

DATE IN 5/05/2014	SUSPENSE	PRG ENGINEER	LOGGED IN 5/05/2014	TYPE IPI	APP NO. PMAM1412756772
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION

- Engineering Bureau -

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



CHOATE DAVIS 14 STATE #1 SWD

Order: SWD-1352A

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.

Mike Pippin

Print or Type Name

Mike Pippin
Signature

Petroleum Engineer

Title

mike@pippinllc.com

e-mail Address

May 3, 2014

Date

- IPI
 - Lime Rock Resources
 IL-A-LP
 277558

RECEIVED
 2014 MAY 5 AM 10:38

Well
 - Choate Davis
 14 State #1
 30-015-40629

Pool
 - SWD, Abo-Wulfcamp-
 Cisco
 97967

LIME ROCK RESOURCES II-A, L.P.
Mike Pippin
3104 N. Sullivan Avenue
Farmington, NM 87401
505-327-4573 (phone) mike@pippinllc.com

May 3, 2014

Phil Goetze
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: Injection Pressure Increase Request
Administrative Order SWD-1352A
CHOATE DAVIS 14 STATE #1 SWD
API#: 30-015-40629
Unit Letter "J" Section 14 T18S R27E
Eddy County, New Mexico

Dear Mr. Goetze,

By administrative order SWD-1352A, dated February 14, 2014, the NMOCD authorized water injection into CHOATE DAVIS 14 STATE #1 SWD (API No. 30-015-40629) for the disposal of produced water. The order provides for a wellhead injection pressure of "no more than 1300 psi". On 4/29/13, this well started produced water injection. Lime Rock believes that this maximum surface pressure of 1300 psi is significantly below the formation frac pressure and should be increased.

The disposal formation in this well is extremely tight. On 4/23/14, a step rate test was run to determine the actual formation frac pressure. The formation pressure did not break at a maximum surface pressure of 2066 psi (bottom hole pressure of 4423 psi), which indicates that the formation frac pressure was not exceeded at that point. Therefore, the actual formation frac pressure is higher than a surface pressure of 2066 psi. A summary of the step rate test data from Cardinal Surveys is attached along with a wellbore diagram.

Lime Rock Resources therefore requests that the maximum wellhead injection pressure be increased to at least 2066 psi.

Please contact me at 505-327-4573 should you have any questions.

Very truly yours,

Mike Pippin

Mike Pippin P.E.
Petroleum Engineer

Enclosures

$$\text{OH} \quad \frac{2016 \text{ psi}}{6650 \text{ ft}} = 0.30 \text{ psi/ft}$$
$$\text{PERF} \quad \frac{2016}{6620 \text{ ft}} = 0.304 \text{ psi/ft}$$

CHOATE DAVIS 14 STATE #1 SWD

Current 5/3/14

Abo, Wolfcamp, Cisco (97967)

(J) Section 14, T-18-N, R-27-W, Eddy County, NM

M. PIPPIN

Spud Date: 2/20/14

Completed: 4/19/14

Elevation: 3511' GL

7 Rivers @ 467'

Queen @ 1090'

San Andres @ 1933'

Yeso @ 3778'

Abo @ 5335'

Wolfcamp @ 6720'

Cisco @ 7722'

17-1/2" Hole

12-1/4" Hole

8-3/4" Hole

6-1/8" Hole

13-3/8" 48# H-40 Casing @ 333',
Cmted w/350 sx.
(Circ. 42 sx Cmt to surf.)

TOC @ 2717 - TS

9-5/8" 36# K-55 Casing @ 2812'
Cmted w/845 sx. (Circ. 147
sx Cmt to Surface)

Baker pkr on 4-1/2" 11.6# L-80
Duoline coated tbg @ 6450'

Perfed 20 holes @ 6620'-30'

7" 26# L-80 Casing @ 6650'
Cmt w/600 sx (930 cf)

3/24/14: Sidetracked around fish 6660'-80'
& drilled to TD 8429'

6-1/8" OPEN HOLE 6650'-8429'

Treated Open Hole w/9997 gal 15% NEFE acid.

Requested

$$\frac{\text{Open Hole Only } 2066 \text{ psi}}{6650 \text{ ft}} = 0.31 \text{ psi/ft}$$

TD 8429'

Step Rate Test



Cardinal Surveys Company

April 23, 2014

Lime Rock Resources
Choate Davis 14 ST # 1
Field:
Lea County, New Mexico
SC 60757
File # 21708

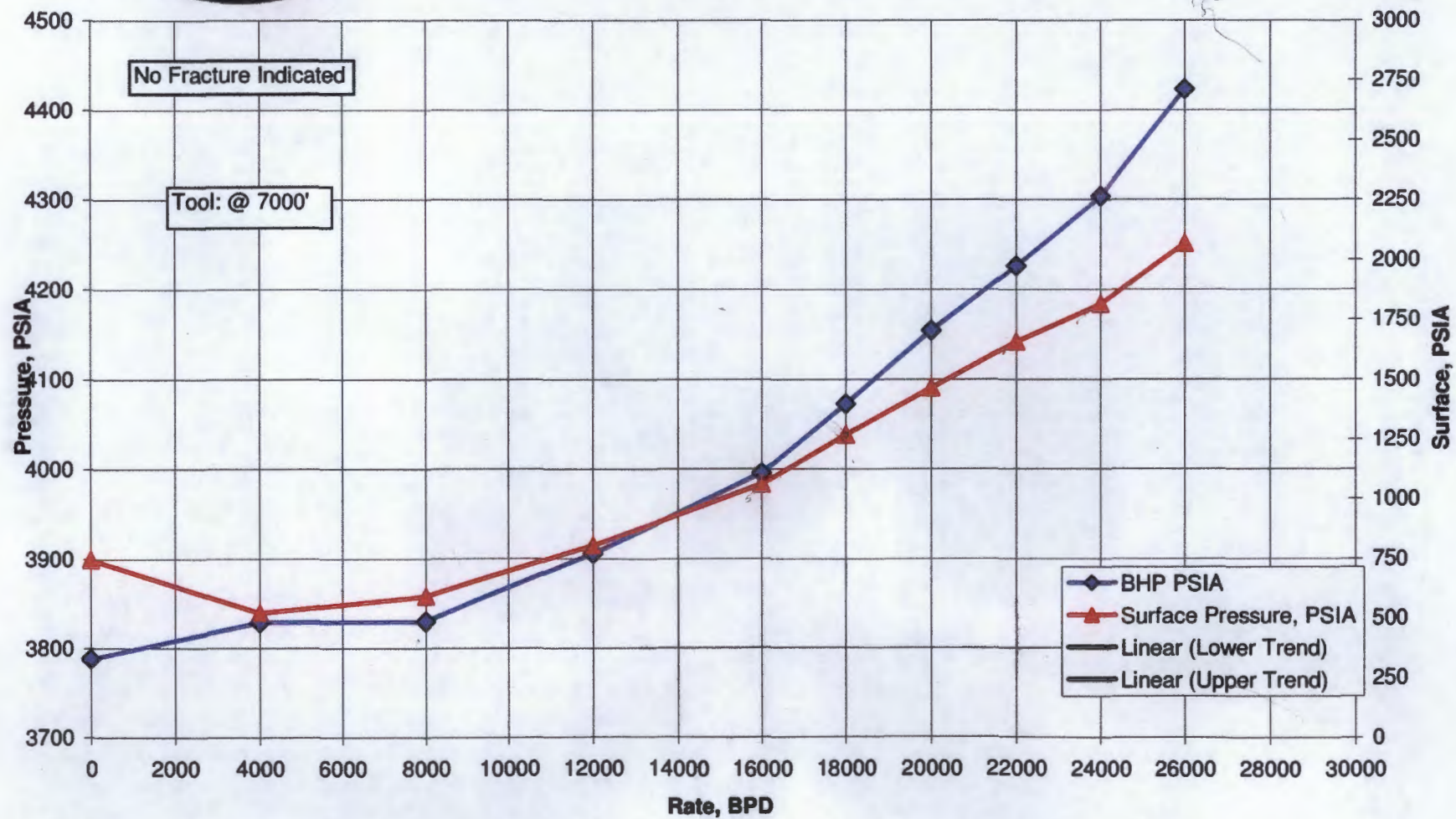
No Fracture Indicated

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 7000

	Start Time	End Time	Rate BPD	Comments
1	8:58 AM	10:45 AM	107	0 On Bottom
2	10:45 AM	11:15 AM	30	4000
3	11:15 AM	11:45 AM	30	4000
4	11:45 AM	12:15 PM	30	4000
5	12:15 PM	12:45 PM	30	4000
6	12:45 PM	1:15 PM	30	2000
7	1:15 PM	1:45 PM	30	2000
8	1:45 PM	2:15 PM	30	2000
9	4:45 PM	5:15 PM	30	2000
10	5:15 PM	5:45 PM	30	2000
11	5:45 PM	6:00 PM	15	-26000 Fail Off



Lime Rock Resources Choate Davis 14 St # 1
Step Rate Test 04-23-2014

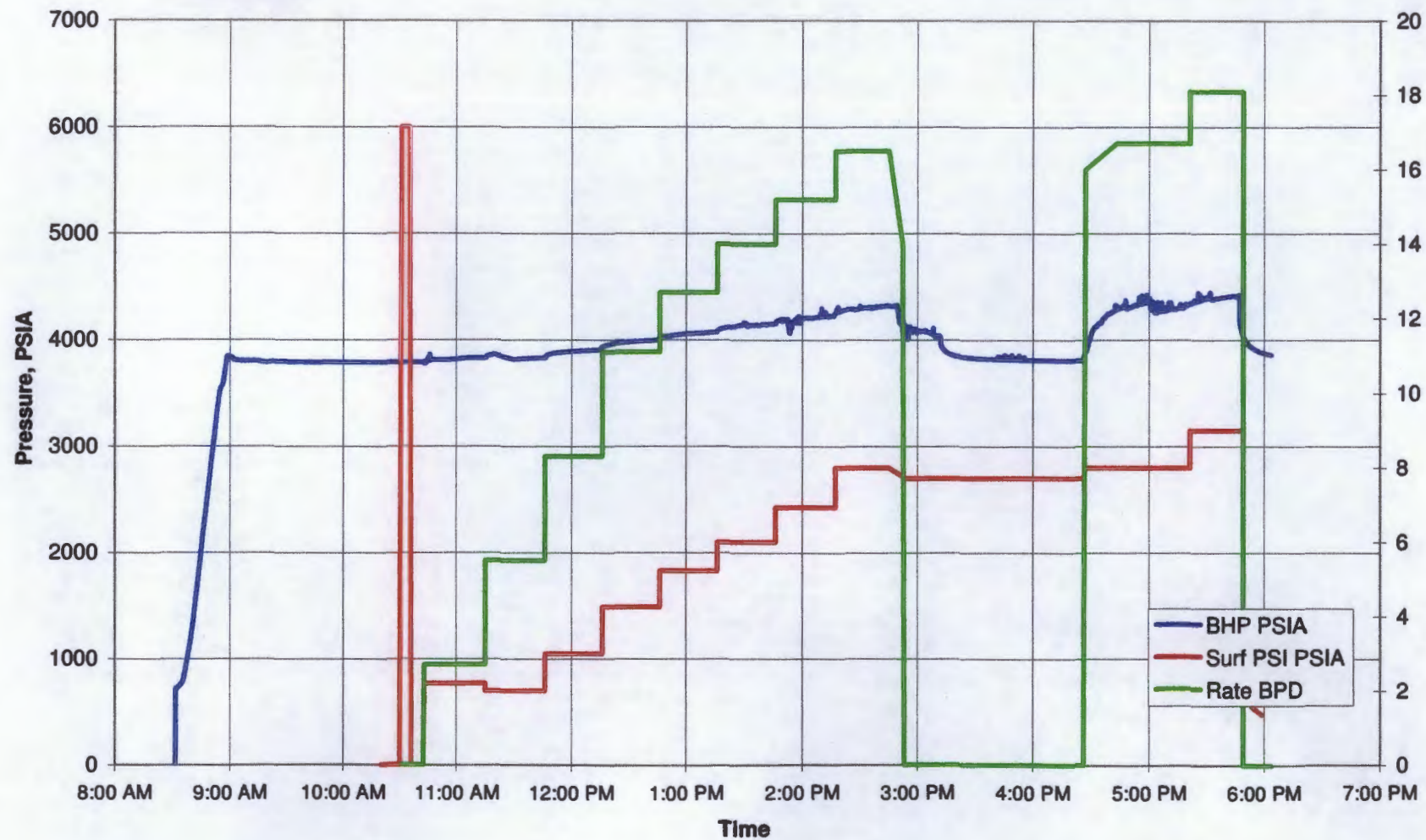


Lime Rock Resources
Choate Davis 14 St # 1
Field:
Lea County, New Mexico

[illegible]

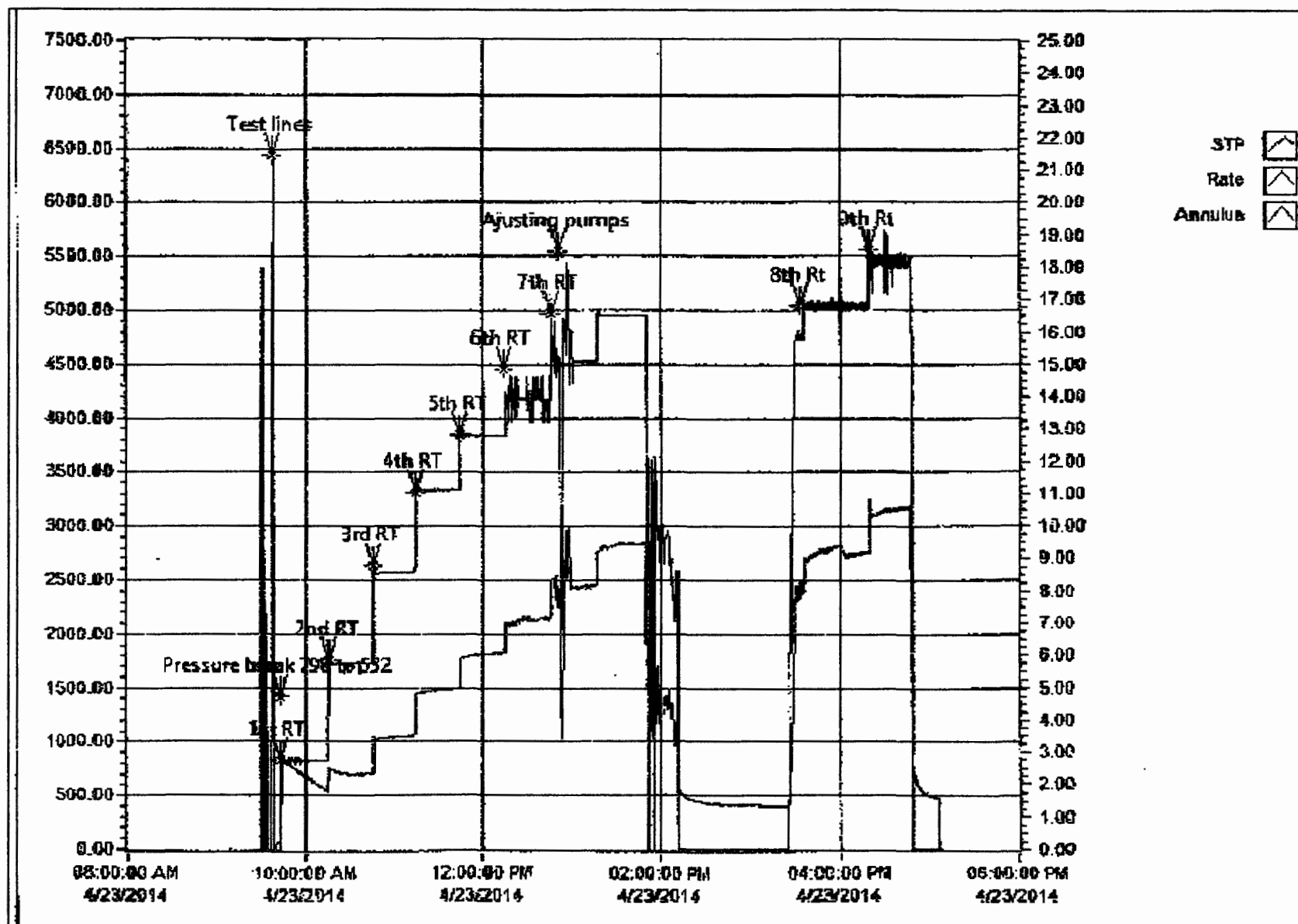


Lime Rock Resources Choate Davis 14 St # 1
Step Rate Test 04-23-2014

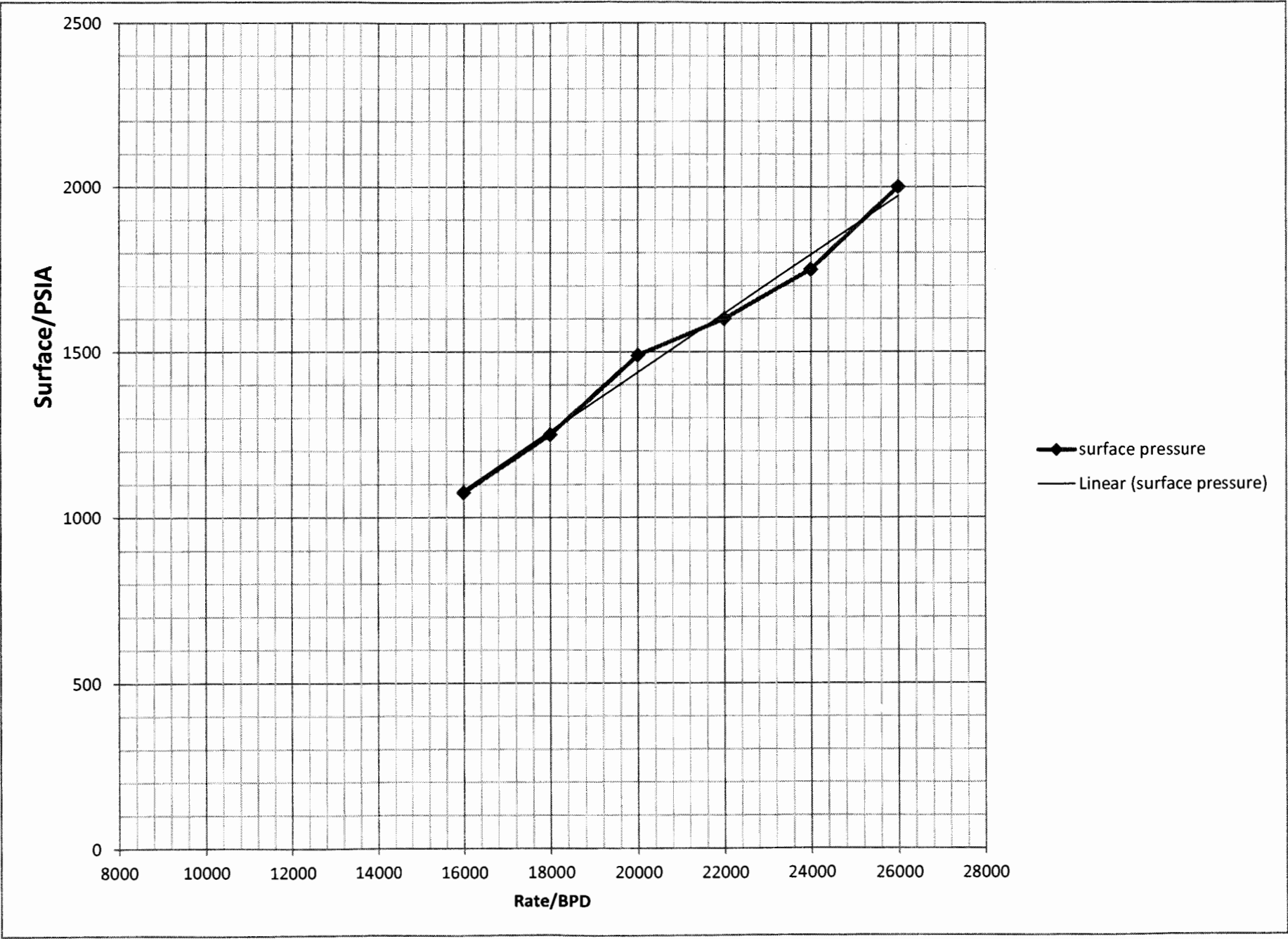


Job Event Log

Time	Stage	Rate	Pressure	Comment	Stage total	Total
9:30	1		6000	Test Lines		
9:42	2	2.7	770	1 st Rt	89.3	
10:14	3	5.5	700	2 nd RT	183.2	
10:45	4	8.3	1050	3 rd RT	242.8	
11:15	5	11.1	1488	4 th RT	334.7	
11:45	6	12.7	1830	5 th Rt	392	
12:15	7	14	2100	6 th Rt	421.6	
12:45	8	15.2	2426	7 th Rt	452.5	2116.1
1:16	9	16.5	2800	8 th RT		2878
2:13				Shut down	1016	3132.1
3:26		16.7		Loading hoe		
3:43		16.7	2720	8 th Rt	591.8	
4:20		18.1	3150	9 th Rt	529	
						4253.8
4:48			711	ISIP		
4:53			545	5 MIN		
4:58			505	10 MIN		
5:03			477	15 MIN		



Choate-Davis 14 State SWD SRT



CHOATE DAVIS STEP RATE TEST

rate	surface pressure
12000	760
16000	1075
18000	1250
20000	1490
22000	1600
24000	1750
26000	2000