



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

May 5, 1998

CF 10762

R-10762

EOR-9

PEOR-000009202

Mewbourne Oil Company
P.O. Box 7698
Tyler, Texas 75711-7698

Attn: Mr. K.M. Calvert

***RE: Injection Pressure Increase Quercho Plains Bone Spring Sand Unit
EOR Waterflood Project Lea County, New Mexico.***

Dear Mr. Calvert:

Reference is made to your request dated September 26, 1997 and revised April 22, 1998, to increase the surface injection pressure on twelve wells in the above referenced project. This request is based on step rate tests conducted on these wells immediately prior to your original request, and additional information supplied on April 22, 1998. The results of the tests and additional data have been reviewed by my staff and we feel an increase in injection pressures on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following wells:

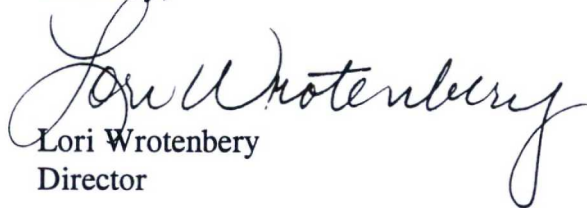
<i>Well and location</i>	<i>Maximum Surface Injection Pressure</i>
QPBSSU Well No.3-2, UL 'J' of Section 23	2325 PSIG
QPBSSU Well No.3-4, UL 'B' of Section 23	2425 PSIG
QPBSSU Well No.4-2, UL 'K' of Section 23	2450 PSIG
QPBSSU Well No.7A-10, UL 'G' of Section 27	2450 PSIG
QPBSSU Well No.7A-11, UL 'A' of Section 27	2450 PSIG
QPBSSU Well No.10-3, UL 'L' of Section 23	2450 PSIG
QPBSSU Well No.11-1, UL 'B' of Section 26	2450 PSIG
QPBSSU Well No.11-2, UL 'A' of Section 26	2420 PSIG

Injection Pressure Increase
Mewbourne Oil Company
May 5, 1998
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<i>Well and location</i>	<i>Maximum Surface Injection Pressure</i>
QPBSSU Well No.12B-3, UL 'J' of Section 14	2450 PSIG
QPBSSU Well No.12C-4, UL 'I' of Section 14	2400 PSIG
QPBSSU Well No.12D-2, UL 'C' of Section 26	2420 PSIG
QPBSSU Well No.16-1, UL 'L' of Section 24	2450 PSIG
All wells located in Lea County, New Mexico.	

The Division Director may rescind any injection pressure increase if it becomes apparent that the injected water is not being confined to the injection zone or is endangering any fresh water aquifers.

Sincerely,


Lori Wrotenbery
Director

LW/BES/kv

cc: Oil Conservation Division - Hobbs
Files: Case File No.10762; EOR-9; PSI-X 4th QTR 98 ✓

PSI-X N/R

Handed
HOBBS 11:40
10-20-97
(Signature)

MEWBOURNE OIL COMPANY

P. O. BOX 7698
TYLER, TEXAS 75711
(903) 561-2900
FAX (903) 561-1870



September 26, 1997

New Mexico Oil Conservation Commission
2040 South Pacheco
Santa Fe, New Mexico 87505

Att: Mr. David Catanach

Re: **Application for Increased Surface Pressure**
Querecho Plains Bone Spring Waterflood Project
Lea County, New Mexico

Dear Mr. Catanach:

Mewbourne Oil Company requests administrative approval to increase surface injection pressure for the following wells at the referenced project (see attached step-rate graphs):

Well	Requested Pressure
QPBSSU 3-2 2220	2375 psig 2325
QPBSSU 3-4 2000	2475 psig 2425
QPBSSU 4-2 2410	2450 psig
QPBSSU 7A-10 2400	2450 psig
QPBSSU 7A-11 2430	2500 psig 2450
QPBSSU 10-3 2380	2500 psig 2450
QPBSSU 11-1 2380	2500 psig 2450
QPBSSU 11-2 2420	2400 psig
QPBSSU 12B-3 2400	2500 psig 2450
QPBSSU 12C-4 2360	2450 psig 2400
QPBSSU 12D-2 2420	2350 psig
QPBSSU 16-1 2390	2500 psig 2450

TALKED TO
KEN ON
4-15-98
TO SEE WHAT'S
GOING ON - IN
NO WORD
6 MOS -
(Signature)

Administrative approval is requested as interpreted in Division Order No. R-10151 and Division Rule 704.C. The attached step-rate tests demonstrate that the subject wells can inject at the requested surface pressures without propagating the existing fracture stimulation out of the Bone Spring formation.

The step-rate tests, as represented on the graphs, have water gravity, friction factors and depth to top perforation incorporated in the calculations. Stabilization times between test were held constant.

SPOKE W/
KEN CALVERT
ON 4-22-98
& GOT
BI INFO
AS INDICATED
(Signature)

APPLIES TO
ASSO-
PROT
ALSO -

Page 2

New Mexico Oil Conservation Commission
Mr. David Catanach

Water injection into the Bone Spring formation has reached approximately 90 per cent of the estimated 4.3 MM barrel fill-up. As a result of continued pore volume pressure increasing the fracture pressure and difficulty in maintaining injectivity is increasing. The fracture pressure is directly proportional to the pore volume pressure plus other rock matrix stress relationships. I point this out for the fact that the most recently approved injection pressures in Order No. R-9737-B of May 2, 1996 approved a pressure 20 psig below the average fracture pressure as shown on the step-rate test curves provided. Fracture pressure is a continually moving target. Since recent time of gathering the attached data, and by the time that approval is obtained, fracture pressure will have progressed above the current request. The running of step-rate tests is an ongoing activity of the field. For this reason, I respectfully request the approval of the requested pressures. If you have any questions, please contact me at the above number. Thank you for your consideration in this matter.

Yours truly,

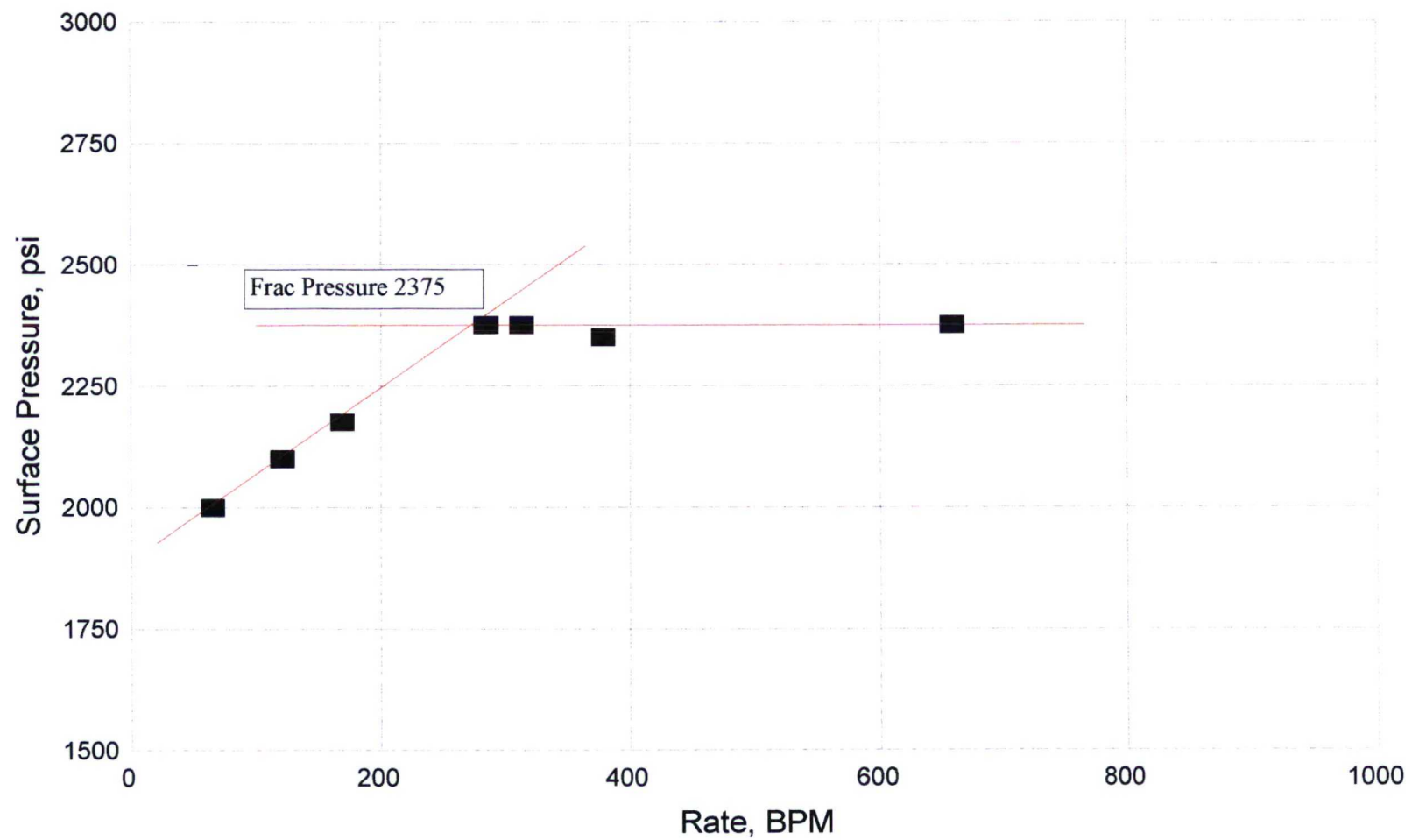


K. M. Calvert
Engineering Manager
Secondary Recovery

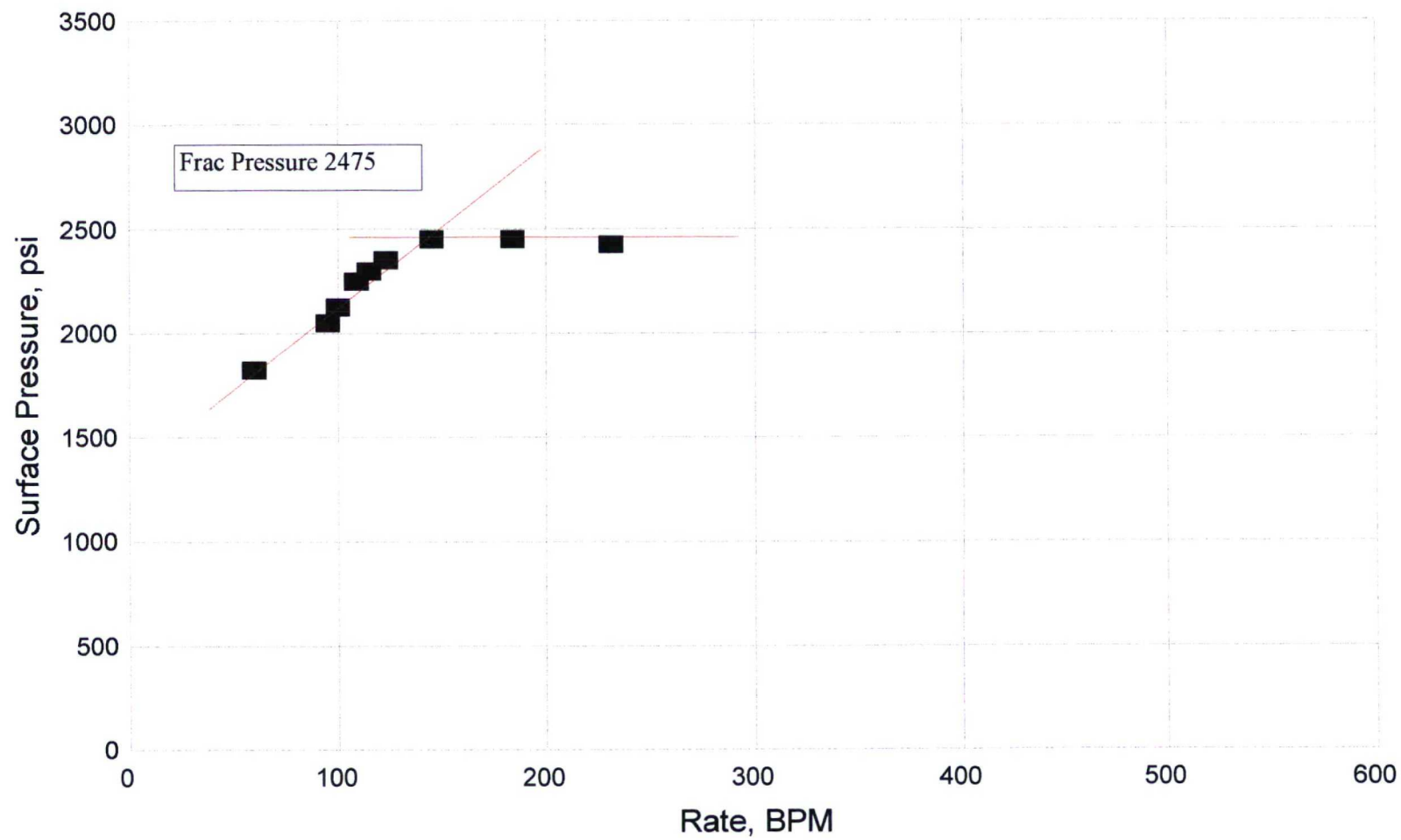
KMC/sh

Attachments: Step-Rate Graphs

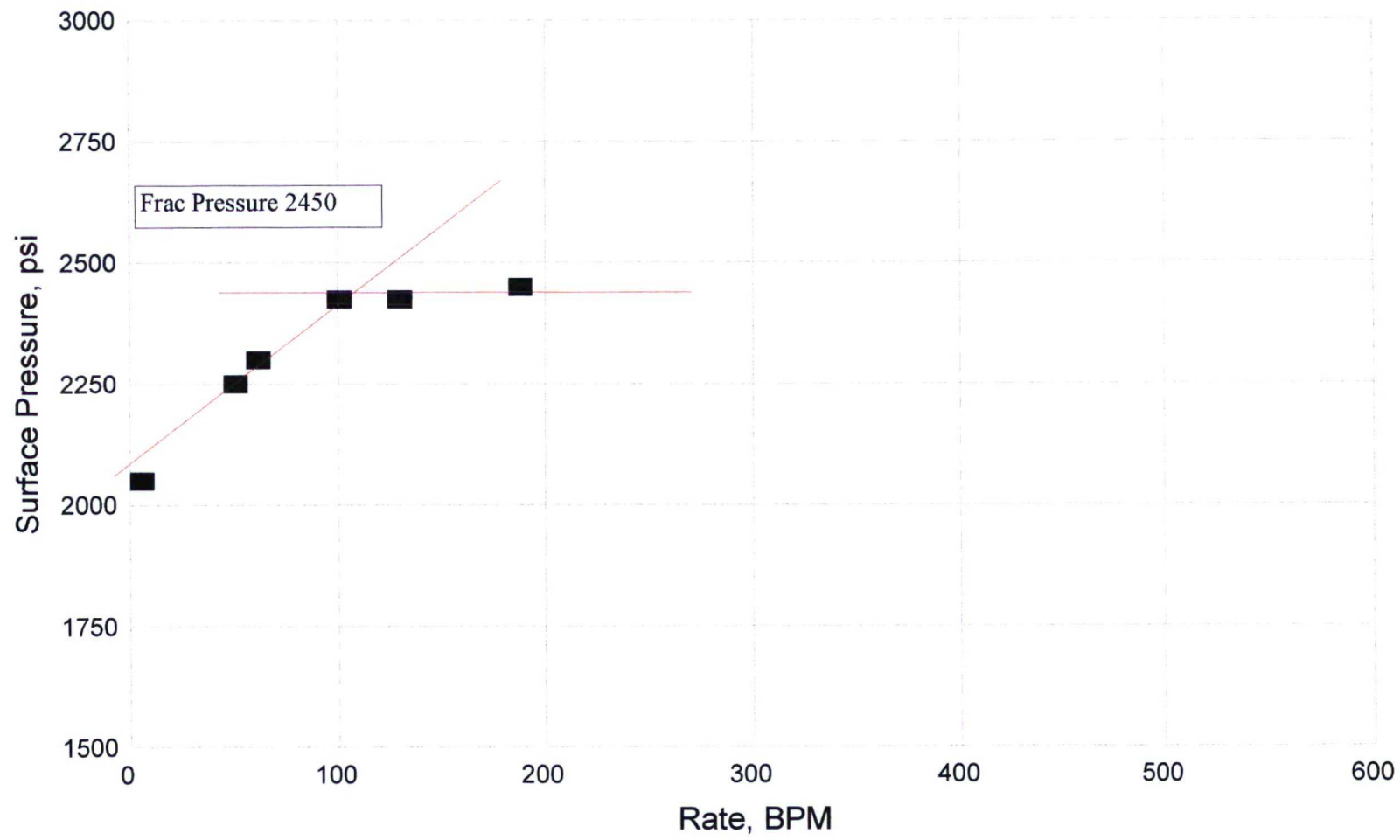
QPBSSU 3-2 (Fed. L. #2)
Step Rate Test



QPBSSU 3-4 (Fed. L #4)
Step Rate Test

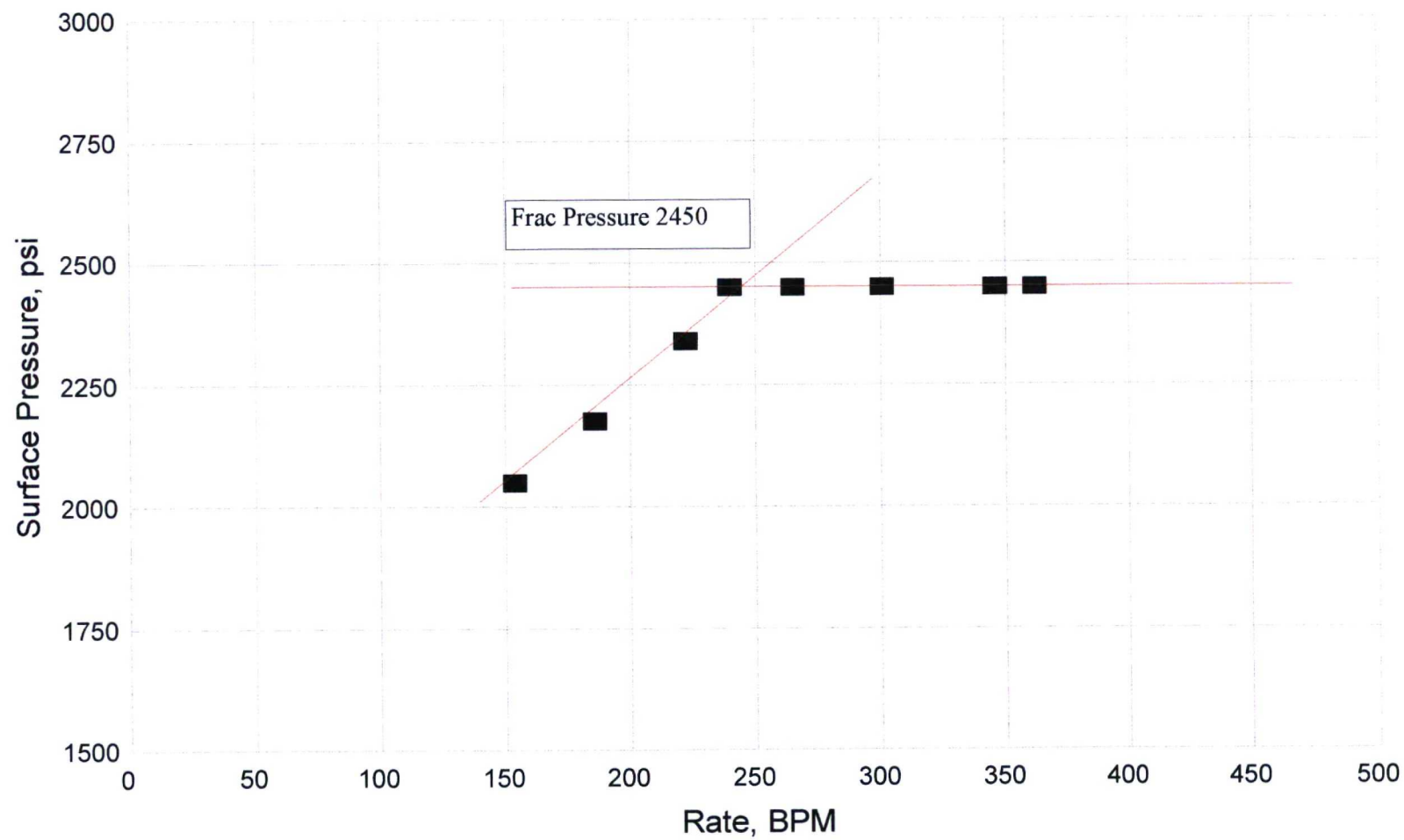


QPBSSU 4-2 (Govt. K. #2)
Step Rate Test

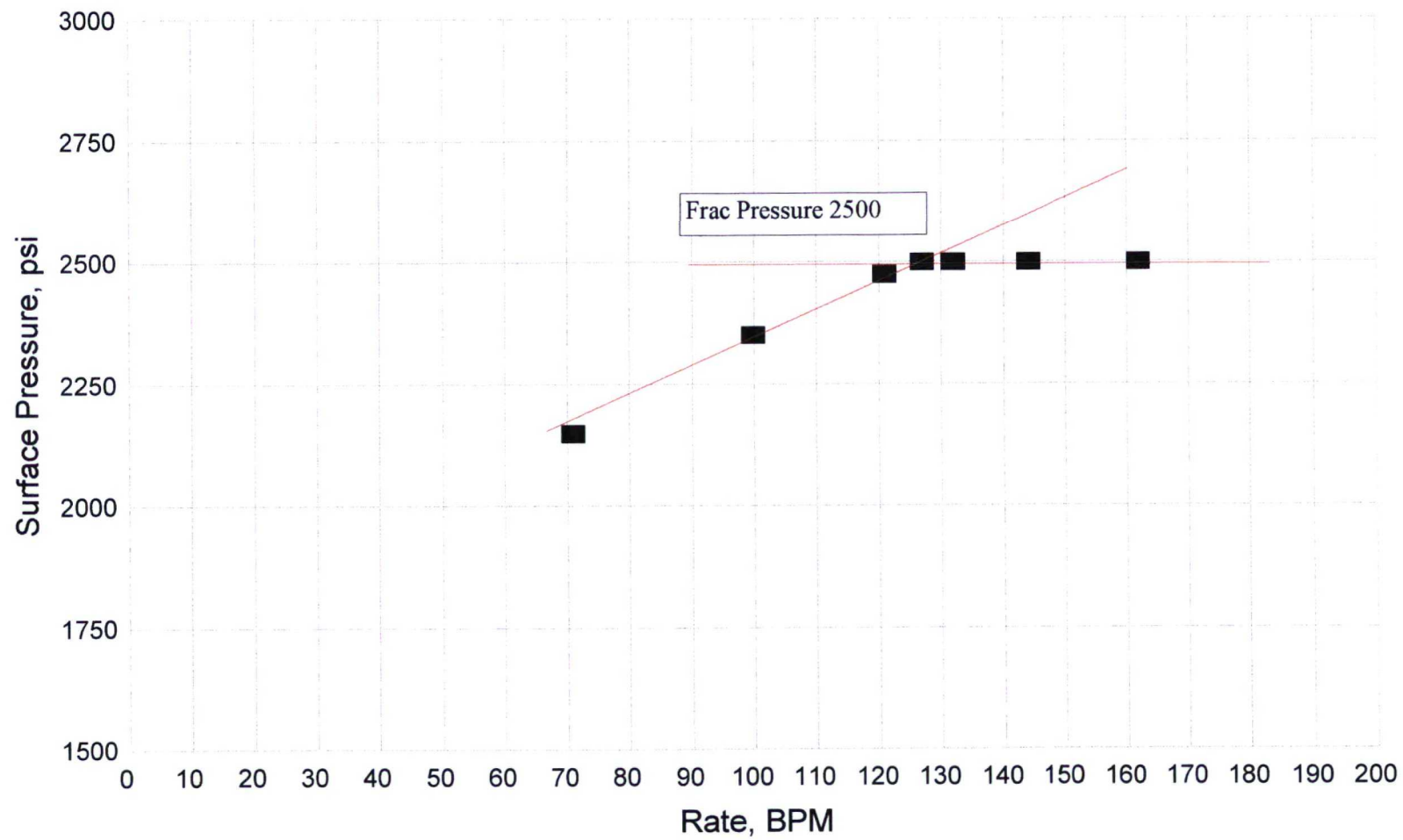


QPBSSU 7A-10 (Fed. E. #10)

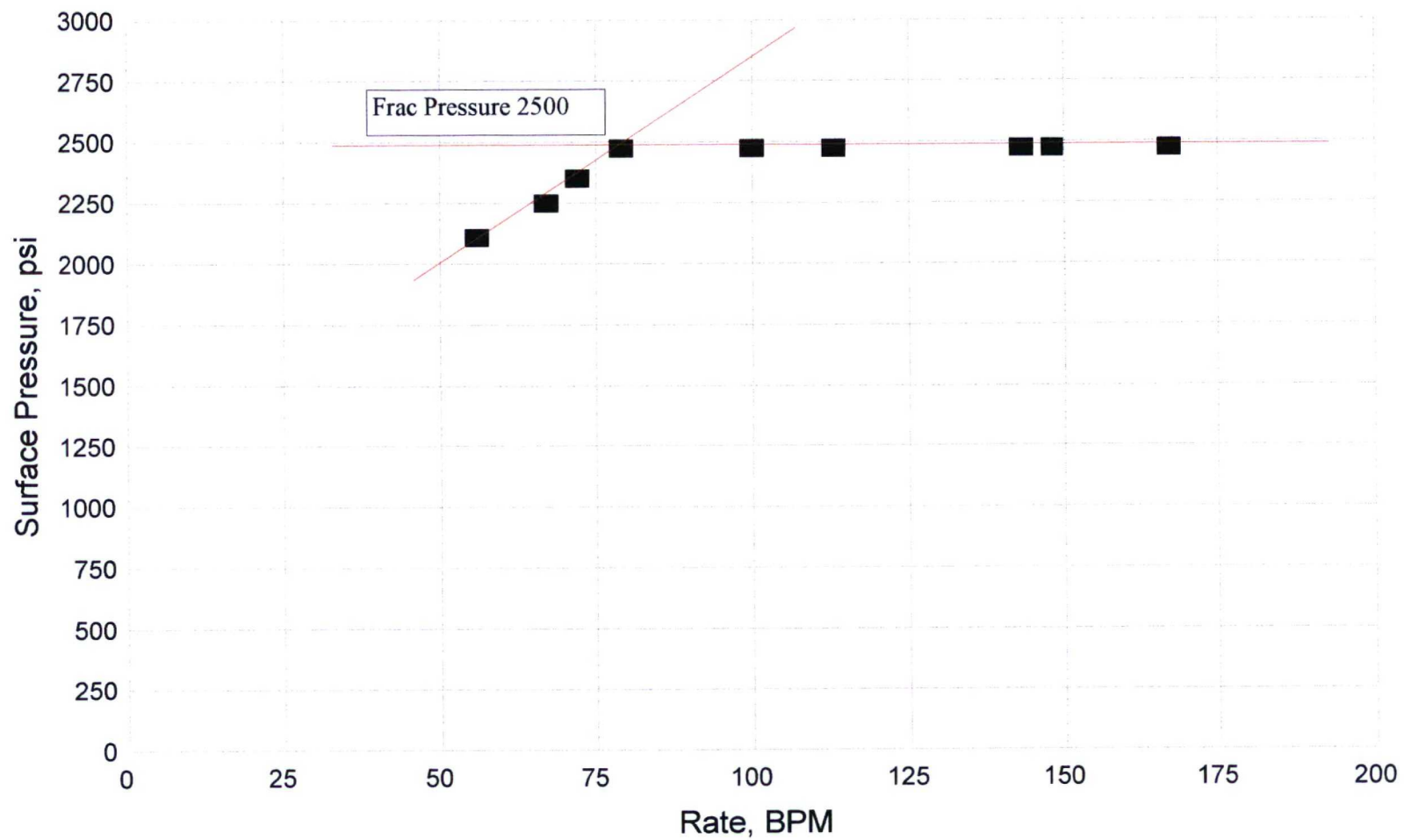
Step Rate Test



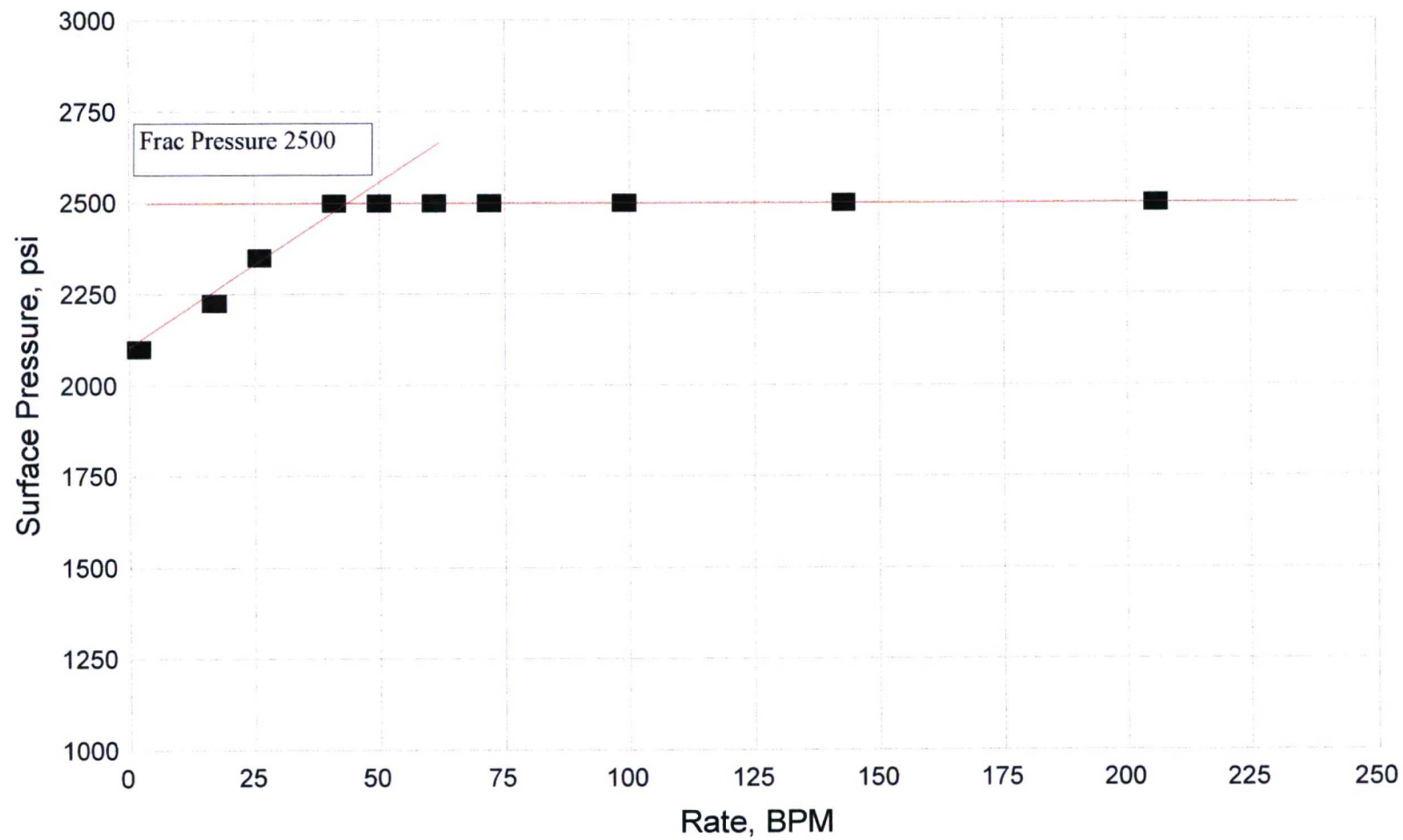
QPBSSU 7A-11 (Fed. E. #11)
Step Rate Test



QPBSSU 10-3 (Fed. F. #3)
Step Rate Test

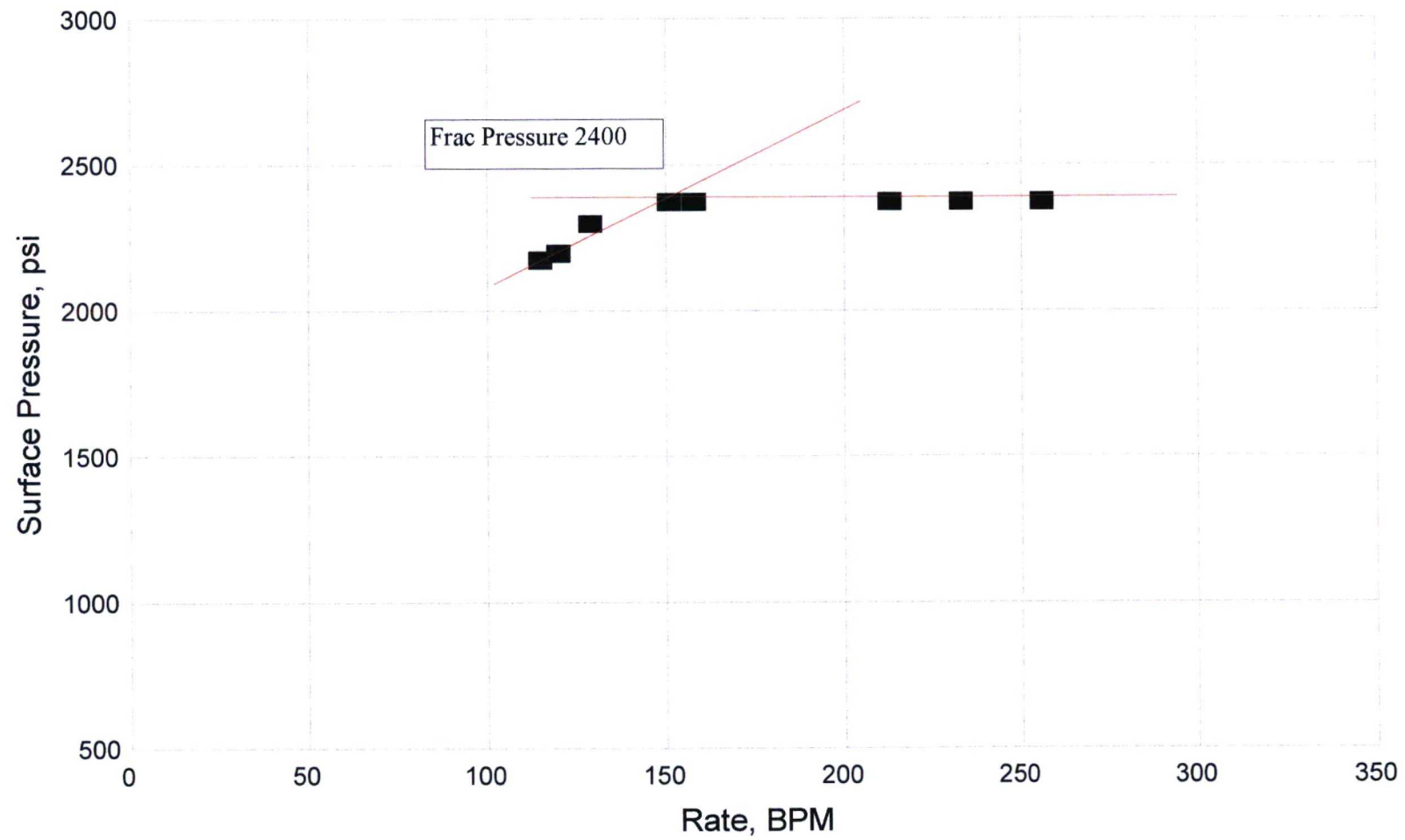


QPBSSU 11-1 (Burleson Fed. #1)
Step Rate Test



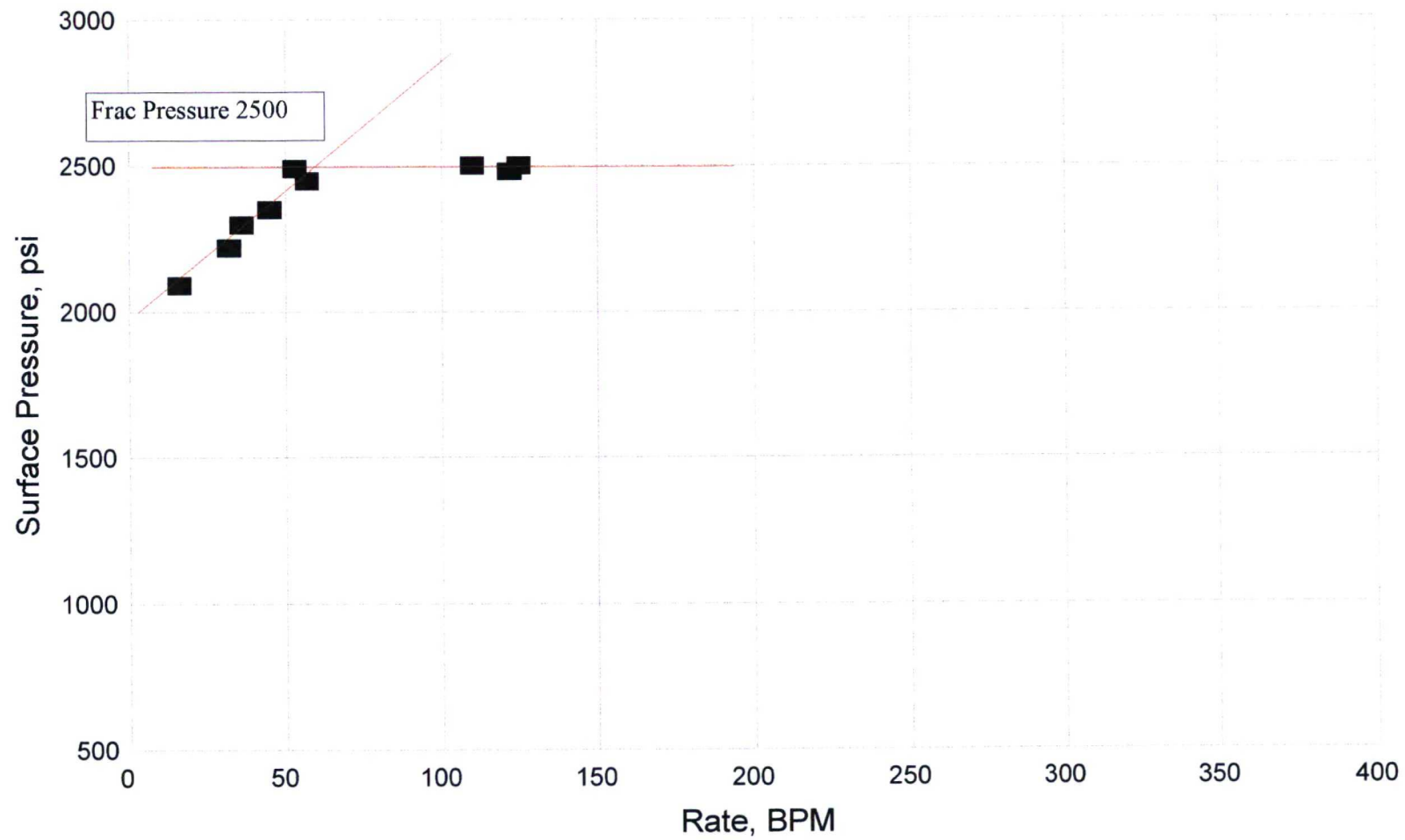
QPBSSU 11-2 (Burleson Fed. #2)

Step Rate Test

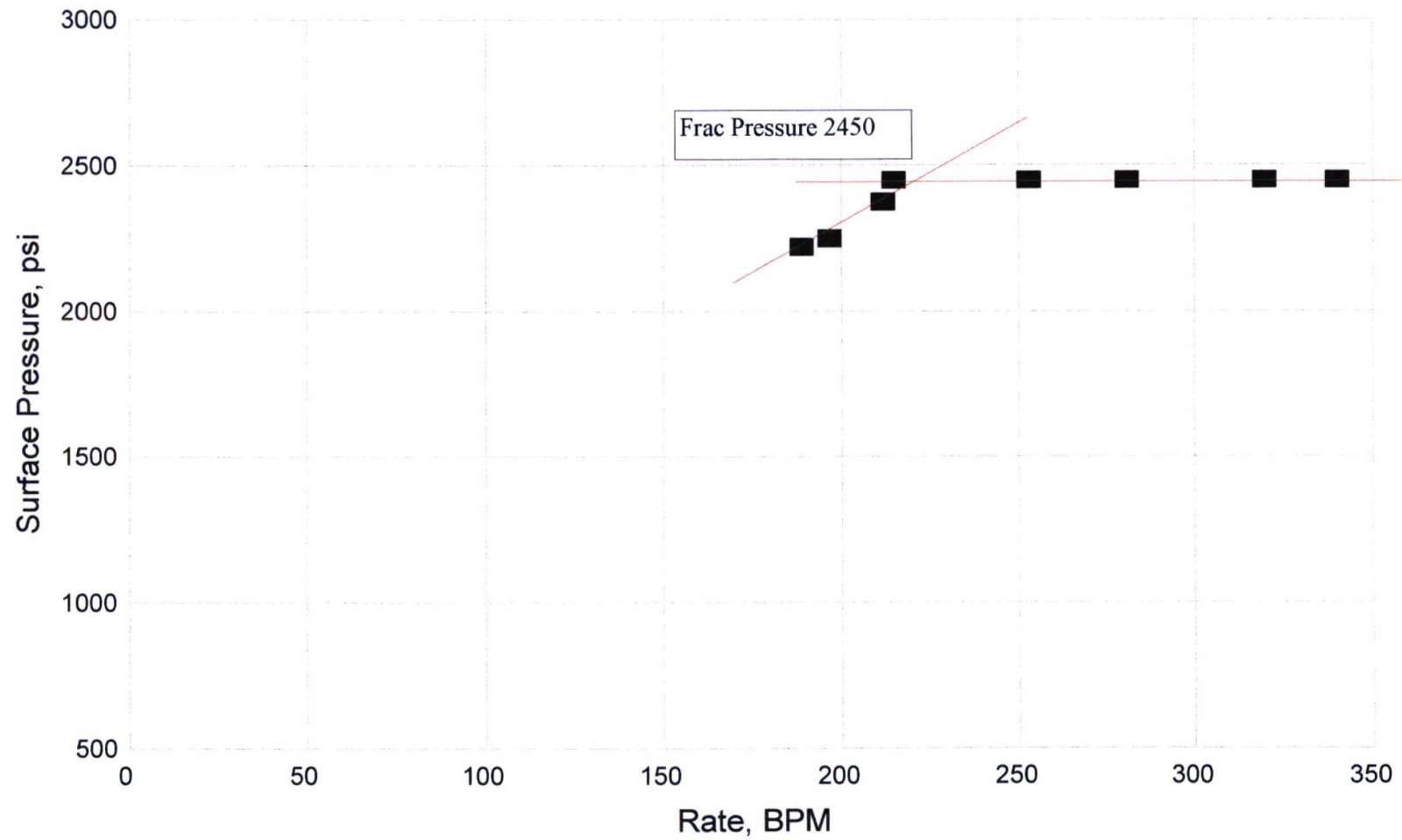


QPBSSU 12B-3 (Shinnery 14 #3)

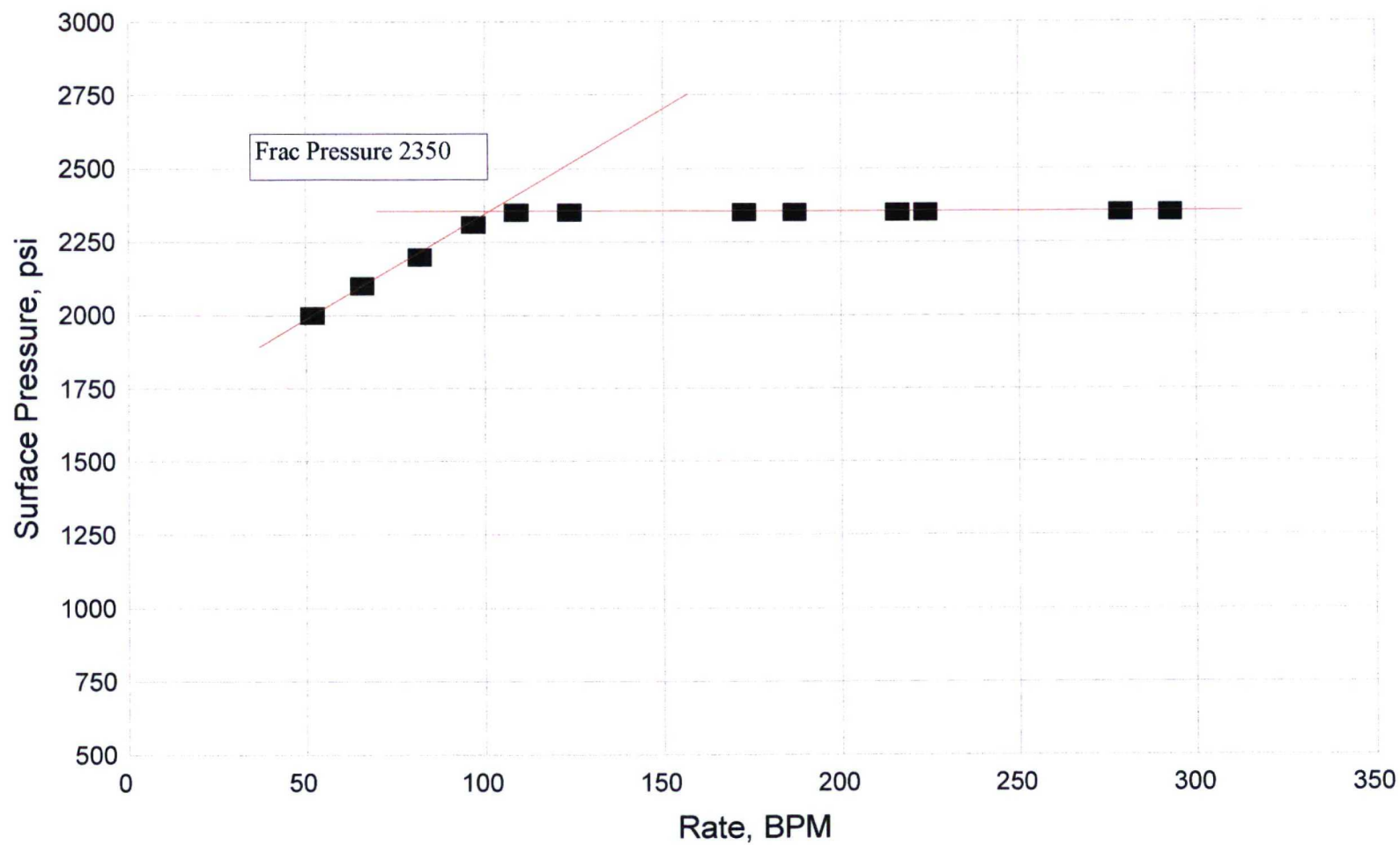
Step Rate Test



QPBSSU 12C-4 (Shinnery 14 #4)
Step Rate Test



QPBSSU 12D-2 (Sprinkle Fed. #2)
Step Rate Test



QPBSSU 16-1 (Hanley 24-1)
Step Rate Test

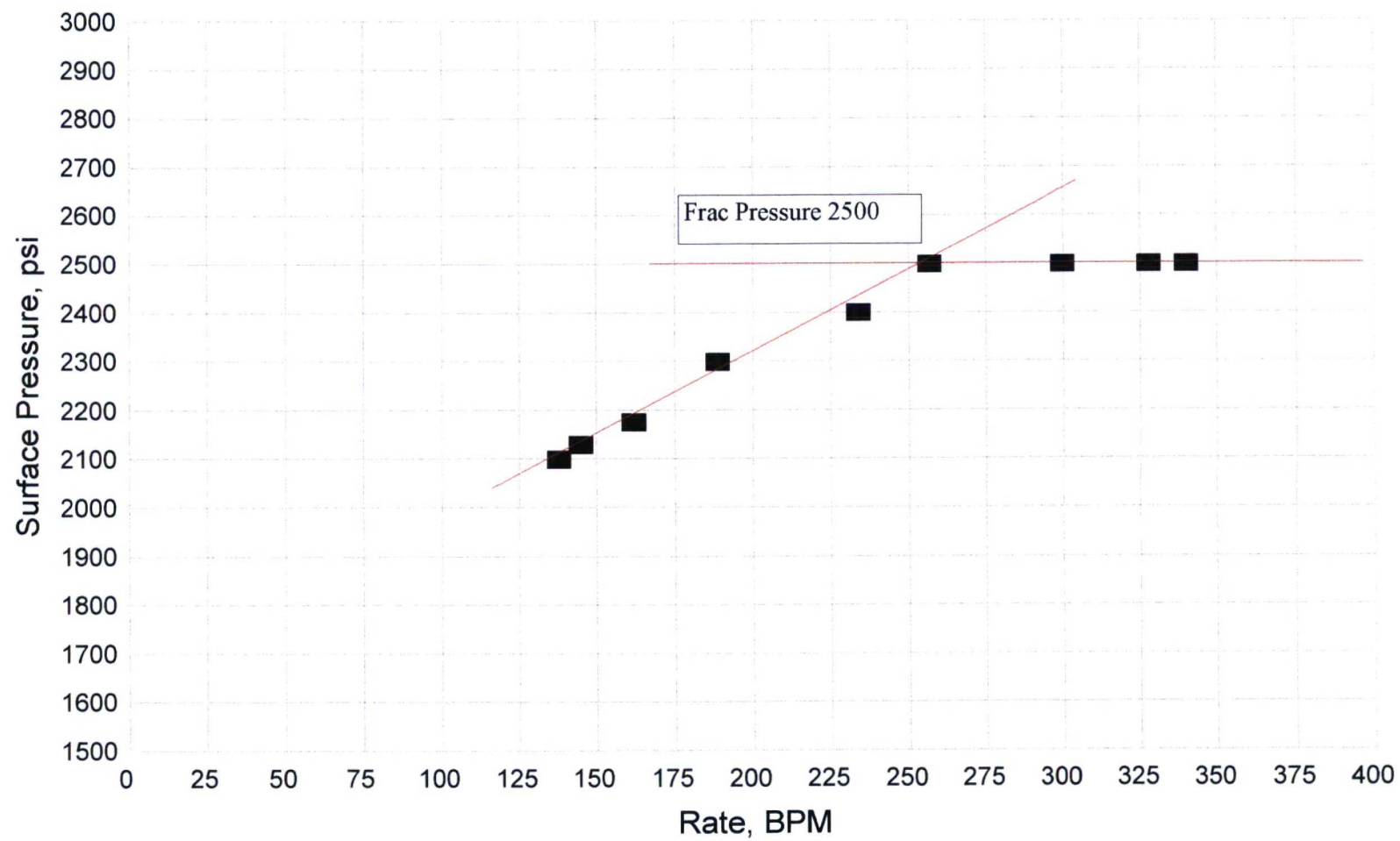


EXHIBIT "A"

CASE NO. 11520
ORDER NO. R-9737-B

**Mewbourne Oil Company
Current Injection Wells
Querecho Plains Bone Spring Sand Unit Waterflood Project Area
Township 18 South, Range 32 East, NMPM,
Lea County, New Mexico**

Well Name and Number	API No.	Footage Location	Section	Unit	Authorized Injection Interval (Feet)
QPBSSU 12-C Well No. 4	30-025-30643	1980' FSL - 660' FEL	14	I	8412 - 8490
QPBSSU 12-B Well No. 3	30-025-30570	1980' FS & EL	14	J	8478 - 8504
QPBSSU 3 Well No. 5 (the former Federal "L" Well No. 5)	30-025-30341	660' FN & EL	23	A	8430 - 8574
QPBSSU 3 Well No. 4	30-025-30129	660' FNL - 1650' FEL	23	B	8431 - 8506
QPBSSU 3 Well No. 7	30-025-24861	2310' FSL - 990' FEL	23	I	8485 - 8552
QPBSSU 3 Well No. 2	30-025-29770	2130' FSL - 2030' FEL	23	J	8458 - 8531
QPBSSU 4 Well No. 2	30-025-29749	1950' FSL - 1980' FWL	23	K	8343 - 8515
QPBSSU 10 Well No. 3	30-025-29828	1980' FSL - 990' FWL	23	L	8362 - 8436
QPBSSU 2-A Well No. 1	30-025-30583	660' FN & WL	24	D	8473 - 8545
QPBSSU 11 Well No. 2	30-025-29557	660' FN & EL	26	A	8515 - 8584
QPBSSU 11 Well No. 1	30-025-29482	660' FNL - 2310' FEL	26	B	8512 - 8572
QPBSSU 12-D Well No. 2	30-025-24564	660' FNL - 1980' FWL	26	C	8542 - 8574
QPBSSU 12-E Well No. 1	30-025-29227	660' FN & WL	26	D	8507 - 8532
QPBSSU 7-A Well No. 11	30-025-29516	660' FNL - 530' FEL	27	A	8360 - 8388
QPBSSU 7-A Well No. 10	30-025-29252	2310' FN & EL	27	G	8501 - 8530

