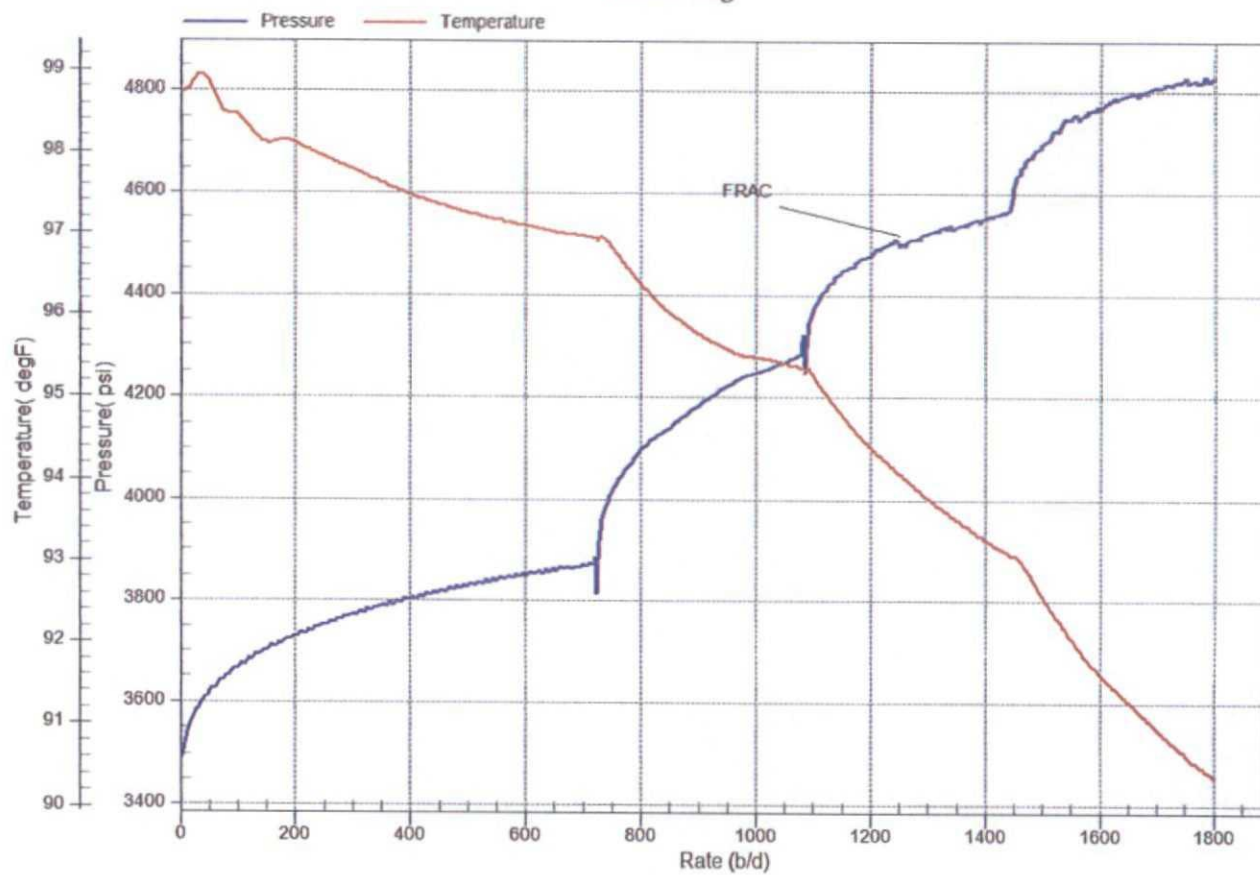
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU 10 (WIW)
API No. 30-025-31836

Active Injection Well

8/12/09 Updated by N Cayce

Well Location

100' FSL & 2628' FWL
Unit Letter N
Section 24
Township 17-S
Range 34-E
Lea County, New Mexico
Elevation: 4001' GL

History

12/99 MIT. Set pkr @ 5962.92'. 191 jts in hole.
Test good.

6/03 Failure. TIH w/pkr & duo-line tbg. Displaced
hole w/135 bbls brine pkr fluid. Set pkr @ 5974'.
Test good.

4/6/2005- Gray Wireline tagged 5972'

11" Hole
8-5/8" 24# WC-50 CSG set @
CMT w/ 650 sks (CIRC 125 sks)

7-7/8" Hole
126 JTS 15.5# & 20 JTS 17#
5-1/2" WC-50 CSG set @
CMT w/ 1675 sks (CIRC 144 sks)

2-3/8" TBG
PKR @ 5974'

Top of Glorieta @ 5950'

Glorieta Marker @ 6003'

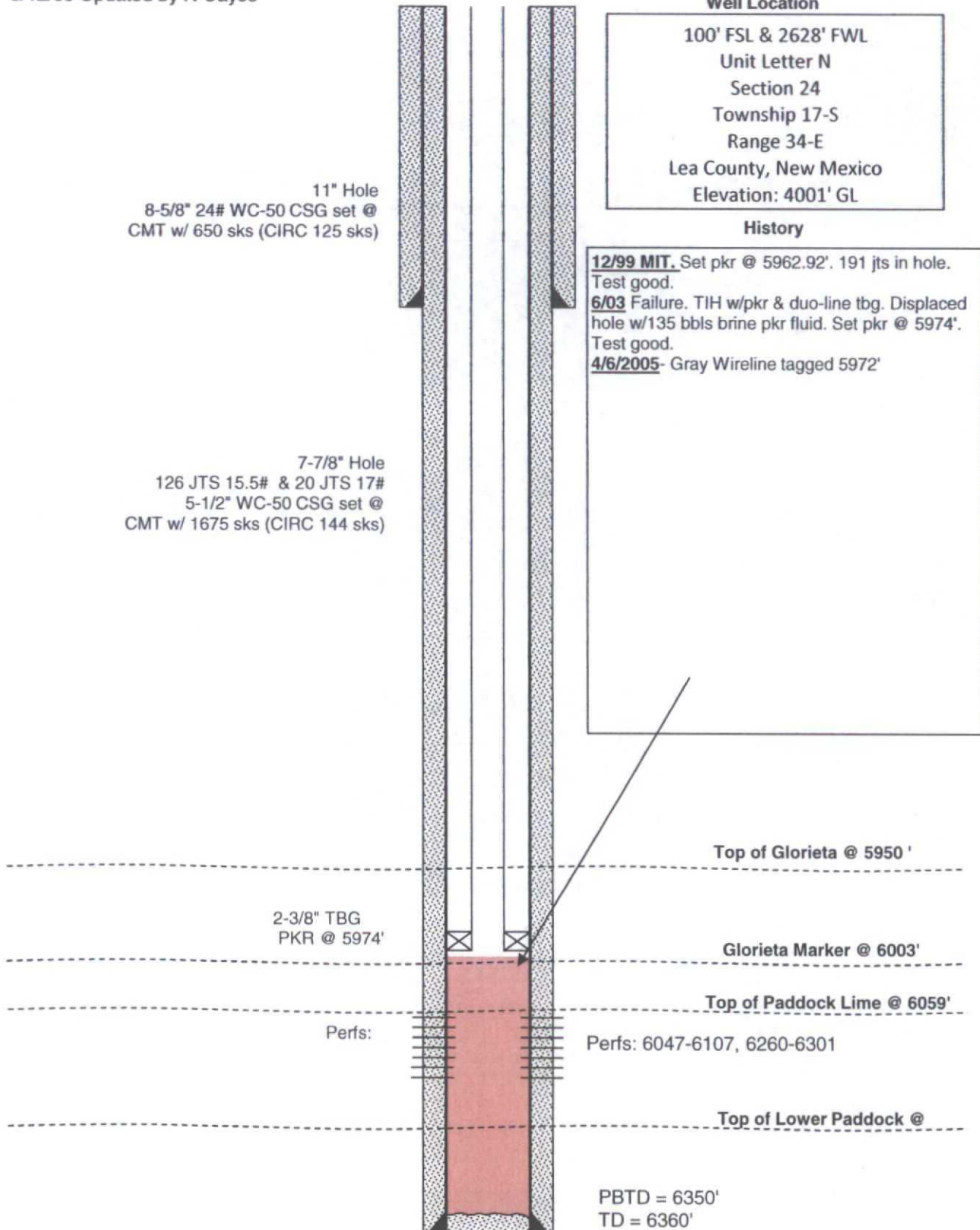
Top of Paddock Lime @ 6059'

Perfs:

Perfs: 6047-6107, 6260-6301

Top of Lower Paddock @

PBTD = 6350'
TD = 6360'

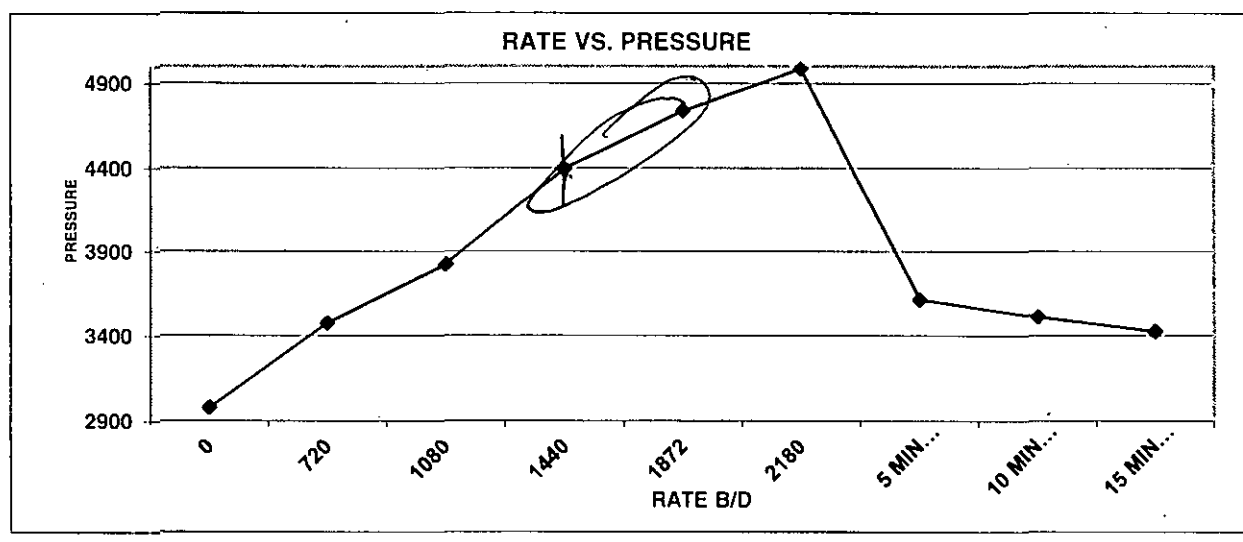




STEP RATE TEST

graywsi2@aol.com

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	12/19/2013	3:25 PM	2978	195	
720	12/19/2013	3:40 PM	3474	710	
1080	12/19/2013	3:55 PM	3824	1150	
1440	12/19/2013	4:10 PM	4395	1725	START OF FRAC
1872	12/19/2013	4:25 PM	4737	2210	
2180	12/19/2013	4:40 PM	4985	2525	
5 MIN FALL OFF	12/19/2013	4:45 PM	3615	960	
10 MIN FALL OFF	12/19/2013	4:50 PM	3511	880	
15 MIN FALL OFF	12/19/2013	4:55 PM	3425	760	
Company:	CHEVRON			Recorded By:	T. STANCZAK
Well:	VACUUM GLORIETTA WEST # 11			Witnessed By:	
Field:	VACUUM			Truck Number:	104
County:	LEA			District:	LEVELLAND
State:	NEW MEXICO			Tool Number:	
Injecton	WATER			Test Type:	STEP RATE TESTS
Shut In Time:	4:40 PM			FRAC STARTED @ 1440 B/D	
Total Shut In Time:	15 MIN.			4282 BOTTOM HOLE PRESSURE	
Tubing Size:	2.375"			1600 SURFACE PRESSURE ✓	
Open Hole:	N/A				
Perforations:	6072-6114'				
Plug Back Depth	6236'				



1600 psi
- 50 safety
1550 psi

1550 psi / 6074 ft = 0.255

VGWU 11 (WIW)
API No. 30-025-31837

Active Injection Well

Well Location

246 FNL & 1554 FEL
Section 25
Township 17-S
Range 34-E
Lea County, New Mexico
Elevation: 4012' KB
3998' GR

11" Hole
8-5/8" 24# WC-50 CSG set @ 1600'
CMT w/ 650 sks (CIRC 125 sks)

7-7/8" Hole
126 JTS 15.5# & 20 JTS 17#
5-1/2" WC-50 CSG set @ 6360'
CMT w/ 1675 sks (CIRC 144 sks)

11/04 Repair csg. Set pkr @
5955'.
4/6/2005- Gray Wireline
tagged 6001', right below
packer

2-3/8" TBG
PKR @ 5,955'

Top of Glorieta @ 5963'

Proposed Glorieta Perfs: 5,885'-
6,020', 6,038'-6,044'

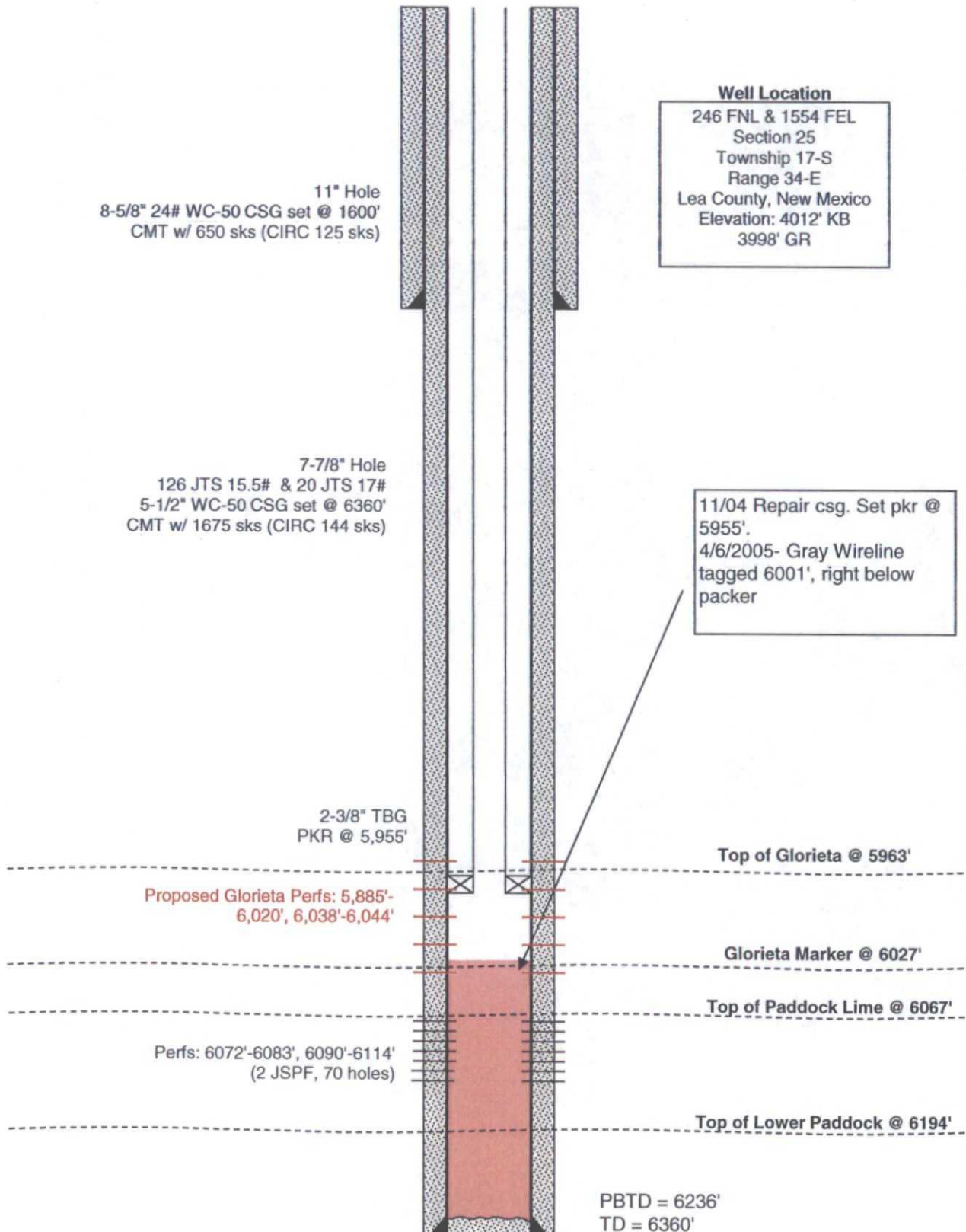
Glorieta Marker @ 6027'

Top of Paddock Lime @ 6067'

Perfs: 6072'-6083', 6090'-6114'
(2 JSPF, 70 holes)

Top of Lower Paddock @ 6194'

PBTD = 6236'
TD = 6360'



CHEVRON

VACUUM GLORIETTA WEST UNIT # 11

December 19, 2013

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 11
Field – Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP-RATE TEST
Gauge Depth:	5987'
Production Interval:	6072'-6114'
Production Through:	TUBING
Tubing Pressure:	2525 psi
Casing Pressure:	0 psi
Shut In Time	4:40 PM
Status:	INJECTION
Temperature @ Run Depth	101.52 degF
Surface Temperature:	80.57 degF
Comments	
FRAC STARTED @ 1440 B/D 4282 BOTTOM HOLE PRESSURE 1600 SURFACE PRESSURE	

GRAY WIRELINE

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 11		
Well License:		Unique Well Identifier:	30-025-31837
Company:	CHEVRON		
Field	VACUUM		

Location:	County:	LEA
Formation:	State:	NM
Purpose:	Country:	USA

Total Depth:	5987'	ID Borehole:	N/A
Packer Depth:	5955'	ID Production Casing:	5.5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6360'	ID Production Tubing:	2"
Depth at which tubing is landed:	5955'	ID Drill Pipe:	N/A

GRAY WIRELINE

Gradient Data Report

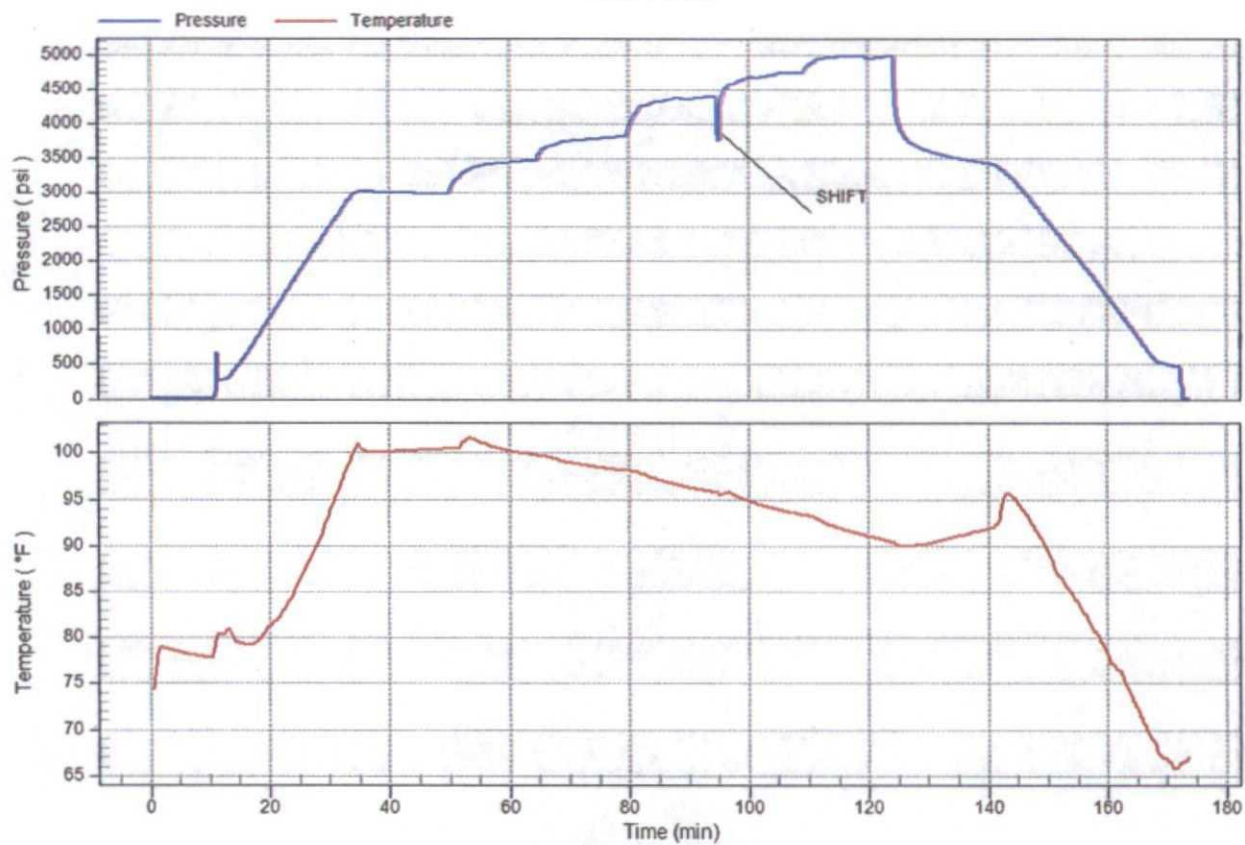
CHEVRON
VACUUM GLORIETTA WEST UNIT # 11

Gradient Data Table

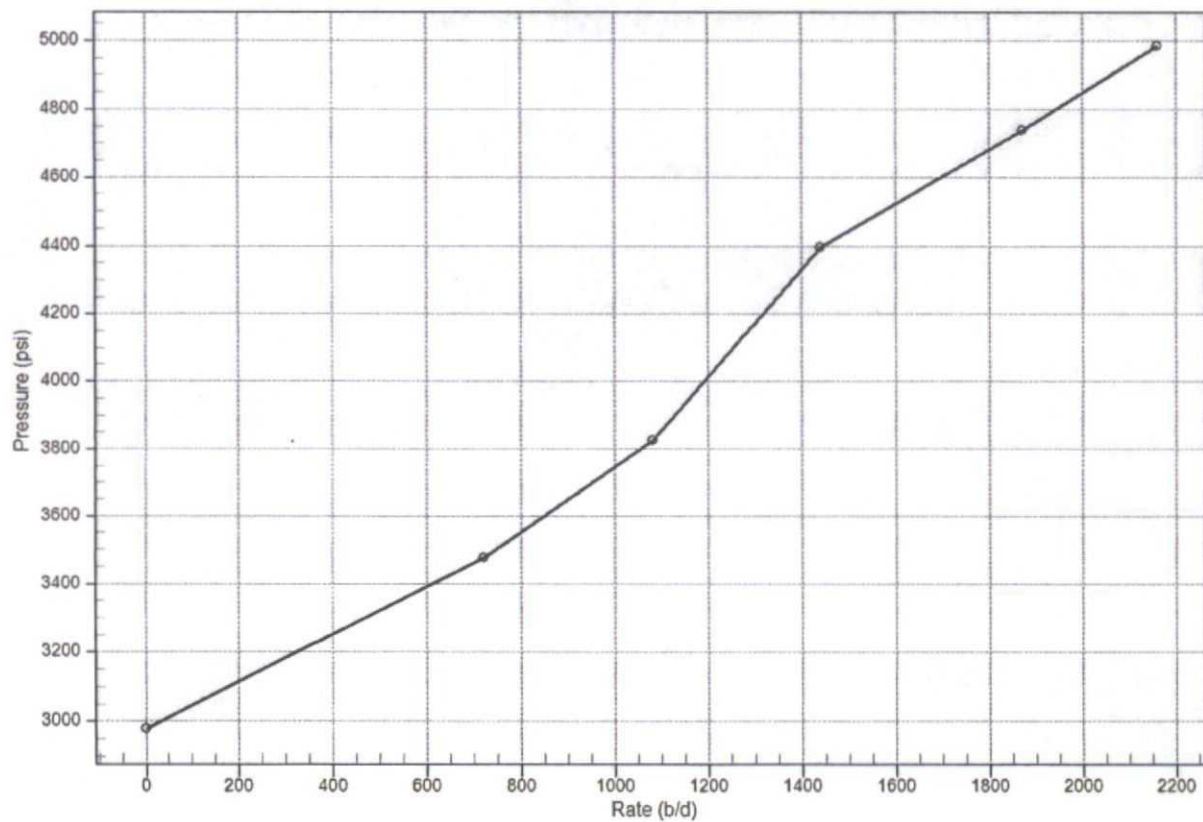
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	2978.93	100.47	0.0000
720.00	3474.27	99.71	0.6880
1080.00	3824.92	98.06	0.9740
1440.00	4395.23	95.75	1.5842
1872.00	4737.91	93.31	0.7932
2160.00	4985.60	90.35	0.8600

GRAY WIRELINE

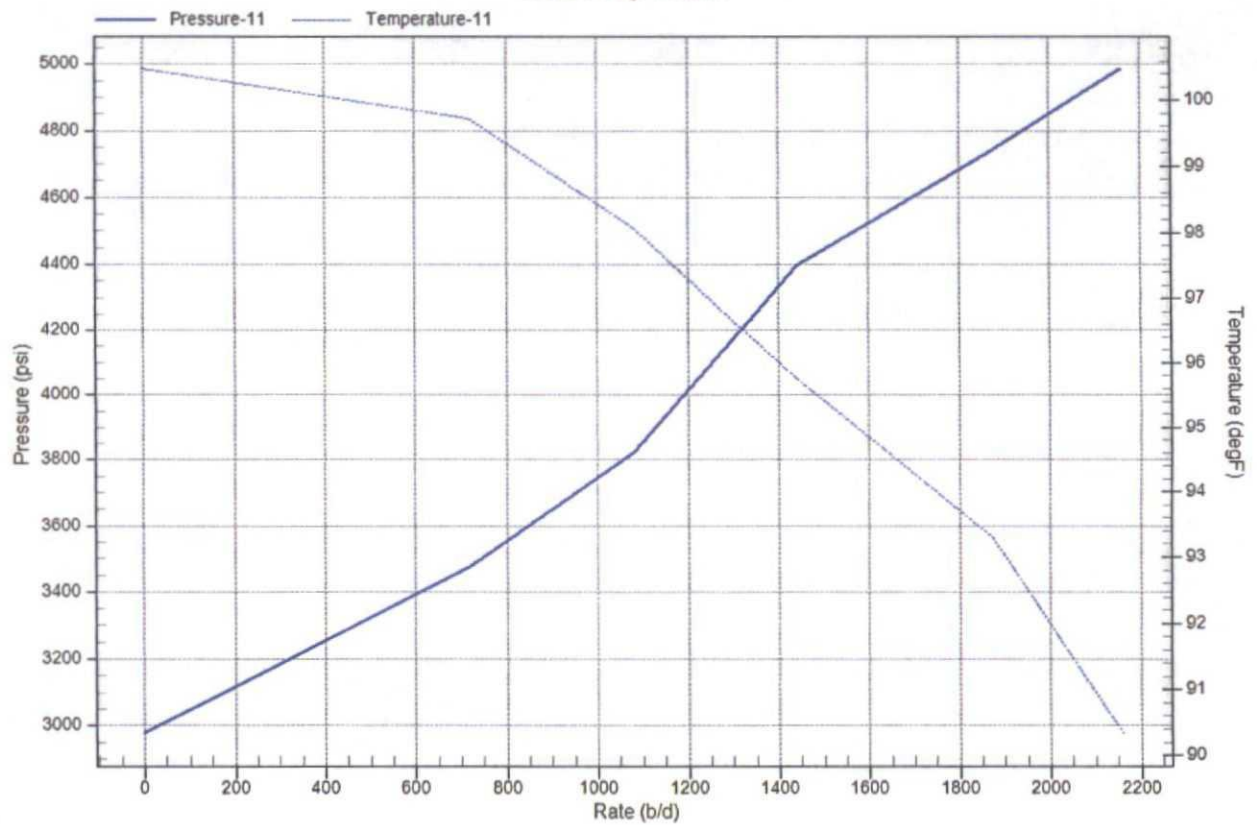
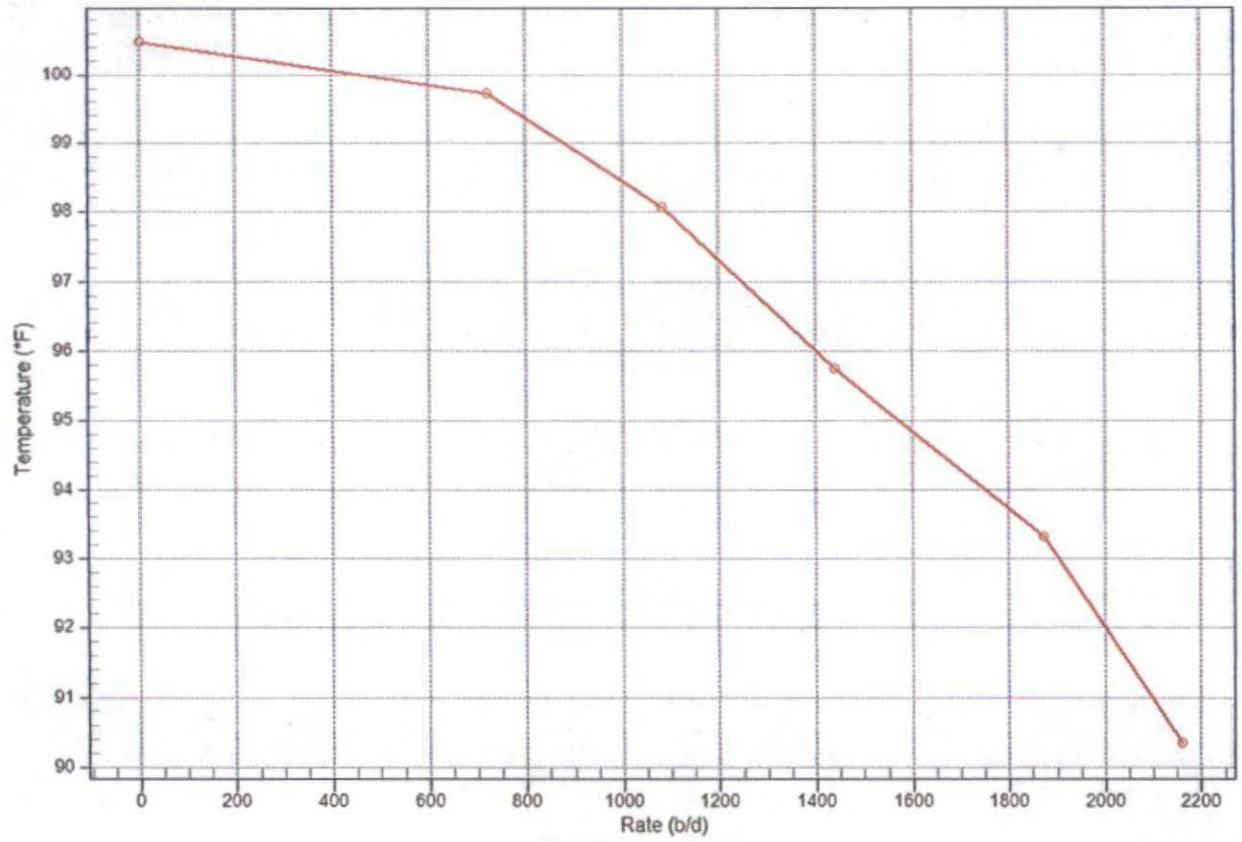
VGWU # 11



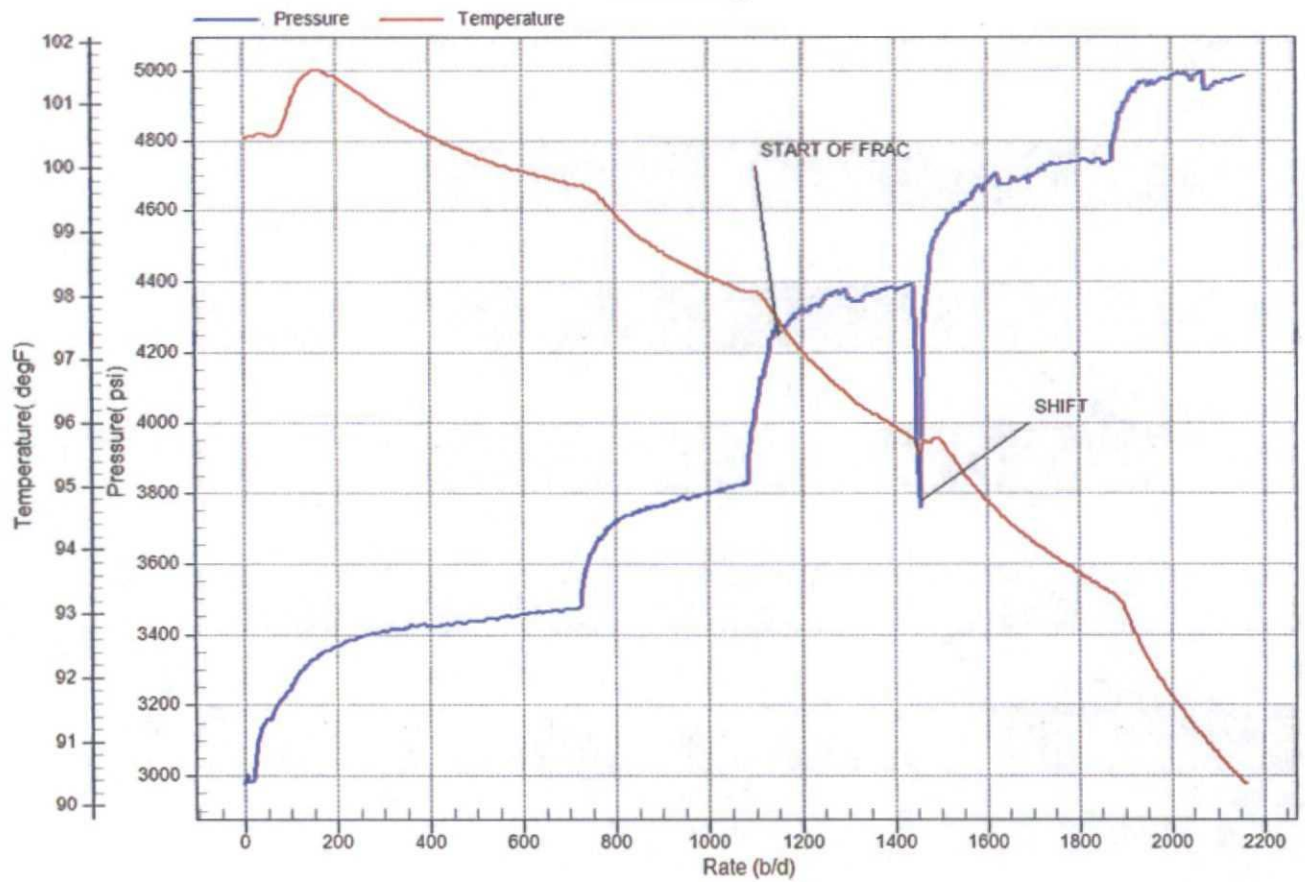
Pressure vs. Rate



Temperature vs. Rate



Pressure Log



VGWU 11 (WIW)
API No. 30-025-31837

Active Injection Well

Well Location

246 FNL & 1554 FEL
Section 25
Township 17-S
Range 34-E
Lea County, New Mexico
Elevation: 4012' KB
3998' GR

11" Hole
8-5/8" 24# WC-50 CSG set @ 1600'
CMT w/ 650 sks (CIRC 125 sks)

7-7/8" Hole
126 JTS 15.5# & 20 JTS 17#
5-1/2" WC-50 CSG set @ 6360'
CMT w/ 1675 sks (CIRC 144 sks)

11/04 Repair csg. Set pkr @
5955'.
4/6/2005- Gray Wireline
tagged 6001', right below
packer

2-3/8" TBG
PKR @ 5,955'

Top of Glorieta @ 5963'

Proposed Glorieta Perfs: 5,885'-
6,020', 6,038'-6,044'

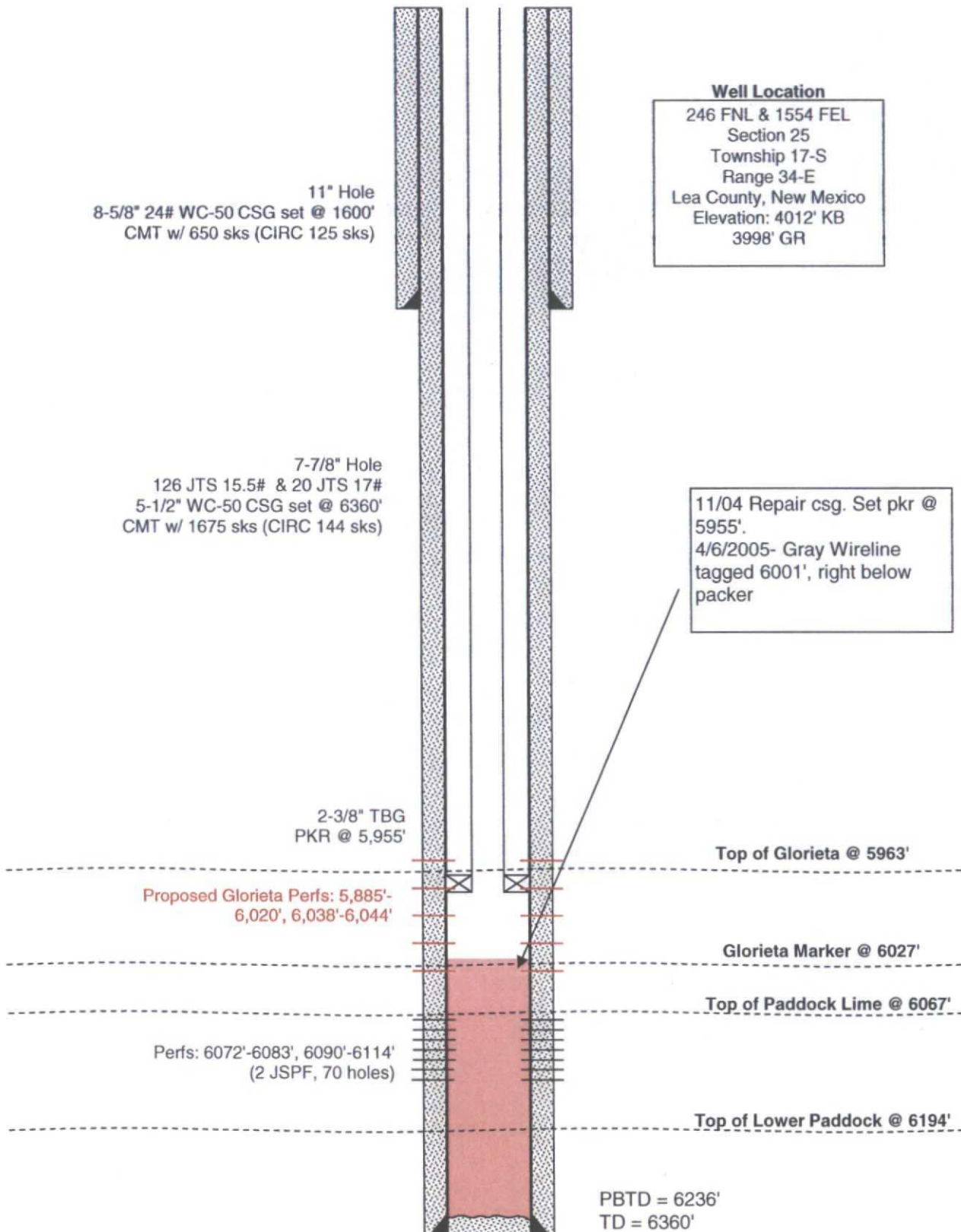
Glorieta Marker @ 6027'

Top of Paddock Lime @ 6067'

Perfs: 6072'-6083', 6090'-6114'
(2 JSPF, 70 holes)

Top of Lower Paddock @ 6194'

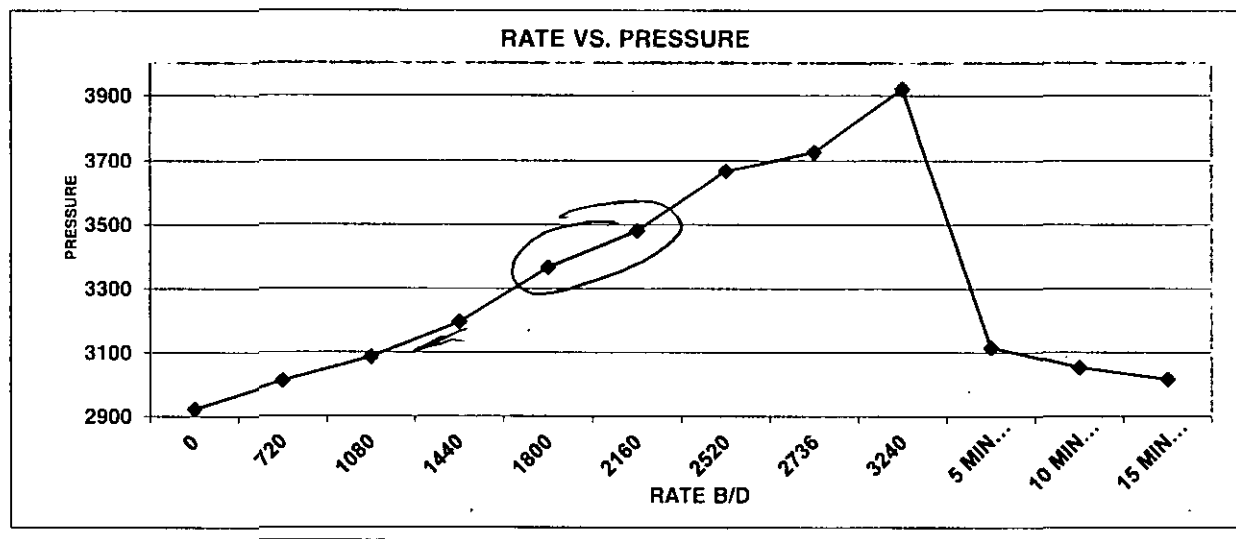
PBTD = 6236'
TD = 6360'



Archer

STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	2/25/2014	4:15 PM	2922	275	
720	2/25/2014	4:30 PM	3011	425	
1080	2/25/2014	4:45 PM	3086	690	
1440	2/25/2014	5:00 PM	3195	900	
1800	2/25/2014	5:15 PM	3366	1180	
2160	2/25/2014	5:25 PM	3481	1410	SMALL FRAC
2520	2/25/2014	5:40 PM	3667	1775	
2736	2/25/2014	5:55 PM	3727	1900	LARGE FRAC ✓
3240	2/25/2014	6:10 PM	3920	2275	
5 MIN FALL OFF	2/25/2014	6:15 PM	3116	650	
10 MIN FALL OFF	2/25/2014	6:20 PM	3053	600	
15 MIN FALL OFF	2/25/2014	6:25 PM	3016	590	
Company:	CHEVRON			Recorded By:	T. STANCZAK
Well:	VACUUM GLORIETTA WEST # 27			Witnessed By:	
Field:	VACUUM			Truck Number:	104
County:	LEA			District:	LEVELLAND
State:	NEW MEXICO			Tool Number:	
Injector:	WATER			Test Type:	STEP RATE TESTS
Shut In Time:	6:10 PM			SMALL FRAC @ 2160 B/D	
Total Shut In Time:	15 MIN.			3480 BOTTOM HOLE PRESSURE	
Tubing Size:	2.375"			1380 SURFACE PRESSURE	
Open Hole:	N/A			LARGE FRAC @ 2736 B/D	
Perforations:	5860'-6123'			3711 BOTTOM HOLE PRESSURE	
Plug Back Depth:	6300			1860 SURFACE PRESSURE	



$$\frac{1860 \text{ psi} - 50 \text{ psi}}{1810 \text{ psi}}$$

$$\frac{1810 \text{ psi}}{5860 \text{ ft}} = 0.31$$

CHEVRON

VACUUM GLORIETTA WEST UNIT # 27

February 25, 2014

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 27
Field - Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE
Gauge Depth:	5790'
Production Interval:	5860'-6123'
Production Through:	TUBING
Tubing Pressure:	2275 PSI
Casing Pressure:	0 PSI
Shut In Time	6:10 PM
Status:	INJECTION
Temperature @ Run Depth	96.73 degF
Surface Temperature:	80.93 degF
Comments	
SMALL FRAC @ 2160 B/D 3480 BOTTOM HOLE PRESSURE 1380 SURFACE PRESSURE LARGE FRAC @ 2736 B/D 3711 BOTTOM HOLE PRESSURE 1860 SURFACE PRESSURE LOGGER SAT DOWN AT 5804 IN PACKER.	

ARCHER

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 27	Unique Well Identifier:	30-025-31869
Well License:			
Company:	CHEVRON		
Field	VACUUM		

Location:		County:	LEA
Formation:		State:	NM
Purpose:	STEP RATE TEST	Country:	USA

Total Depth:	5804'	ID Borehole:	N/A
Packer Depth:	5797'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2:375"
Depth at which casing is landed:	6370	ID Production Tubing:	2"
Depth at which tubing is landed:	5797'	ID Drill Pipe:	N/A

ARCHER

Gradient Data Report

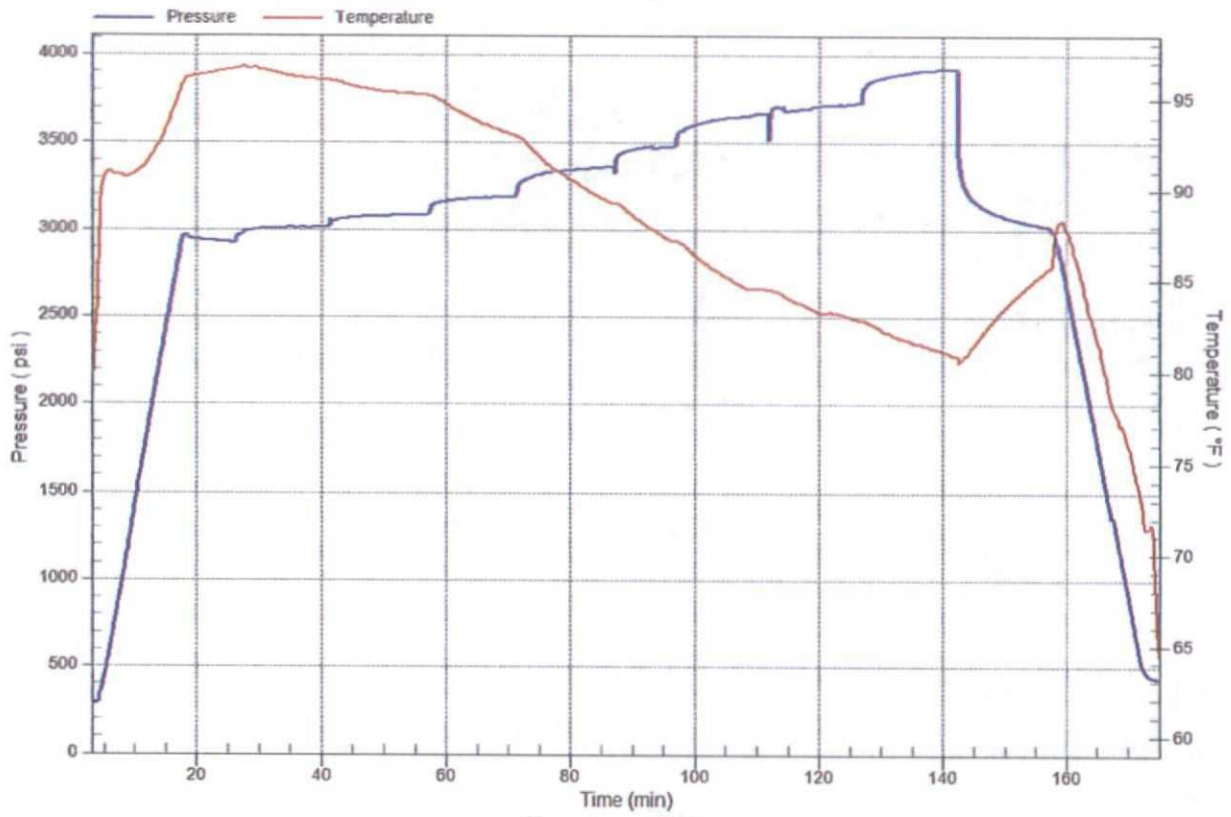
CHEVRON
VACUUM GLORIETTA WEST UNIT # 27

Gradient Data Table

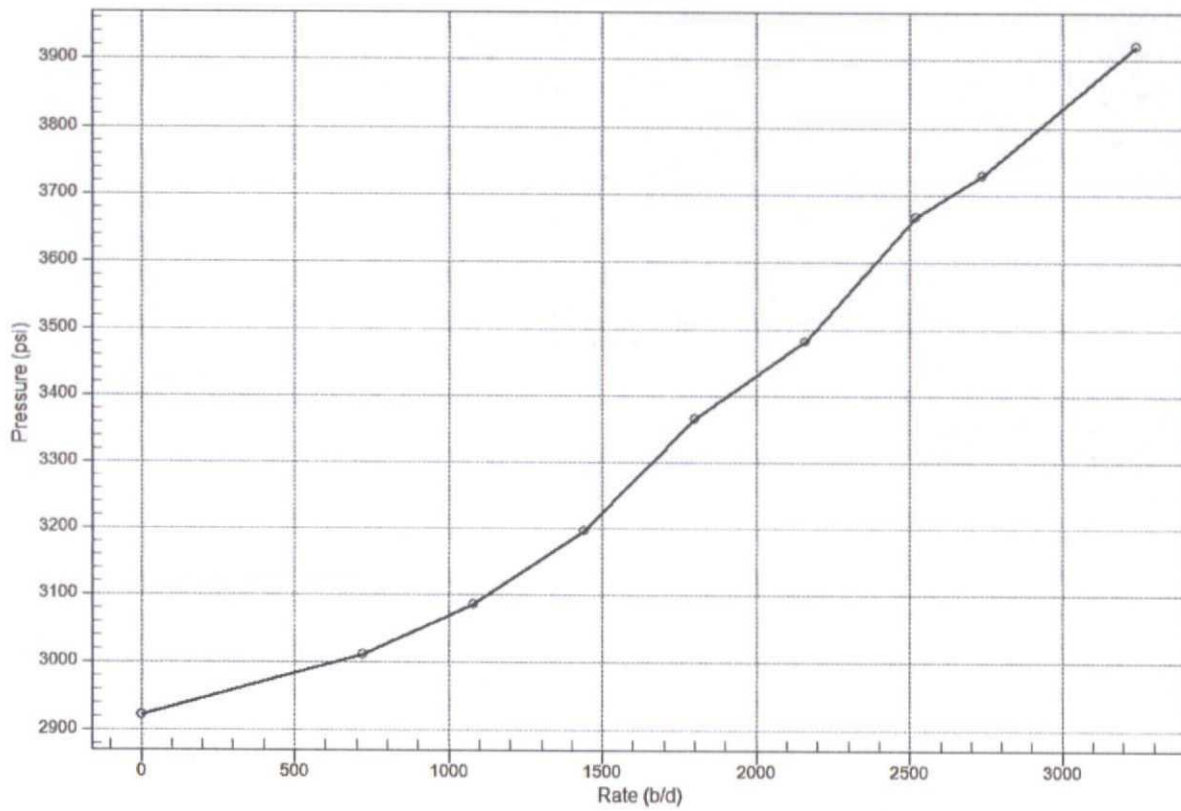
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	2922.29	96.64	0.0000
720.00	3011.30	95.98	0.1236
1080.00	3085.99	95.15	0.2075
1440.00	3195.74	92.94	0.3049
1800.00	3366.05	89.28	0.4731
2160.00	3481.96	87.16	0.3220
2520.00	3667.22	84.48	0.5146
2736.00	3727.66	82.78	0.2798
3240.00	3920.80	80.83	0.3832

ARCHER

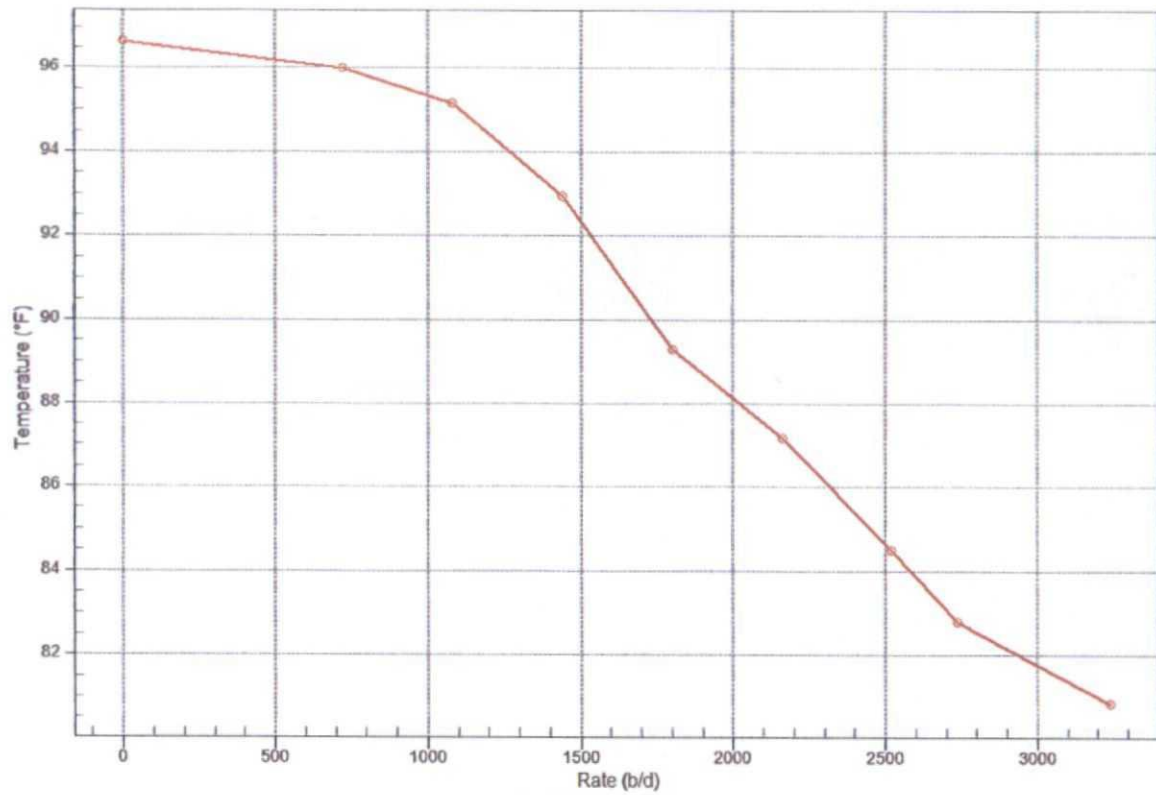
VGWU # 27



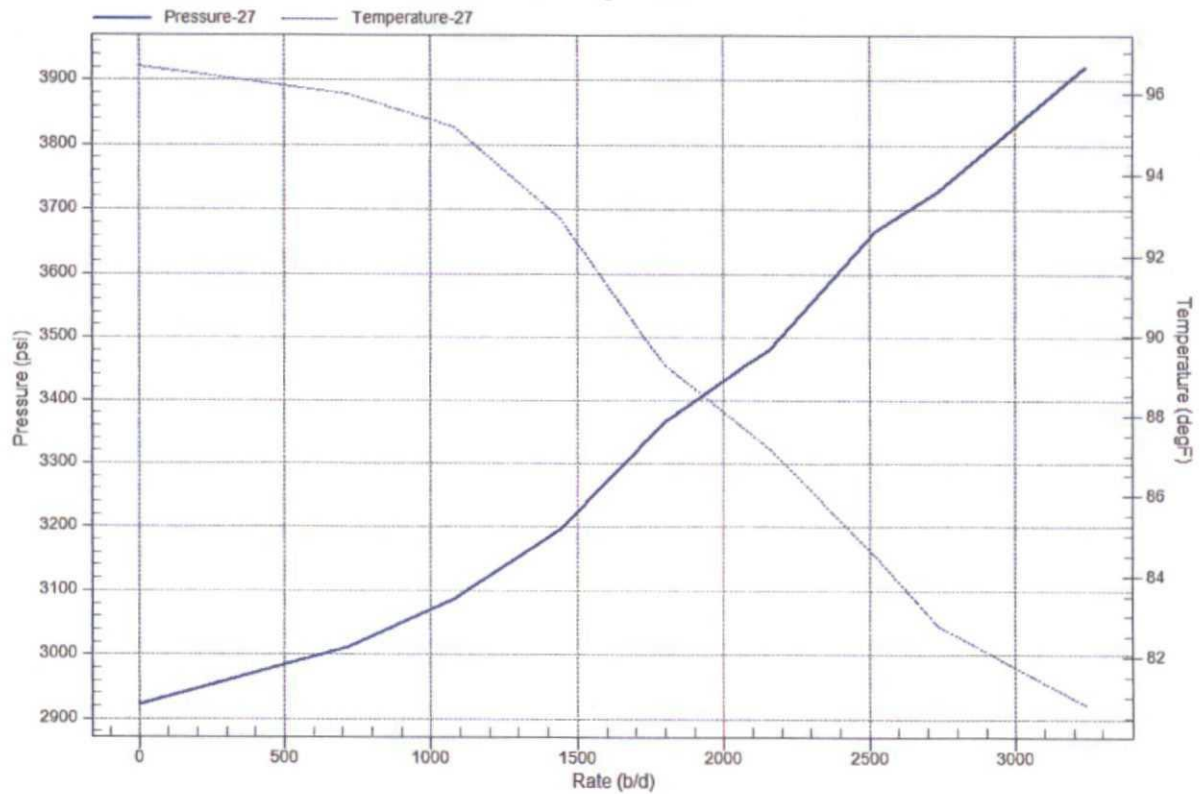
Pressure vs. Rate



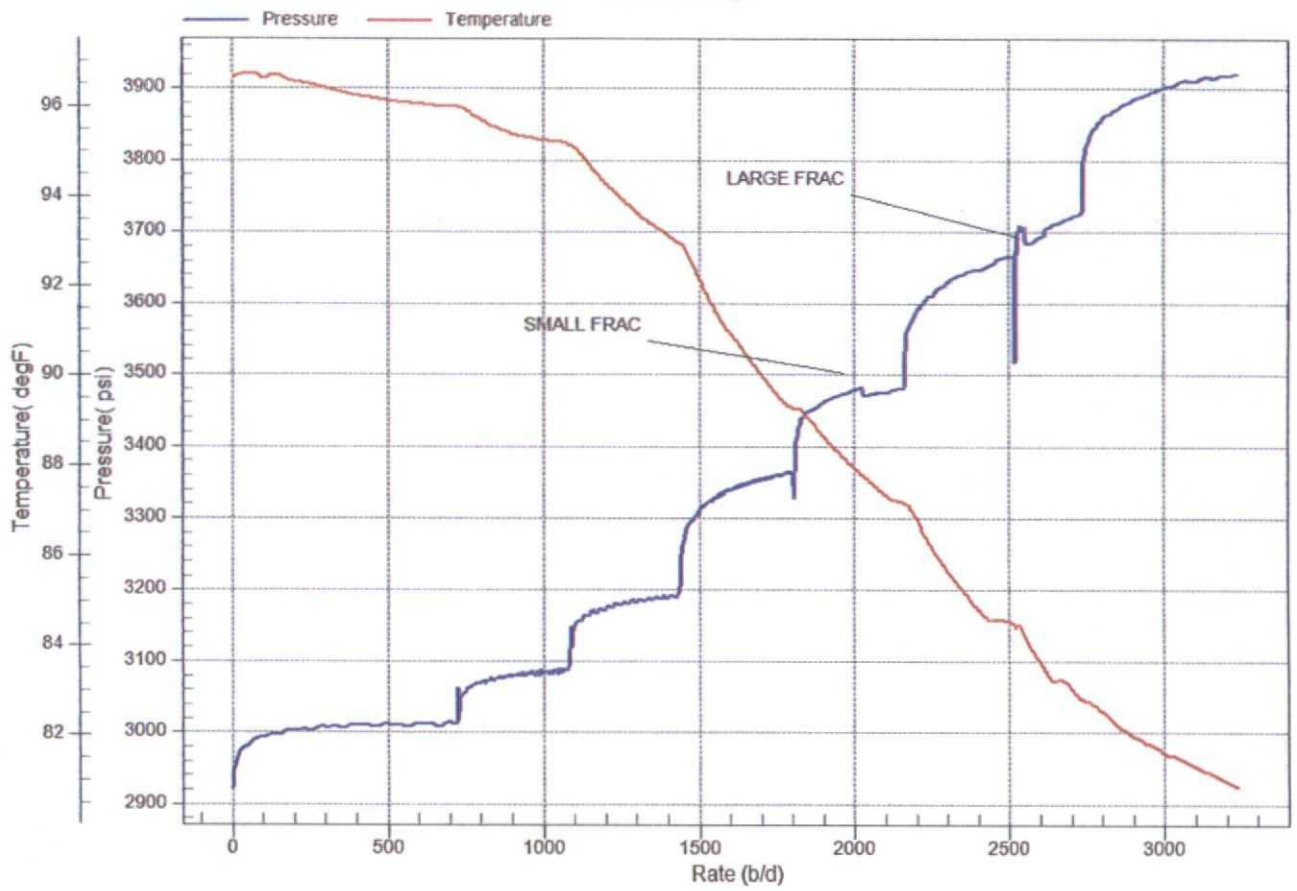
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU WI 27

30-025-31869

Active Injection Well

Well Location

2359' FSL & 64 FEL
Unit Letter I
Section 26
Township 17-S
Range 34-E
Lea County, New Mexico
Elev: 4012' GR, KB 4026, DF

History

05/13/93: Spud well

06/23/93: Perforate 5,975-6,006', 6,115-23' (78 Holes) Acidize w/ 1800 gal 15% HCl.

07/17/03: Perforate from 5860-5954' w/2 JSPF, Acidize w/ 7,000 gal 15% NEFE HCl & 2000 #RS.

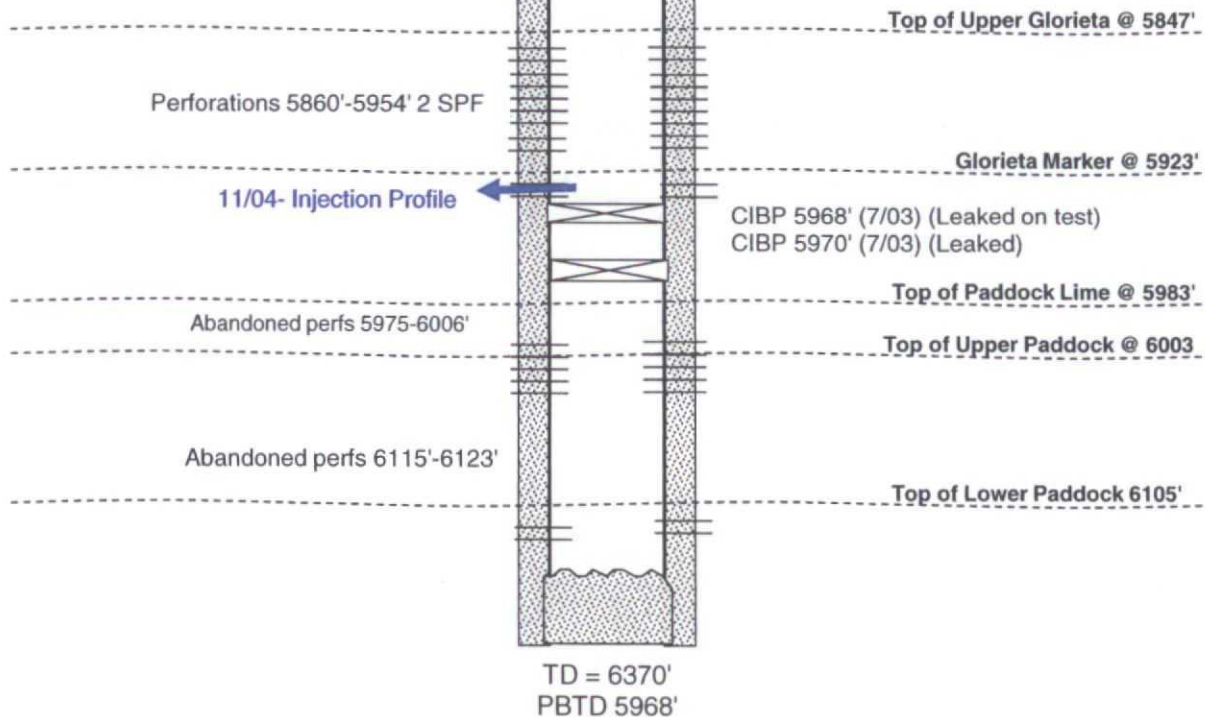
04/06/05: Gray Wireline tagged @ 5,963'

11" Hole
8-5/8" 24# WC-50 CSG set @ 1580'
CMT w/ 650 sks class C (TOC 1700', pump
200 sks down backside)

TOC 1700', topped of w/ 200 sks
down backside

7-7/8" Hole
124 JTS 5 1/2" 15.5# LTC CSG & 22 JTS 17#
WC-50 CSG set @ 6370'
CMT w/ 1470 sks. (TOC 1700' by Temp Survey)

2 3/8" Dual Line w/Loc Set
Nickel plated Injection packer
@5797' (injection pkr set
high, have San Andres casing
exposed to wtr)



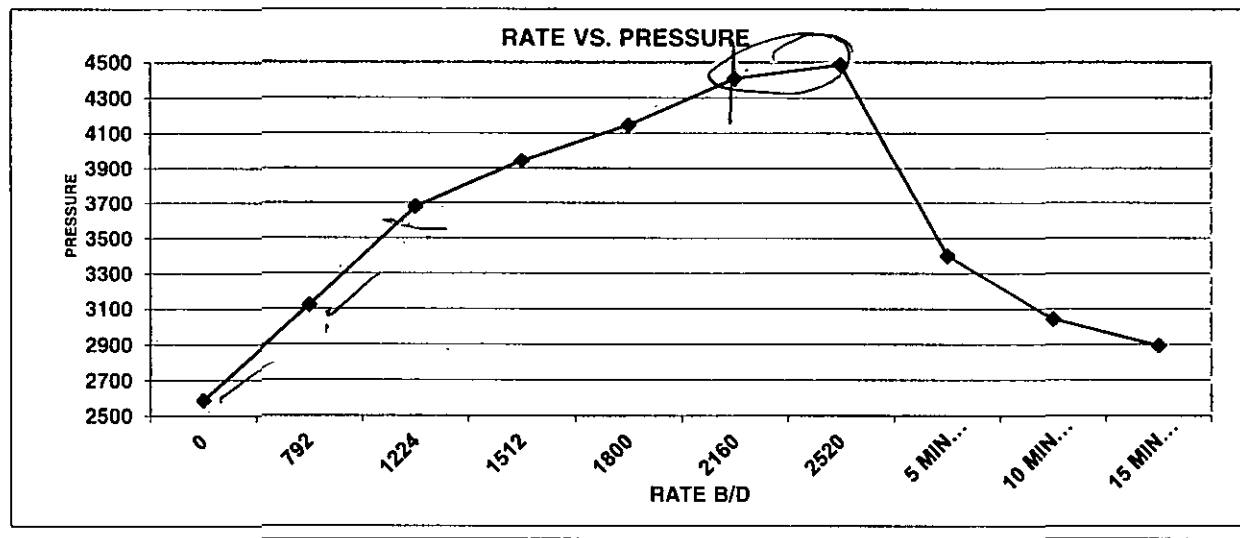
Archer

STEP RATE TEST

graywsi2@aol.com

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	1/16/2014	9:05 AM	2588	0	
792	1/16/2014	9:20 AM	3121	450	
1224	1/16/2014	9:35 AM	3678	1170	
1512	1/16/2014	9:50 AM	3945	1475	
1800	1/16/2014	10:05 AM	4147	1740	
2160	1/16/2014	10:20 AM	4408	2140	
2520	1/16/2014	10:35 AM	4487	2300	HARD FRAC
5 MIN FALL OFF	1/16/2014	10:40 AM	3400	905	
10 MIN FALL OFF	1/16/2014	10:45 AM	3041	430	
15 MIN FALL OFF	1/16/2014	10:50 AM	2893	290	
Company:	CHEVRON			Recorded By:	T. STANCZAK
Well:	VACUUM GLORIETTA WEST # 28			Witnessed By:	
Field:	VACUUM			Truck Number:	104
County:	LEA			District:	LEVELLAND
State:	NEW MEXICO			Tool Number:	
Injecton	WATER			Test Type:	STEP RATE TESTS
Shut In Time:	10:40 AM			HARD FRAC @ 2520 B/D	
Total Shut In Time:	15 MIN.			4512 BOTTOM HOLE PRESSURE	
Tubing Size:	2.375"			2350 SURFACE PRESSURE	
Open Hole:	N/A				
Perforations:	5860'-6130'				
Plug Back Depth	5960'				

OK
Plots good



2350 psi
- 50 safety
2300 psi

$$\frac{2300 \text{ psi}}{5860 \text{ ft}} = 0.39$$

CHEVRON

VACUUM GLORIETTA WEST UNIT # 28

January 16, 2014

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 28
Field - Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE TEST
Gauge Depth:	5835'
Production Interval:	5860'-6130'
Production Through:	TUBING
Tubing Pressure:	2300 PSI
Casing Pressure:	0 PSI
Shut In Time	10:35 AM
Status:	INJECTING
Temperature @ Run Depth	95.16 degF
Surface Temperature:	79.39 degF
Comments	
HARD FRAC 4512 BOTTOM HOLE PRESSURE 2350 SURFACE PRESSURE @ 2520 B/D	

ARCHER WIRELINE

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 28		
Well License:		Unique Well Identifier:	30-025-31784
Company:	CHEVRON		
Field	VACUUM		

Location:		County:	LEA
Formation:		State:	NM
Purpose:	STEP RATE TEST	Country:	USA

Total Depth:	5835'	ID Borehole:	N/A
Packer Depth:	5798'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6290'	ID Production Tubing:	2"
Depth at which tubing is landed:	5798'	ID Drill Pipe:	N/A

ARCHER WIRELINE

Gradient Data Report

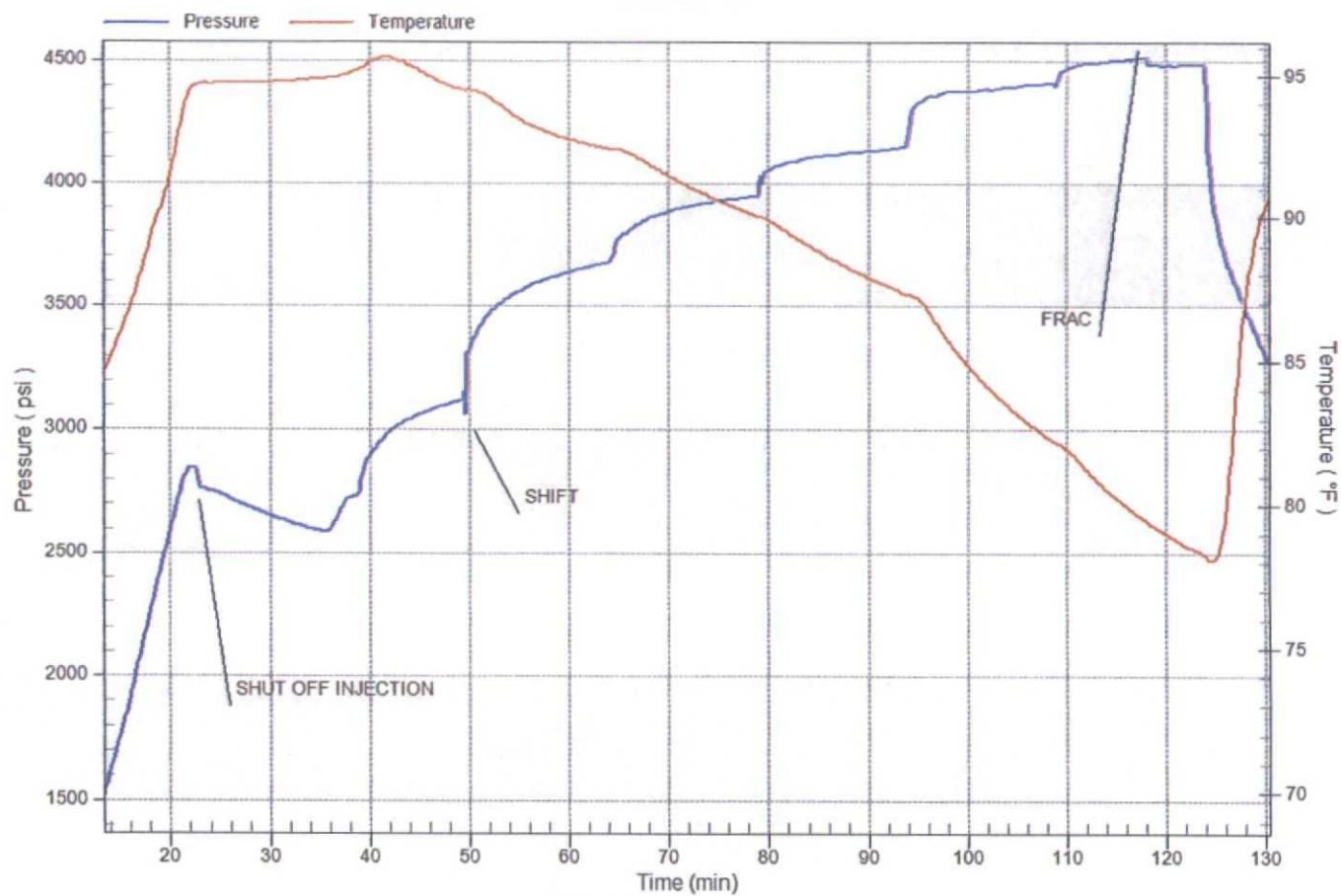
CHEVRON
VACUUM GLORIETTA WEST UNIT # 28

Gradient Data Table

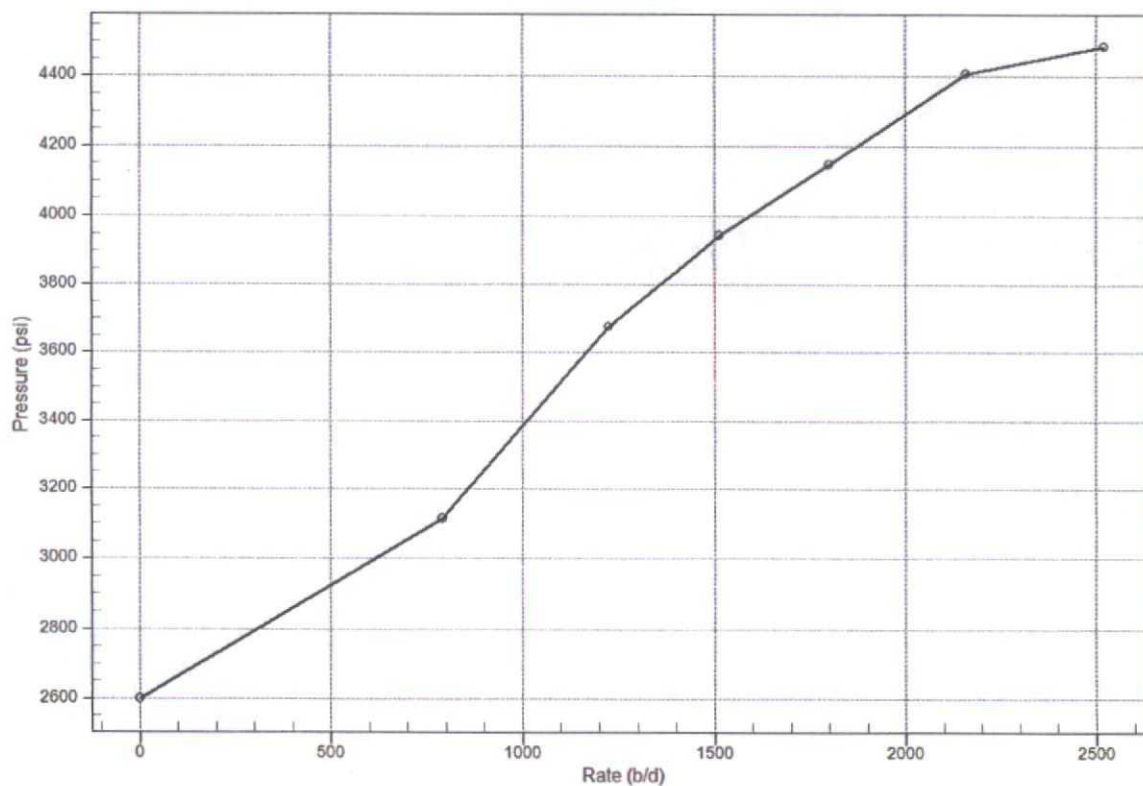
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	2599.21	94.92	0.0000
792.00	3115.47	94.50	0.6518
1224.00	3678.00	92.39	1.3021
1512.00	3945.59	90.06	0.9291
1800.00	4147.42	87.31	0.7008
2160.00	4408.09	82.20	0.7241
2520.00	4487.26	78.27	0.2199

ARCHER WIRELINE

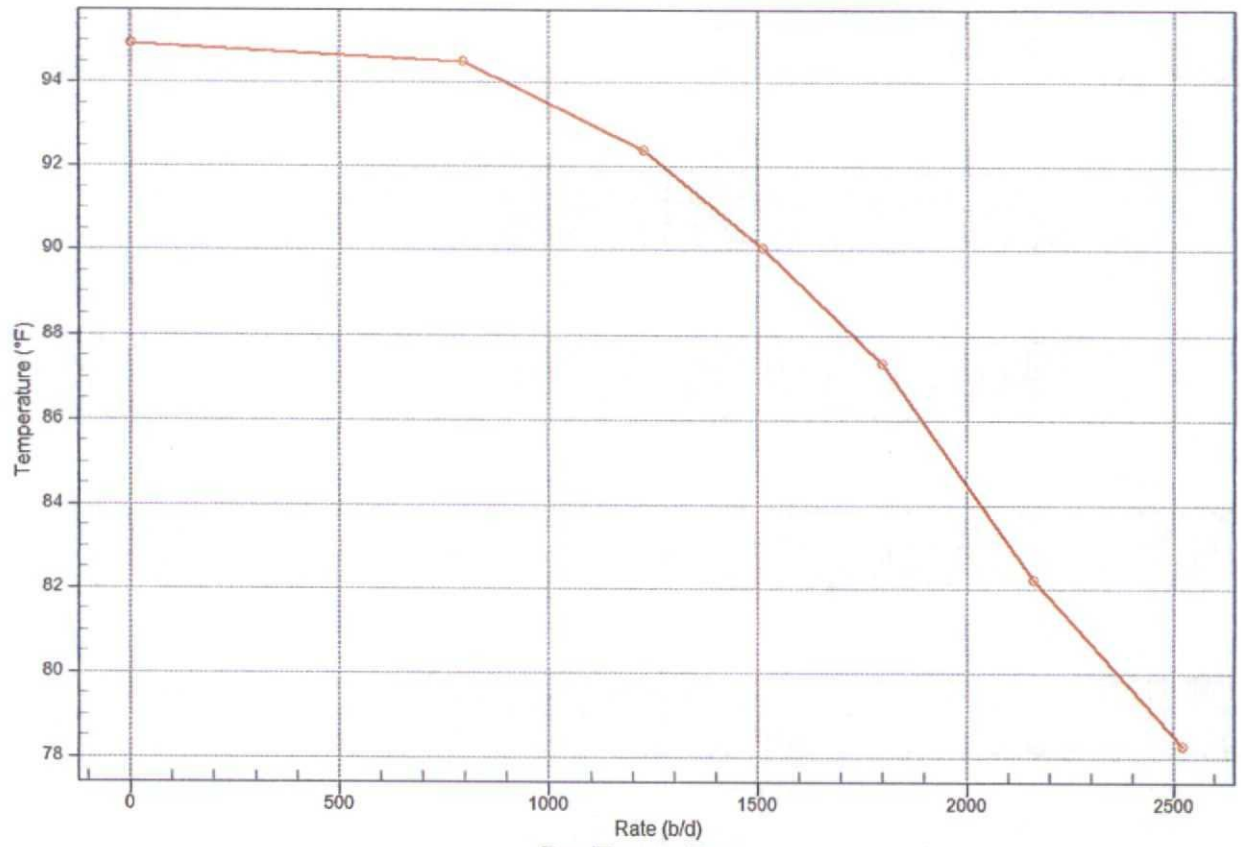
VGWU # 28



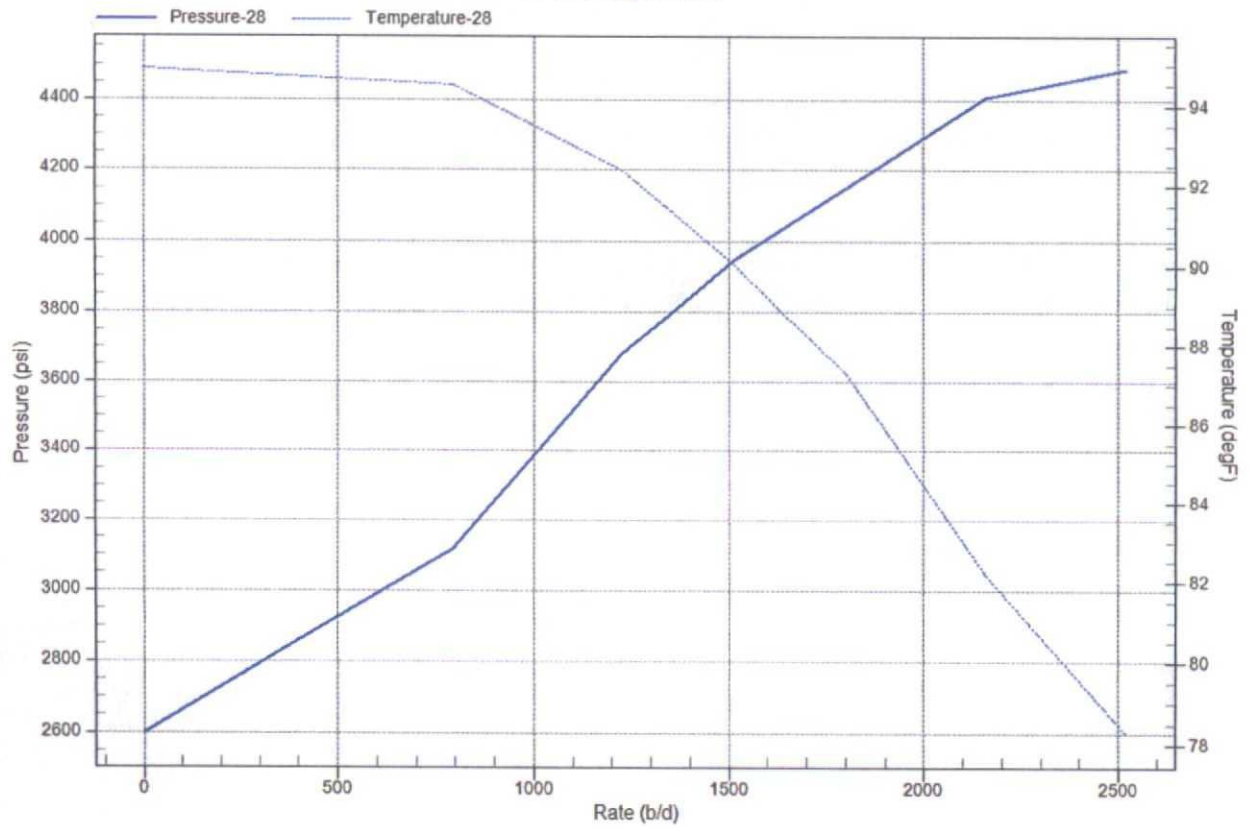
Pressure vs. Rate



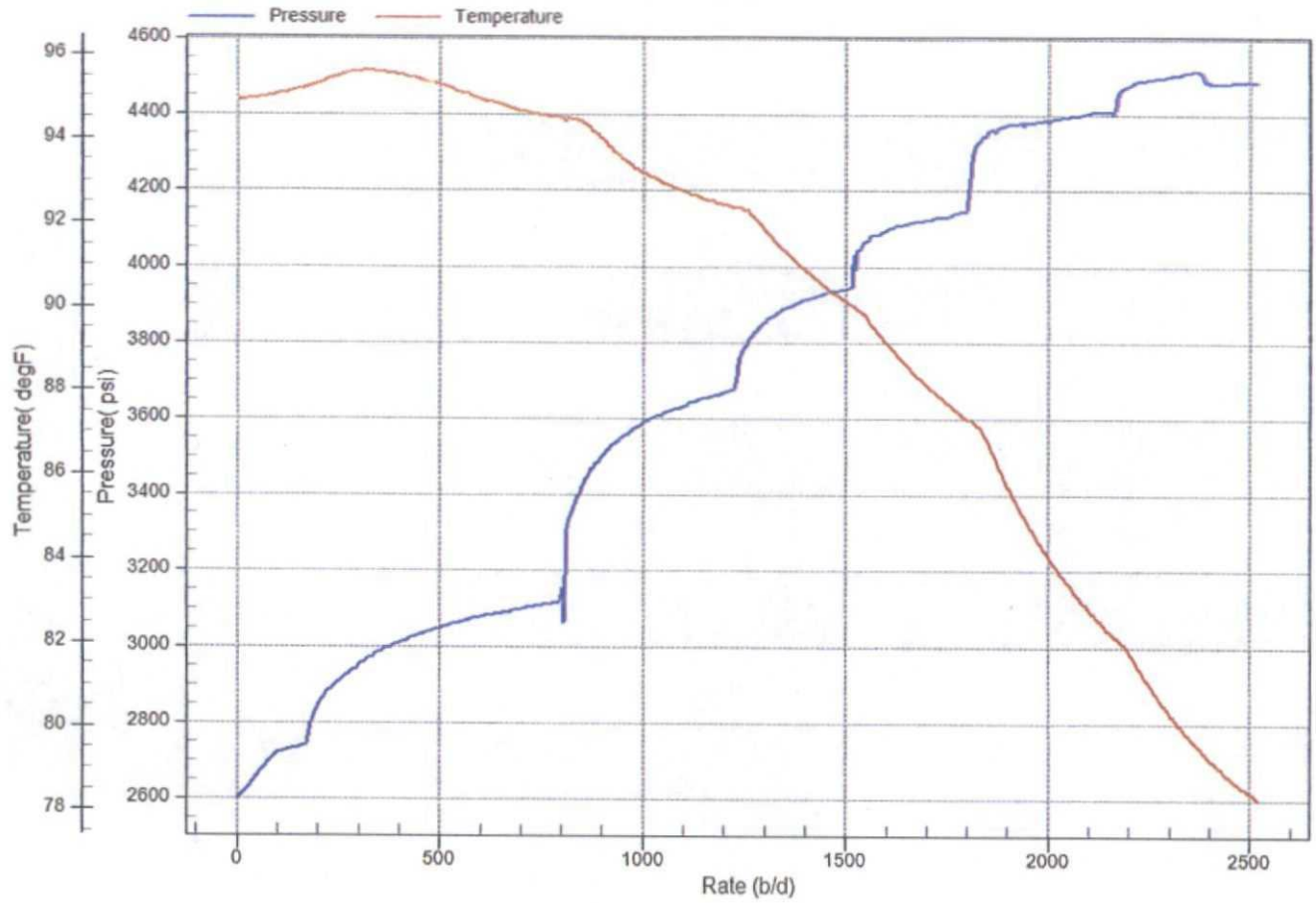
Temperature vs. Rate



Pres/Temp vs Rate



Pressure Log



VGWU WI-28
API No. 30-025-31784

Active Injection Well

Updated 7/2005- JDW
Updated 9/3/07 NC

Well Location

2304' FSL & 1127' FWL
Unit Letter L
Section 25
Township 17-S
Range 34-E
Lea County, New Mexico
Elev: 4006' GR, 4020' KB

11" Hole
8-5/8" 24# WC-50 CSG @ 1530'
CMT w/ 650 sks, CIRC 100 sks

7-7/8" Hole, 5-1/2" CSG - 19 Jts 17# WC-50 &
123 Jts 15.5# J-55 set @ 6290'
DV tool @ 4997'
1st stage CMT: 330 sks, CIRC 186 sks
2nd stage CMT: 1200 sks, CIRC 174 sks

2-3/8" Duoline J-55 tubing
Packer set at 5804'

2-15-00 Set CIBP @ 5890' w/35' cmt. Perfs 5970-6130'. Well is TA'd.

10/27/03- CO to 6250, sq 5970-6130 w/ 200 sxs, DO 5959, Perf 4" guns 2 spf, 5932-5957, 5908-5932, 5908-5884, 5860- 5884, ac 5860-5957 w/ 7 M gals 15% + 1800# RS, Max P 4100#, 4 BPM

11/11/04- Gray Wireline injection profile indicates water going out in unperforated interval in San Andres 5828-5840 (1000 BWPD)

4/6/2005- Gray Wireline tagged 5967'. Can run profile if need.

5/16/06 Sqz perfs 5828-5840' w/50 sks Class C. Ran bit to 5974'. Set pkr @ 5804'.

3-20-08 Evaluating for future wellwork. TA status extended to 3-20-11.

Top of Glorieta @ 5845'

Perfs: 2spf , 5860' - 5957'

Glorieta Marker @ 5919'

Top of Paddock Lime @ 5970'

Sqzd Perfs: 5970 - 6012'

Top of Upper Paddock @ 5995'

Sqzd Perfs: 6023 - 6032'

Top of Lower Paddock @ 6096'

Sqzd Perfs: 6109 - 6130'

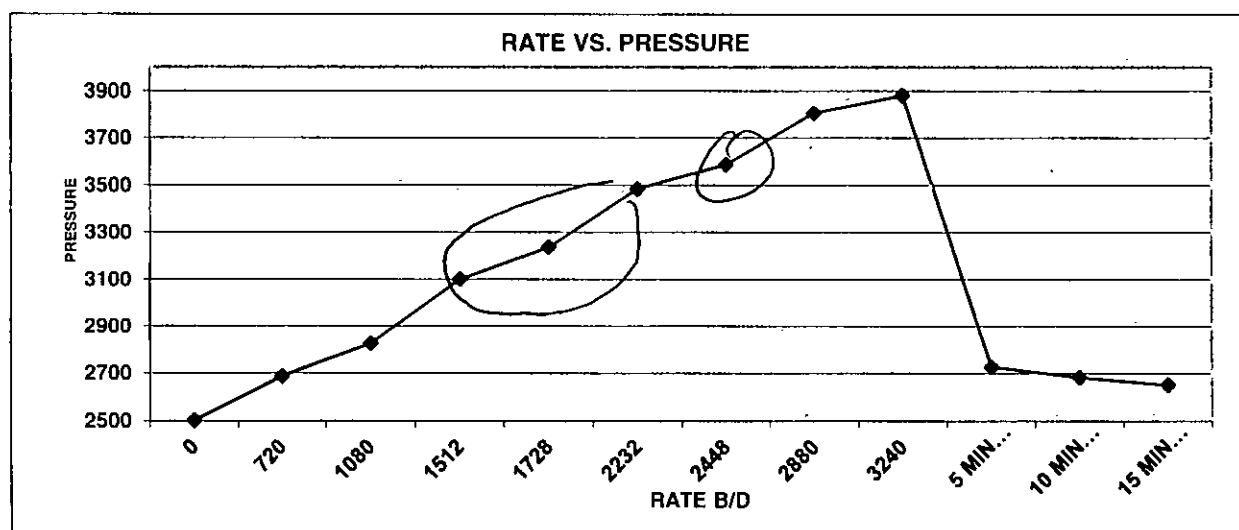
PBTD: 5974'

Archer

STEP RATE TEST

graywsi2@aol.com

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	1/16/2014	12:30 PM	2501	0	
720	1/16/2014	12:45 PM	2687	0	
1080	1/16/2014	1:00 PM	2826	240	
1512	1/16/2014	1:15 PM	3101	650	
1728	1/16/2014	1:30 PM	3237	860	
2232	1/16/2014	1:45 PM	3485	1275	
2448	1/16/2014	2:00 PM	3588	1450	
2880	1/16/2014	2:15 PM	3806	1875	
3240	1/16/2014	2:32 PM	3882	2050	HARD FRAC
5 MIN FALL OFF	1/16/2014	2:37 PM	2726	50	
10 MIN FALL OFF	1/16/2014	2:42 PM	2682	0	
15 MIN FALL OFF	1/16/2014	2:47 PM	2651	0	
Company: CHEVRON				Recorded By:	T. STANCZAK
Well: VACUUM GLORIETTA WEST # 30				Witnessed By:	
Field: VACUUM				Truck Number:	104
County: LEA				District:	LEVELLAND
State: NEW MEXICO				Tool Number:	
Injecton: WATER				Test Type:	STEP RATE TESTS
Shut In Time: 2:32 PM				HARD FRAC @ 3240 B/D 3902 BOTTOM HOLE PRESSURE 2075 SURFACE PRESSURE	
Total Shut In Time: 15 MIN.					
Tubing Size: 2.375"					
Open Hole: N/A					
Perforations: 6034'-6097'					
Plug Back Depth: 6200'					



3240

$$\frac{2075 \text{ psi} - 20}{2075 \text{ psi}}$$

$$\frac{2075 \text{ psi}}{6034 \text{ ft}} = 0.335$$

CHEVRON

VACUUM GLORIETTA WEST UNIT # 30

January 16, 2014

JOB INFORMATION SHEET

Company Information	
Company Name:	CHEVRON
Address:	1500 LOUISIANA STREET HOUSTON, TX 77002
Well Information	
Well Name:	VACUUM GLORIETTA WEST UNIT # 30
Field – Pool:	VACUUM
Status:	INJECTION
Test Information	
Type of Test:	STEP RATE TEST
Gauge Depth:	5925'
Production Interval:	6034'-6097'
Production Through:	TUBING
Tubing Pressure:	2075 PSI
Casing Pressure:	0 PSI
Shut In Time	2:30 PM
Status:	INJECTION
Temperature @ Run Depth	98.17 degF
Surface Temperature:	59.94 degF
Comments	
HARD FRAC 3902 BOTTOM HOLE PRESSURE 2075 SURFACE PRESSURE 3240 B/D	

ARCHER WIRELINE

CHEVRON

WELL INFORMATION SHEET

Well:	VACUUM GLORIETTA WEST UNIT # 30	Unique Well Identifier:	30-025-31786
Well License:			
Company:	CHEVRON		
Field:	VACUUM		

Location:	County:	LEA
Formation:	State:	NM
Purpose:	Country:	USA
	STEP RATE TEST	

Total Depth:	5949'	ID Borehole:	N/A
Packer Depth:	5952'	ID Production Casing:	5"
Depth of whipstock:	N/A	OD Production Tubing:	2.375"
Depth at which casing is landed:	6340'	ID Production Tubing:	2"
Depth at which tubing is landed:	5952'	ID Drill Pipe:	N/A

ARCHER WIRELINE

Gradient Data Report

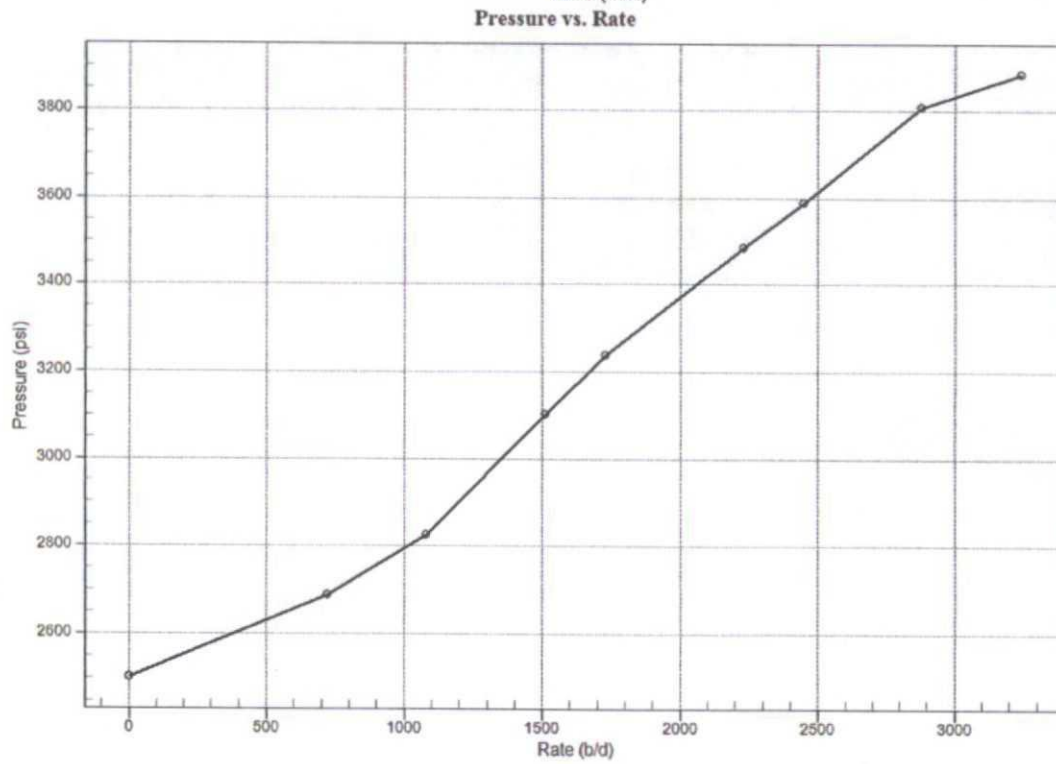
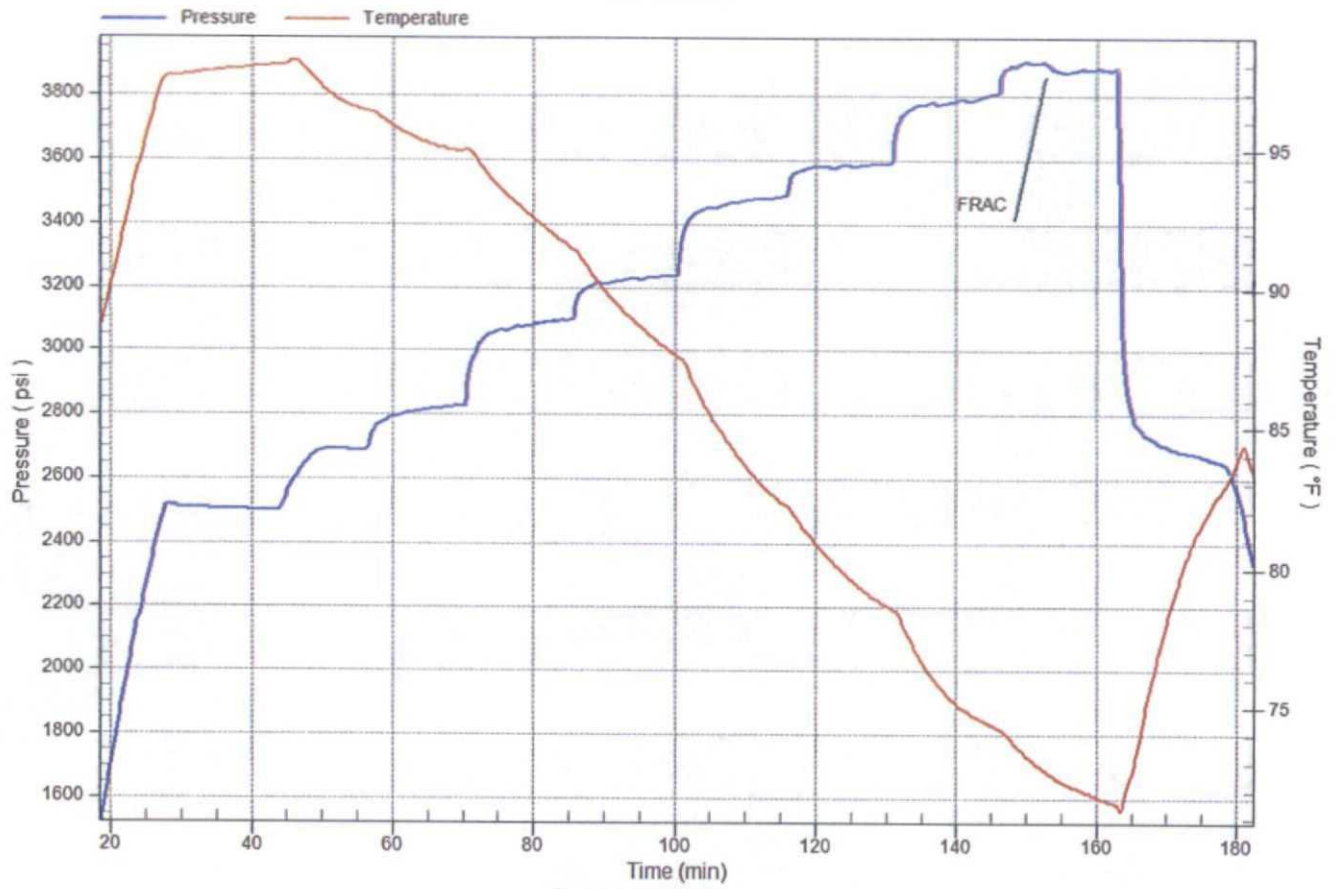
CHEVRON
VACUUM GLORIETTA WEST UNIT # 30

Gradient Data Table

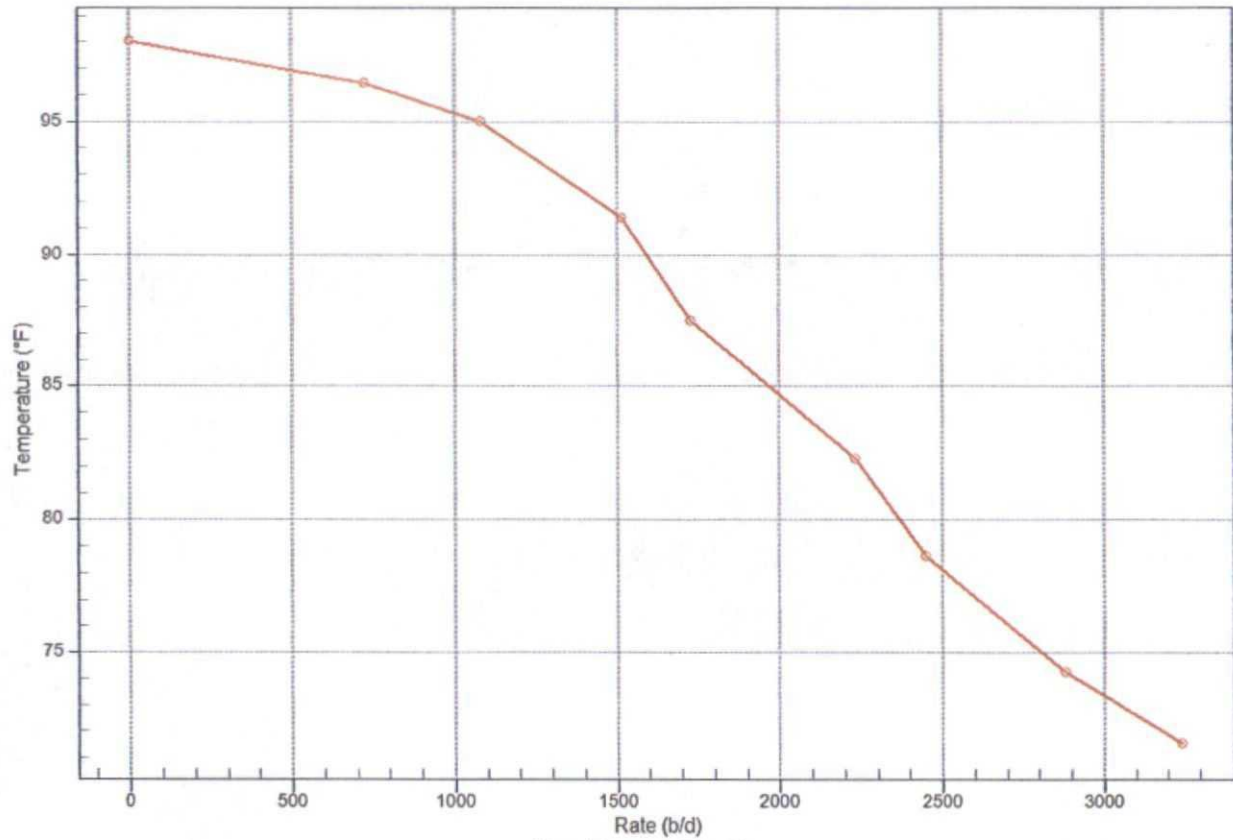
Rate b/d	Pressure psi	Temperature degF	Gradient psi/rate
0.00	2501.50	98.02	0.0000
720.00	2687.76	96.41	0.2587
1080.00	2826.47	94.97	0.3853
1512.00	3101.50	91.40	0.6366
1728.00	3237.15	87.49	0.6280
2232.00	3485.81	82.27	0.4934
2448.00	3588.54	78.60	0.4756
2880.00	3806.97	74.23	0.5056
3240.00	3882.76	71.54	0.2105

ARCHER WIRELINE

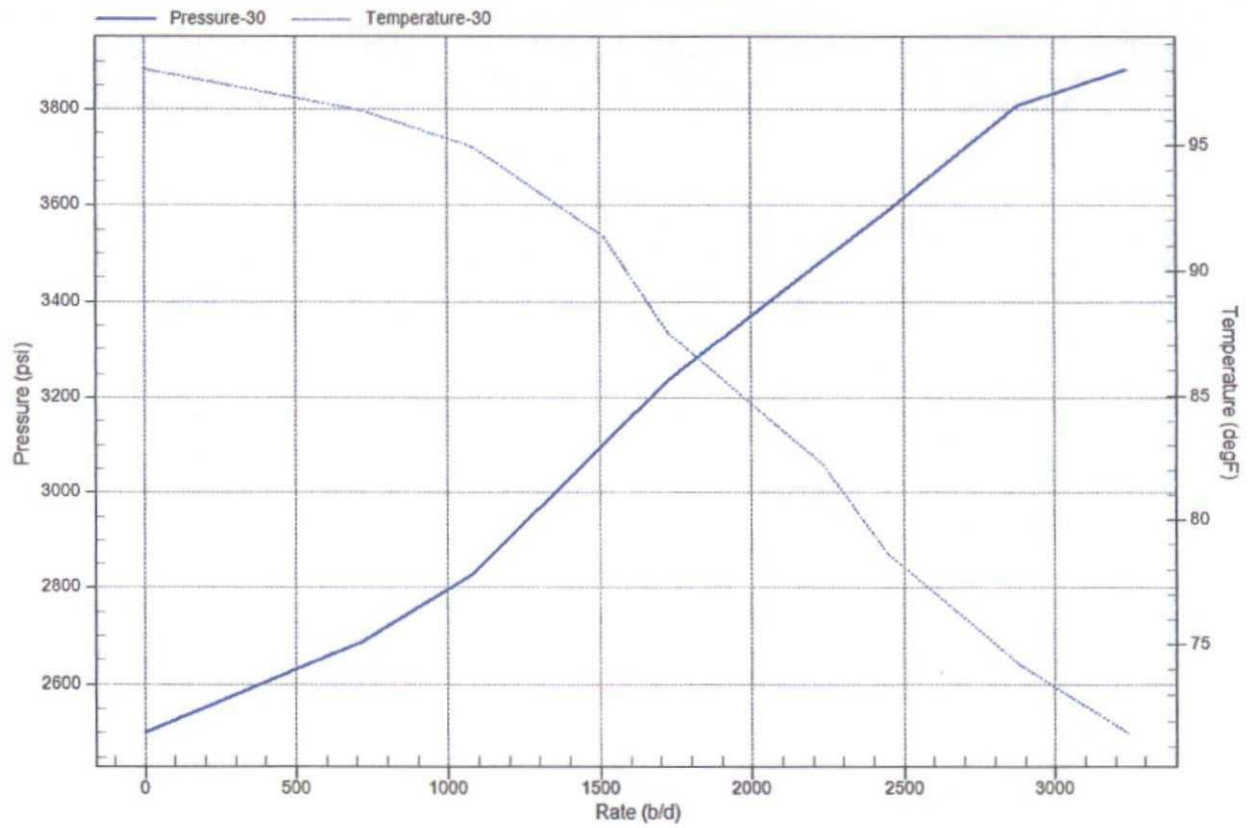
VGWU # 30



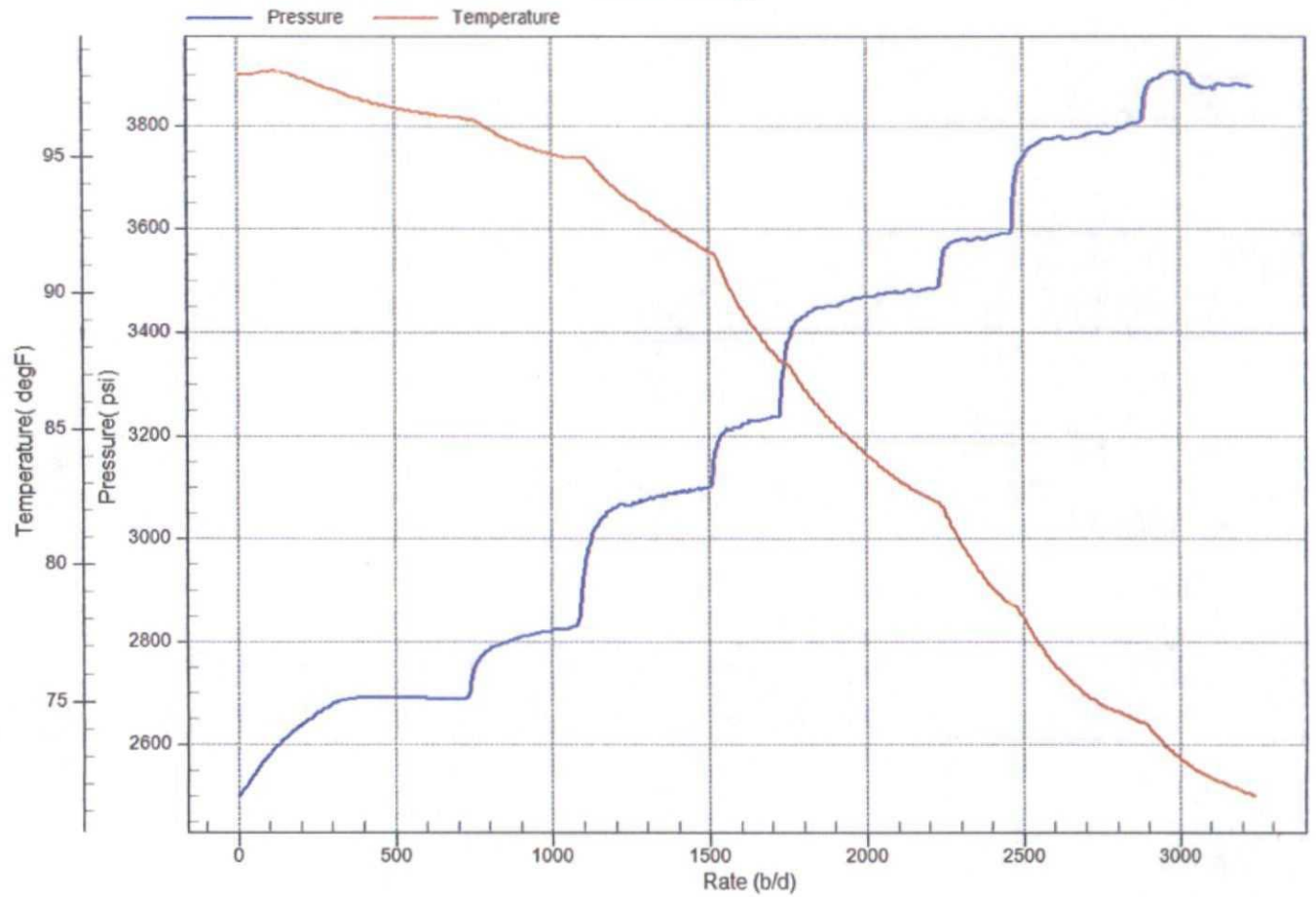
Temperature vs. Rate



Pres/Temp vs Depth



Pressure Log



CURRENT
WELLBORE DIAGRAM

Created: 3/23/2013 By: TFIZ
Updated: _____ By: _____
Lease: Vacuum Glorieta West Unit
Surf. Loc.: 2305 FSL 1391 FEL
Bot. Loc.: _____
County: Lea St: NM
Current Status: Active Injector
Directions to Wellsite: Buckeye, New Mexico

Well No.: 30
Unit Ltr: J
Unit Ltr: _____
CHEVNO QU2691

Field: Vacuum Glorieta
Sec: 25 TSHP/Range: 17S-34E
Sec: _____ TSHP/Range: _____
API: 30-025-31786
Cost Center: UCT492400

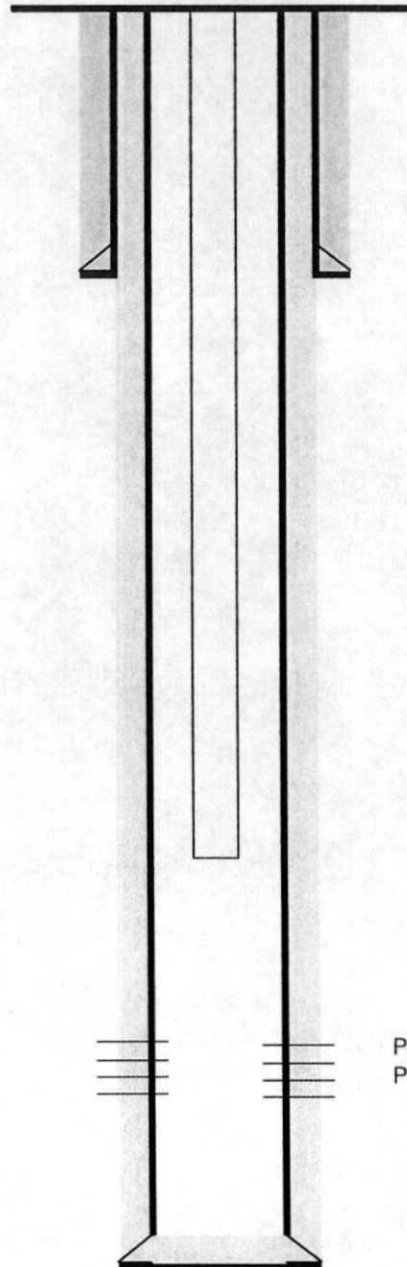
Surface Casing

Size: 8 5/8"
Wt.: 24#
Set @: 1540'
Sxs cmt: 450 sks
Circ: Yes, 65 sks
TOC: Surface
Hole Size: 11"

KB: 4,001'
DF: _____
GL: 3,990'
Original Spud Date: 12/10/1992
Original Compl. Date: 12/29/1992

Production Casing

Size: 5-1/2"
Wt.: 15.5#
Set @: 6340'
Sxs Cmt: 1300 sks
Circ: Yes, 258 sks
TOC: Surface
Hole Size: 7-7/8"



3/23/2013
WBD by: Sean Heaster

TD: 6340'
PBTD: 6200'