

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.

Robbie A Grigg
 Print or Type Name

Robbie A Grigg
 Signature

Reg Compliance
 Title

11/25/2014
 Date

rgrigg@mspartners.com
 e-mail Address

- IPI
- Cross Timbers Energy, LLC
298299
Well
- South east MALJAMAR
CHISA #105
30-025-26512
- South east MALJAMAR
CHISA
30-025-31444
- South east MALJAMAR
CHISA #617
30-025-37847
Pool
- MALJAMAR
Grayburg SAN
Andres
43229



STEP RATE TEST

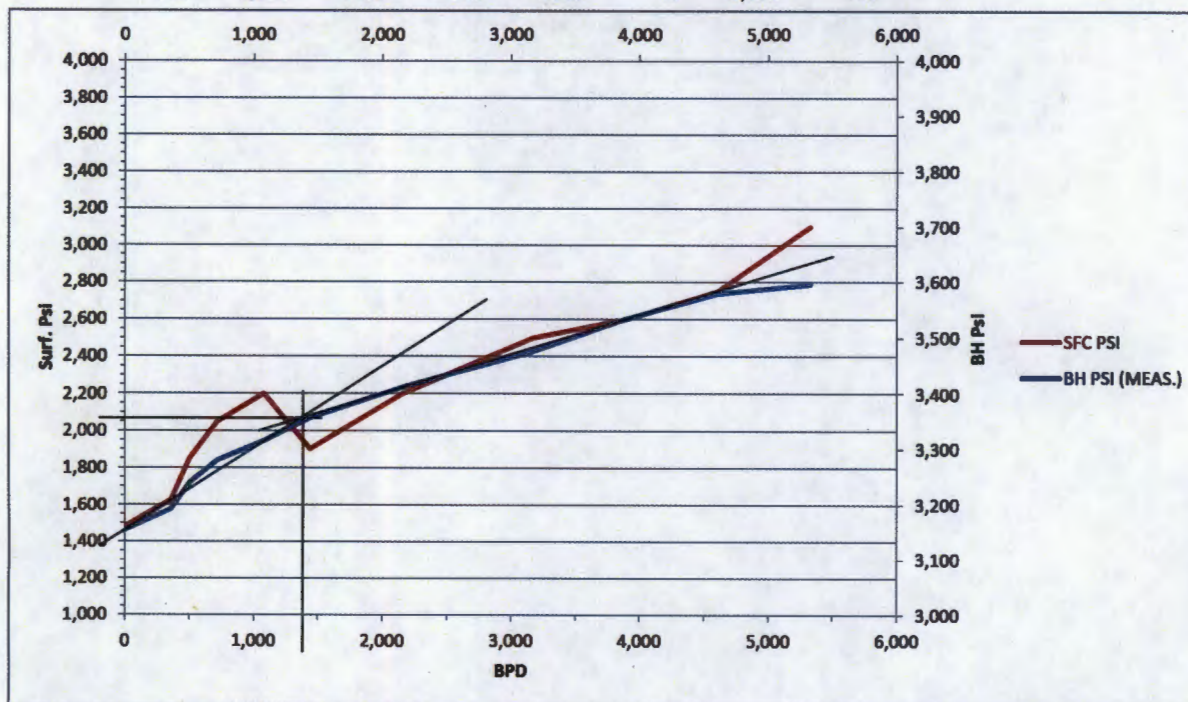
SEMGSAU #105

September 29, 2014

WELL: SEMGSAU #105
 DATE: 9/31/2014
 WATER SG 1.07
 WATER GRADIENT 0.483
 DEPTH, MID-PERF 4,103
 DEPTH, BOMB 3,870

****DO NOT EXCEED 3600 PSI INJECTION PRESSURE****

BPM	BPD	SFC PSI	dPSI	BH PSI (MEAS.) ✓	dPSI	BH PSI (CALC.) ✓	dPSI	REMARKS	d(Psi/BPM)
0.00	0	1,480		3,154		3,273			
0.25	360	1,625	145	3,192	38	3,411	138		
0.35	504	1,850	225	3,240	48	3,630	218		480
0.50	720	2,050	200	3,280	40	3,815	185		267
0.75	1,080	2,200	150	3,315	35	3,943	128		140
1.00	1,440	1,900	-300	3,357	42	3,609	-334	FRACTURE PSI @ 2060#, SURFACE ✓	168
1.50	2,160	2,200	300	3,412	55	3,825	216		110
2.20	3,168	2,500	300	3,476	64	3,924	99		91
2.70	3,888	2,600	100	3,534	58	3,874	-51		116
3.20	4,808	2,750	150	3,580	46	3,772	-101		92
3.70	5,328	3,100	350	3596	16	3,888	115		32



JOB INFORMATION SHEET

Company Information		
Company Name:	Cross Timbers	
Well Information		
Well Name:	SEMGSAU #105	
Location:	South East Maljamar GB/SA #105	
Field - Pool:	Maljamar	
Status:	Injection	
Test Information		
Type of Test:	Step Rate Test	
Gauge Depth:	3870 ft ✓	
Production Interval:	3897' - 4213'	
Production Through:		
Tubing Pressure:		
Casing Pressure:		
Shut In Time		
Status:	Injecting	
Temperature @ Run Depth	92.75 degF	
Surface Temperature:	60.99 degF	
Gauge Information		
Serial Number:	Top Recorder 79513	Bottom Recorder No bottom records measurements
Calibration Date:	11/1/13	
Pressure Range:	10000 psi	
Comments		

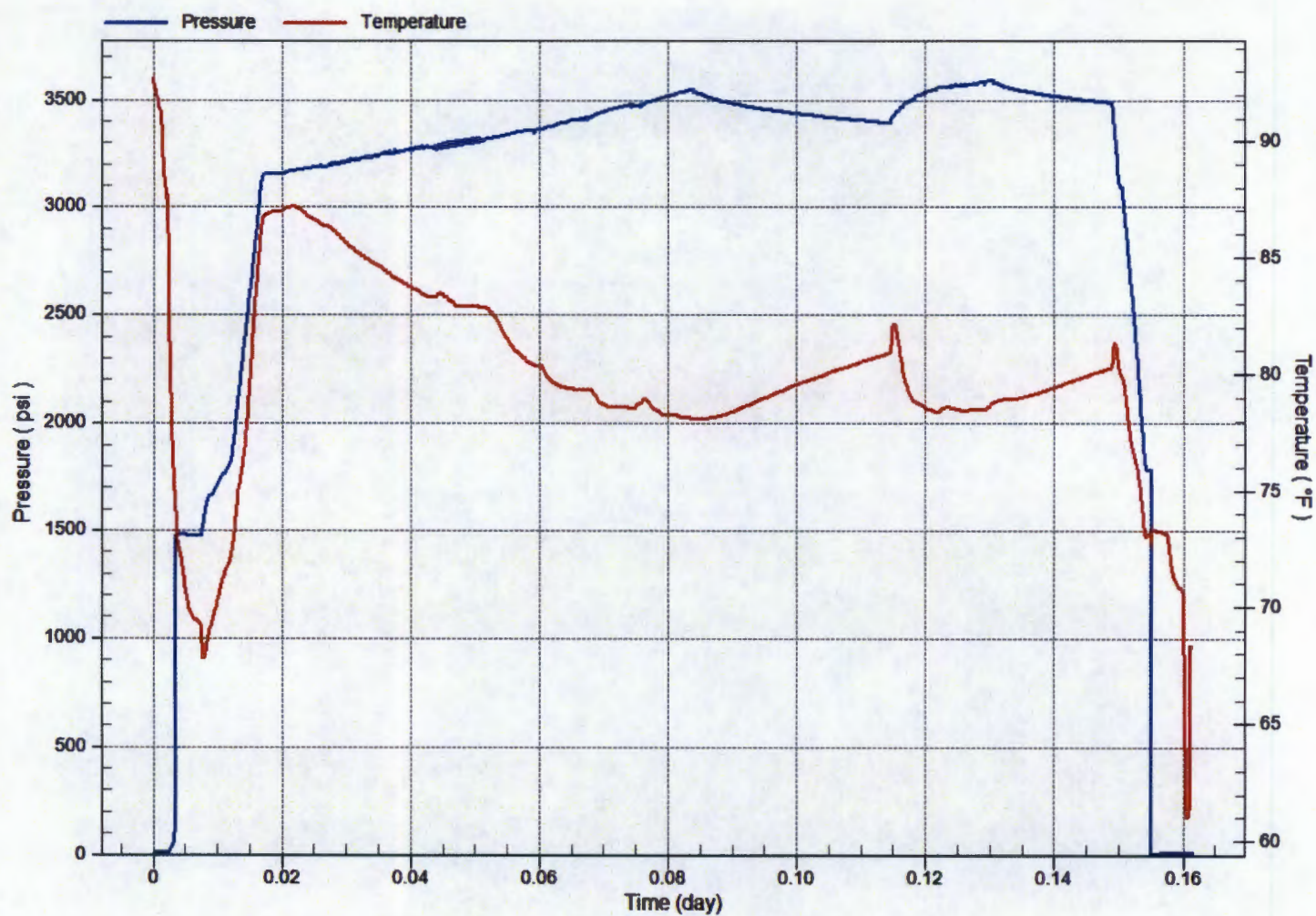
Pressure and Temperature Report

SEMGS AU #105

Rate Bpd	Pressure psi	Temperature degF	Surface Psi
Set 0.00	3141.40	86.73	1480
Stg 1 360.00	3190.64	86.28	1625
Stg 2 504.00	3233.55	84.65	1850
Stg 3 720.00	3278.83	83.29	2050
Stg 4 1080.00	3323.16	82.84	2200
Stg 5 1440.00	3357.17	80.37	1900
Stg 6 2160.00	3416.01	79.31	2200
Stg 7 3168.00	3466.59	78.55	2500
Stg 8 3888.00	3546.22	78.12	2600
Stg 9 4608.00	3586.40	78.49	2750
Stg 10 5328.00	3593.11	78.85	3100

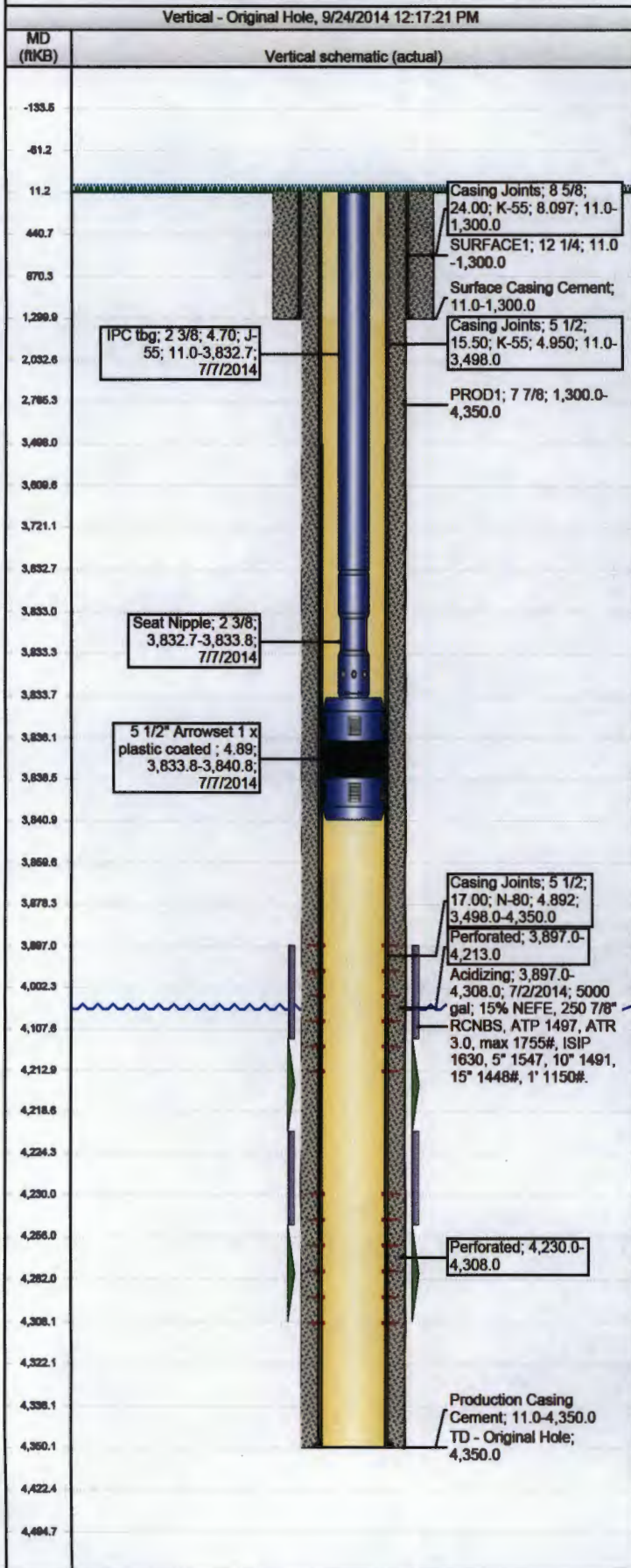
Analysis Summary

[illegible]



Schematic & History

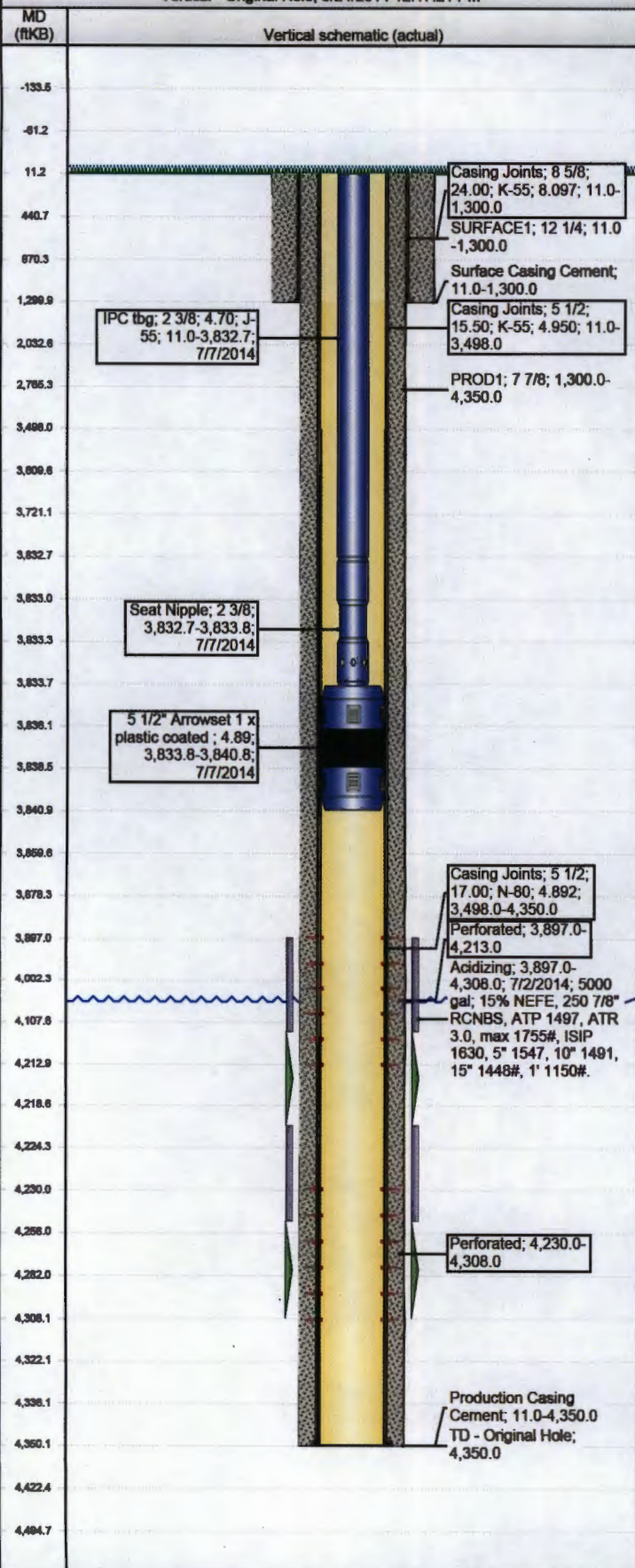
Well Name SOUTHEAST MALJAMAR GB/SA UNIT 105	API/UWI 3002526512	County Lea	State/Province New Mexico	Field Name MALJAMAR
Location 2490 FSL & 1595 FEL	Township 17S	Range 33E	Section 30	Latitude (°) 32° 49' 59.556" N
Section Survey	Block	Township	Abstract	Longitude (°) 103° 41' 54.564" W
Original KB Elevation (ft) 4,061.00	Ground/Corrected Ground Elevation (ft) 4,050.00	KB-Ground Distance (ft) 11.00	Spud Date	



Jobs						
Type		Start Date	Summary			
Lift Optimization		7/1/2009	POOH rods & pmp, LD. POOH tbg, RIH bit & scrpr, acidize existing perms, install inj equip, SI & wait for OCD permit.			
Lift Optimization		4/21/2011				
Change Rod Pump		11/8/2013				
Convert well to Injection		6/30/2014				
Wellbore Sections						
Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date	
SURFACE1	Original Hole	12 1/4	11.0	1,300.0		
Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date	
PROD1	Original Hole	7 7/8	1,300.0	4,350.0		
Surface 1,300.0 ftKB <Run Date?>						
Comment						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
8 5/8	24.00	K-55	11.0	1,300.0	1,289.00	Casing Joints
Production 4,350.0 ftKB <Run Date?>						
Comment						
OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
5 1/2	15.50	K-55	11.0	3,498.0	3,487.00	Casing Joints
5 1/2	17.00	N-80	3,498.0	4,350.0	852.00	Casing Joints
Cement Stages						
Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment		
Surface Casing Cement	11.0	1,300.0	Cement Returns	CMTD W/460 SX HLC W/2% CaCl2 & 1/4#/SX CF & 200 SX CL "C" CMT W/2% Cacl2. CIRC 125 SX CMT TO SURF.		
Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment		
Production Casing Cement	11.0	4,350.0	Cement Returns	CMT'D 1ST STG W/160 SX CL "H" CMT w/3#/SX SALT, 3#/SX GILSONITE & 3#/SX SD. CMT'd 2ND STG w/1,600 SX HLC w/15#/SX SALT & 1/4#/SX CF & 200 SX CL "C" w/2% CaCl2. CIRC 200 SX TO SURF. NO FLOW FR/8-5/8" X 5-1/2" ANNULUS.		
Perforations						
Top (ftKB)	Btm (ftKB)	Shot Dens (shot a/ft)	Date	Zone	Calculated Shot Total	
3,897.0	4,213.0			PREMIER, Original Hole	1	
4,230.0	4,308.0			SAN ANDRES, Original Hole	1	
Stim/Treat Stages						
Type	Start Date	Top (ftKB)	Btm (ftKB)	Com		
Acidizing	7/2/2014	3,897.0	4,308.0	5000 gal; 15% NEFE, 250 7/8" RCNBS, ATP 1497, ATR 3.0, max 1755#, ISIP 1630, 5" 1547, 10" 1491, 15" 1448#, 1' 1150#.		
Other In Hole						
Des	Com		OD (in)	Run Date	Top (ftKB)	Btm (ftKB)
Tubing - Water Injection set at 3,840.8ftKB on 7/7/2014 07:09						
Set Depth (ftKB)	Comment			Run Date	Pull Date	
3,840.8				7/7/2014		
Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Btm (ftKB)
IPC tbg	2 3/8	4.70	J-55	3,821.68	118	11.0
						3,832.7

Schematic & History

Vertical - Original Hole, 9/24/2014 12:17:21 PM



Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB)	Btm (ftKB)
Seat Nipple	2 3/8			1.10	1	3,832.7	3,833.8
5 1/2" Arrowset 1 x plastic coated	4.89			7.00	1	3,833.8	3,840.8

<des> on <dtmrun>

Rod Description

Item Des	OD (in)	Grade	Jts	Len (ft)

CROSS TIMBERS ENERGY, LLC

October 31, 2014

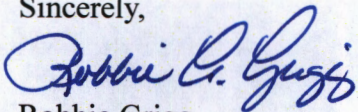
New Mexico EMNRD
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Request for Maximum Injection Pressure Increase
Southeast Maljamar GB/SA Unit #105
API No. 30-025-26512
Pool No. 43329 Maljamar; Grayburg-San Andres
Lea County, New Mexico

Cross Timbers Energy, LLC respectfully requests a maximum surface pressure increase for the above referenced water injection well to 2060 psi at a rate of 1400 BPD.

See attached wellbore schematic and step rate test.

Sincerely,



Robbie Grigg
Cross Timbers Energy, LLC
817-334-7842
rgrigg@mspartners.com

Unplotted

$$\begin{array}{r} 2060 \text{ psi} \\ - 50 \text{ psi safety} \\ \hline 2010 \text{ psi} \end{array}$$

Plotted

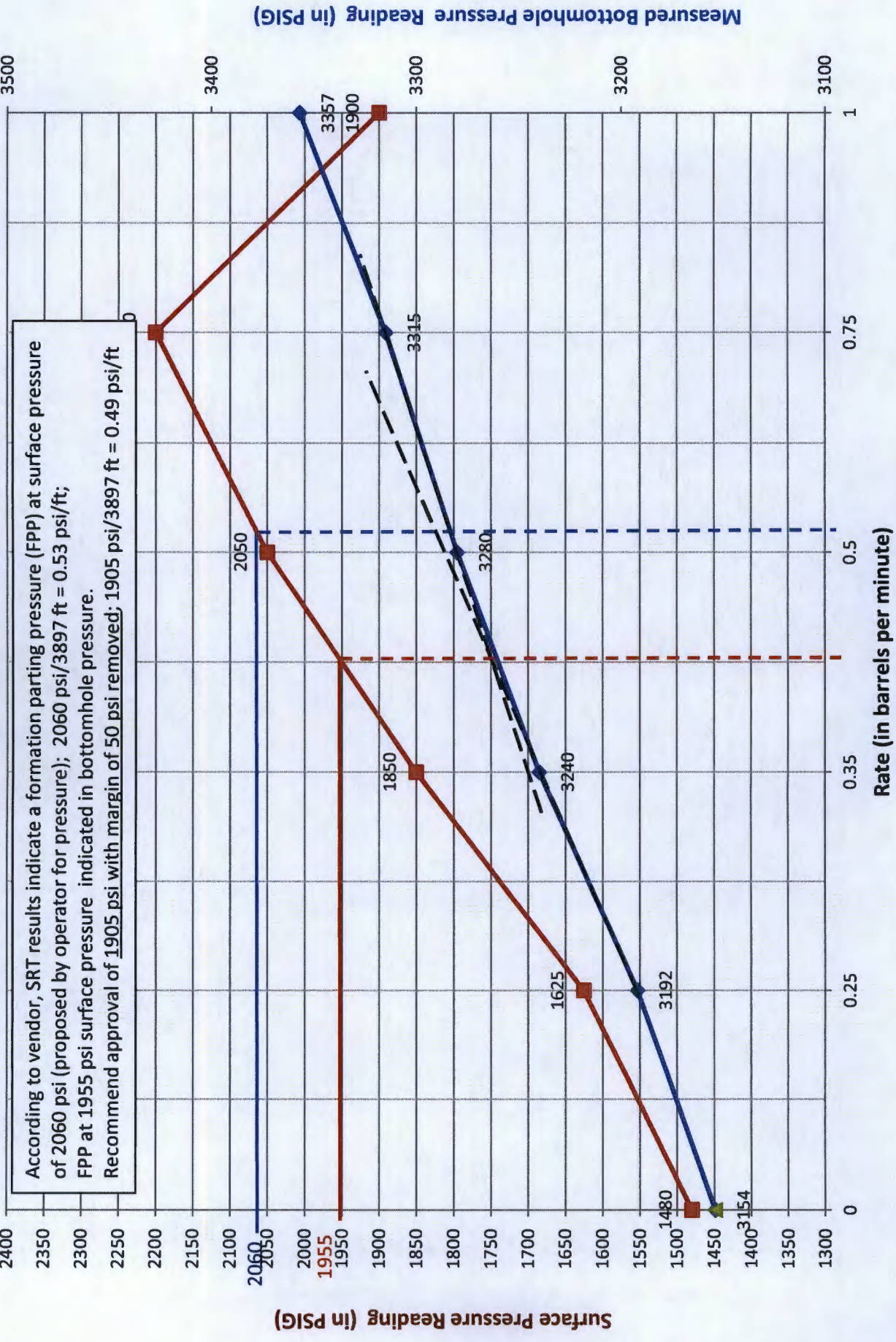
$$\begin{array}{r} 1955 \text{ psi} \\ - 50 \text{ psi} \\ \hline 1905 \text{ psi} \end{array}$$

$$\begin{array}{r} 2010 \text{ psi} / 3897' \\ = 0.52 \text{ psi/ft} \end{array}$$

$$\begin{array}{r} 1905 / 3897' \\ = 0.49 \text{ psi/ft} \end{array}$$

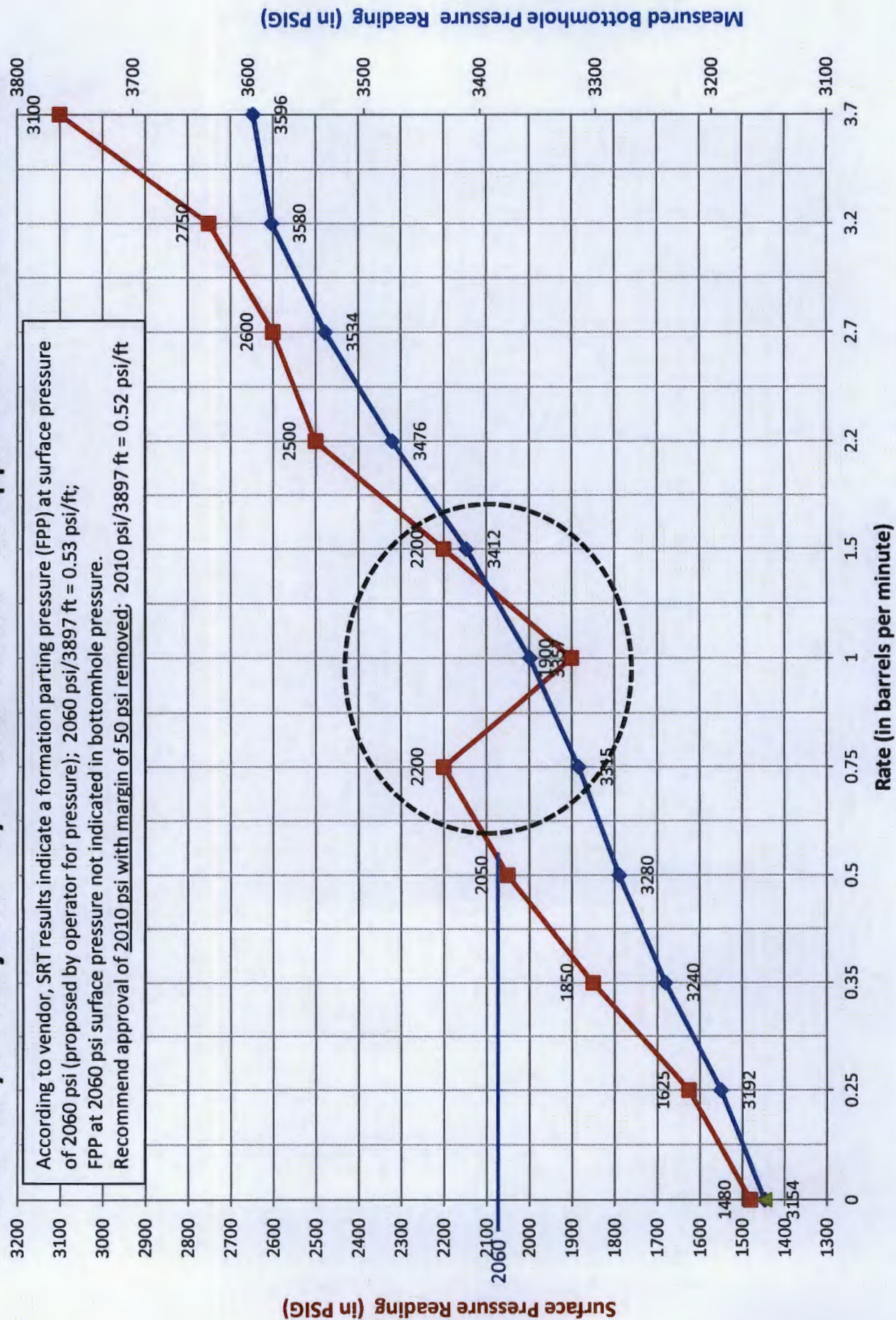
X

WFX-927 / SE Majamar GB/SA Unit No. 105 - IPI Application - Detailed Scale



WFX-927 / SE Maljamar GB/SA Unit No. 105 - IPI Application - SRT 2014 Results

According to vendor, SRT results indicate a formation parting pressure (FPP) at surface pressure of 2060 psi (proposed by operator for pressure); 2060 psi/3897 ft = 0.53 psi/ft; FPP at 2060 psi surface pressure not indicated in bottomhole pressure.
Recommend approval of 2010 psi with margin of 50 psi removed; 2010 psi/3897 ft = 0.52 psi/ft





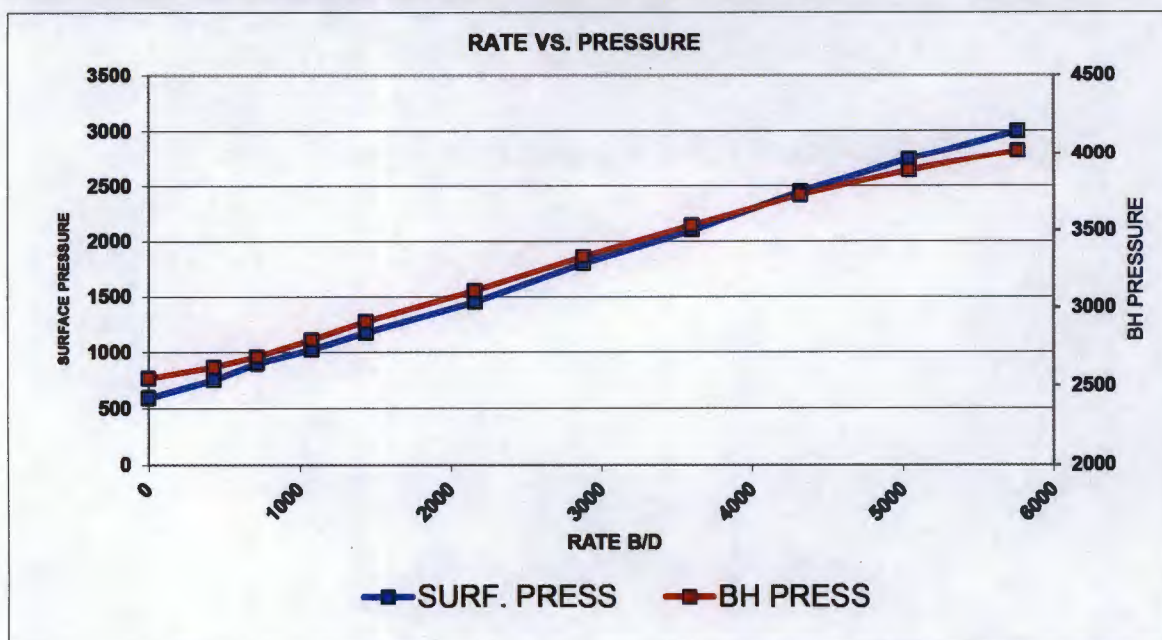
Southeast Maljamar Unit #617

October 27, 2014



STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	10/28/2015	8:17 AM	2546	592	
432	10/28/2015	8:57 AM	2617	750	
720	10/28/2015	9:23 AM	2685	900	
1080	10/28/2015	9:50 AM	2792	1025	
1440	10/28/2015	10:17 AM	2910	1175	
2160	10/28/2015	10:46 AM	3107	1450	
2880	10/28/2015	11:16 AM	3328	1800	
3600	10/28/2015	11:47 AM	3532	2100	
4320	10/28/2015	12:13 PM	3729	2450	
5040	10/28/2015	12:42 PM	3888	2750	
5760	10/28/2015	12:12 PM	4018	3000	
Fall Off	10/28/2015	2:32 PM	3678	1800	
Company: Cross Timbers			Recorded By: M. Flores		
Well: Southeast Maljamar Unit #617			Witnessed By:		
Field: Southeast Maljamar			Truck Number: 33		
County: Lea			District: Levelland		
State: New Mexico			Tool Number:		
Injector: WATER			Test Type: STEP RATE TESTS		
Shut In Time: 8:17am					
Total Shut In Time: 6hrs 15min					
Tubing Size: 2 3/8"					
Seat Nipple Depth: N/A					
Perforations: 4255'-4289' / 4344'-4346' / 4349'-4351' / 4366'-4368'					
Plug Back Depth: N/A					

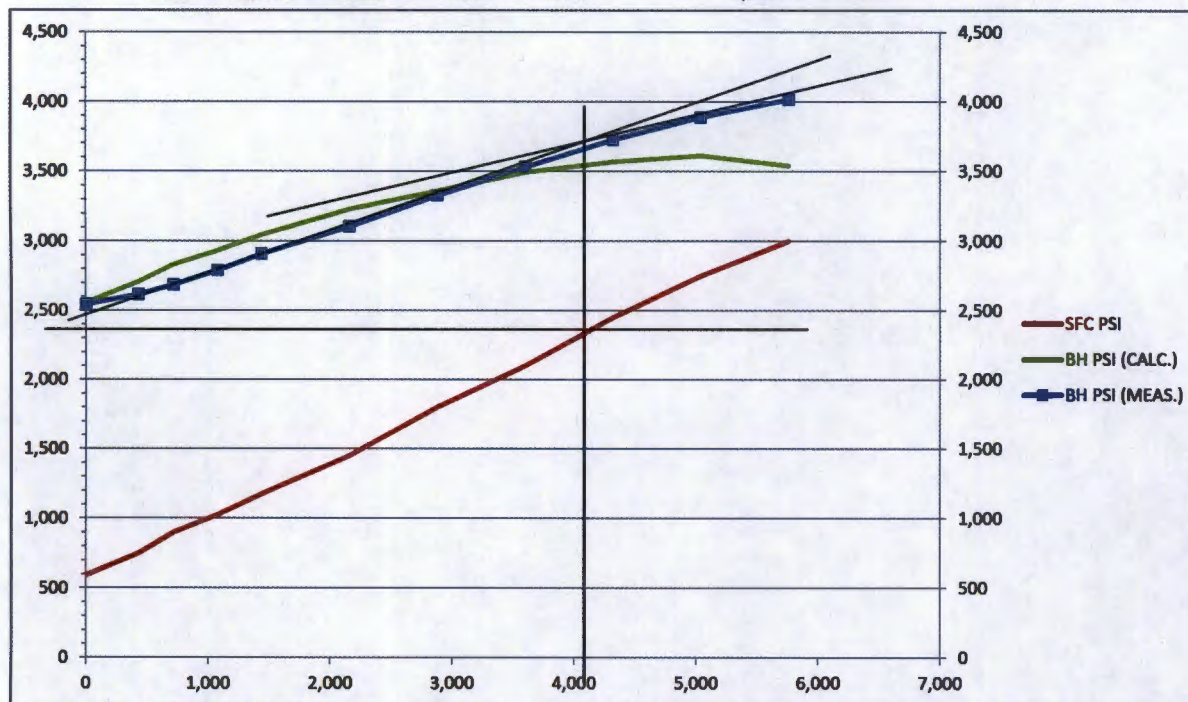


WELL: SEMGSAU #617
 DATE:
 WATER SG 1.07
 WATER GRADIENT 0.463
 DEPTH, MID-PERF 4,312
 DEPTH, BOMB 4,240

****DO NOT EXCEED 3800 PSI INJECTION PRESSURE****

CALL IAN PETERSEN (ENGINEER) WITH QUESTIONS/CONCERNS @ 432-634-4922

BPM	BPD	SFC PSI	dPSI	BH PSI (MEAS.)	dPSI	BH PSI (CALC.)	dPSI	REMARKS	d(Psi/BPM)
0.00	0	592		2,546		2,556			
0.30	432	750	158	2,617		2,707	151		750
0.50	720	900	150	2,685		2,833	126		500
0.75	1,080	1,025	125	2,792		2,934	101		600
1.00	1,440	1,175	150	2,910		3,048	113		550
1.50	2,160	1,450	275	3,107		3,231	183		700
2.00	2,880	1,800	350	3,328		3,361	130		600
2.50	3,600	2,100	300	3,532		3,495	135		700
3.00	4,320	2,450	350	3,729		3,570	75	FRACTURE @ 2370 PSI, SURF.	600
3.50	5,040	2,750	300	3,888		3,613	43		700
4.00	5,760	3000	250	4018		3,542	-71		600
									500



Company Information		
Company Name:	Cross Timbers	
Well Information		
Well Name:	Southeast Maljamar Unit #617	
Location:		
Field – Pool:	Southeast Maljamar Unit #617	
Status:	Injection	
Test Information		
Type of Test:	Pressure Survey	
Gauge Depth:	4240 ft	
Production Interval:	4255'-4289' / 4344'-4346' / 4346'-4351' / 4366-4368'	
Tubing Pressure:	531 psi	
Status:	Injecting	
Temperature @ Run Depth	87.72 degF	
Surface Temperature:	66.85 degF	
Gauge Information		
	Top Recorder	Bottom Recorder
Serial Number:	79515	
Calibration Date:	11/1/13	
Pressure Range:	10000 psi	
Comments		

Gradient Data Report

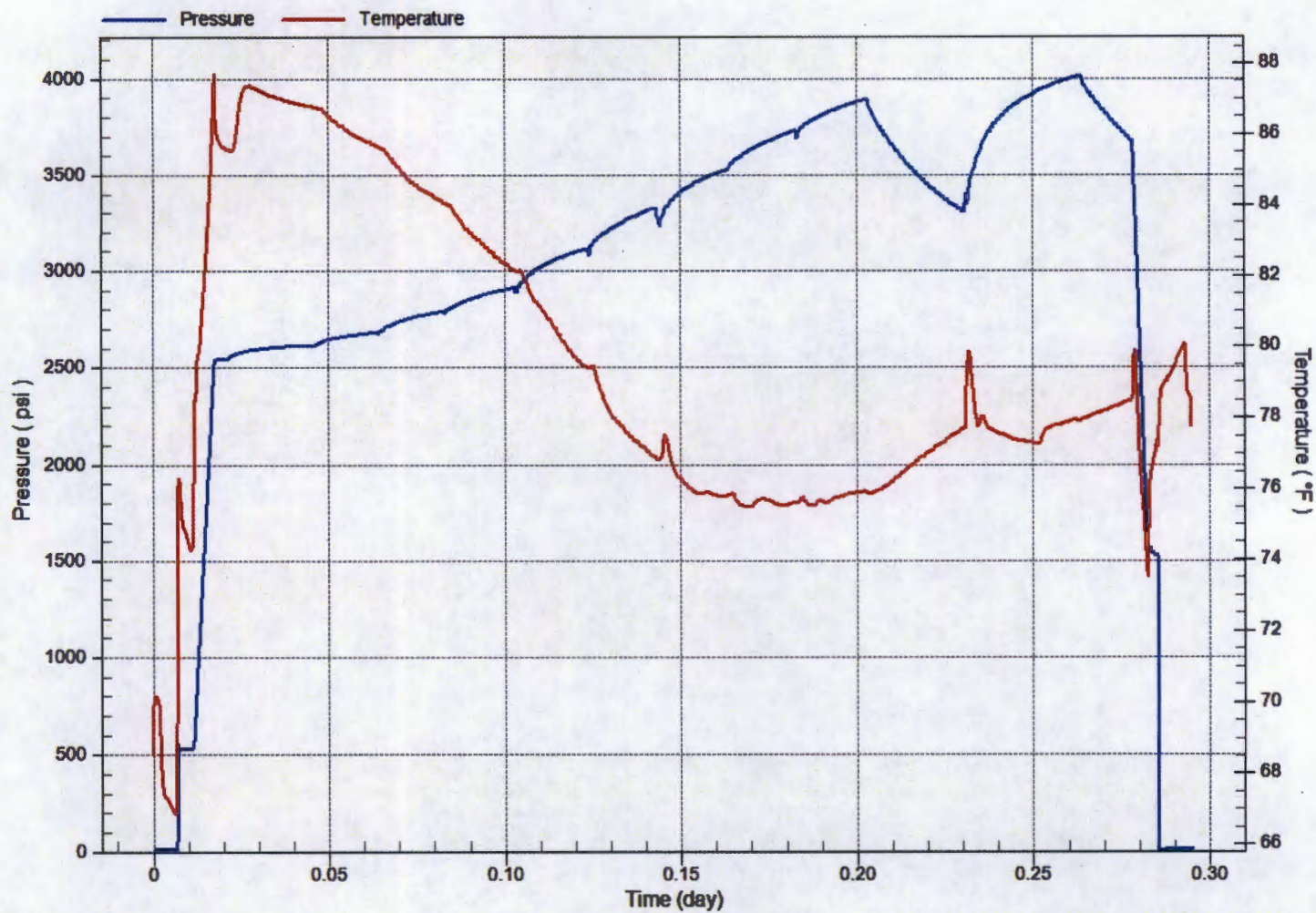
Southeast Maljamar Unit #617

Gradient Data Table

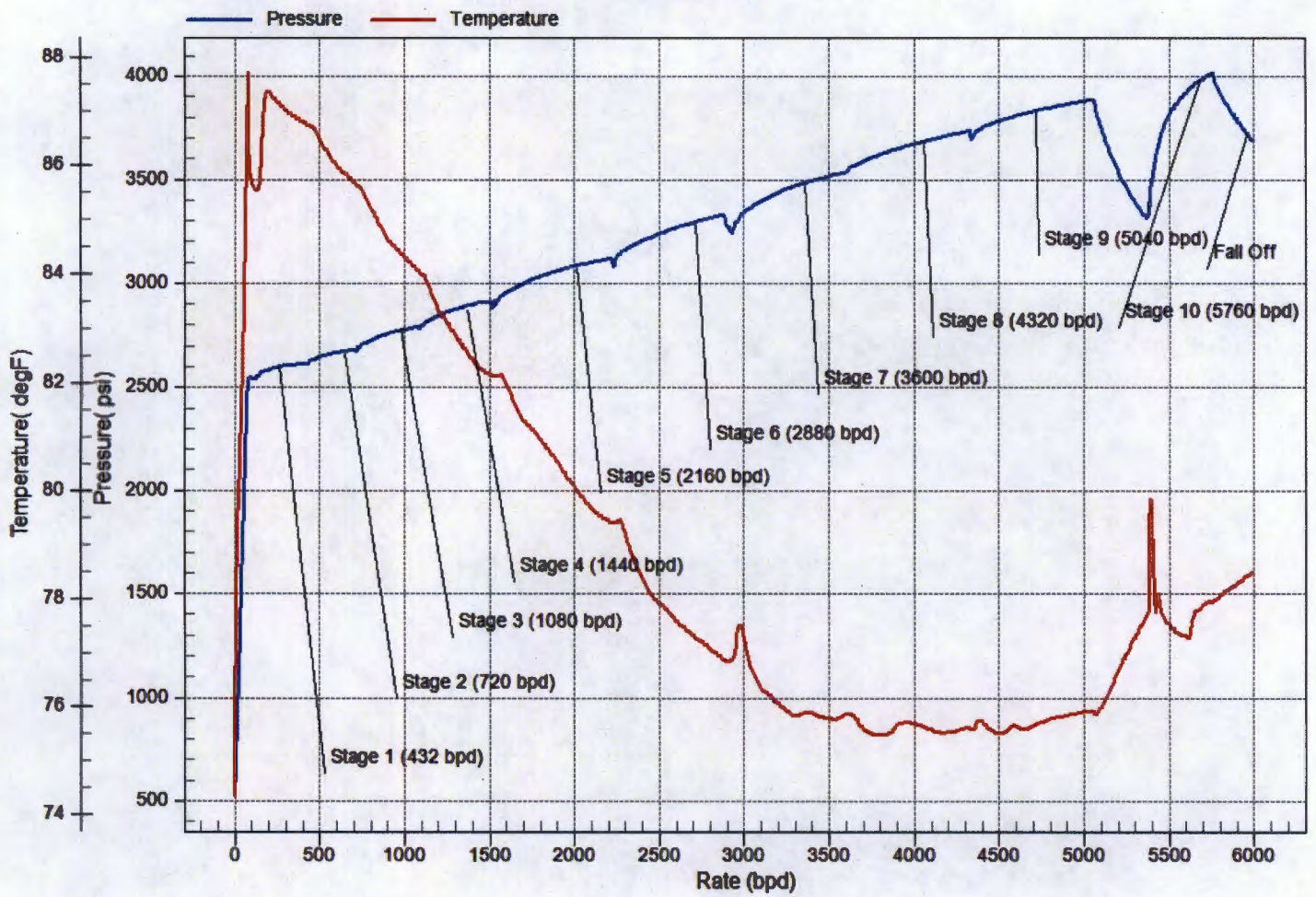
Depth ft	Pressure psi	Temperature degF	Gradient psi/ft
0.00	527.45	74.37	0.0000
432.00	2618.00	86.74	4.8392
720.00	2678.78	85.62	0.2110
1080.00	2792.55	84.06	0.3160
1440.00	2908.25	82.27	0.3214
2160.00	3110.63	79.51	0.2811
2880.00	3333.27	76.89	0.3092
3600.00	3534.42	75.86	0.2794
4320.00	3733.75	75.61	0.2768
5040.00	3886.34	75.91	0.2119
5760.00	4018.64	77.95	0.1838
6000.00	3678.36	78.52	-1.4178

Analysis Summary

[illegible]

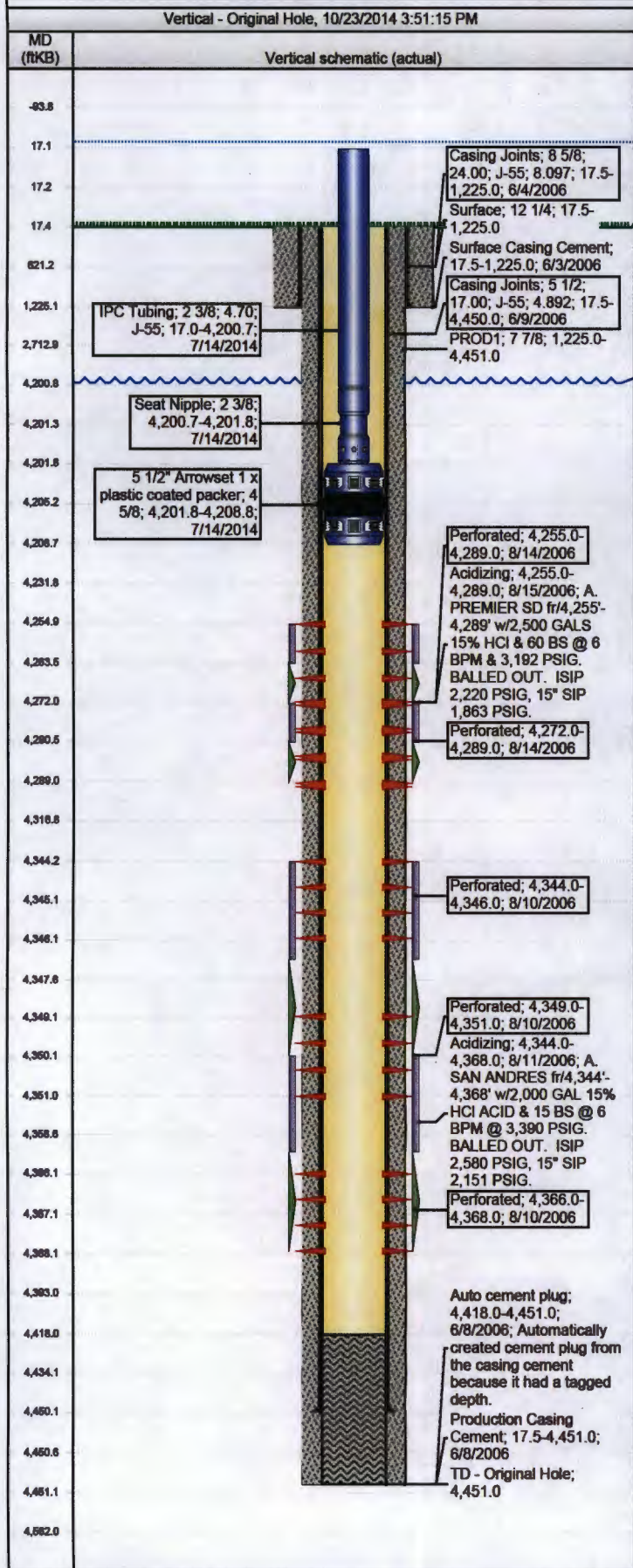


Pressure Log



Schematic & History

Well Name SOUTHEAST MALJAMAR GB/SA UNIT 617		API/UWI 3002537897	County Lea		State/Province New Mexico		Field Name MALJAMAR		
Location			Township 17S	Range 33E	Section 29	Latitude (°) 0° 32' 0" N		Longitude (°) 1° 43' 0" E	
Section	Survey				Block		Township		Abstract
Original KB Elevation (ft) 4,075.50		Ground/Corrected Ground Elevation (ft) 4,058.00		KB-Ground Distance (ft) 17.50		Spud Date 6/2/2006			



Jobs

Type	Start Date	Summary
Drilling - original	6/2/2006	
Lift Optimization	1/4/2012	
Convert To Injection	7/8/2014	

Wellbore Sections

Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
Surface	Original Hole	12 1/4	17.5	1,225.0	6/3/2006
Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
PROD1	Original Hole	7 7/8	1,225.0	4,451.0	6/8/2006

Surface 1,225.0 ftKB 6/4/2006

Comment

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
8 5/8	24.00	J-55	17.5	1,225.0	1,207.50	Casing Joints

Production 4,450.0 ftKB 6/9/2006

Comment

OD (in)	Wt (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
5 1/2	17.00	J-55	17.5	4,450.0	4,432.50	Casing Joints

Cement Stages

Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment
Surface Casing Cement	17.5	1,225.0	Cement Returns	CMT'd w/430 SX CL \"C\" CMT w/4% GEL, 2% CaCl2 & 1/4\" SX CF (13.5 PPG, 1.75 FT3/SX) FOLLOWED BY 200 SX CL \"C\" w/2% CaCl2 (14.8 PPG, 1.34 FT3/SX). CIRC 155 SX CMT TO SURF.
Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment
Production Casing Cement	17.5	4,451.0	Cement Returns	CMT'D w/570 SX INTERFILL CL \"C\" w/1/4\" SX CF (11.9 PPG, 2.45 FT3/SX) FOLLOWED w/200 SX CLASS \"C\" (14.8 PPG, 1.37 FT3/SX). CIRC 10 SX TO SURF.

Perforations

Top (ftKB)	Btm (ftKB)	Shot Dens (shot s/ft)	Date	Zone	Calculated Shot Total
4,344.0	4,346.0	1.0	8/10/2006	san andres, Original Hole	3
4,349.0	4,351.0	1.0	8/10/2006	san andres, Original Hole	3
4,366.0	4,368.0	1.0	8/10/2006	san andres, Original Hole	3
4,255.0	4,289.0	1.0	8/14/2006	premier, Original Hole	35
4,272.0	4,289.0	1.0	8/14/2006	premier, Original Hole	18

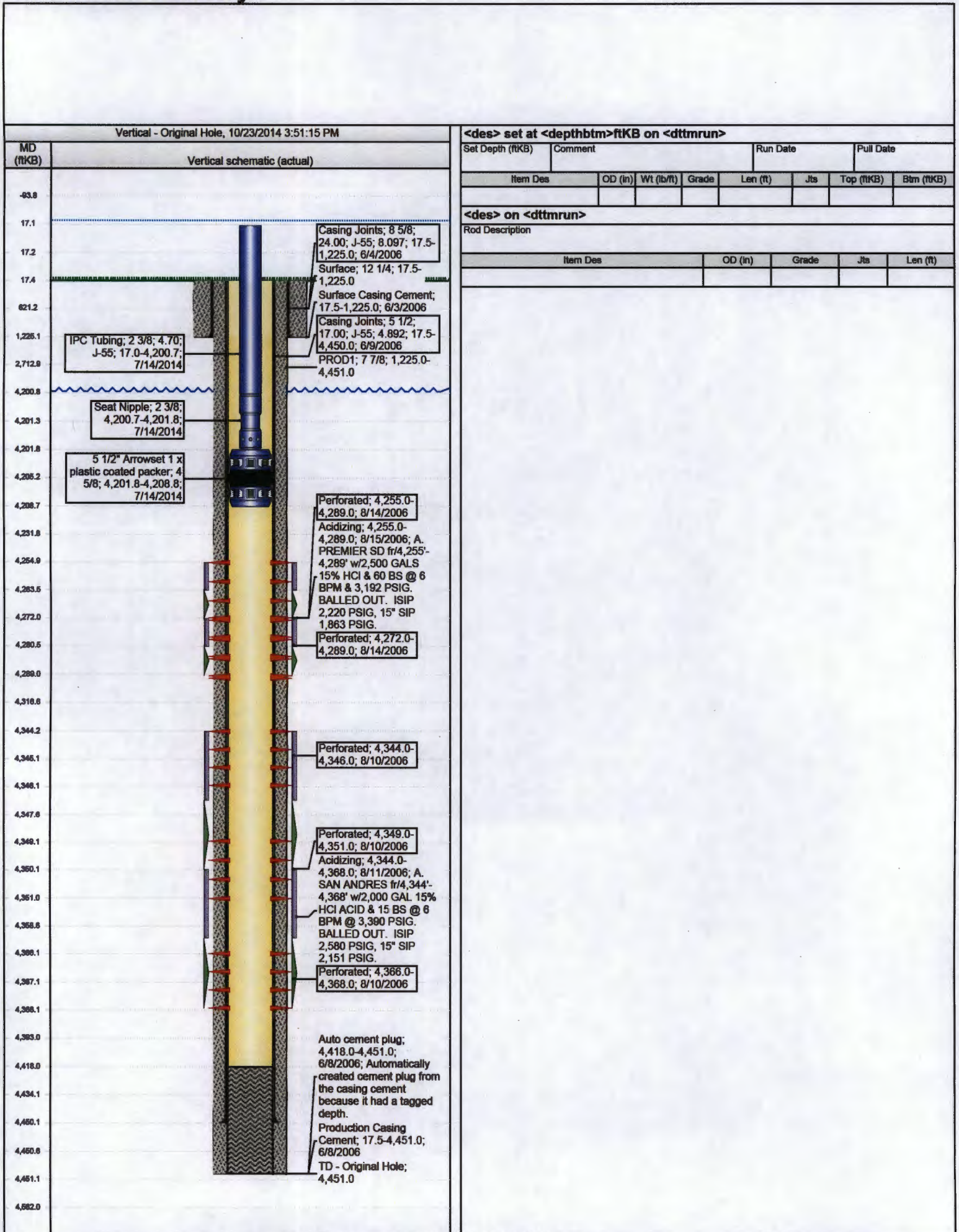
Stim/Treat Stages

Type	Start Date	Top (ftKB)	Btm (ftKB)	Com
Acidizing	8/11/2006	4,344.0	4,368.0	A. SAN ANDRES fr/4,344'-4,368' w/2,000 GAL 15% HCl ACID & 15 BS @ 6 BPM @ 3,390 PSIG. BALLED OUT. ISIP 2,580 PSIG, 15\" SIP 2,151 PSIG.
Acidizing	8/15/2006	4,255.0	4,289.0	A. PREMIER SD fr/4,255'-4,289' w/2,500 GALS 15% HCl & 60 BS @ 6 BPM & 3,192 PSIG. BALLED OUT. ISIP 2,220 PSIG, 15\" SIP 1,863 PSIG.

Other In Hole

Des	Com	OD (in)	Run Date	Top (ftKB)	Btm (ftKB)

Schematic & History



CROSS TIMBERS ENERGY, LLC

October 31, 2014

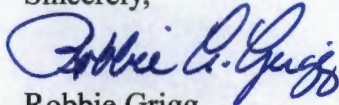
New Mexico EMNRD
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Request for Maximum Injection Pressure Increase
Southeast Maljamar GB/SA Unit #617
API No. 30-025-37897
Pool No. 43329 Maljamar; Grayburg-San Andres
Lea County, New Mexico

Cross Timbers Energy, LLC respectfully requests a maximum surface pressure increase for the above referenced water injection well to 2370 psi at a rate of 4100 BPD.

See attached wellbore schematic and step rate test.

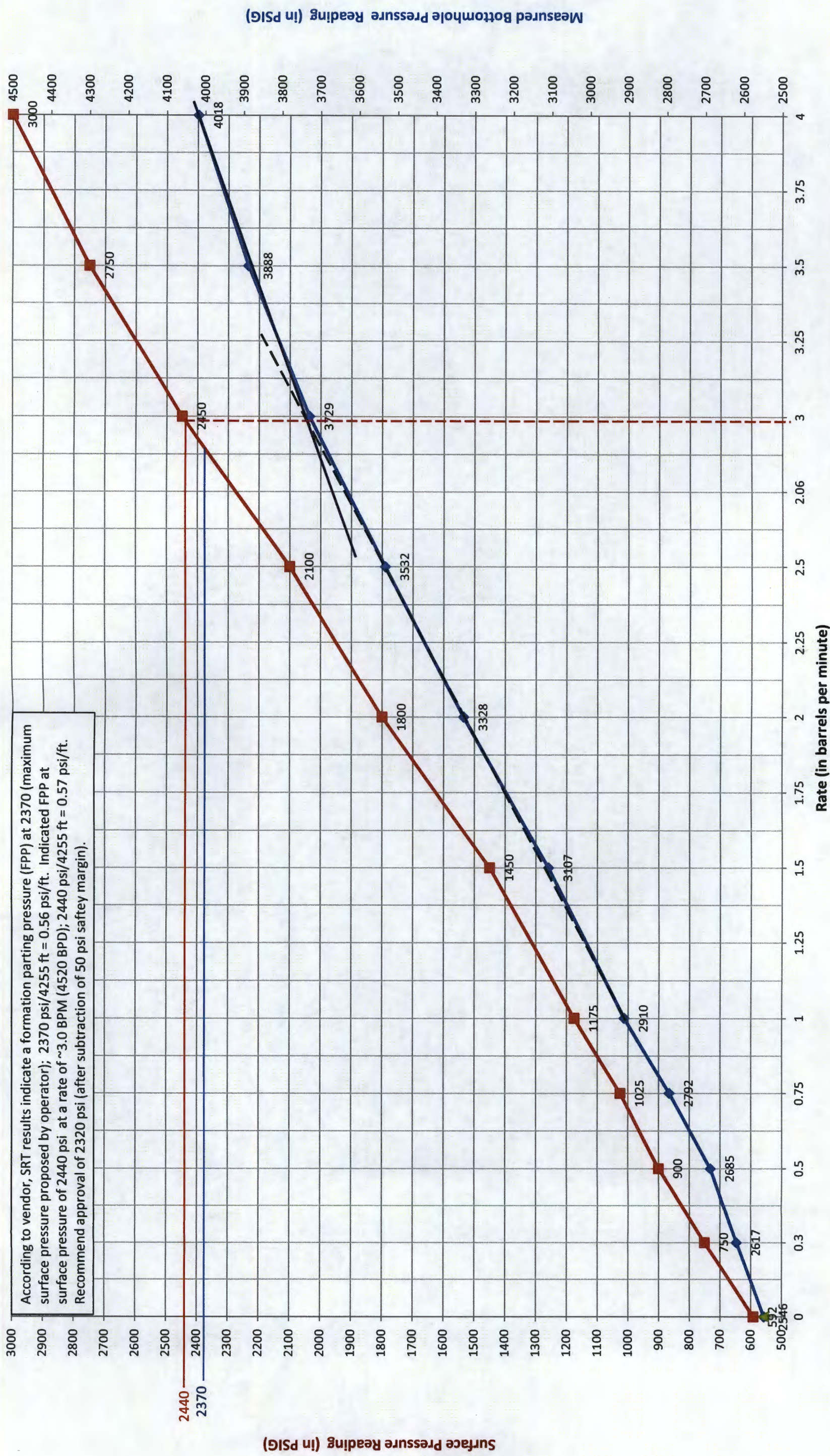
Sincerely,



Robbie Grigg
Cross Timbers Energy, LLC
817-334-7842
rgrigg@mspartners.com

X

WFX-927 / SE Majamar GB/SA Unit No. 617 - IPI Application - SRT 2014 Results





Southeast Maljamar Unit #906

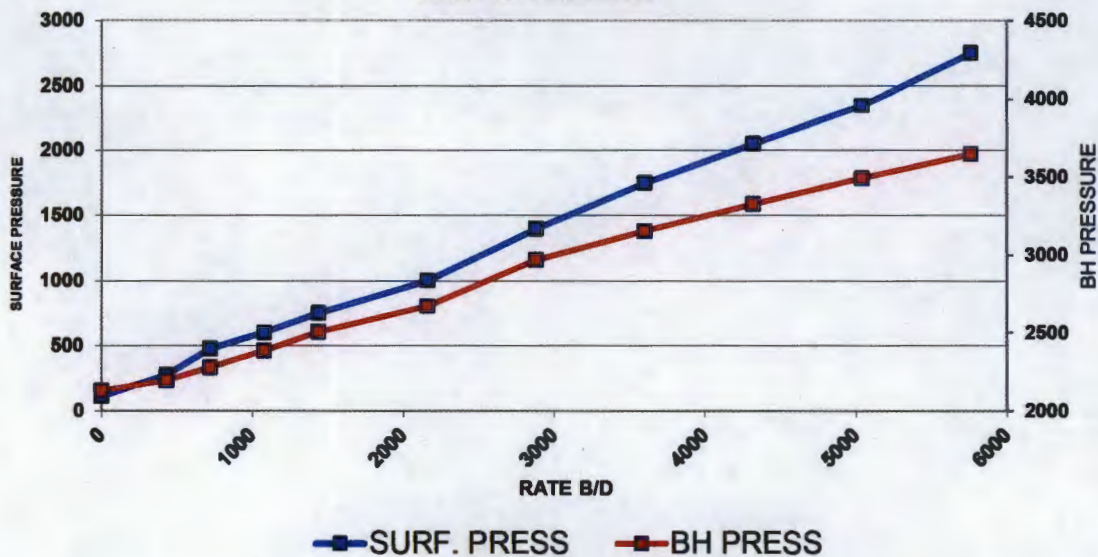
October 28, 2014



STEP RATE TEST

RATE B/D	Date	Time	BH PRESS	SURF. PRESS	Comments
0	10/29/2015	7:47 AM	2127	113	
432	10/29/2015	8:17 AM	2194	275	
720	10/29/2015	8:43 AM	2277	475	
1080	10/29/2015	9:10 AM	2384	600	
1440	10/29/2015	9:36 AM	2503	750	
2160	10/29/2015	10:04 AM	2670	1000	
2880	10/29/2015	10:57 AM	2967	1400	
3600	10/29/2015	11:25 AM	3152	1750	
4320	10/29/2015	11:51 AM	3325	2050	
5040	10/29/2015	2:06 AM	3490	2350	
5760	10/29/2015	2:32 AM	3644	2750	
Fall Off	10/29/2015	2:52 AM	3072	1325	
Company: Cross Timbers			Recorded By: M. Flores		
Well: Southeast Maljamar Unit #906			Witnessed By:		
Field: Southeast Maljamar			Truck Number: 33		
County:			District: Levelland		
State: New Mexico			Tool Number:		
Injector: WATER			Test Type: STEP RATE TESTS		
Shut In Time: 7:47am					
Total Shut In Time: 7hr 5min					
Tubing Size: 2 3/8"					
Seat Nipple Depth: N/A					
Perforations: 4270'-4460'					
Plug Back Depth: N/A					

RATE VS. PRESSURE

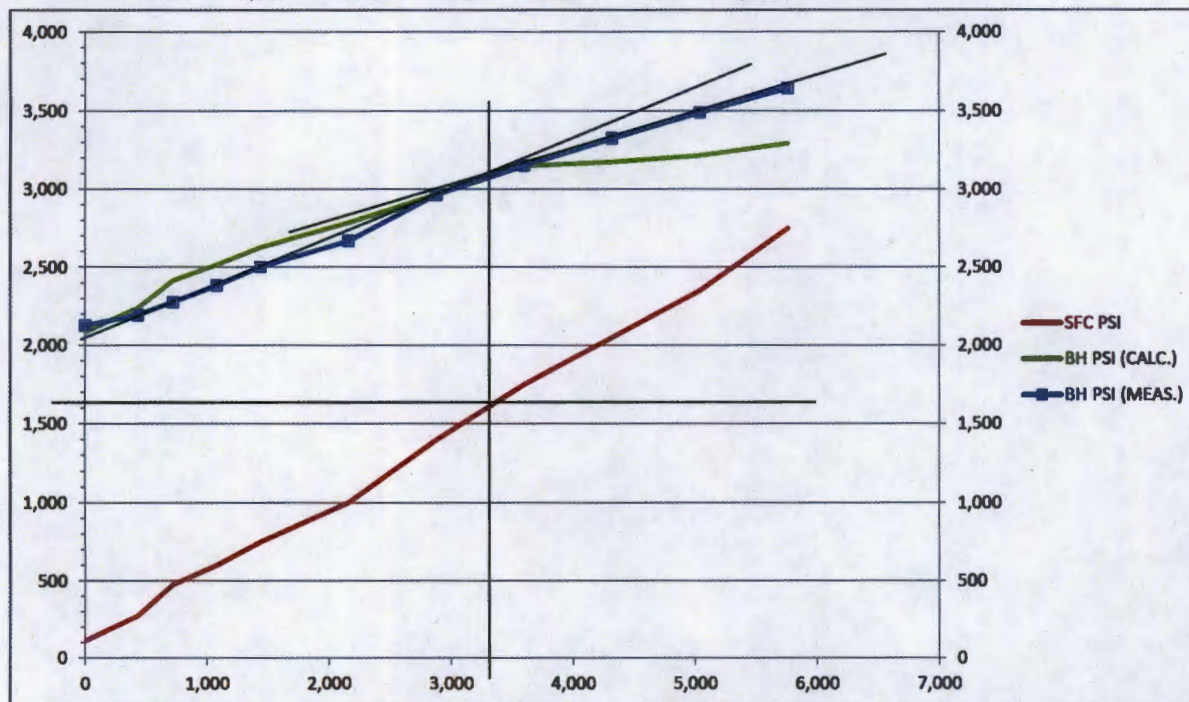


WELL: SEMGSAU #906
 DATE:
 WATER SG 1.07
 WATER GRADIENT 0.463
 DEPTH, MID-PERF 4,365
 DEPTH, BOMB 4,255

****DO NOT EXCEED 3600 PSI INJECTION PRESSURE****
****EACH STEP WILL LAST AS LONG AS IT TAKES TO STABILIZE PRESSURE FOR 5 MIN.**

CALL IAN PETERSEN (ENGINEER) WITH QUESTIONS/CONCERNS @ 432-634-4922

BPM	BPD	SFC PSI	dPSI	BH PSI (MEAS.)	dPSI	BH PSI (CALC.)	dPSI	REMARKS	d(Psi/BPM)
0.00	0	113		2,127		2,084			
0.30	432	275	162	2,194	67	2,239	155		1000
0.50	720	475	200	2,277	83	2,415	176		500
0.75	1,080	600	125	2,384	107	2,516	101		600
1.00	1,440	750	150	2,503	119	2,629	113		500
1.50	2,160	1,000	250	2,670	167	2,787	158		800
2.00	2,880	1,400	400	2,967	297	2,966	179		700
2.50	3,600	1,750	350	3,152	185	3,150	184	FRACTURE @ 1615 PSI, SURF.	600
3.00	4,320	2,050	300	3,325	173	3,174	24		600
3.50	5,040	2,350	300	3,490	165	3,216	42		800
4.00	5,760	2,750	400	3644	154	3,294	78		



JOB INFORMATION SHEET

Company Information		
Company Name:	Cross Timbers	
Well Information		
Well Name:	Southeast Maljamar unit #906	
Location:	New Mexico	
Field – Pool:	Southeast Maljamar	
Status:	Injection	
Test Information		
Type of Test:	Step Rate Test	
Gauge Depth:	4255 ft	
Production Interval:	4270'-4460'	
Status:	Injecting	
Temperature @ Run Depth	85.4 degF	
Surface Temperature:	51.58 degF	
Gauge Information		
Serial Number:	Top Recorder 79515	Bottom Recorder
Calibration Date:	11/1/13	
Pressure Range:	10000 psi	
Comments		

Gradient Data Report

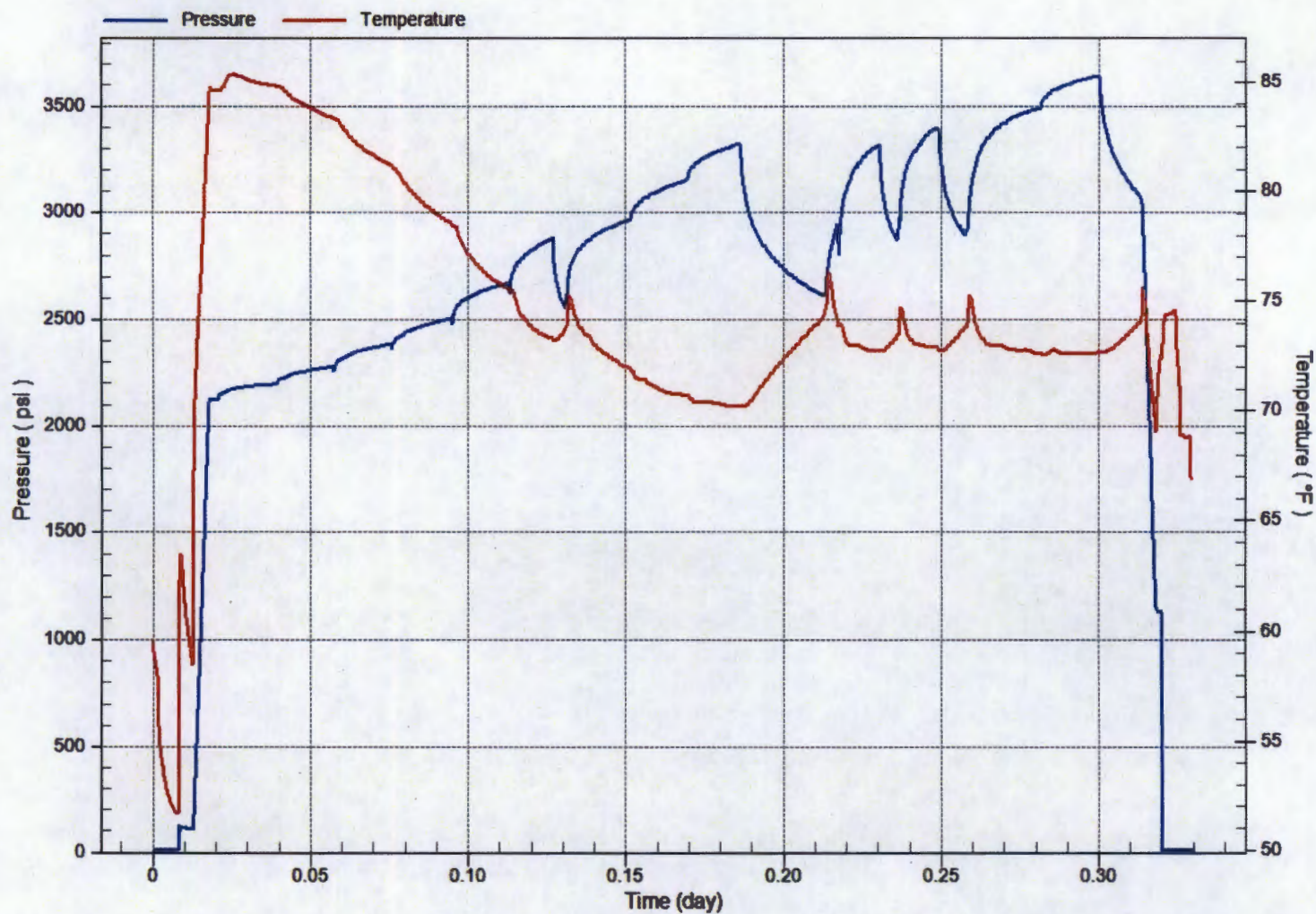
Southeast Maljamar Unit #906

Gradient Data Table

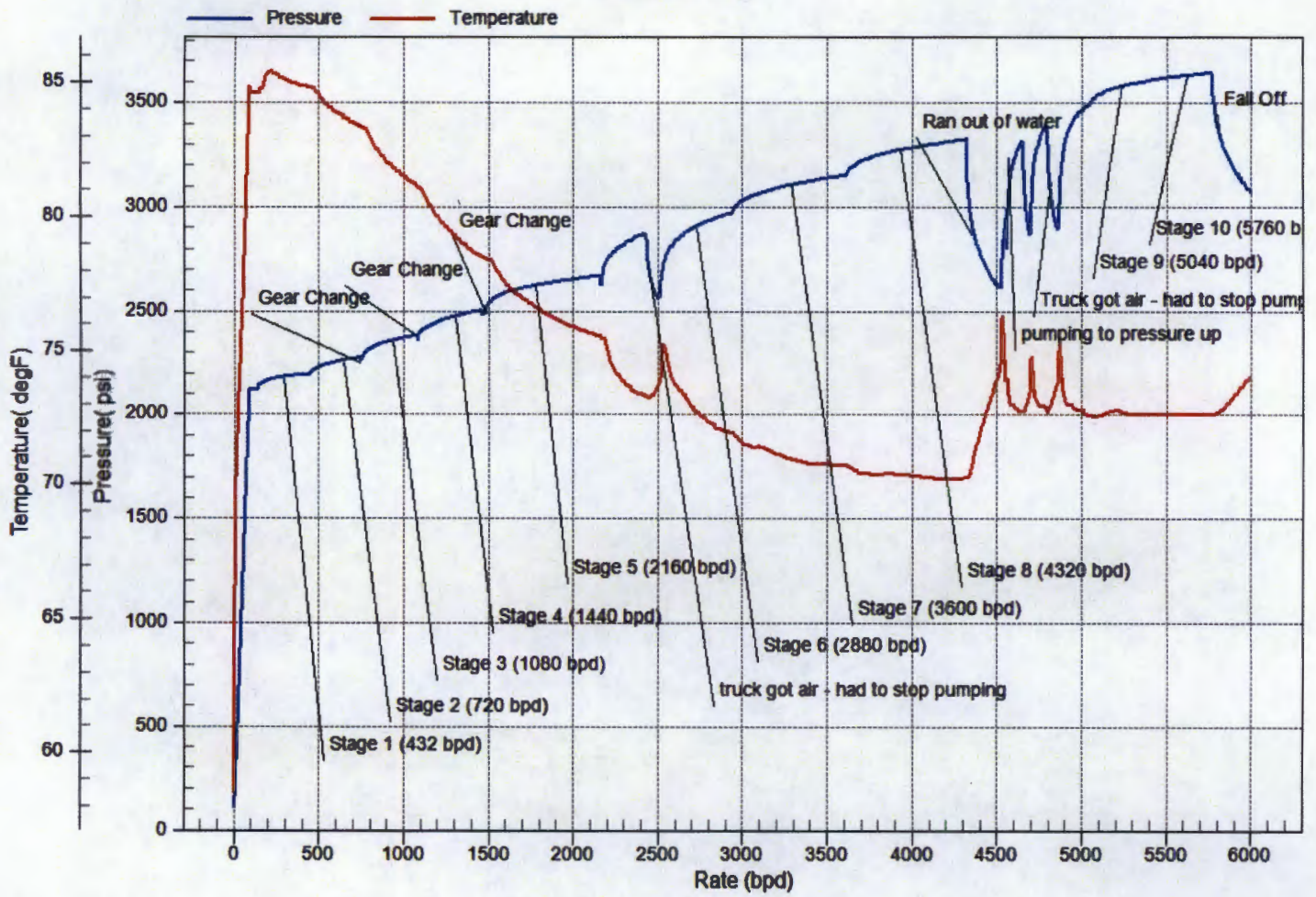
Depth ft	Pressure psi	Temperature degF	Gradient psi/ft
0.00	107.90	58.48	0.0000
432.00	2194.19	84.83	4.8294
720.00	2275.61	83.40	0.2827
1080.00	2385.04	81.15	0.3040
1440.00	2503.61	78.56	0.3294
2160.00	2672.55	75.55	0.2346
2880.00	2963.51	72.02	0.4041
3600.00	3151.47	70.70	0.2610
4320.00	3323.41	70.25	0.2388
5040.00	3492.38	72.61	0.2347
5760.00	3646.01	72.66	0.2134
6000.00	3070.72	74.11	-2.3970

Analysis Summary

[illegible]

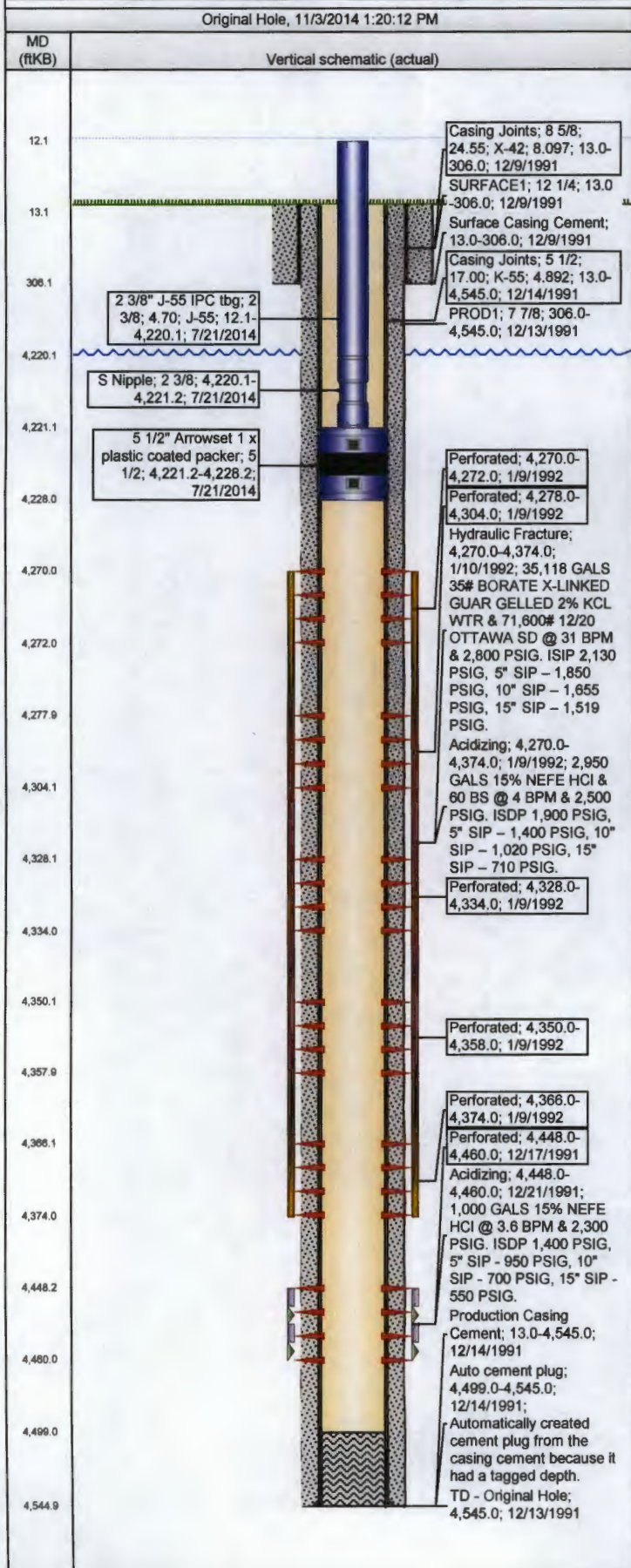


Pressure Log



Schematic & History

Well Name SOUTHEAST MALJAMAR GB/SA UNIT 906		API/UWI 3002531444	County Lea		State/Province New Mexico		Field Name MALJAMAR		
Location 1200 FNL & 950 FEL			Township 17S	Range 33E	Section 32	Latitude (°) 32° 48' 3.636" N		Longitude (°) 103° 40' 45.444" W	
Section	Survey				Block		Township		Abstract
Original KB Elevation (ft) 4,064.00		Ground/Corrected Ground Elevation (ft) 4,051.00		KB-Ground Distance (ft) 13.00		Spud Date			



Jobs

Type	Start Date	Summary
Drilling Original & Initial Completion	12/9/1991	D&C San Andres producer. Perf, acidize, S. 7.5 BFPH 20% OC, POP, IP 7 BOPD, 31 BW, 5 MCF. Perf GB, A. S. 0.5 BFPH 10% OC, Frac GB, POP, IP 20 BOPD, 321 BW (SA still isolated).
Downhole Commingle	8/7/1992	Pull RBP over SA perfs, commingle, RTP.
Repr Tbg Failure	5/12/2009	
Repair Parted Rods	8/26/2009	
Repair Tubing	7/29/2011	
Repair Rod Part	9/30/2011	
Repair Rod Part	11/7/2012	
Change Rod Pump	6/4/2013	
Convert To Injection	7/15/2014	
Step-Rate Injection Test	10/28/2014	

Wellbore Sections

Section Des	Wellbore Name	Size (in)	Act Top (ftKB)	Act Btm (ftKB)	Start Date
SURFACE1	Original Hole	12 1/4	13.0	306.0	12/9/1991
PROD1	Original Hole	7 7/8	306.0	4,545.0	12/10/1991

Surface 306.0 ftKB 12/9/1991

Comment

OD (in)	WT (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
8 5/8	24.55	X-42	13.0	306.0	293.00	Casing Joints

Production 4,545.0 ftKB 12/14/1991

Comment

OD (in)	WT (lb/ft)	Grade	Top (ftKB)	Btm (ftKB)	Len (ft)	Item Des
5 1/2	17.00	K-55	13.0	4,545.0	4,532.00	Casing Joints

Cement Stages

Description	Top (ftKB)	Btm (ftKB)	Top Meas Meth	Comment
Surface Casing Cement	13.0	306.0	Cement Returns	250 SX CL "C" CMT w/2% CaCl2 (14.8 PPG, 1.32 FT3/SX). CIRC 48 SX TO SURF.
Production Casing Cement	13.0	4,545.0	Cement Returns	1,050 SX 35/65 POZ/C w/8% GEL & 5# SALT/SX (12.7 PPG, 2.04 FT3/SX) & 250 SX CLASS "C" w/5# SALT/SX & 3# SD/SX (14.8 PPG, 1.33 FT3/SX). CIRC 52 SX CMT TO SURF.

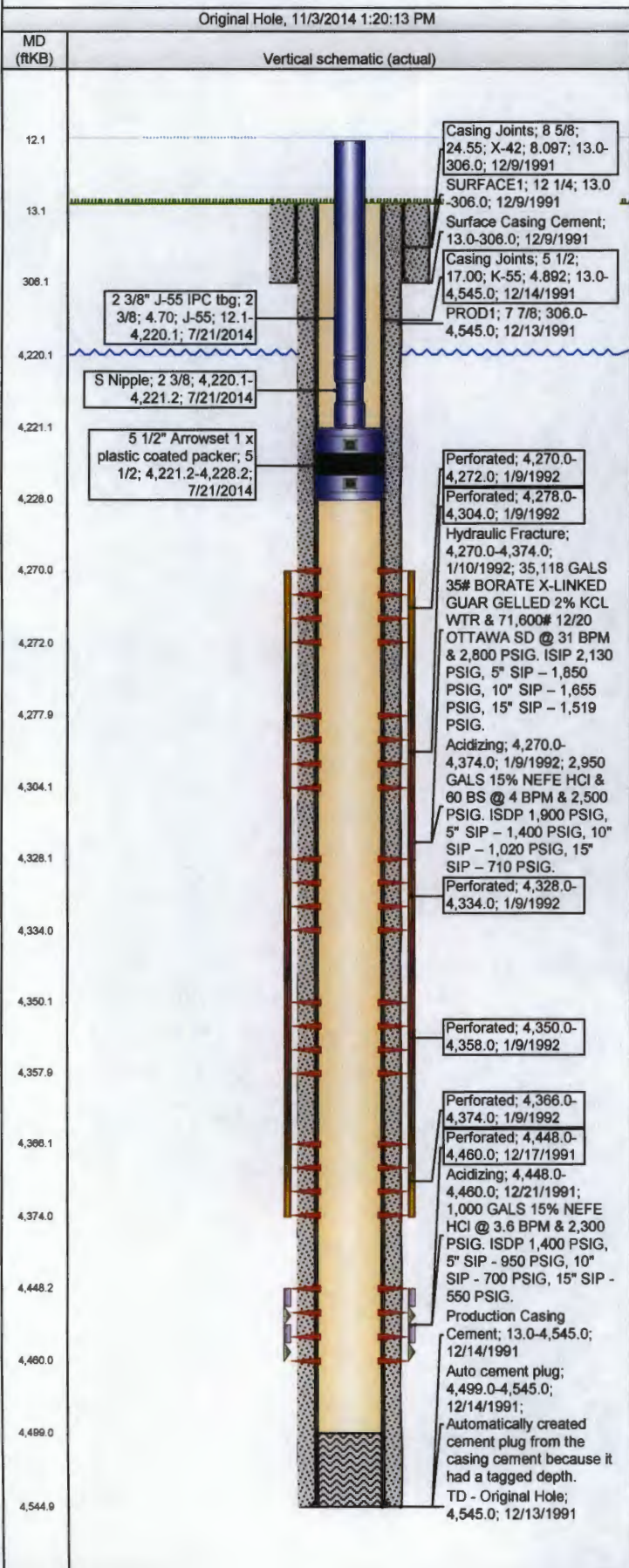
Perforations

Top (ftKB)	Btm (ftKB)	Shot Dens (shot/sft)	Date	Zone	Calculated Shot Total
4,448.0	4,460.0	1.0	12/17/1991	SAN ANDRES, Original Hole	13
4,270.0	4,272.0	1.0	1/9/1992	GRAYBURG, Original Hole	3
4,278.0	4,304.0	1.0	1/9/1992	GRAYBURG, Original Hole	27
4,328.0	4,334.0	1.0	1/9/1992	GRAYBURG, Original Hole	7
4,350.0	4,358.0	1.0	1/9/1992	GRAYBURG, Original Hole	9
4,366.0	4,374.0	1.0	1/9/1992	GRAYBURG, Original Hole	9

Stim/Treat Stages

Type	Start Date	Top (ftKB)	Btm (ftKB)	Com
Acidizing	12/21/1991	4,448.0	4,460.0	1,000 GALS 15% NEFE HCl @ 3.6 BPM & 2,300 PSIG. ISDP 1,400 PSIG, 5\" SIP - 950 PSIG, 10\" SIP - 700 PSIG, 15\" SIP - 550 PSIG.

Schematic & History



Stim/Treat Stages				
Type	Start Date	Top (ftKB)	Btm (ftKB)	Com
Acidizing	1/9/1992	4,270.0	4,374.0	2,950 GALS 15% NEFE HCl & 60 BS @ 4 BPM & 2,500 PSIG. ISDP 1,900 PSIG, 5" SIP - 1,400 PSIG, 10" SIP - 1,020 PSIG, 15" SIP - 710 PSIG.
Hydraulic Fracture	1/10/1992	4,270.0	4,374.0	35,118 GALS 35# BORATE X-LINKED GUAR GELLED 2% KCL WTR & 71,600# 12/20 OTTAWA SD @ 31 BPM & 2,800 PSIG. ISIP 2,130 PSIG, 5" SIP - 1,850 PSIG, 10" SIP - 1,655 PSIG, 15" SIP - 1,519 PSIG.

Other In Hole					
Des	Com	OD (in)	Run Date	Top (ftKB)	Btm (ftKB)

Tubing - Injection (IPC) set at 4,228.2ftKB on 7/21/2014 07:11						
Set Depth (ftKB)	Comment	Run Date	Pull Date			
4,228.2		7/21/2014				
Item Des	OD (in)	Wt (lb/ft)	Grade	Len (ft)	Jts	Top (ftKB) Btm (ftKB)
2 3/8" J-55 IPC tbg	2 3/8	4.70	J-55	4,208.00	130	12.1 4,220.1
S Nipple	2 3/8			1.10	1	4,220.1 4,221.2
5 1/2" Arrowset 1 x plastic coated packer	5 1/2			7.00	1	4,221.2 4,228.2

Insert Pump on 6/4/2013 00:00					
Rod Description					
Insert Pump					
Item Des	OD (in)	Grade	Jts	Len (ft)	
Polished Rod	1 1/4		1	22.00	
Rod Sub	7/8	D	1	12.00	
Sucker Rod	7/8	D	67	1,675.00	
Sucker Rod	3/4	D	85	2,125.00	
Sucker Rod	7/8	D	22	550.00	
Stabilizer Rod	7/8	D	1	4.00	
RHBO Tool	3/4		1	1.00	
Rod Insert Pump	1 1/4		1	24.00	

CROSS TIMBERS ENERGY, LLC

October 31, 2014

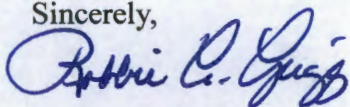
New Mexico EMNRD
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Request for Maximum Injection Pressure Increase
Southeast Maljamar GB/SA Unit #906
API No. 30-025-31444
Pool No. 43329 Maljamar; Grayburg-San Andres
Lea County, New Mexico

Cross Timbers Energy, LLC respectfully requests a maximum surface pressure increase for the above referenced water injection well to 1615 psi at a rate of 3200 BPD.

See attached wellbore schematic and step rate test.

Sincerely,



Robbie Grigg
Cross Timbers Energy, LLC
817-334-7842
rgrigg@mspartners.com



WFX-927 / SE Maljamar GB/SA Unit No. 906 - IPI Application - SRT 2014 Results

