

DATE IN 8.30.11	SUSPENSE	ENGINEER TW	LOGGED IN 8.30.11	TYPE IPI	APP NO. 1124349169
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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



Apache

SWD #1
Washington 34 State

ADMINISTRATIVE APPLICATION CHECKLIST

30-015-29341

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.

SARAH HARDIN
 Print or Type Name

Sarah Hardin
 Signature

Engineering Tech
 Title

8/15/11
 Date

Sarah.Hardin@apachecorp.com
 e-mail Address

7382' x 0.244
 = 1800

SWD-710
 7378-9223
 wellcomp
 Cisco



RECEIVED OCD

2011 AUG 29 P 11: 52

8/15/2011

Mr. Terry G. Warnell
New Mexico Oil Conservation Division
1220 South St. Frances
Santa Fe, NM 87505
505-476-3466

RE: Washington 34 ~~State~~ #1

Mr. Terry Warnell,

Based on the order SWD 710 issued on April 13, 1998, the maximum surface injection pressure is 1476 ✓
psig. Apache Corporation respectfully requests to increase the injection pressure on the Washington 34
~~State~~ #1. Step rate tests have been performed and the results are summarized below. More detailed
information in regards to the test and wellbores is enclosed.

Well	API	Fracture Pressure	Requested Inj Pressure Limit	SRT Date
Washington 34 State #1	30-015-29344	Estimated at 3500 psi (Test holds for 1800 psi)	1800	5/19/2011

Feel free to contact me if you have any questions or need any other information. Thank you for your
time, I appreciate it.

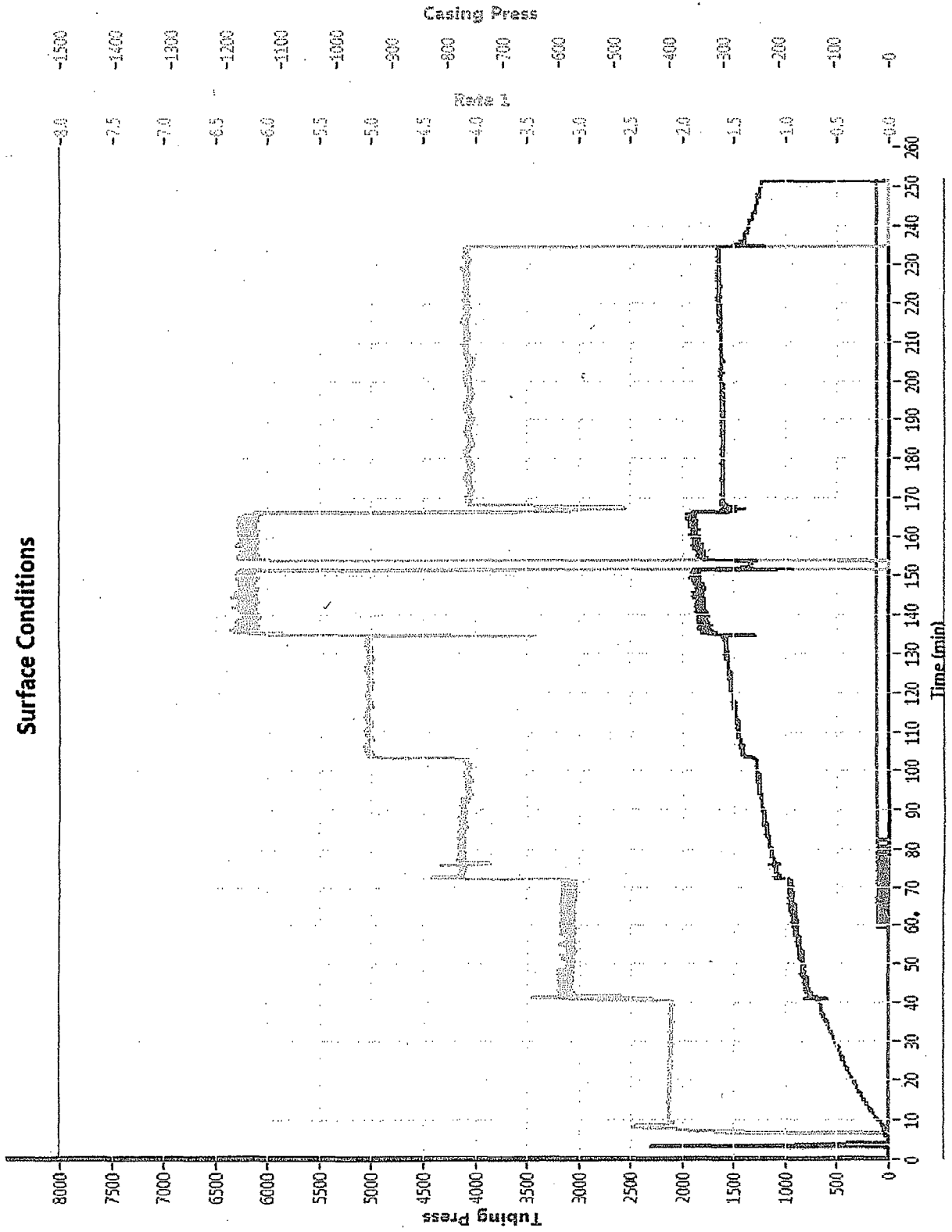
Regards,

Sarah Hardin
Production Engineer
Apache Corporation
303 Veterans Airpark Lane
Suite #3000
Midland, Texas 79705
(432)818-1052

APACHE

WASHINGTON 34 STATE [WDW]#1
FORMATION:STEP RATE

5-19-2011



page 1

Customer: APACHE		ESO#: DJUZ8GZNZJ				
Well Name & No.:	WASHINGTON 34 [WDW] #1	Formation:	0.00			
County:	EDDY	Date:	May 19, 2011			
State:	NM	Well type:	Disposal. Old / Stim.			
Customer Information						
Address:	P.O.BOX DRAWER D					
City, State:	MONUMENT NM					
Zip Code:	88265					
Customer Representative: JAVIER BERDOZA						
Remarks						
		Arrive on Location:	11:00 AM			
		Depart Location:	4:00 PM			
		Total Hours:	5.00			
Depth	O.D	Weight	I.D	Volume	Bbls/linear ft.	
Tubing 1 length ft.:	7,318	3 1/2	0	0.00 BBLs.	0.00000	
Tubing 2 length ft.:				0.00 BBLs.	0.00000	
Casing 1 length ft.:	7,382	5 1/2	0.00	0.00 BBLs.	0.00000	
Casing 2 length ft.:				0.00 BBLs.	0.00000	
Open Hole length ft.:		N/A	N/A	0.00 BBLs.	0.00000	
Combined Depth ft.:	7,382			Annular Vol.: BBLS.	-0.01190	
Depth	Vol.	Maximum Pressure:	ISIP:			
Top Perf/Open Hole:	7,382 0.00	1892	1390			
Bottom Perf/Open Hole:	9,149 0.00	Average Pressure: 1348	5 min: 1362			
Number of Perfs:	N/A	Maximum Rate: 6.1	10 min: 1292			
Perf Size:	0.31 in.	Average Rate: 4.7	15 min: 1246			
Packer Depth:	7,318 ft.	Fluid to Recover: 901.4	Proppant Total:			
Time	STP	CASING	Rate	Stage	Total	Comments
11:00:20 AM	0					SAFETY MEETING
11:43:07 AM	2250		0.0		0.0	PRESSURE TESTED LINES
11:46:25 AM	46		1.6		0.2	START WATER
11:49:54 AM	115		2.1		7.7	START 2 BPM STAGE
11:59:38 AM	346		2.1		28.3	10 MIN
12:09:37 PM	531		2.1		49.0	20 MIN
12:19:36 PM	669		2.1		70.0	30 MIN
12:21:21 PM	762		3.1		74.8	START 3BPM STAGE
12:26:23 PM	831		3.1		90.4	5 MIN.
12:31:20 PM	854		3.1		105.5	10 MIN.
12:36:18 PM	900		3.1		120.7	15 MIN.
12:41:23 PM	923		3.1		136.4	20 MIN
12:46:20 PM	946		3.1		151.0	25MIN
12:51:22 PM	969		3.1		166.9	30MIN
12:52:23 PM	1085		4.1		170.9	START 4 BPM STAGE
12:57:17 PM	1131		4.1		170.9	5 MIN.
1:02:25 PM	1177		4.1		170.9	10 MIN.
1:07:16 PM	1223		4.1		231.0	15 MIN.
1:12:17 PM	1246		4.1		252.0	20 MIN
1:17:19 PM	1269		4.0		272.5	25 MIN
1:22:16 PM	1292		4.0		292.4	30 MIN
1:23:16 PM	1408		5.0		297.0	START 5 BPM STAGE
1:28:27 PM	1454		5.0		322.4	5 MIN.
1:33:27 PM	1477		5.0		347.6	10 MIN.
1:38:29 PM	1523		5.0		372.4	15 MIN.
1:43:45 PM	1546		5.0		398.5	20 MIN
1:48:29 PM	1569		5.0		422.0	25MIN
1:53:25 PM	1592		5.0		446.5	30MIN

ESO #

[illegible]

SWD

GL=3660'
KB=3675'

Apache Corporation – Washington State 34 #1

Wellbore Diagram – Current Status

Date : 8/15/2011
S Hardin

API: 30-015-29344

Surface Location

1017' FSL & 1379' FWL
Sec 34, T17S, R28E
Eddy County, NM



Spud Date: 10/15/1996

Surface Casing

13-3/8" 48# J-55 @ 535' w/600 sx to surface

Intermediate Casing

9-5/8" 36# J-55 @ 2556' w/925 sx to surface

Hole Size
=17-1/2"

Hole Size
=12-1/4"

Hole Size
=8-3/4"

3/97: Well
TA'd

6/98: SWD
Well
Injection
Permit
SWD-710

6/98: Perf @ 3650' (4 jspf) w/ 300 sx cmt and circ to pit.

TUBING DETAIL

Qty	Description	Length	Depth
3 1/2			7,293.00
	Pkr		7,293.00

3/00: Casing Leak. Sq'd 7112'-7300' w/ 300 sx Class "C" Neat w/ 2% KCl. Not successful. Sq'd 7100' 100 sx Thixotropic & 200 sx Class "C" Neat.

6/98: Perf 7" csg @ 7382'-9149' w/ 2-jspf
12/07: Acidize 7382'-9149' w/ 7500 gals 20% FE acid

6/98: Perf @ 8550'
Sz'd 300 sx cmt

3/97: CIBP @ 9258' with 35' cmt on top

Production Casing

7" 26/23# L-80/K-55 @ 9723' w/575 sx to surface
(after multiple sqz's)

Cement Plug 10080'-10250'

Hole Size
=6-1/8"

PBTD = 9182'
TD = 10950'



8/31/2011

Mr. Terry G. Warnell
New Mexico Oil Conservation Division
1220 South St. Frances
Santa Fe, NM 87505
505-476-3466

RE: Washington 34 State #1

Mr. Terry Warnell,

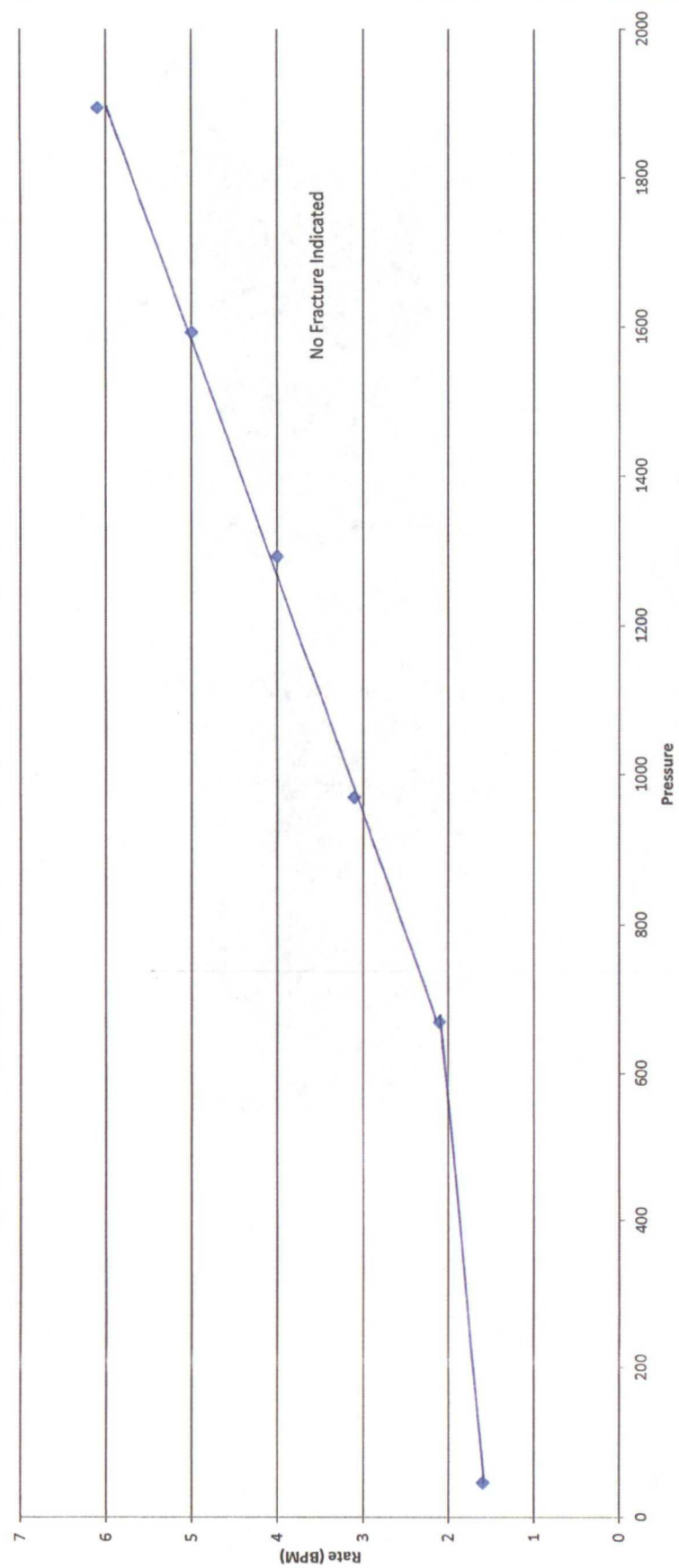
I apologize for not including the plots of the bottom hole and surface pressures vs rate in my previous application. They are included in this package.

Feel free to contact me if you have any questions or need any other information. Thank you for your time, I appreciate it.

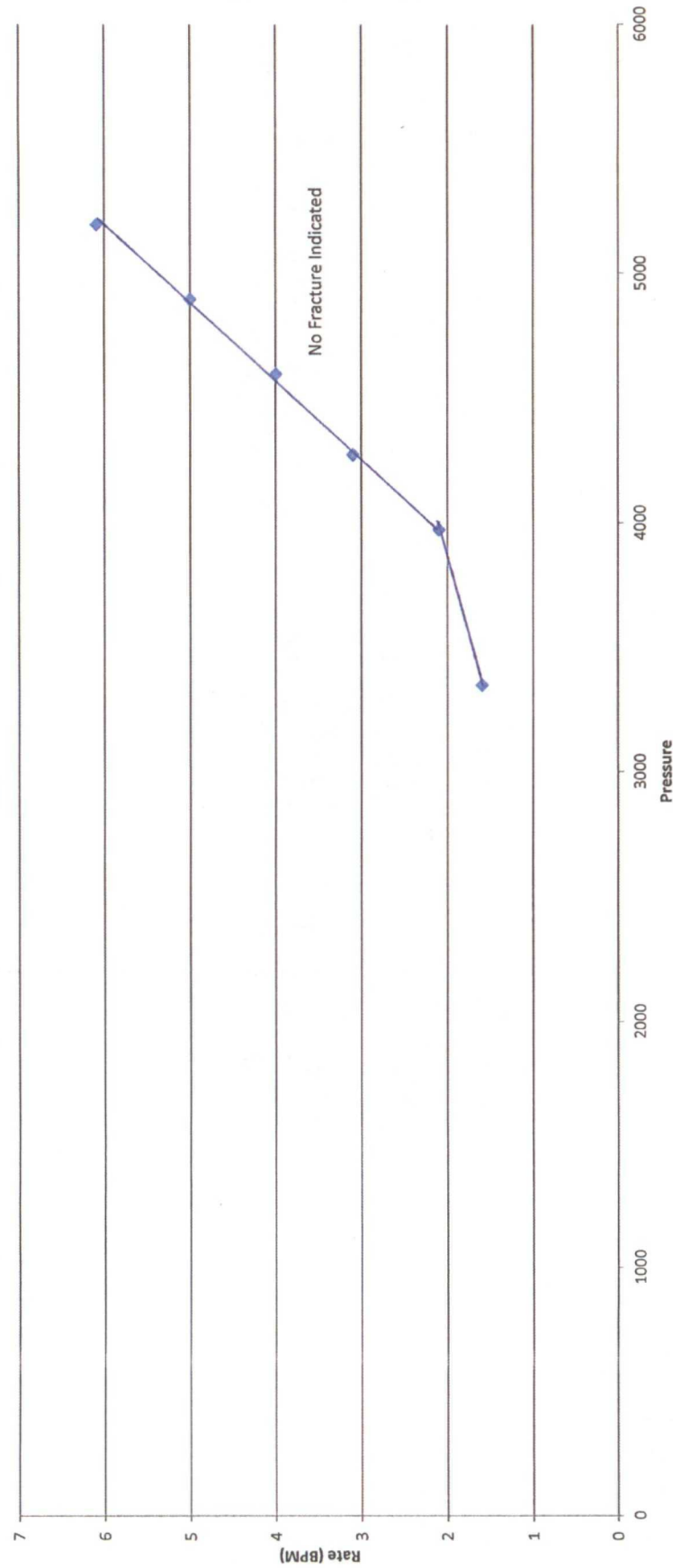
Regards,

Sarah Hardin
Production Engineer
Apache Corporation
303 Veterans Airpark Lane
Suite #3000
Midland, Texas 79705
Sarah.Hardin@apachecorp.com
(432)818-1052

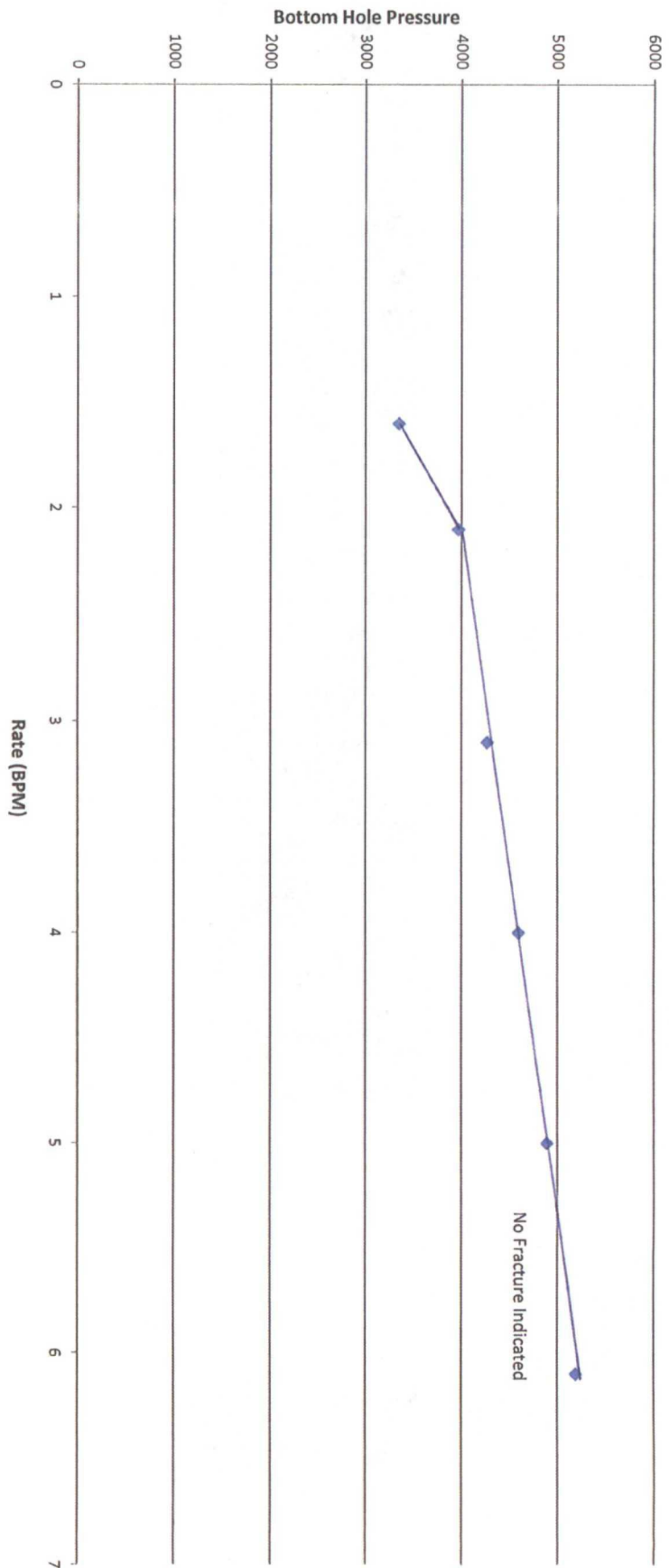
Step Rate Test Comparison for Washington 34 State #1 (Surface Pressure)



Step Rate Test Comparison for Washington 34 State #1 (Bottom Hole Pressure)



Step Rate Test Comparison for Washington 34 State #1 (Bottom Hole Pressure)



Step Rate Test Comparison for Washington 34 State #1 (Surface Pressure)

