

DATE IN 04/17/09	SUSPENSE	ENGINEER T. Warnell	LOGGED IN 4/17/09	TYPE IPI	APP NO. PKAA0910748744
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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



30-025-07635
SHGSAU #011 et. al.

OXY 157984

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]

IPI 340

Lea Co

[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

Temp IPI 287
240

PMX 132
134, 139

[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.

Mark Stephens

Print or Type Name

Mark Stephens

Signature

Reg. Comp. Analyst

Title

4/17/09

Date

Mark_Stephens@oxy.com

e-mail Address

42,
205



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April 16, 2009

State of New Mexico
Energy, Minerals & Natural Resources Department
Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

ATTN: Mr. Mark E. Fesmire, P.E.
Division Director

RE: REQUEST FOR INCREASED SURFACE INJECTION PRESSURE ON
SELECTED WELLS IN THE SOUTH HOBBS (GSA) UNIT (19552), LEA CO.,
NEW MEXICO

Dear Mr. Fesmire:

~~Occidental Permian Limited Partnership (OXY), as Operator of the South Hobbs (GSA) Unit, respectfully requests that the surface injection pressure limit (water) be increased from 800 psig to 1100 psig for each of the 80 wells on the attached list (Exhibit 1). There are seven South Hobbs (GSA) Unit wells previously approved for 1100 psig surface injection pressure; these wells are indicated by the pink squares shown on Exhibit 3. Additionally, there are a number of offsetting wells in the OXY-operated North Hobbs (Grayburg/San Andres) Unit (19520) approved for 1100 psig surface injection pressure (these wells are also indicated by pink squares on Exhibit 3). Both the South Hobbs (GSA) Unit and the North Hobbs (Grayburg/San Andres) Unit produce from the Hobbs; Grayburg-San Andres Pool (31920).~~

The increase in surface injection pressure is necessary to balance injection and withdrawal rates in order to optimize waterflood operations. In addition, the increased pressure is needed to contain carbon dioxide currently injected in the North Hobbs Unit CO2 project within that Unit's project boundaries. Also, future plans for the South Hobbs (GSA) Unit include implementation of a CO2 flood, and an increase in surface injection pressure will be required to ensure optimum performance of the proposed CO2 project.

Nine step rate tests were performed on a representative sample of wells within the South Hobbs (GSA) Unit in 2008 (indicated by the green triangles on Exhibit 3), and the results of these tests are shown on Exhibit 4; individual step rate tests are shown on Exhibits 5 – 13. The average bottom hole fracture pressure for the nine wells tested is 2732 psig and the ~~average surface fracture pressure is 1277 psig.~~



Occidental Permian Ltd.

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Phone 713.215.7000
www.oxy.com

Your favorable consideration of our request will be appreciated. If you have questions of a technical nature, please contact OXY's Eric Girija at (713) 366-5340. Otherwise, please contact the undersigned at (713) 366-5158.

Very truly yours,

Mark Stephens

Mark Stephens
Regulatory Compliance Analyst

Attachments

Exhibit 1

<u>Well</u>	Requested Surface Injection Pressure (PSIG)	<u>Well</u>	Requested Surface Injection Pressure (PSIG)
SHGSAU No. 11 (30-025-07635) Sec. 6, T-19-S, R-38-E	1100	SHGSAU No. 67 (30-025-07676) Sec. 10, T-19-S, R-38-E	1100
SHGSAU No. 13 (30-025-07624) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 68 (30-025-07679) Sec. 10, T-19-S, R-38-E	1100
SHGSAU No. 22 (30-025-07587) Sec. 3, T-19-S, R-38-E	1100	SHGSAU No. 71 (30-025-07670) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 26 (30-025-07641) Sec. 6, T-19-S, R-38-E	1100	SHGSAU No. 72 (30-025-07667) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 27 (30-025-07631) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 73 (30-025-07671) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 29 (30-025-07620) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 76 (30-025-07678) Sec. 10, T-19-S, R-38-E	1100
SHGSAU No. 30 (30-025-07613) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 83 (30-025-07668) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 31 (30-025-07597) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 84 (30-025-07659) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 32 (30-025-07610) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 87 (30-025-12765) Sec. 10, T-19-S, R-38-E	1100
SHGSAU No. 34 (30-025-07599) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 90 (30-025-20167) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 36 (30-025-07588) Sec. 3, T-19-S, R-38-E	1100	SHGSAU No. 112 (30-025-25127) Sec. 3, T-19-S, R-38-E	1100
SHGSAU No. 39 (30-025-07634) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 119 (30-025-07653) Sec. 8, T-19-S, R-38-E	1100
SHGSAU No. 40 (30-025-07623) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 120 (30-025-26115) Sec. 5, T-19-S, R-38-E	1100
SHGSAU No. 42 (30-025-12514) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 121 (30-025-26116) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 43 (30-025-07601) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 127 (30-025-28331) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 45 (30-025-07607) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 128 (30-025-28332) Sec. 3, T-19-S, R-38-E	1100
SHGSAU No. 47 (30-025-07593) Sec. 3, T-19-S, R-38-E	1100	SHGSAU No. 129 (30-025-28333) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 50 (30-025-07632) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 152 (30-025-28355) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 51 (30-025-07633) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 170 (30-025-26623) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 53 (30-025-07612) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 172 (30-025-28543) Sec. 9, T-19-S, R-38-E	1100
SHGSAU No. 54 (30-025-07608) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 173 (30-025-28733) Sec. 10, T-19-S, R-38-E	1100
SHGSAU No. 55 (30-025-07611) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 174 (30-025-26622) Sec. 3, T-19-S, R-38-E	1100
SHGSAU No. 56 (30-025-07609) Sec. 4, T-19-S, R-38-E	1100	SHGSAU No. 176 (30-025-28974) Sec. 6, T-19-S, R-38-E	1100
SHGSAU No. 58 (30-025-07594) Sec. 3, T-19-S, R-38-E	1100	SHGSAU No. 182 (30-025-27628) Sec. 5, T-19-S, R-38-E	1100
SHGSAU No. 61 (30-025-07652) Sec. 8, T-19-S, R-38-E	1100	SHGSAU No. 187 (30-025-07621) Sec. 5, T-19-S, R-38-E	1100
SHGSAU No. 63 (30-025-07662) Sec. 9, T-19-S, R-38-E	1100	SHGSAU No. 192 (30-025-24447) Sec. 5, T-19-S, R-38-E	1100
SHGSAU No. 64 (30-025-07669) Sec. 9, T-19-S, R-38-E	1100	SHGSAU No. 193 (30-025-28984) Sec. 5, T-19-S, R-38-E	1100
SHGSAU No. 66 (30-025-07672) Sec. 10, T-19-S, R-38-E	1100	SHGSAU No. 206 (30-025-29519) Sec. 6, T-19-S, R-38-E	1100

Sections
3456
5910 & 124

Mark Stevens

Exhibit 1 (Continued)

<u>Well</u>	Requested Surface Injection Pressure (PSIG)	<u>Well</u>	Requested Surface Injection Pressure (PSIG)
SHGSAU No. 207 (30-025-29520) Sec. 5, T-19-S, R-38-E	1100	SHGSAU No. 238 (30-025-31424) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 208 (30-025-29521) Sec. 5, T-19-S, R-38-E	1100	SHGSAU COOP No. 1 (30-025-28304) Sec. 6, T-19-S, R-38-E	1100
SHGSAU No. 209 (30-025-29522) Sec. 8, T-19-S, R-38-E	1100	SHGSAU COOP No. 2 (30-025-28305) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 213 (30-025-29752) Sec. 5, T-19-S, R-38-E	1100	SHGSAU COOP No. 3 (30-025-28306) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 215 (30-025-29753) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 4 (30-025-28307) Sec. 4, T-19-S, R-38-E	1100
SHGSAU No. 216 (30-025-29754) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 5 (30-025-28308) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 217 (30-025-29755) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 6 (30-025-28309) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 218 (30-025-29756) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 9 (30-025-28968) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 229 (30-025-31420) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 10 (30-025-28969) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 230 (30-025-31421) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 11 (30-025-28970) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 233 (30-025-31422) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 12 (30-025-28971) Sec. 34, T-18-S, R-38-E	1100
SHGSAU No. 235 (30-025-31423) Sec. 4, T-19-S, R-38-E	1100	SHGSAU COOP No. 13 (30-025-28972) Sec. 3, T-19-S, R-38-E	1100

40

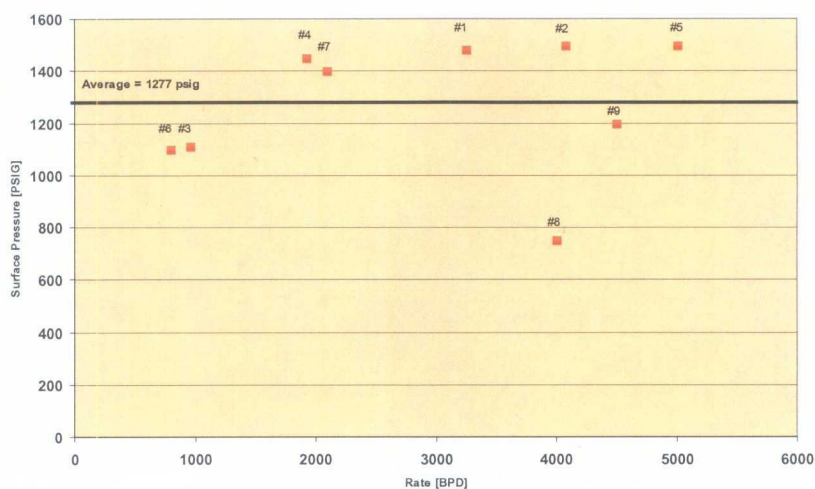
Wells with Pr.>=1100psig

South Hobbs Unit

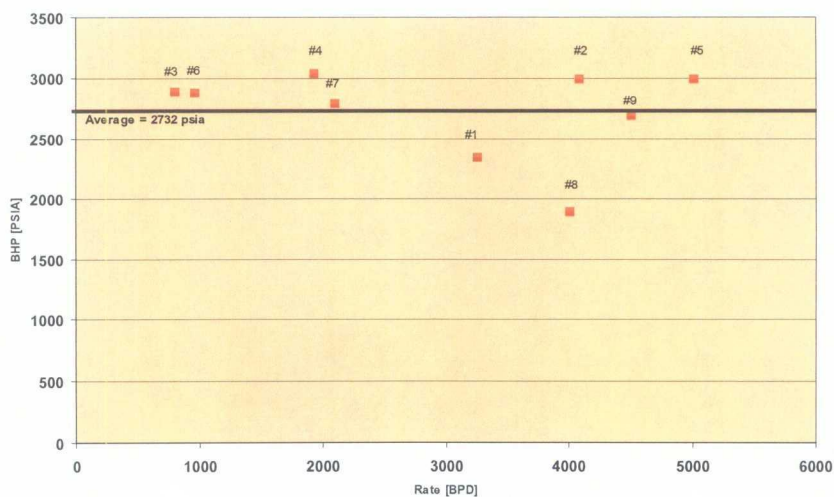
Exhibit 4

Well Number	Well Name	BH Parting Pr.(psia)	Sfc. Parting Pr (psig)	Fracture Gradient (psia/ft)
#1	SHGSAU No.32	2350	1480	0.57
#2	SHGSAU COOP No 12	3000	1500	0.69
#3	SHGSAU No 238	2900	1100	0.69
#4	SHGSAU No 87	3050	1450	0.72
#5	SHGSAU COOP No 9	3000	1500	0.68
#6	SHGSAU COOP No 13	2890	1110	0.67
#7	SHGSAU No 42	2800	1400	0.67
#8	SHGSAU No 213	1900	750	0.47
#9	SHGSAU No 229	2700	1200	0.66

SHU Step-Rate Test Surface Parting Pressure



SHU Step-Rate Test Bottom-Hole Parting Pressure



SHU #32

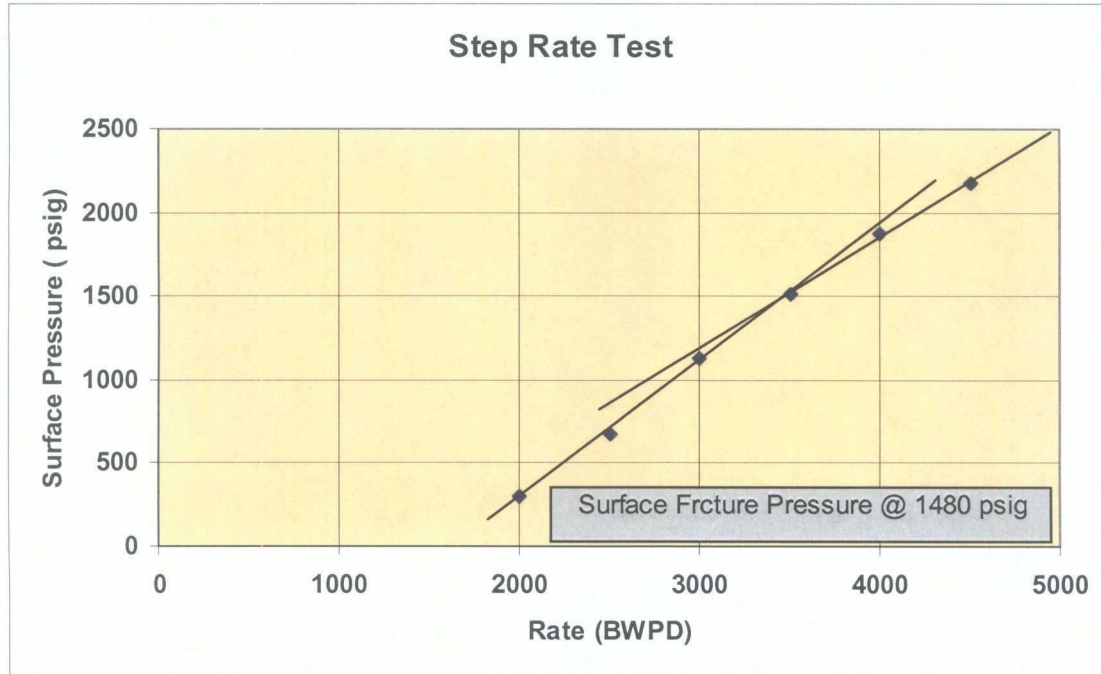


Exhibit 5

SHU #Coop12

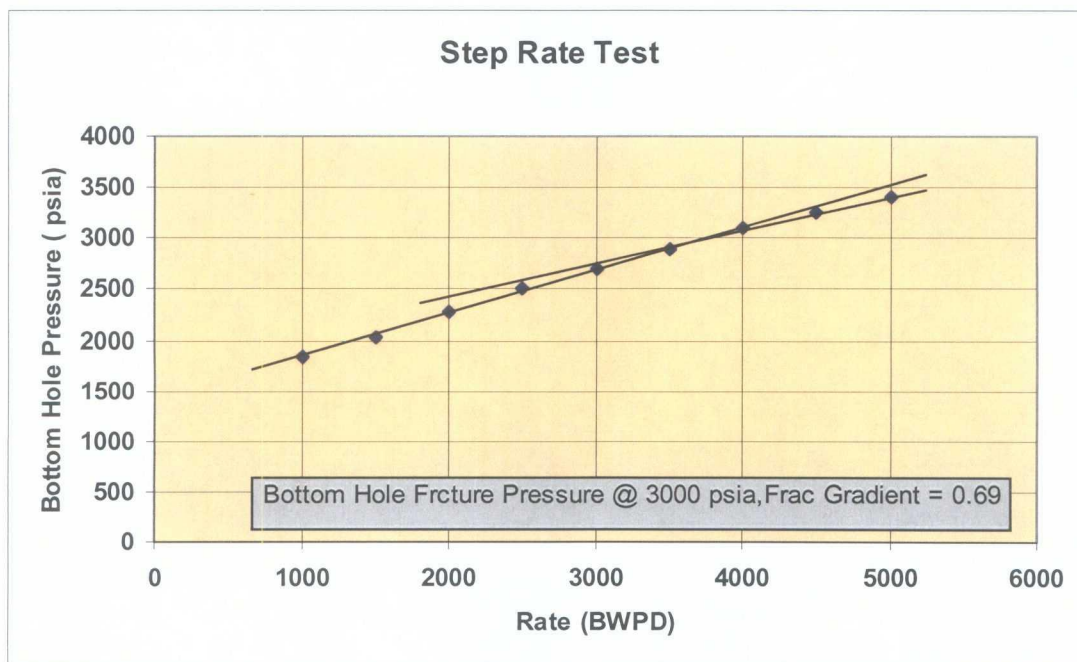
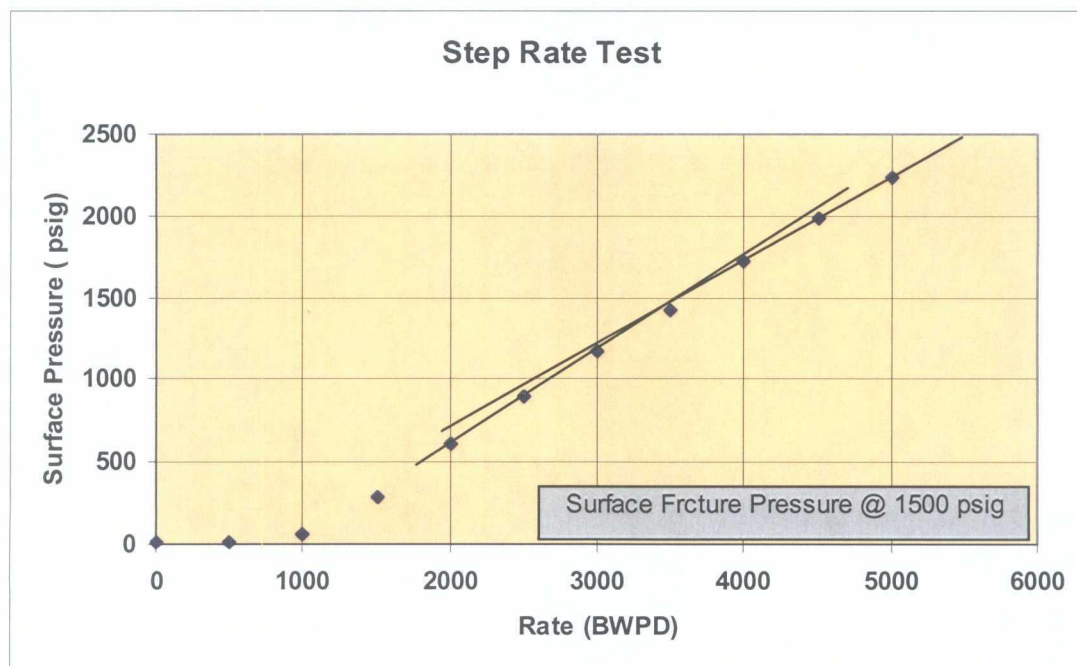


Exhibit 6

SHU #238

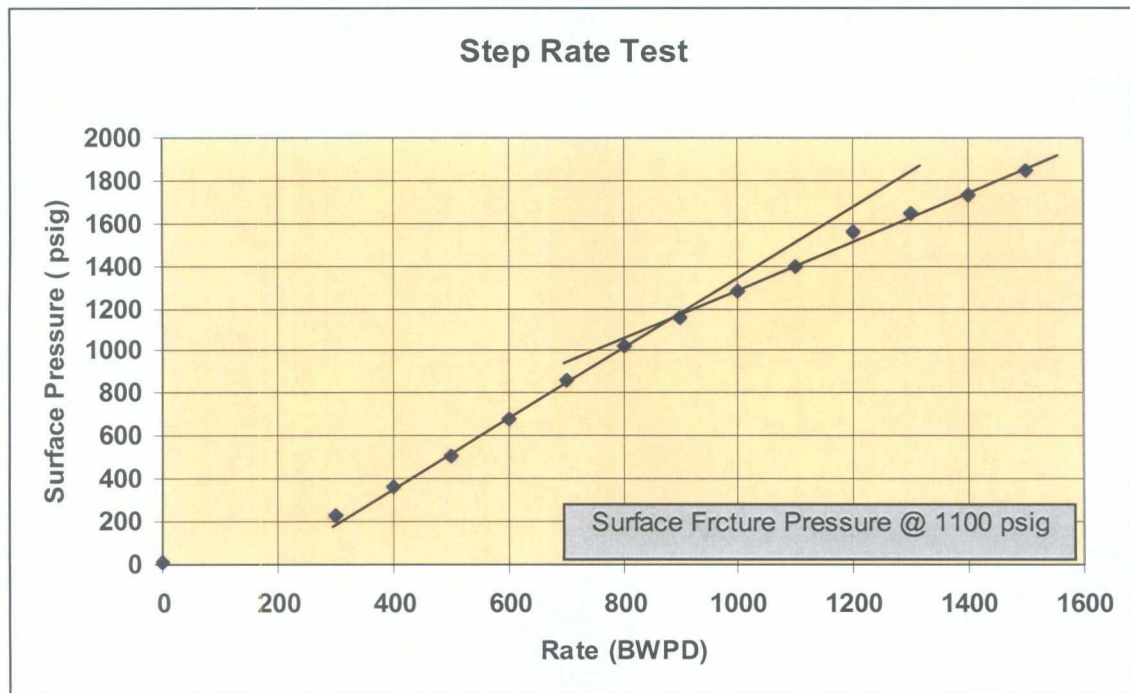


Exhibit 7

SHU #87

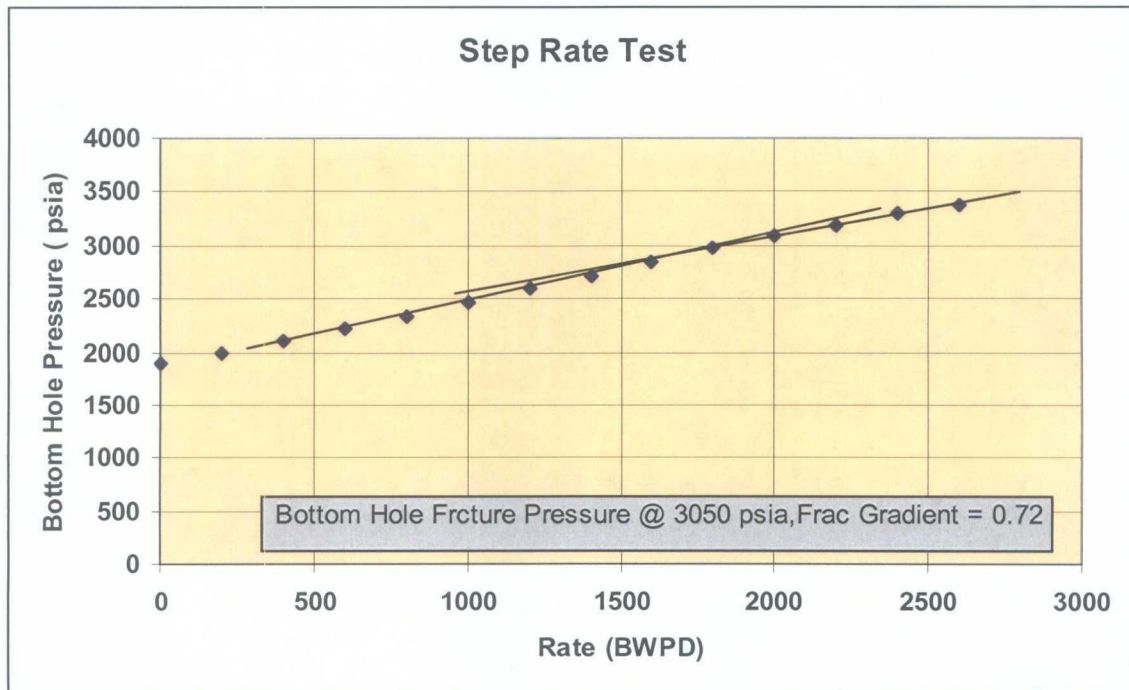
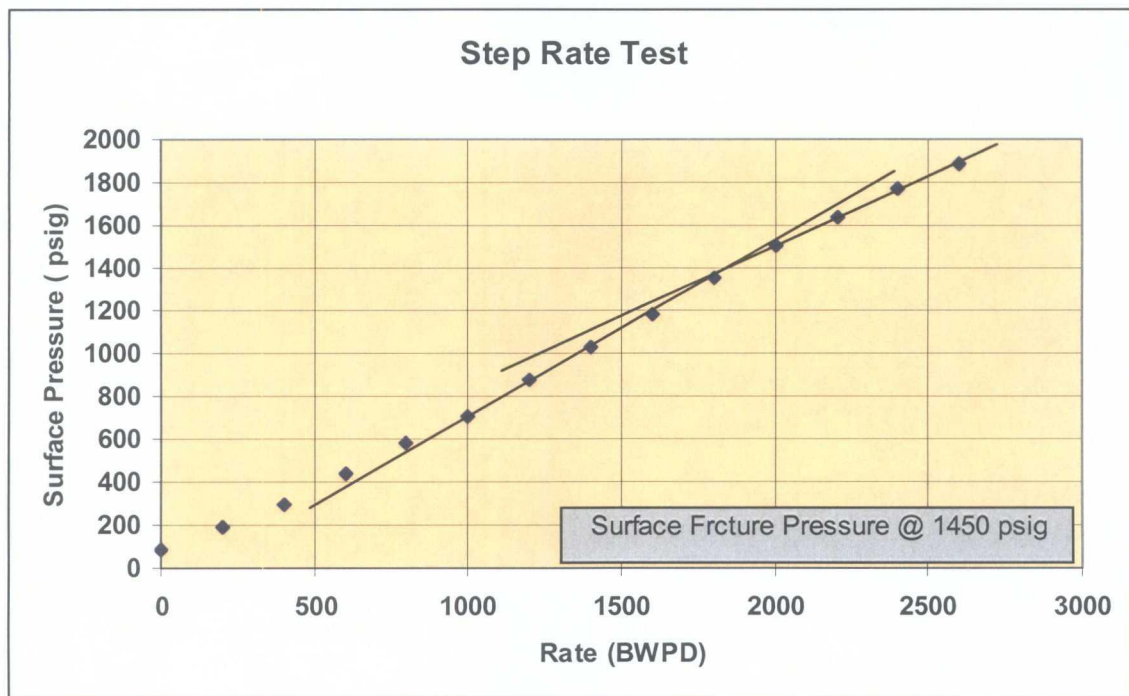


Exhibit 8

SHU #Coop9

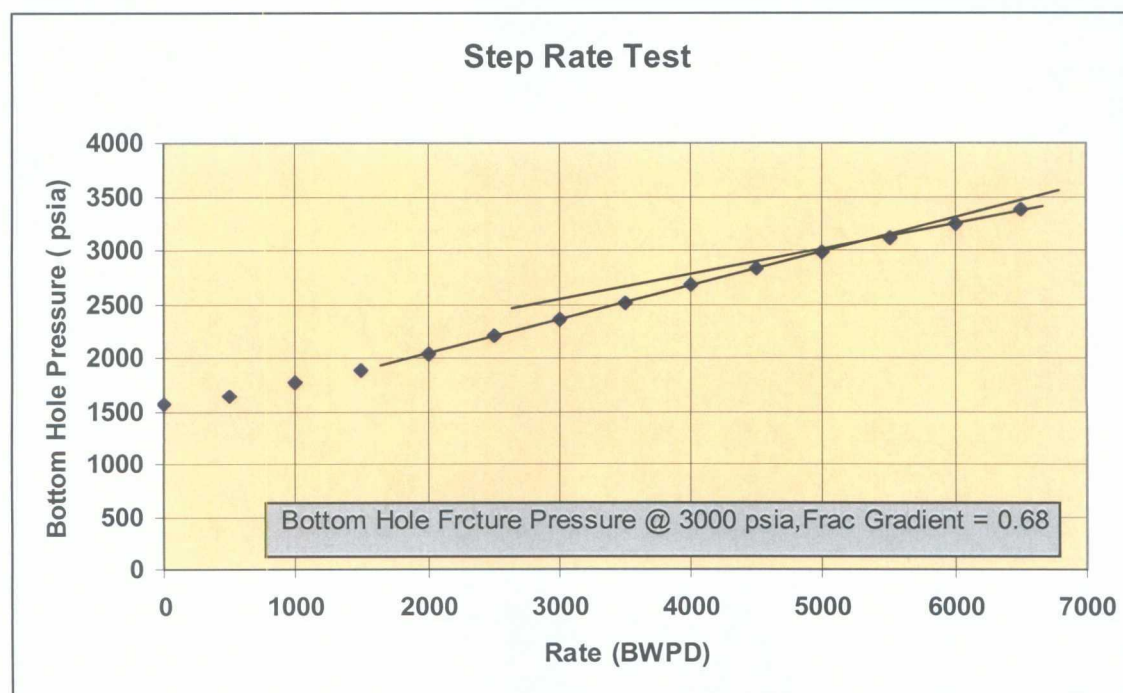
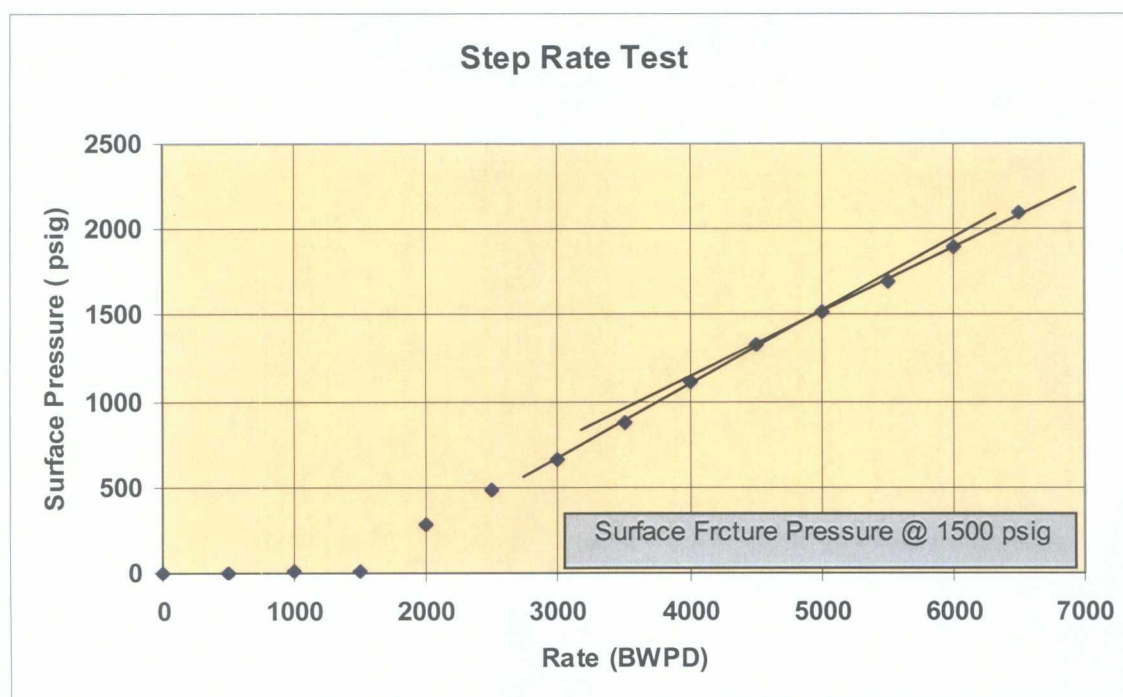


Exhibit 9

SHU #Coop13

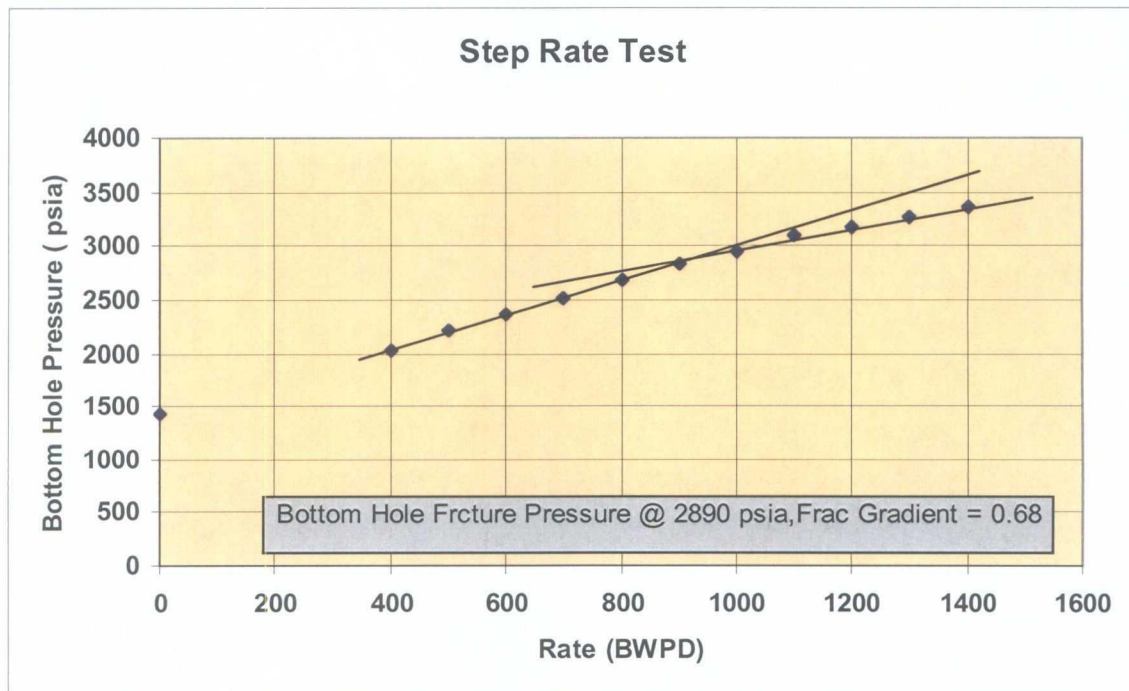
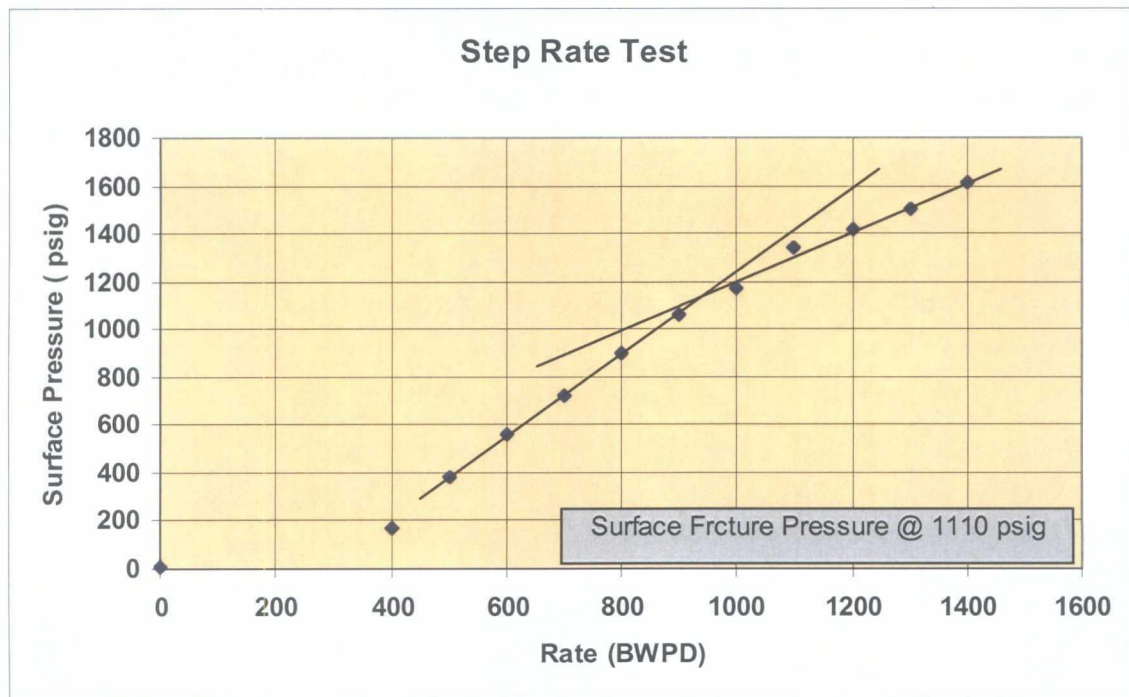


Exhibit 10

SHU #42

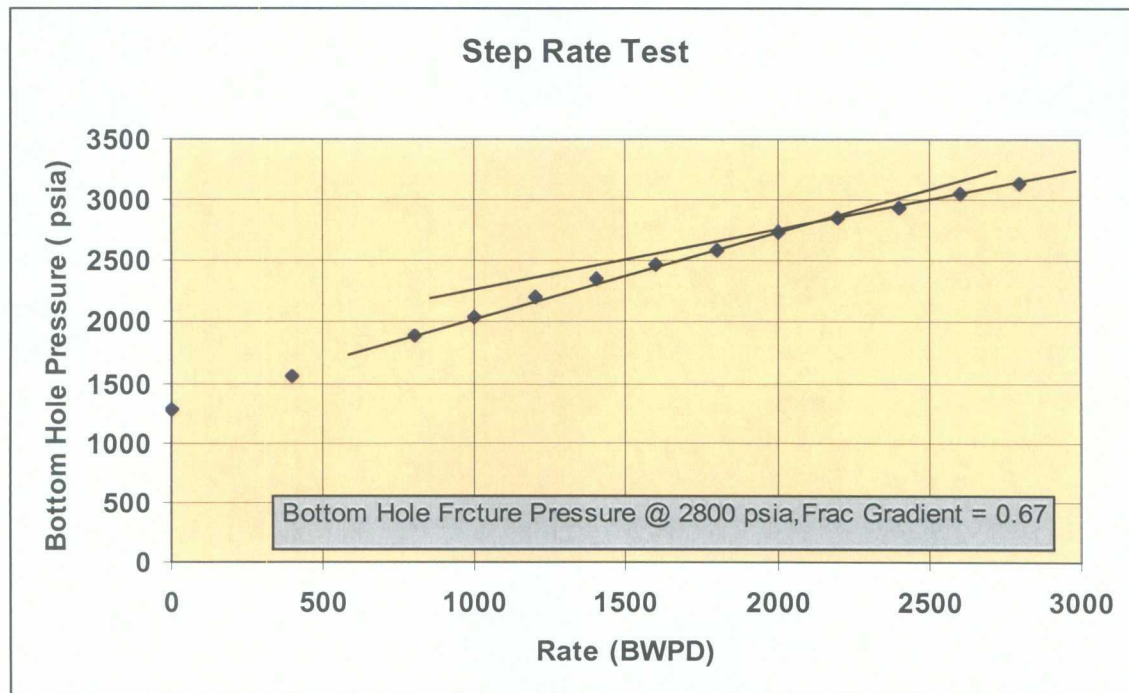
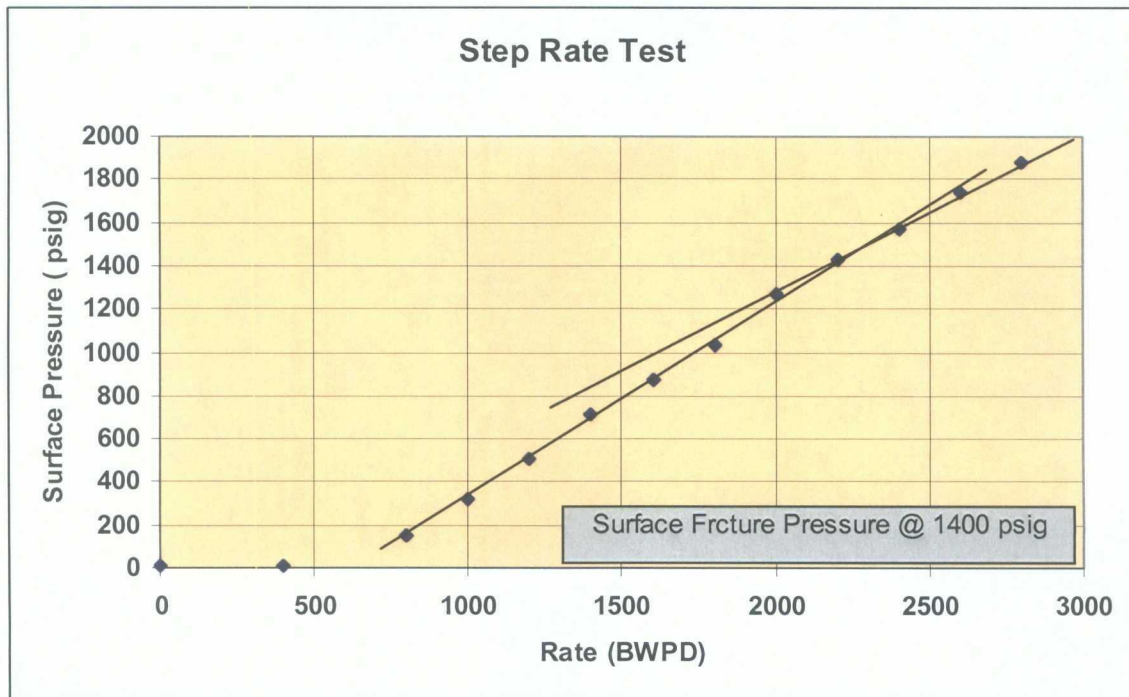


Exhibit 11

SHU #213

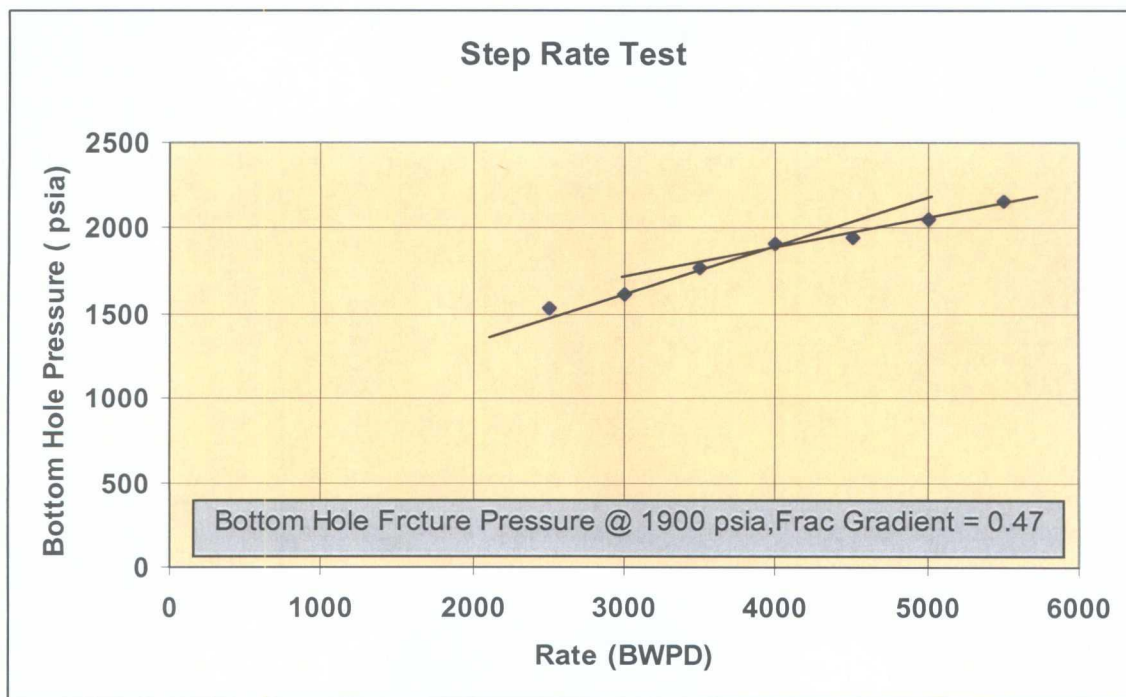
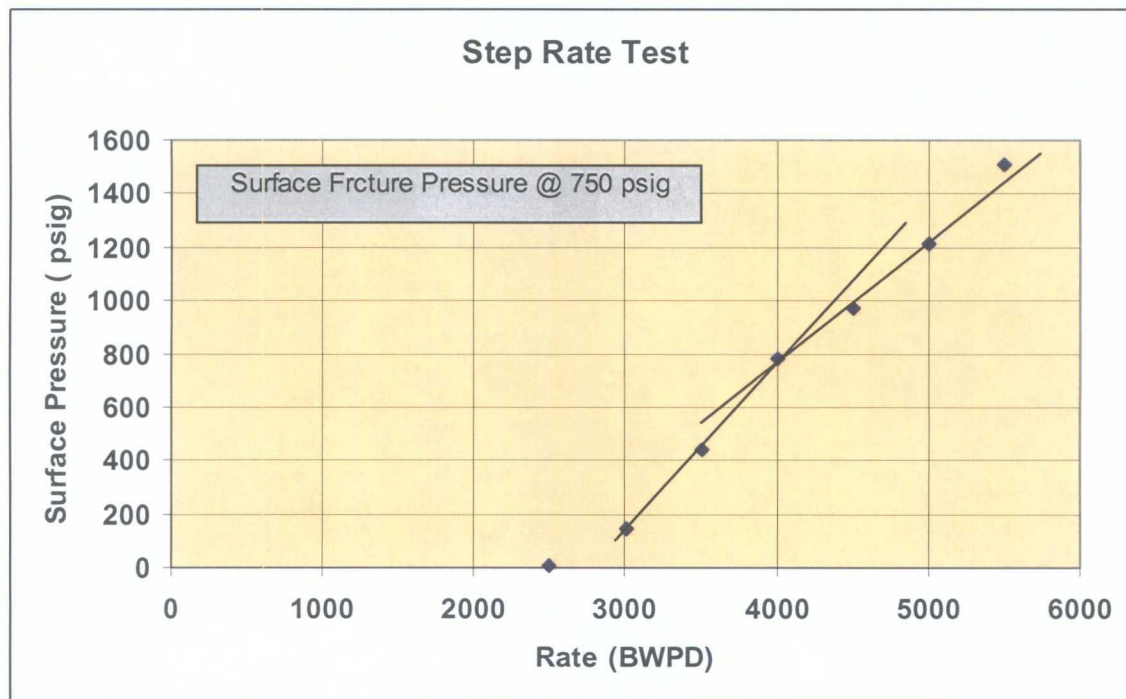


Exhibit 12

SHU #229

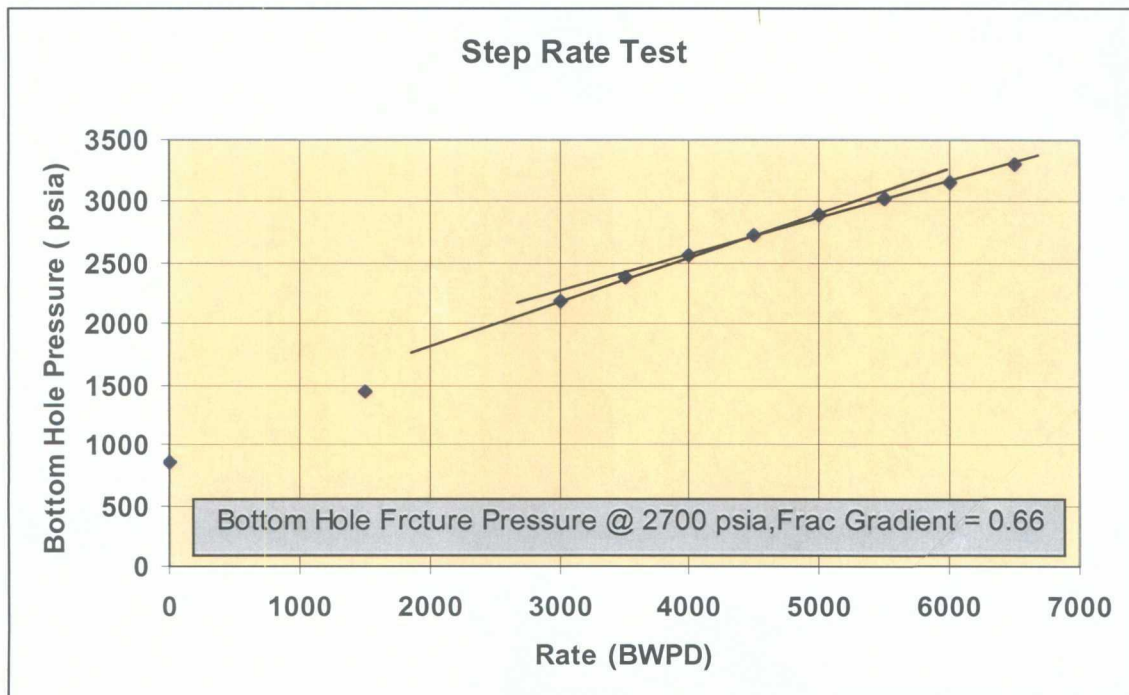
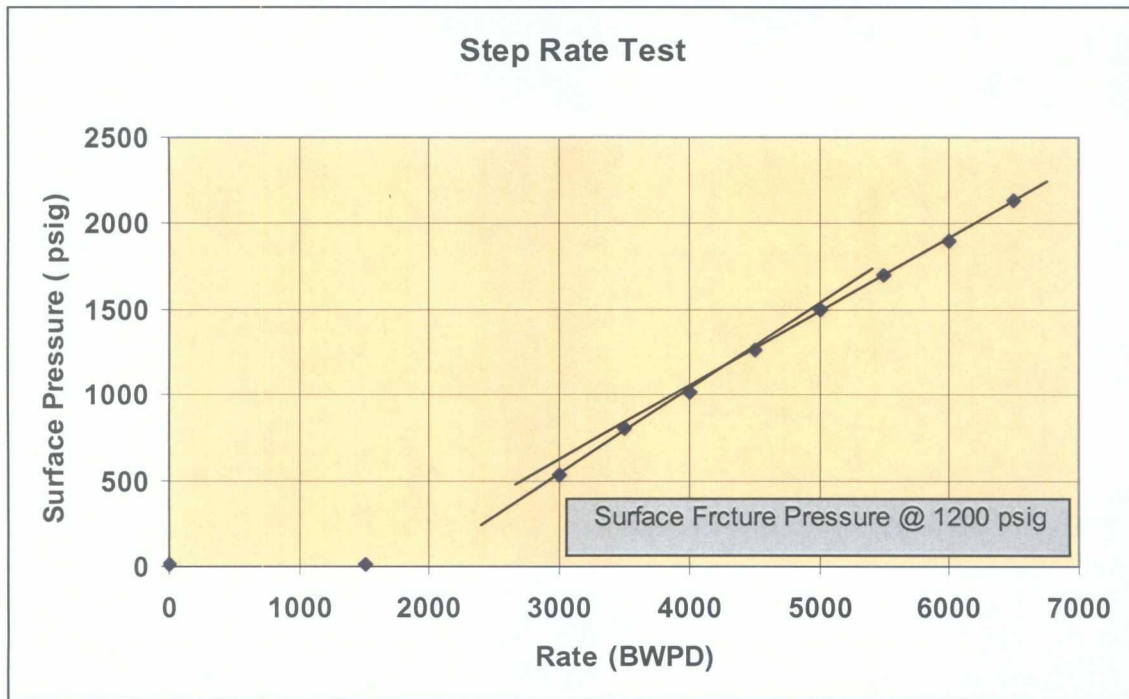


Exhibit 13