



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

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

March 17, 1997

The Wiser Oil Company
c/o Mr. Steve Gilbert
Halliburton Energy Services
8115 Preston Road
Suite 400
Dallas, Texas 75225

Re: Step Rate Tests
Caprock Maljamar Unit WF Project

Dear Mr. Gilbert::

Reference is made to your letter dated March 7, 1997, regarding proposed step rate testing within the Caprock Maljamar Unit. Please be advised that your proposal is acceptable with one exception. We would like to see an additional step rate test conducted on the Caprock Maljamar Unit Well No. 79, located in Unit O of Section 19. This would bring the total number of tests to eight. In addition, the proposal is acceptable provided however that upon examination of the test results, the Division may require additional tests be conducted if there is significant difference in the resulting parting pressures.

The Division's Hobbs district office should be informed 24 hours prior to conducting any step rate test in order that they may be witnessed.

If you should have any questions, please contact me at (505) 827-8184.

Sincerely,

David Catanach
Engineer

xc: File-WFX-698

BY OVERNITE MAIL

MARCH 7, 1997

TO: Mr. David Catanach
State UIC Director
New Mexico Oil Conservation Division
2040 So. Pacitec
Santa Fe, N.M.--87505

MAR 10 1997

CONSERVATION DIVISION

RE: Wiser Petition to Step-Rate Test Every 3rd WIW to Gain
Pressure Relief @ the Wiser-Operated

Caprock Maljamar Unit
Lea County, New Mexico

Dear Mr. Catanach:

As we discussed on the phone about a month ago, Wiser respectfully requests that the OCD allow step-rate testing 7 of the remaining 18 WIW's in the CMU requiring pressure relief (roughly a ratio of 1 test/3 WIW's).

In the past, Shahara (the former Operator) tested 13 CMU WIW's to get relief for 42. The 13 wells that were tested and those given relief (29) are shown on the attached plat map. Wiser would like to do a "take off" of this policy granted Shahara in order to get pressure relief on recently-converted WIW's in Wiser's expanded waterflood Unit operation.

The 7 WIW's that Wiser has selected to test are indicated below. The wells to be tested were strategically selected as being in close proximity to offsetting WIW's requiring pressure relief. The WIW's requiring pressure relief are shown with blue standard arrows on the plat map. The wells selected to step-rate test are indicated with lance points in red and pink-highlighted.

PROPOSED WIW'S TO BE STEP-RATE TESTED

CMU #60 FOR 264 AND 73
CMU #268 FOR 265 AND 74
CMU #84 FOR 82 AND 83
CMU #94 FOR 90 AND 93
CMU #96 FOR 100
CMU #58 FOR 45
CMU #20 FOR 29

Enclosed with this letter and map are the OCD orders given Shahara for permitting higher surface pressures and exceptions to step-rate testing for the 29 pressured-up WIW's.

We hope for timely approval of our petition and contact me if further information is required.

You have been most helpful and cooperative in working with us to develop this waterflood.

Best regards,

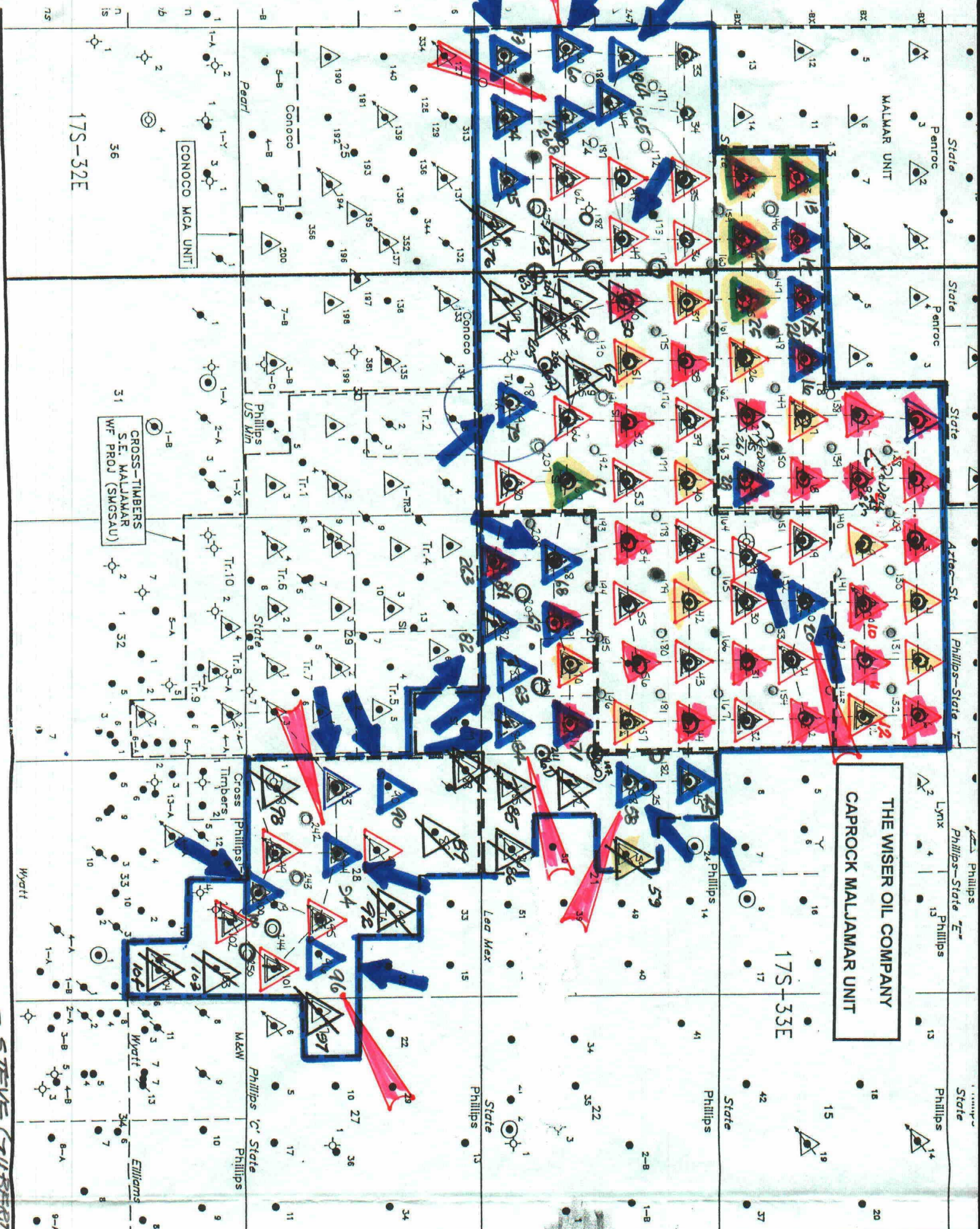

Stephen C. Gilbert

Lead Well Engineer
Halliburton Energy Services
for
The Wiser Oil Company
214-360-3564
FAX: 214-891-9645

ATTACHMENTS

CC: Earl Krieg
Matt Eagleston

Mike Jones
Bonnie Jones--J.O. Easley



THE WISER OIL COMPANY
CARPOCK MALAMAR UNIT

17S-33E

WISER Reo
WINS FOR SRT.

WINS REQUIRING
PRESSURE RELIEF

STEP-RATE
TESTS RUN

PRESSURE RELIEF
GRANTED BY O&J
FROM 13-WEL SRT.
(29 WELLS IN
ADDITION TO 13 TESTS)

WINS' DEFERRED
IN ORIGINAL PROGRAM

83 ACTIVE WINS

REDUPLICATION PLAN		
WISER - CARPOCK MALAMAR UNIT		
MALAMAR (GRAYBURG-SAN ANDRES) FIELD		
LEA CO., NEW MEXICO		
PHASE 1	PHASE 2	PHASE 3
● Producer	○ Proposed Producer	○ Location
▲ Shut-in Injector	▲ Proposed Injector	▲ Conversion
▲ Active Injector	▲ Former Injector	

— STEVE GILBERT
3-7-97

OIL CONSERVATION DIVISION

December 29, 1995

The Wiser Oil Company
 P.O. Box 3232
 Carlsbad, New Mexico 88221-3232

Attn: Mr. Perry L. Hughes

**RE: Injection Pressure Increase Caprock Maljamar Unit
 Waterflood Project Lea County, New Mexico**

Dear Mr. Hughes:

Reference is made to your request dated November 10, 1994 to increase the surface injection pressure on 42 wells. This request is based on step rate tests conducted on 13 of these wells between September 27 and October 12, 1995. The results of the tests have been reviewed by my staff and we feel an increase in injection pressure on these wells is justified at this time.

You are therefore authorized to increase the surface injection pressure on the following 13 wells:

Well and Location	Maximum Injection Surface Pressure
Caprock Maljamar Unit Well No.4 Unit C, 17-T17S-R33E	1910 PSIG
Caprock Maljamar Unit Well No.5 Unit B, 17-T17S-R33E	2200 PSIG
Caprock Maljamar Unit Well No.9 Unit E, 17-T17S-R33E	2550 PSIG
Caprock Maljamar Unit Well No.12 Unit H, 17-T17S-R33E	2480 PSIG
Caprock Maljamar Unit Well No.17 Unit J, 18-T17S-R33E	2760 PSIG
Caprock Maljamar Unit Well No.26 Unit N, 18-T17S-R33E	2755 PSIG

Well and Location	Maximum Injection Surface Pressure
Caprock Maljamar Unit Well No.37 Unit D, 19-T17S-R33E	1910 PSIG
Caprock Maljamar Unit Well No.40 Unit A, 19-T17S-R33E	2200 PSIG
Caprock Maljamar Unit Well No.42 Unit C, 20-T17S-R33E	2550 PSIG
Caprock Maljamar Unit Well No.51 Unit F, 19-T17S-R33E	2480 PSIG
Caprock Maljamar Unit Well No.57 Unit H, 20-T17S-R33E	2760 PSIG
Caprock Maljamar Unit Well No.59 Unit F, 21-T17S-R33E	2755 PSIG
Caprock Maljamar Unit Well No.70 Unit J, 20-T17S-R33E	2755 PSIG
All wells located in Lea County, New Mexico.	

Additionally, based on representative data, you are authorized to increase the surface injection pressure on the following 29 wells:

Well and Location	Maximum Injection Surface Pressure
Caprock Maljamar Unit Well No.1 Unit B, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.2 Unit A, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.3 Unit D, 17-T17S-R33E	2256 PSIG

Injection Pressure Increase

The Wiser Oil Company

December 29, 1995

Page 3

Well and Location	Maximum Injection Surface Pressure
Caprock Maljamar Unit Well No.6 Unit A, 17-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.7 Unit G, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.8 Unit H, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.10 Unit F, 17-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.11 Unit G, 17-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.13 Unit J, 13-T17S-R32E	2256 PSIG
Caprock Maljamar Unit Well No.14 Unit I, 13-T17S-R32E	2256 PSIG
Caprock Maljamar Unit Well No.15 Unit L, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.16 Unit K, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.18 Unit I, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.22 Unit I, 17-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.23 Unit O, 13-T17S-R32E	2256 PSIG
Caprock Maljamar Unit Well No.24 Unit P, 13-T17S-R32E	2256 PSIG
Caprock Maljamar Unit Well No.25 Unit M, 18-T17S-R33E	2256 PSIG

Well and Location	Maximum Injection Surface Pressure
Caprock Maljamar Unit Well No.27 Unit O, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.28 Unit P, 18-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.31 Unit O, 17-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.38 Unit C, 19-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.44 Unit A, 20-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.50 Unit E, 19-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.52 Unit G, 19-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.54 Unit E, 20-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.56 Unit G, 20-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.69 Unit K, 20-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.71 Unit I, 20-T17S-R33E	2256 PSIG
Caprock Maljamar Unit Well No.81 Unit M, 20-T17S-R33E	2256 PSIG
All wells located in Lea County, New Mexico.	

Injection Pressure Increase

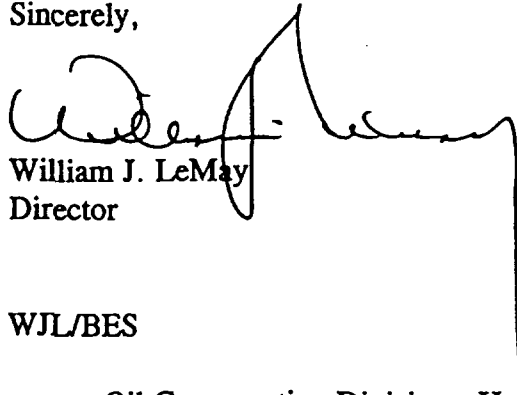
The Wiser Oil Company

December 29, 1995

Page 5

The Division Director may rescind this 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,

A handwritten signature in black ink, appearing to read 'William J. LeMay', is written over the printed name and title. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

William J. LeMay
Director

WJL/BES

cc: Oil Conservation Division - Hobbs
File: 2nd Qtr 96 PSI-X; Case File No.10932

SHAHARA OIL CORPORATION

November 2, 1995

Mr. David Catanach
Oil Conservation Division
P.O. Box 6429
Santa Fe, NM 87505-6429

Re: The Wiser Oil Company
Injection Pressure Increase
Caprock Maljamar Unit Waterflood Project
Lea County, New Mexico

821-7131
Catanach - tried
12/13 ~9:30am
12/14 ~10:00am
~2:00pm
12/15 8:55am
12/15 9:12am
David Catanach -
Ben Stone is handling
On his desk - will look
at today or early next
week. JLP

Dear Mr. Catanach:

Please refer to your letters of September 15 and October 24, 1995 and my letters of August 25 and September 27, 1995. The Wiser Oil Company has conducted step rate tests on nine of the 14 wells requested in your September 15 letter. We were unable to get the tool through the tubing in CMU #1; CMU #13 and CMU #15 are plugged and abandoned; and CMU #6 and CMU #69 were producing at the time the tests were conducted (CMU #6 has subsequently been converted - we could attempt to run a test if necessary). Our letter of September 27 suggested five alternative wells and we have successfully run tests on four of those (could not get tool through the tubing on CMU #3). The results of the 13 completed tests are as follows:

Caprock Maljamar Unit
Fracture Pressure - PSIG

Well Name	BHP	Surface	Surface - 50 psig
✓ CMU #4	3540	1960	1910
✓ CMU #5	4190	2400	2350
✓ CMU #9	3700	2220	2170
✓ CMU #12	4440	2670	2620
✓ CMU #17	3750	2350	2300
✓ CMU #26	3450	2100	2050
✓ CMU #37	3525	2010	1960
✓ CMU #40	4000	2210	2160
✓ CMU #42	4130	2400	2350
✓ CMU #51	3750	2125	2075
✓ CMU #57	4540	2700	2650
✓ CMU #59	4000	2290	2240
✓ CMU #70	4200	2550	2500
Average	3940	2306	2256

Copies of all graphical data is included. The results of these tests compare favorably with those obtained in previous surveys. The Wiser Oil Company and Holmes Wireline Service maintain complete records of all data gathered on the tests and are glad to make these available.

The Wiser Oil Company requests maximum allowable injection pressure on the 13 tested wells be the surface pressure minus 50 psig as shown above and the average surface injection pressure minus 50 psi of 2256 psi on the 13 wells be granted on the remaining 29 wells as listed in our August 25 letter. Following is a complete list of proposed pressures.

Requested Maximum Allowable Injection Pressures

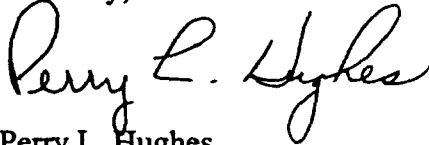
CMU Well No.	Location Footage	Unit	Section	Town-ship	Range	Max Inj Pressure
1	660' FNL & 1980' FEL	B	18	17S	33E	2256
2	660' FNL & 660' FEL	A	18	17S	33E	2256
3	660' FNL & 660' FWL	D	17	17S	33E	2256
4	660' FNL & 1980' FWL	C	17	17S	33E	1910
5	660' FNL & 1980' FEL	B	17	17S	33E	2350
6	660' FNL & 660' FEL	A	17	17S	33E	2256
7	1980' FSL & 2080' FEL	G	18	17S	33E	2256
8	1980' FNL & 660' FEL	H	18	17S	33E	2256
9	1980' FNL & 660' FWL	E	17	17S	33E	2170
10	1980' FNL & 1980' FWL	F	17	17S	33E	2256
11	1980' FNL & 1980' FEL	G	17	17S	33E	2256
12	1980' FNL & 660' FEL	H	17	17S	33E	2620
13	1980' FSL & 1980' FEL	I	13	17S	32E	2256
14	1980' FSL & 660' FEL	I	13	17S	32E	2256
15	1980' FSL & 693.65' FWL	L	18	17S	33E	2256
16	1980' FSL & 2047' FWL	K	18	17S	33E	2256
17	1980' FSL & 1980' FEL	J	18	17S	33E	2300
18	1980' FSL & 660' FWL	I	18	17S	33E	2256
22	1980' FSL & 660' FEL	I	17	17S	33E	2256
23	660' FSL & 1980' FEL	O	13	17S	32E	2256
24	660' FSL & 660' FEL	P	13	17S	32E	2256
25	660' FSL & 693.55' FWL	M	18	17S	33E	2256
26	660' FSL & 2047' FWL	N	18	17S	33E	2050
27	760' FSL & 1980' FEL	O	18	17S	33E	2256
28	660' FSL & 660' FEL	P	18	17S	33E	2256

Mr. David Catanach
November 2, 1995
Page 3

31	660' FSL & 1980' FEL	O	17	17S	33E	2256
37	660' FNL & 694' FWL	D	19	17S	33E	1960
38	660' FNL & 2047' FWL	C	19	17S	33E	2256
40	660' FNL & 660' FEL	A	19	17S	33E	2160
42	660' FNL & 1980' FWL	C	20	17S	33E	2350
44	660' FNL & 660' FEL	A	20	17S	33E	2256
50	1980' FNL & 694' FWL	E	19	17S	33E	2256
51	1980' FNL & 2048' FWL	F	19	17S	33E	2075
52	1980' FNL & 1980' FEL	G	19	17S	33E	2256
54	1980' FNL & 660' FWL	E	20	17S	33E	2256
56	1880' FNL & 1980' FEL	G	20	17S	33E	2256
57	1980' FNL & 660' FEL	H	20	17S	33E	2650
59	1980' FNL & 1980' FWL	F	21	17S	33E	2240
69	1650' FSL & 2310' FWL	K	20	17S	33E	2256
70	1980' FSL & 1980' FEL	J	20	17S	33E	2500
71	1980' FSL & 660' FEL	I	20	17S	33E	2256
81	330' FSL & 990' FWL	M	20	17S	33E	2256

42 Thank you for your prompt attention to our request. We need these increased pressures in order to dispose of the produced water being generated by our ongoing redevelopment program.

Sincerely,

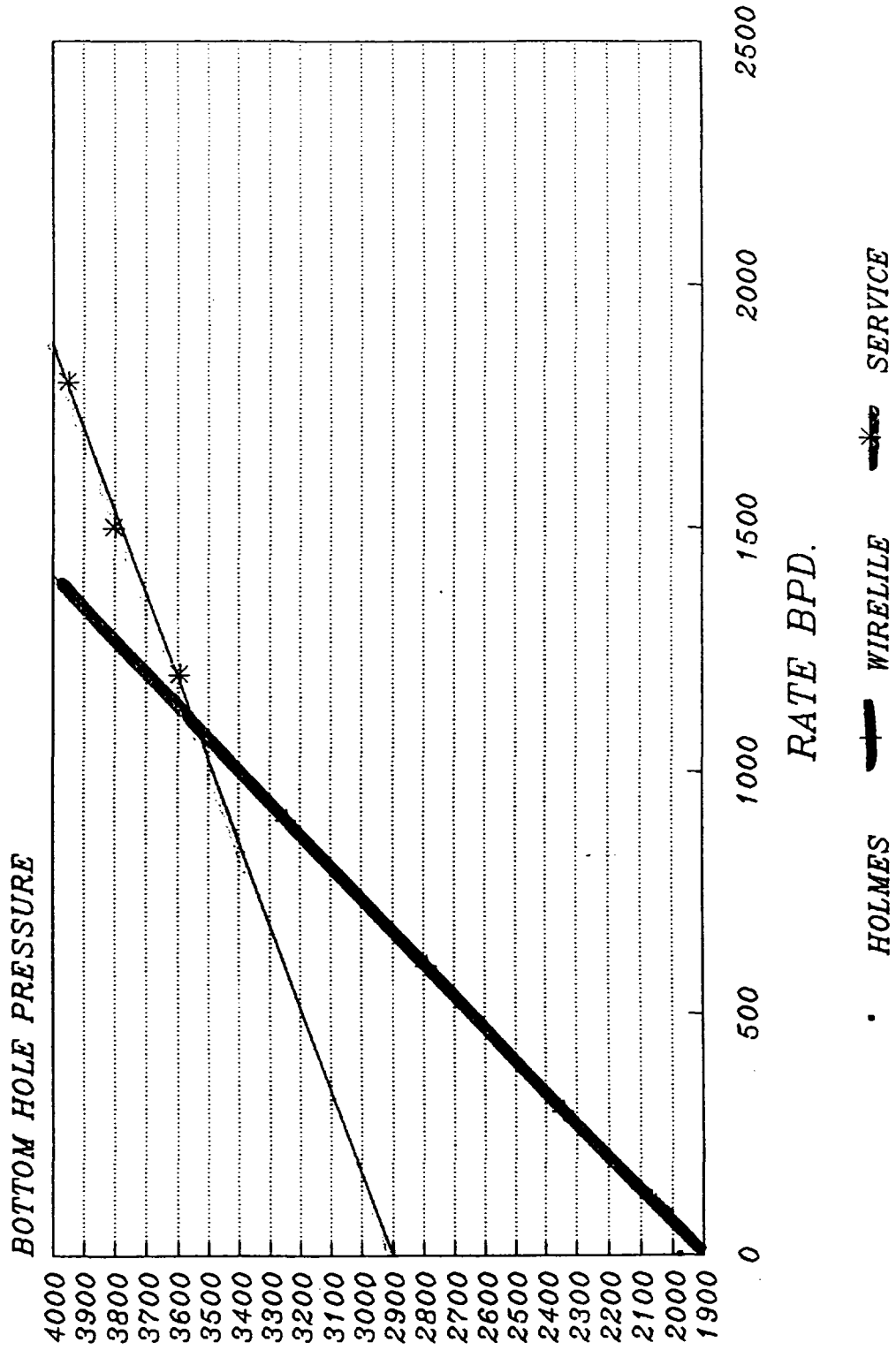


Perry L. Hughes
Agent for
The Wiser Oil Company

Attachments

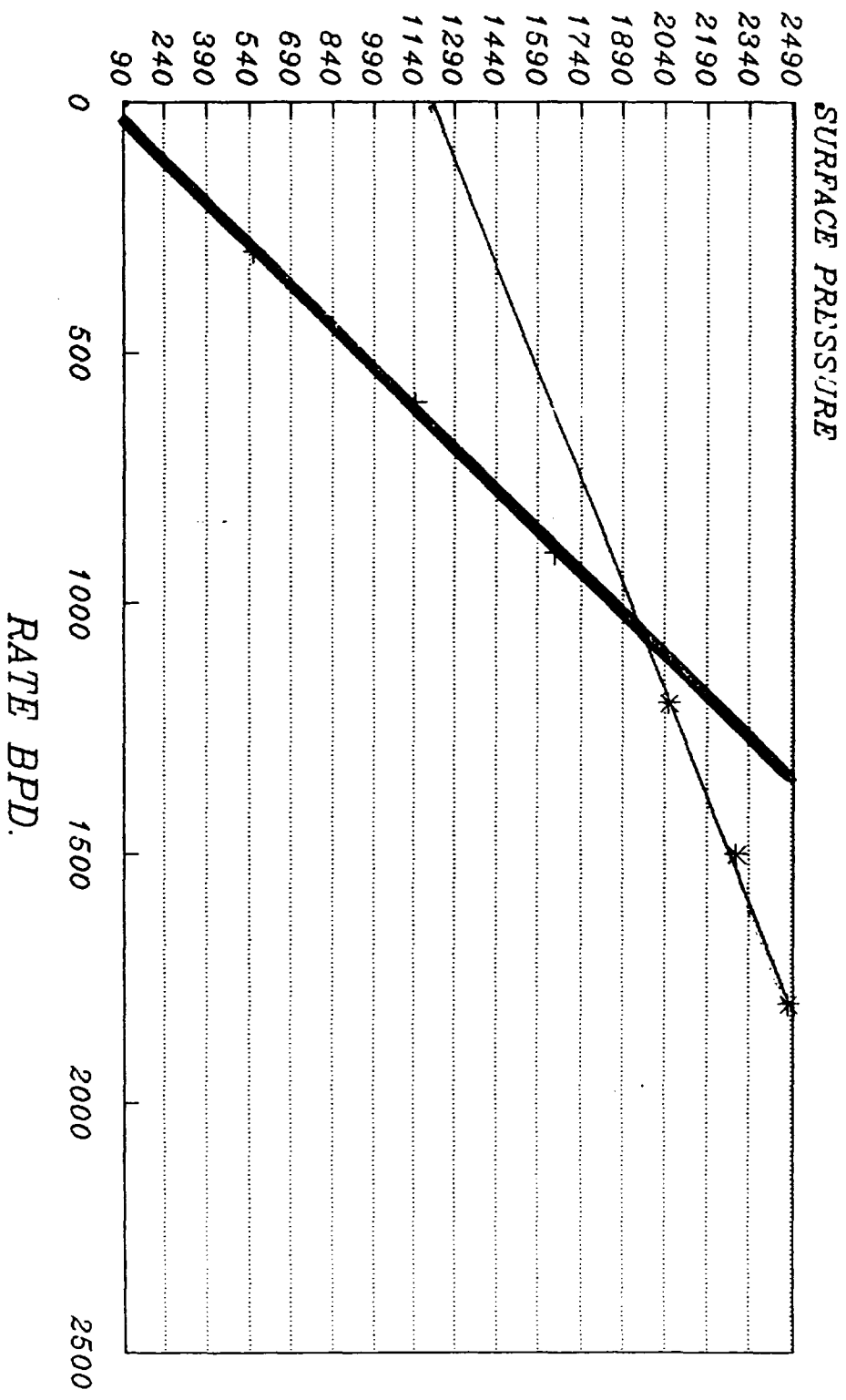
cc: Mr. Jerry Sexton
Hobbs OCD

WISER OIL : CMU #4



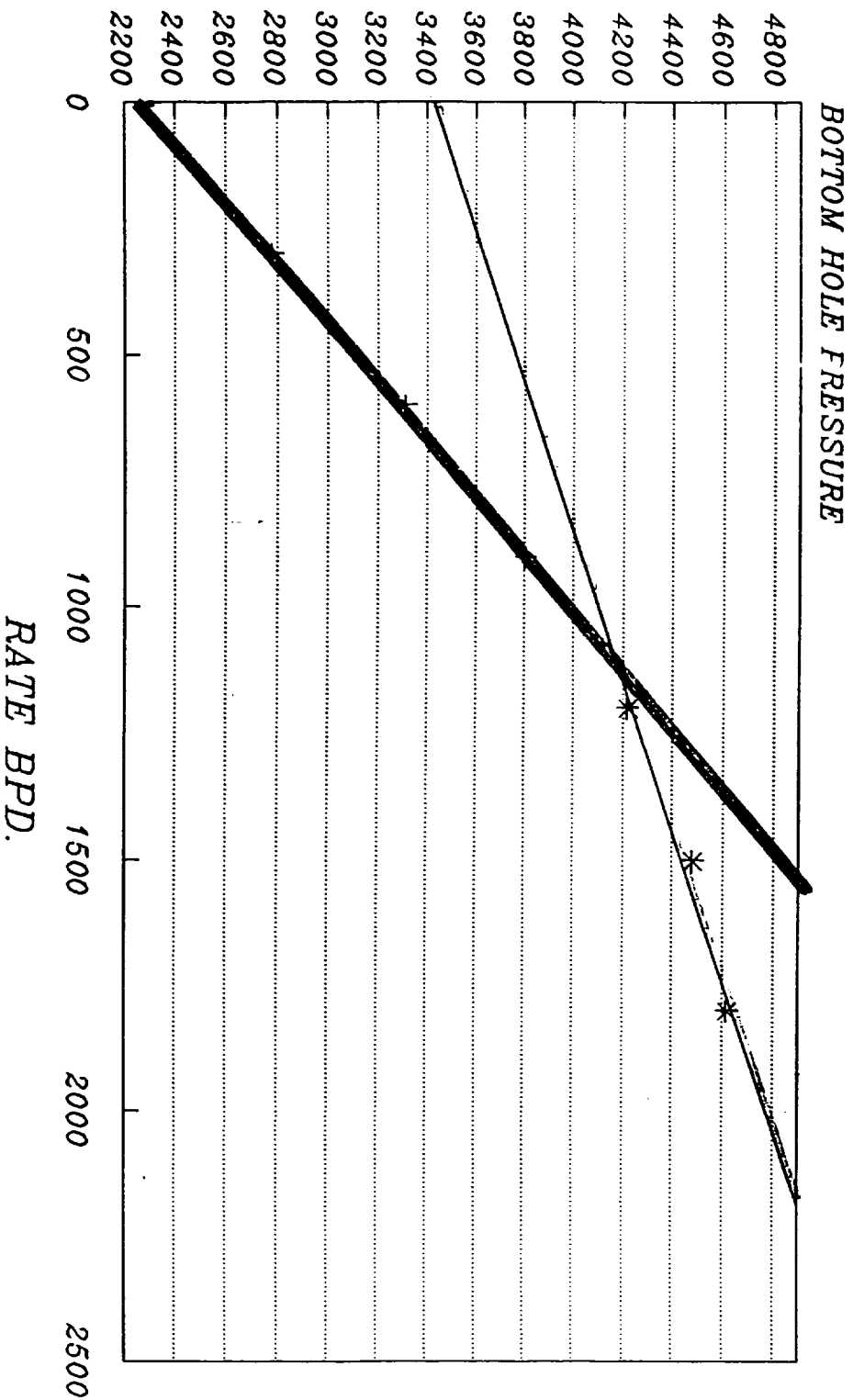
FRACTURE AT 3540 PSI 9-28-95

WISER OIL : CMU #4



FRACTURE AT 1960 PSI 9-28-95
 HOLMES — WIRELINE * SERVICE

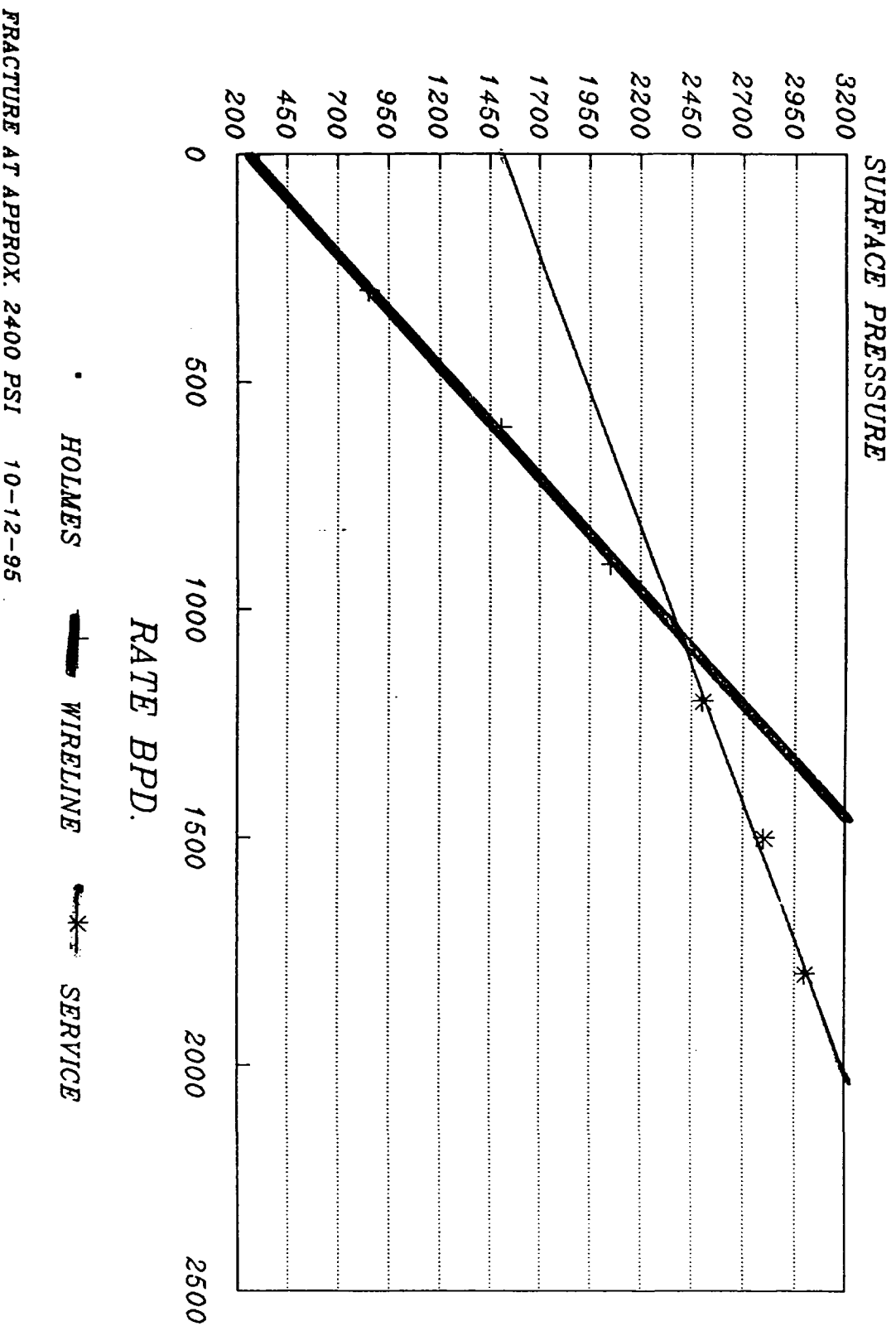
WISER OIL : CMU #5



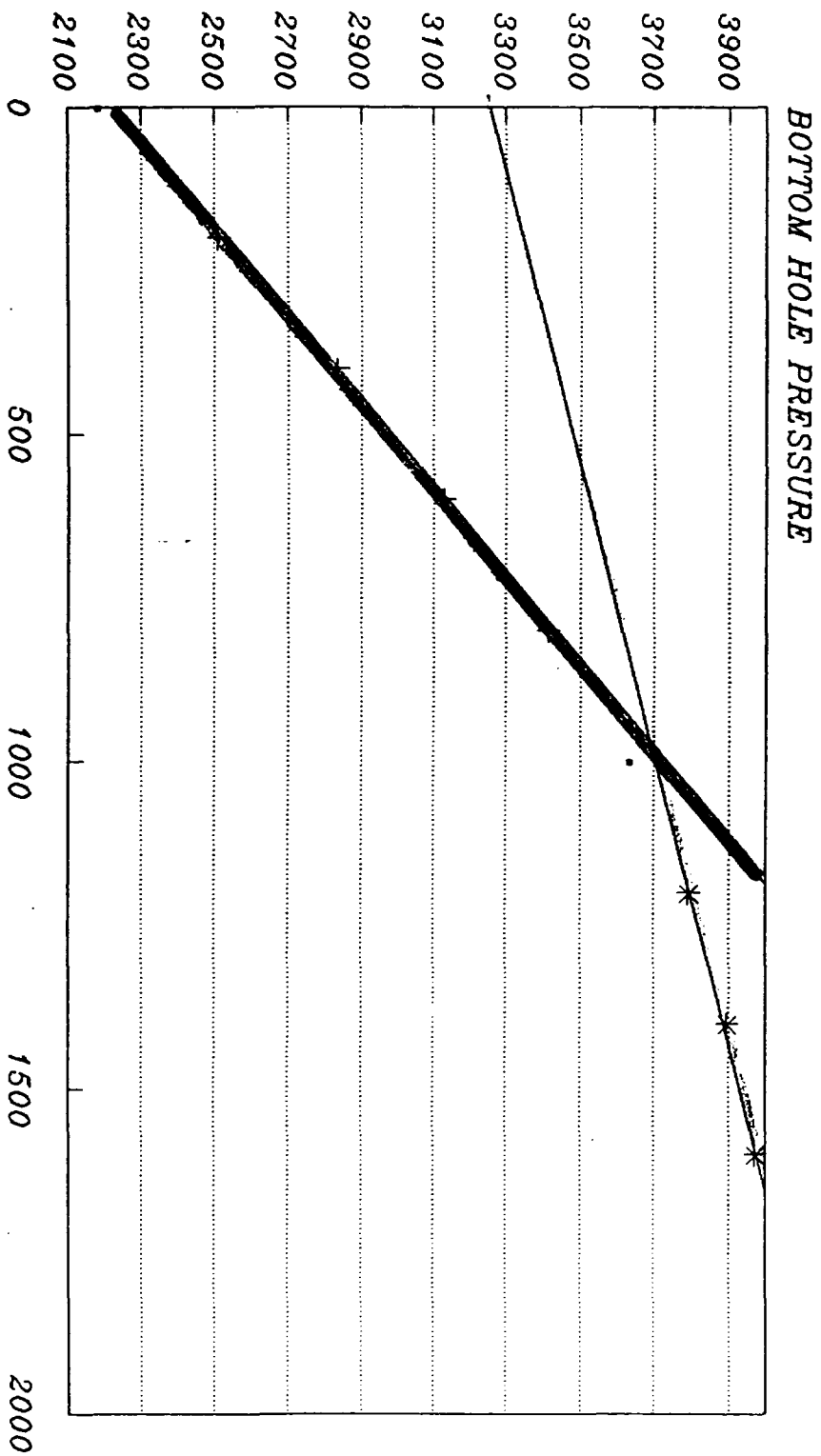
• HOLMES
 — WIRELINE
 —*— SERVICE

FRACTURE AT APPROX. 4190 BHP 10-12-95

WISER OIL : CMU #5



WISER OIL : CMU #9



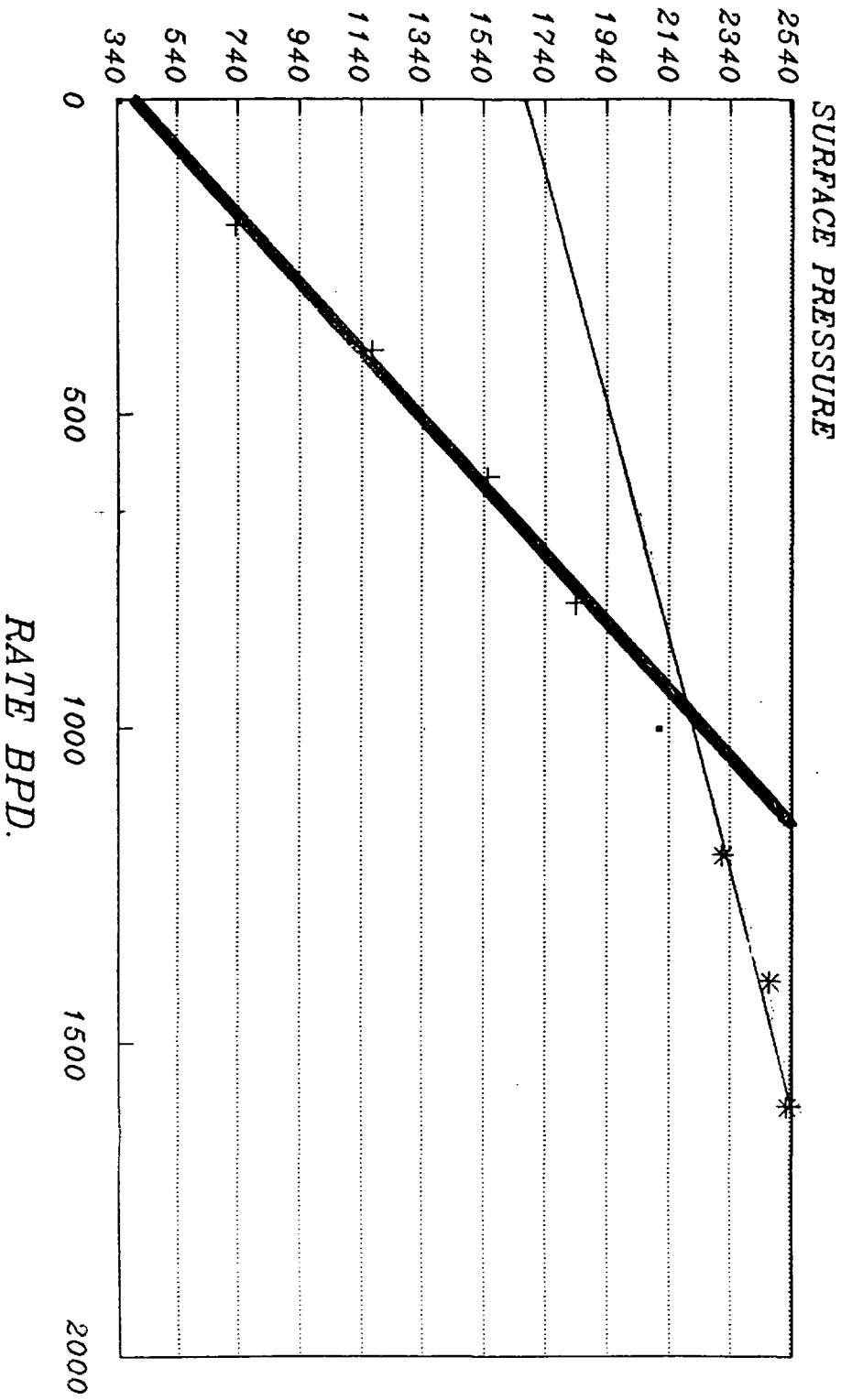
FRACTURE @ 3700 PSI 9-28-95

HOLMES

WIRELINE

SERVICE

WISER OIL : CMU #9



FRACTURE @ 2220 PSI 9-28-95

HOLMES

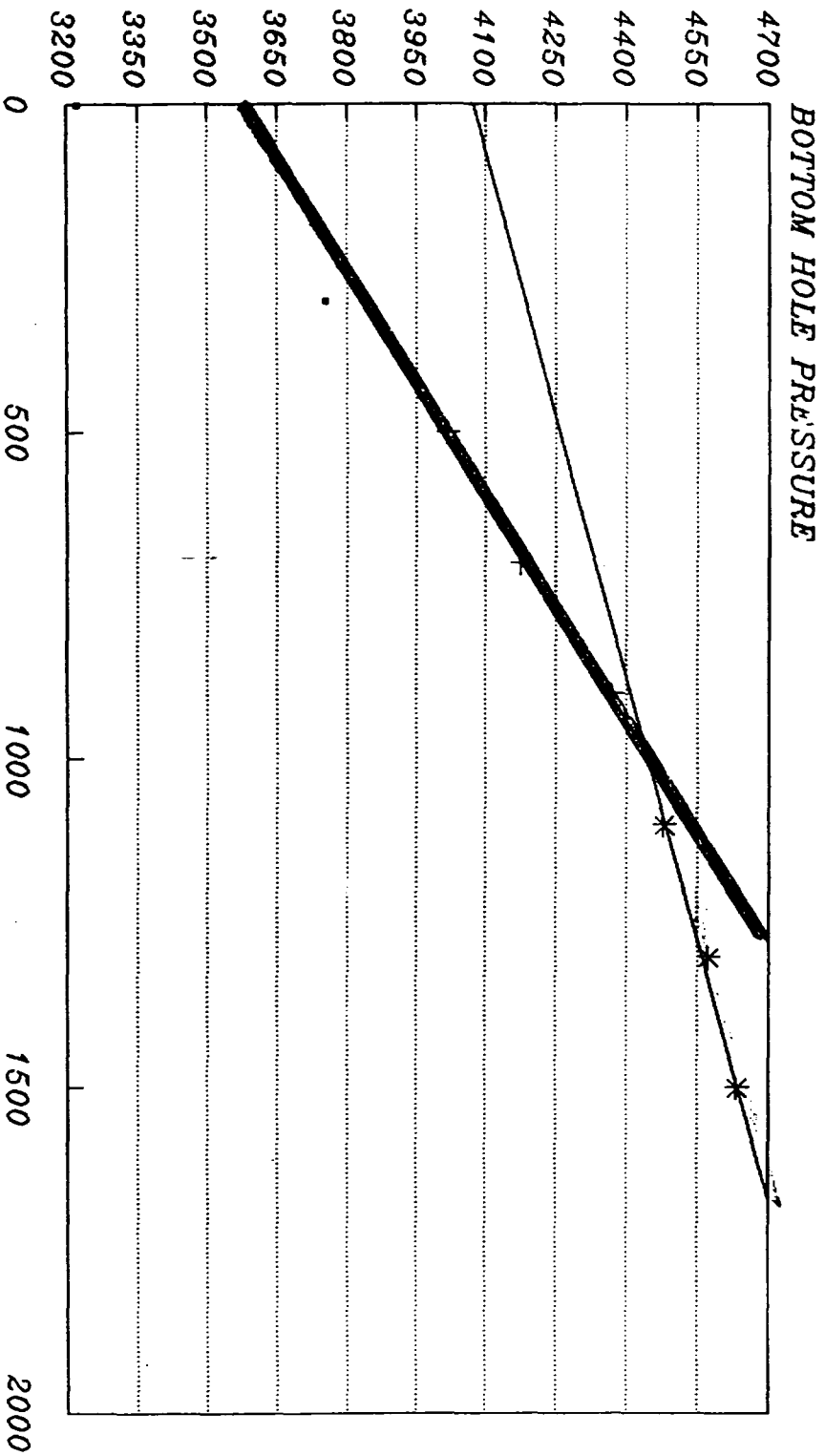


WIRELINE



SERVICE

WISER OIL : CMU #12



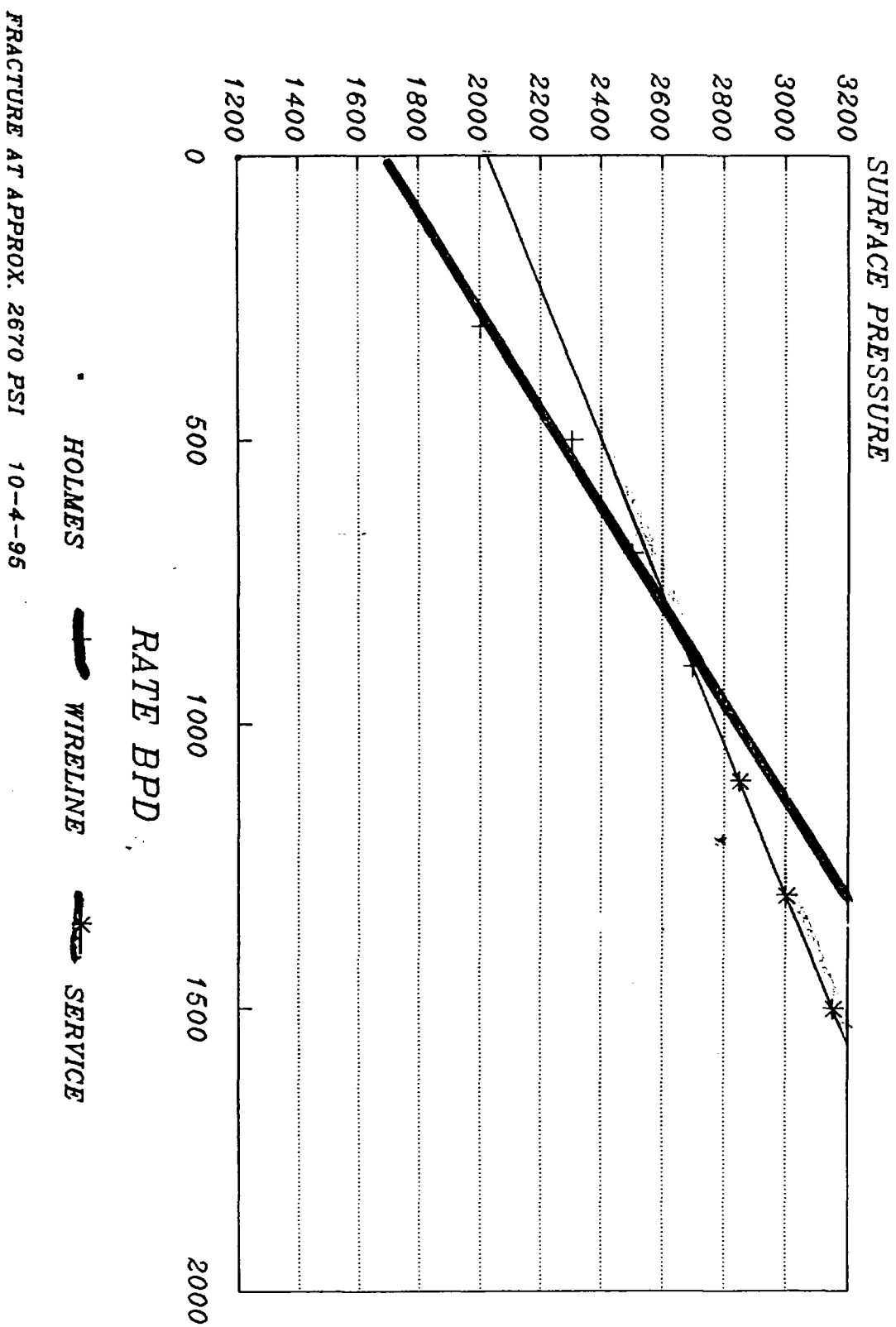
HOLMES

WIRELINE

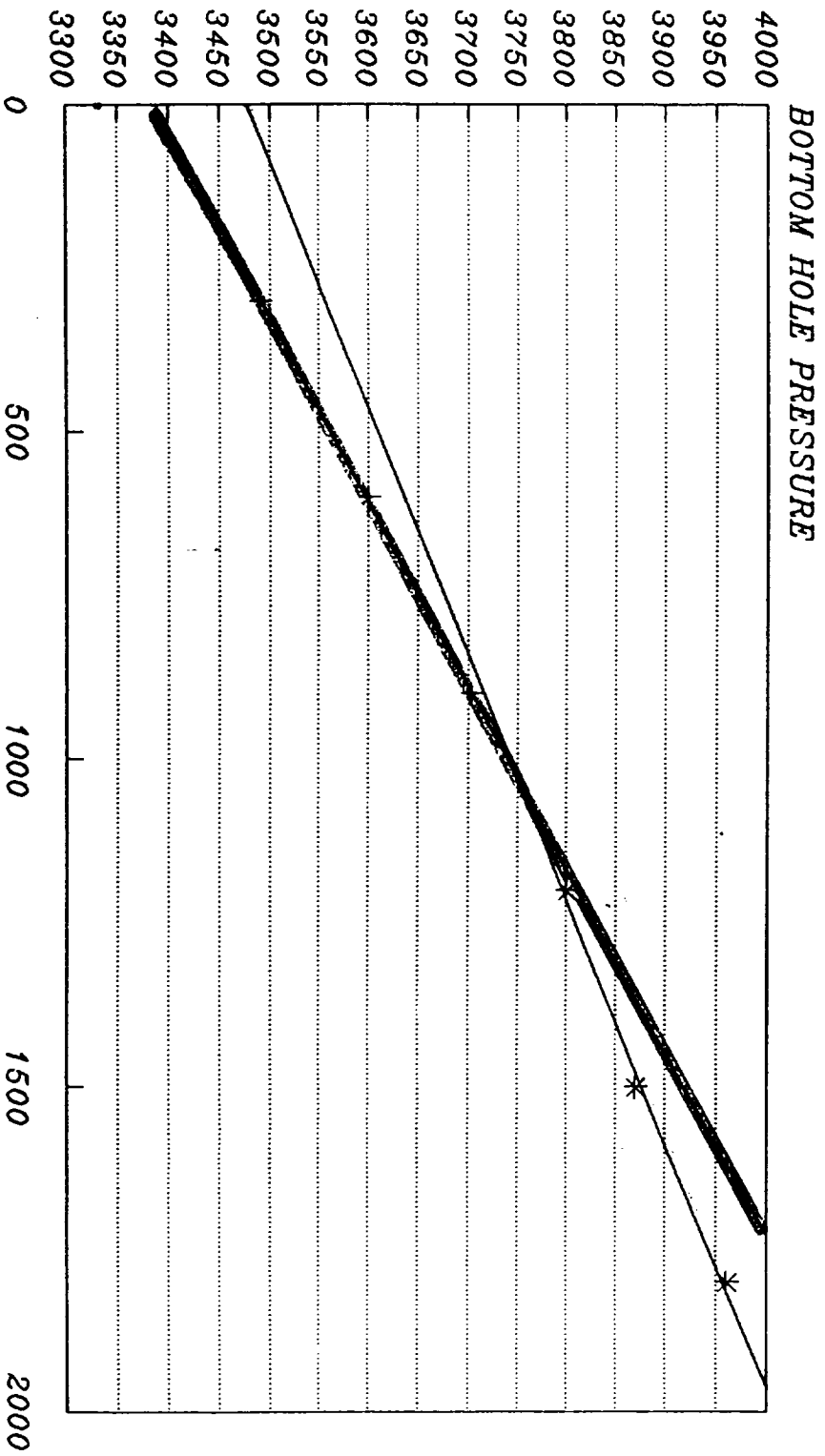
SERVICE

FRACTURE AT APPROX. 4440 BHP 10-4-95

WISER OIL : CMU #12



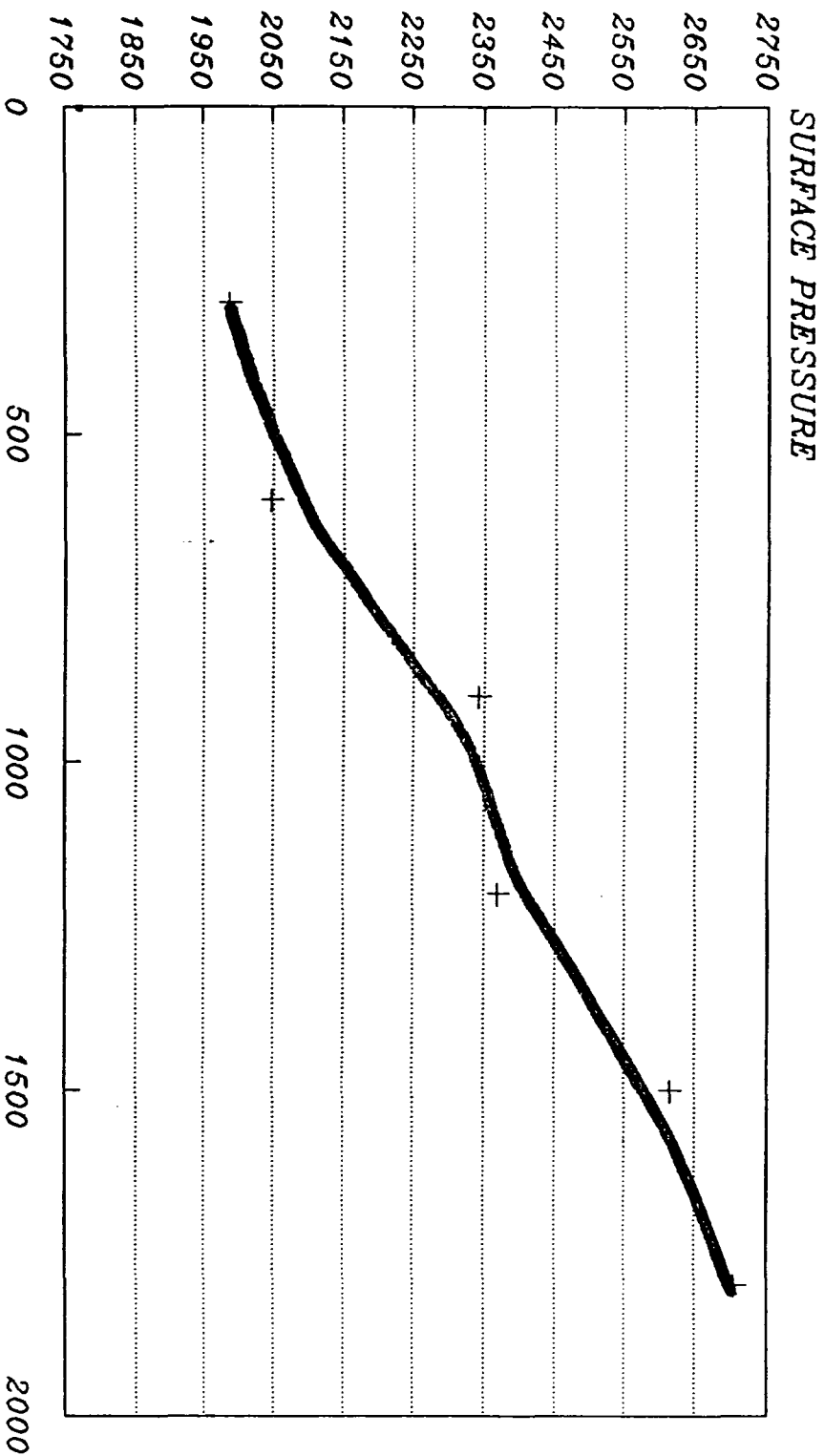
WISER OIL : CMU #17



HOLMES WIRELINE SERVICE

FRACTURE AT APPROX. 3750 BHP 10-2-95

WISER OIL : CMU #17

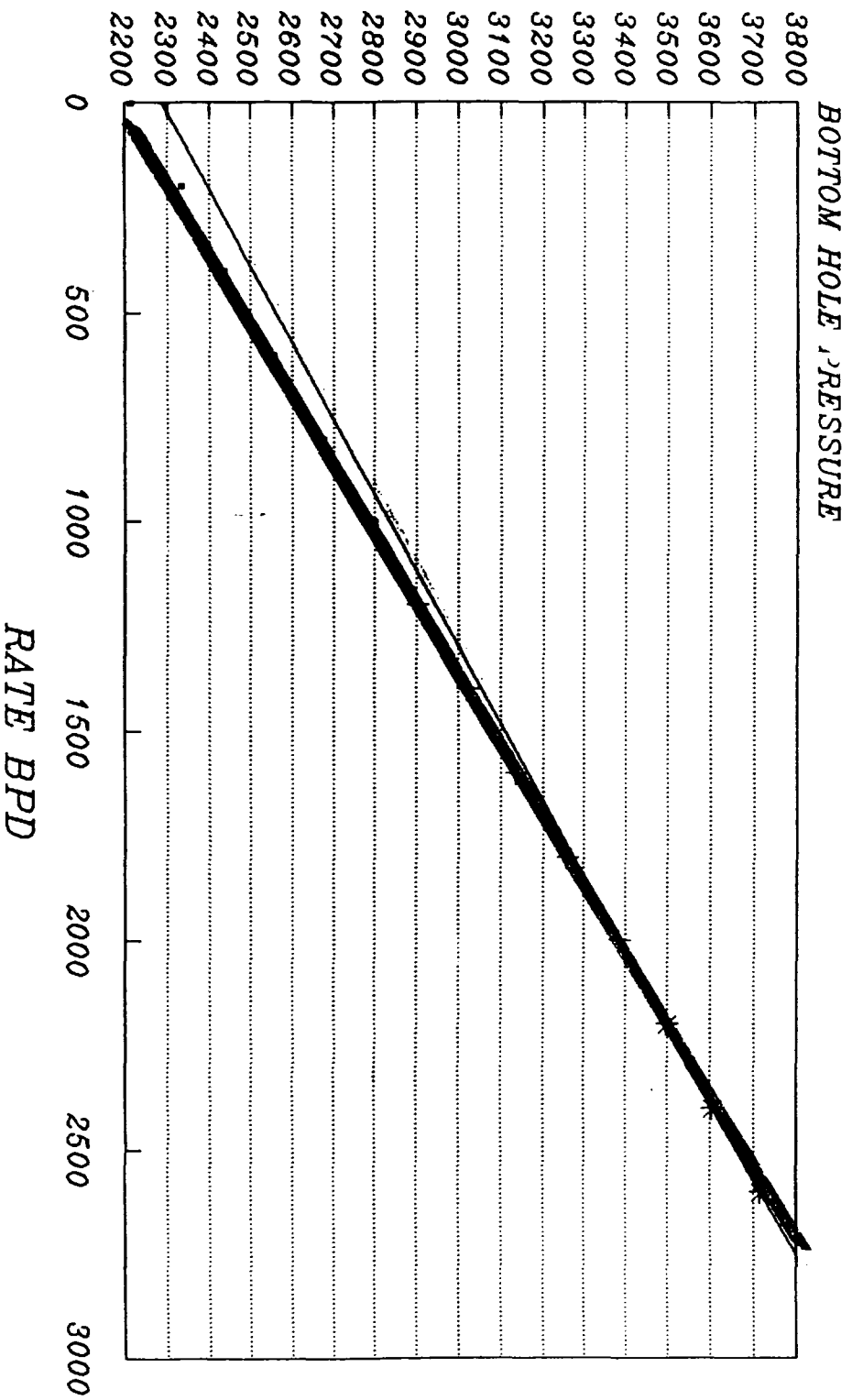


HOLMES WIRELINE

NO FRACTURE INDICATED

10-2-96

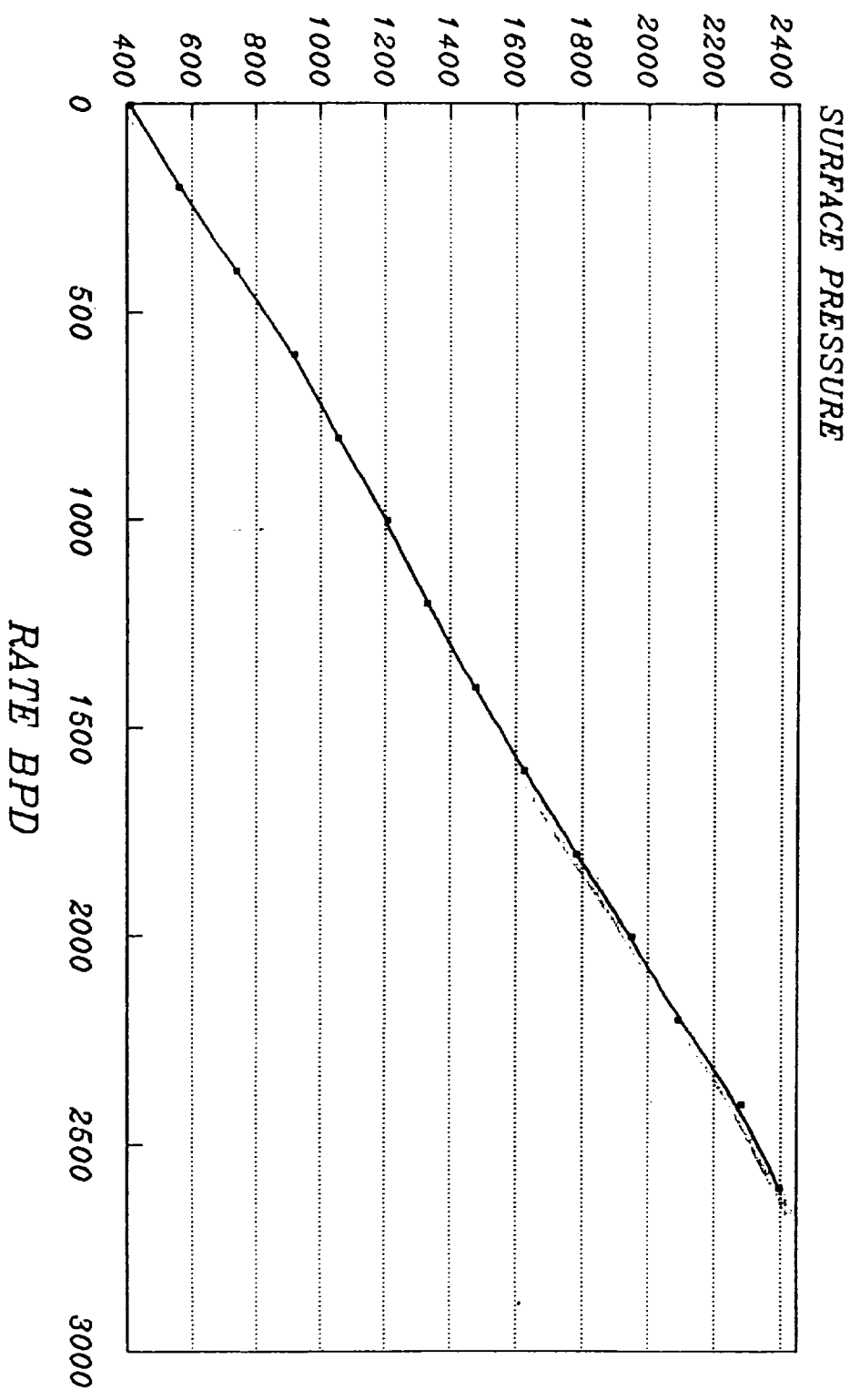
WISER OIL : CMU #26



HOLMES WIRELINE SERVICE

FRACTURE AT 3450 9-27-95

WISER OIL : CMU #26



HOLMES WIRELINE SER.

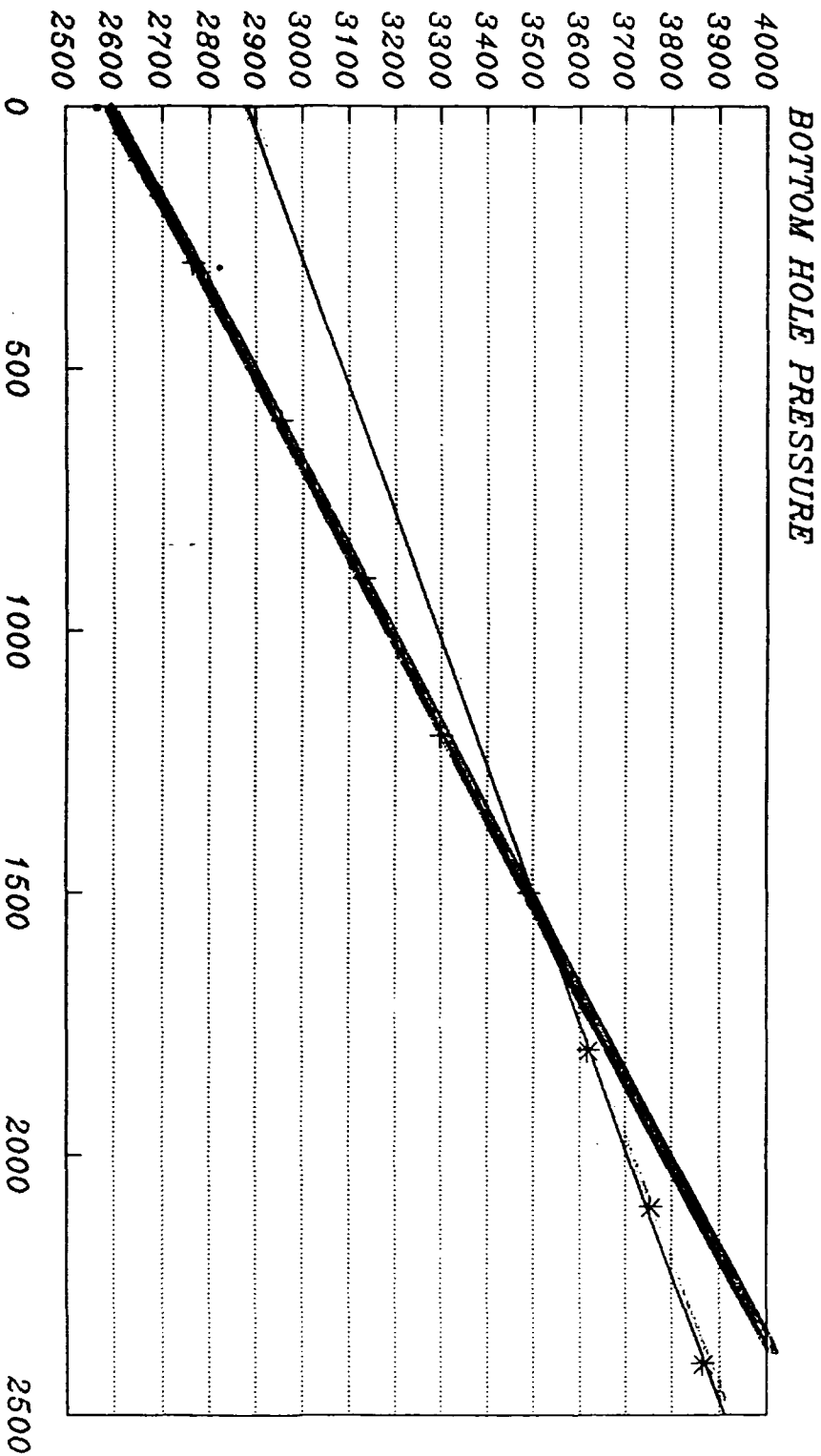
NO FRACTURE INDICATED 9-27-95

WISER OIL : CMU #37

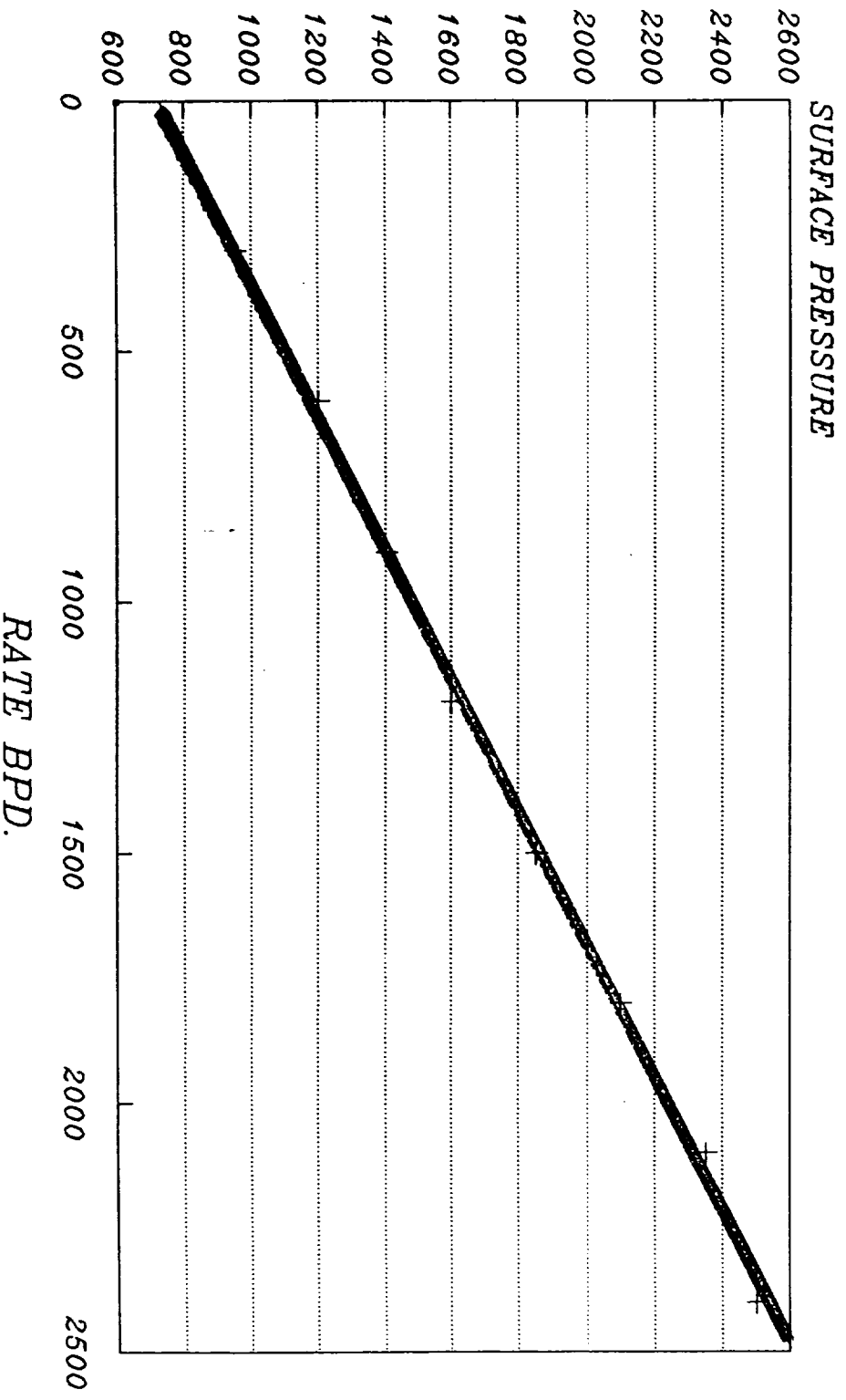
FRACTURE AT APPROX. 3525 BHP 10-11-95

—•— HOLMES —*— WIRELINE —*— SERVICE

RATE BPD.



WISER OIL : CMU #37



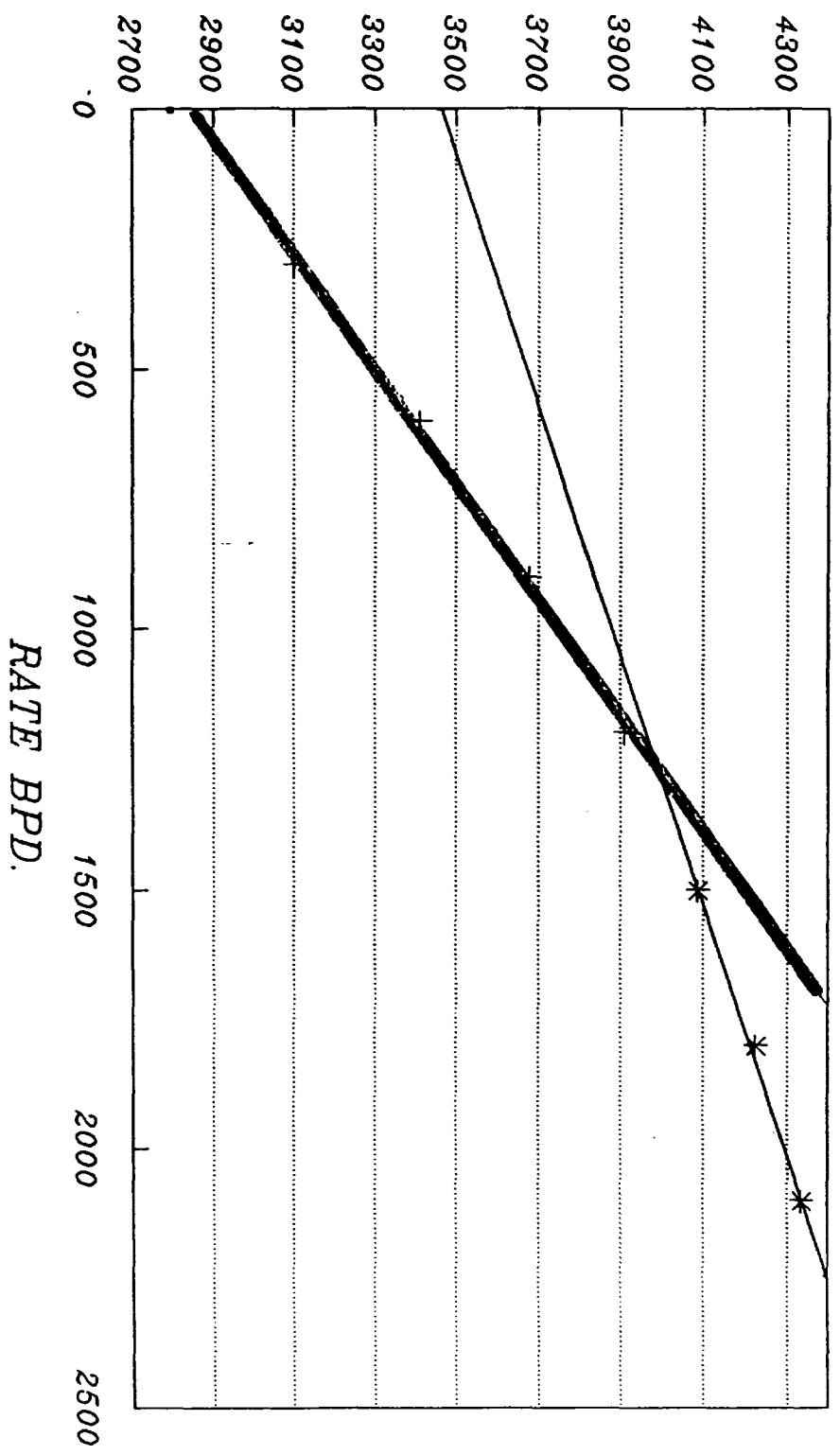
HOLMES WIRELINE SERVICE

NO FRACTURE INDICATED

10-11-95

WISER OIL : CMU #40

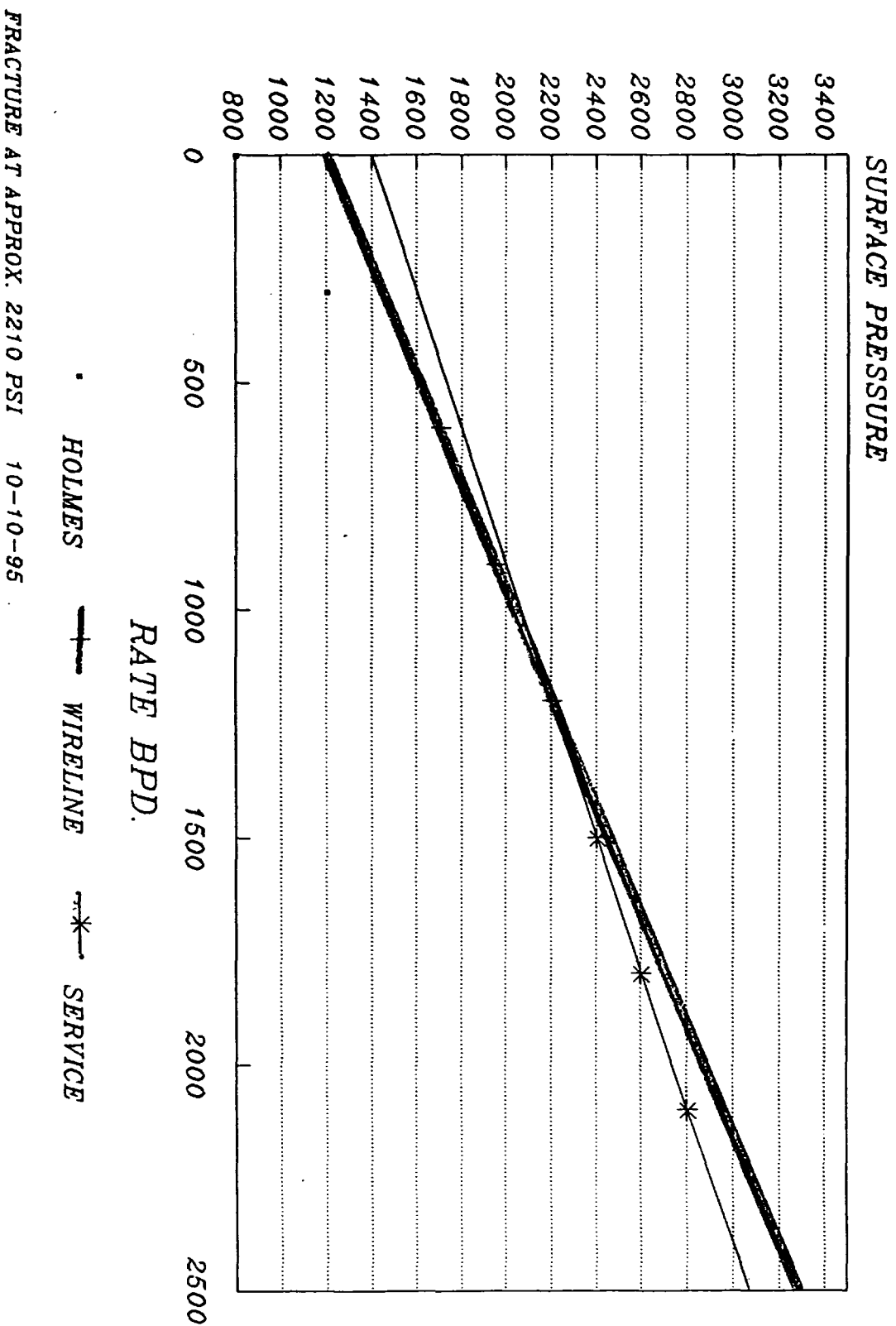
BOTTOM HOLE PPESSURE



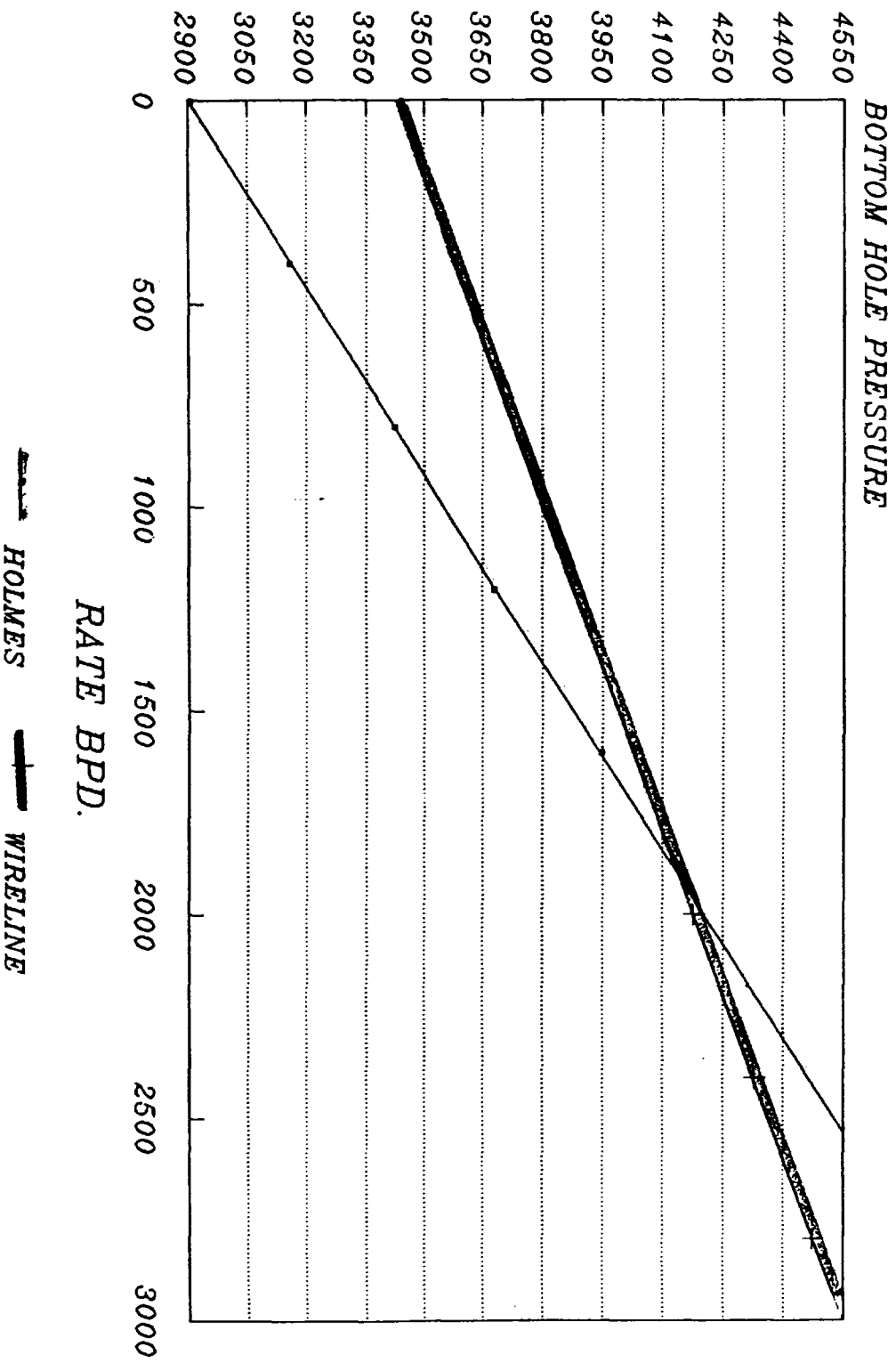
HOLMES — WIRELINE —*— SERVICE

FRACTURE AT APPROX. 4000 BHP 10-10-95

WISER OIL : CMU #40

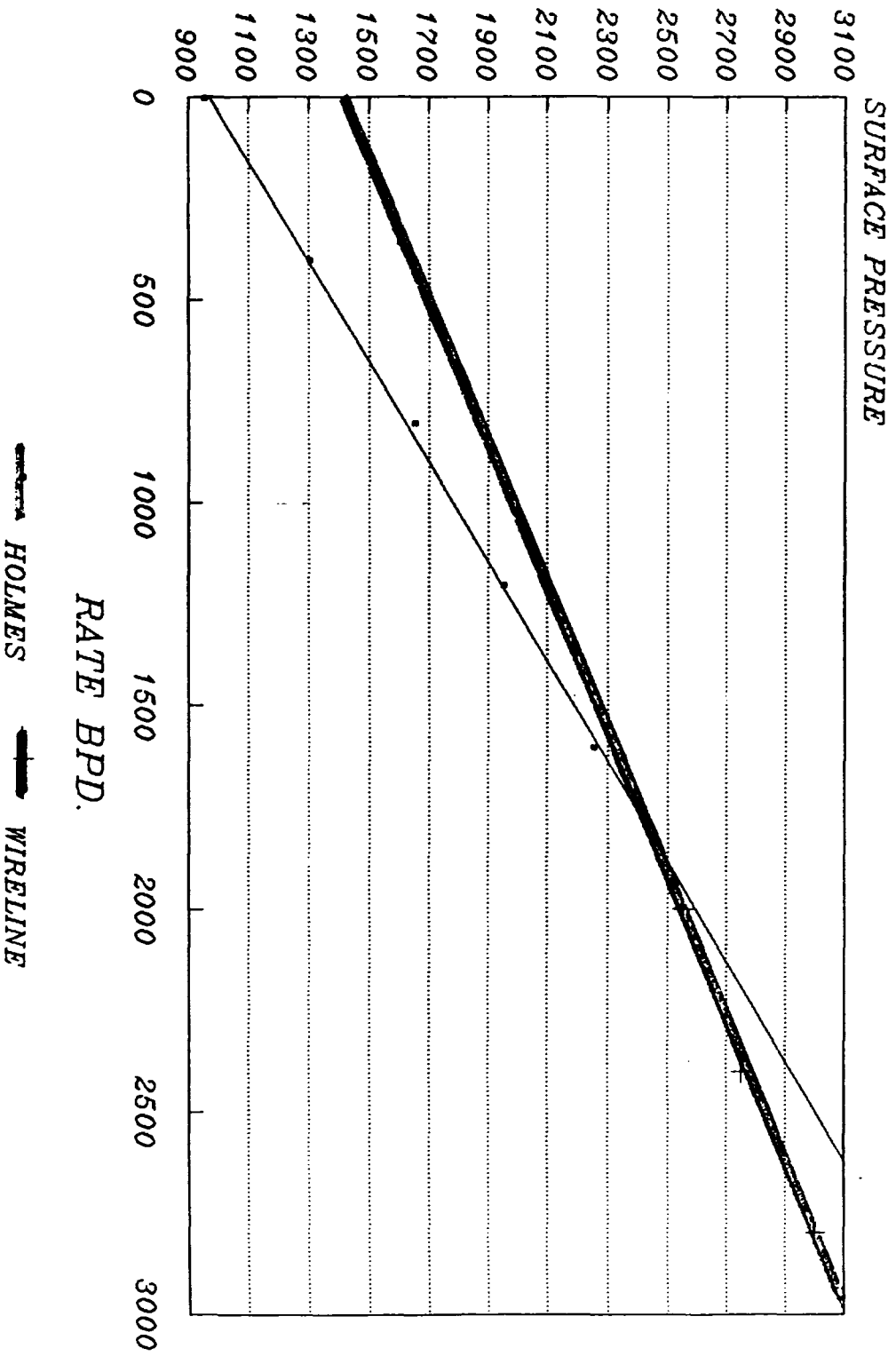


WISER OIL : CMU #42



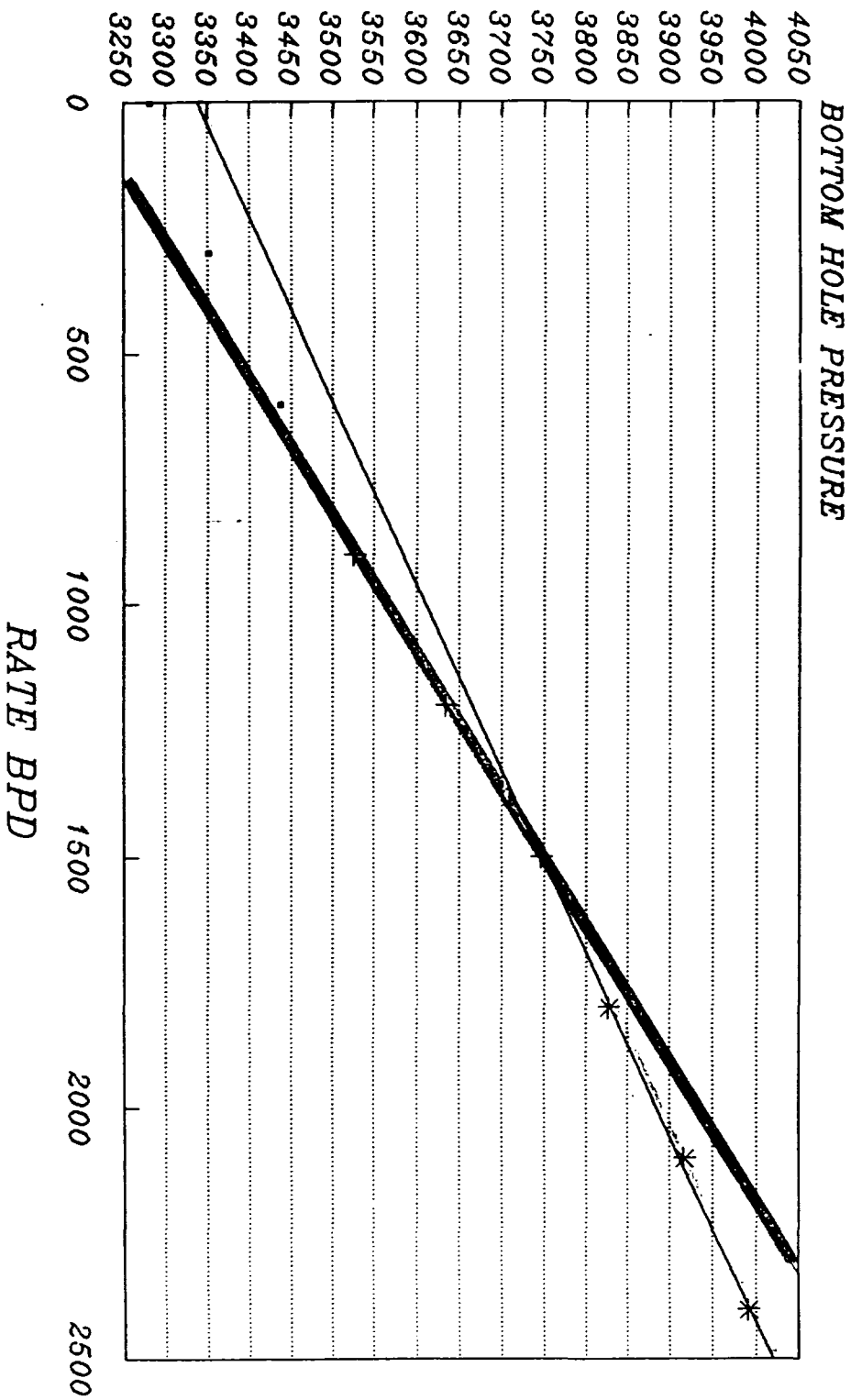
FRACTURE AT APPROX. 4130 BHP 10-2-95

WISER OIL : CMU #42



FRACTURE AT APPROX. 2400 PSI 10-2-95

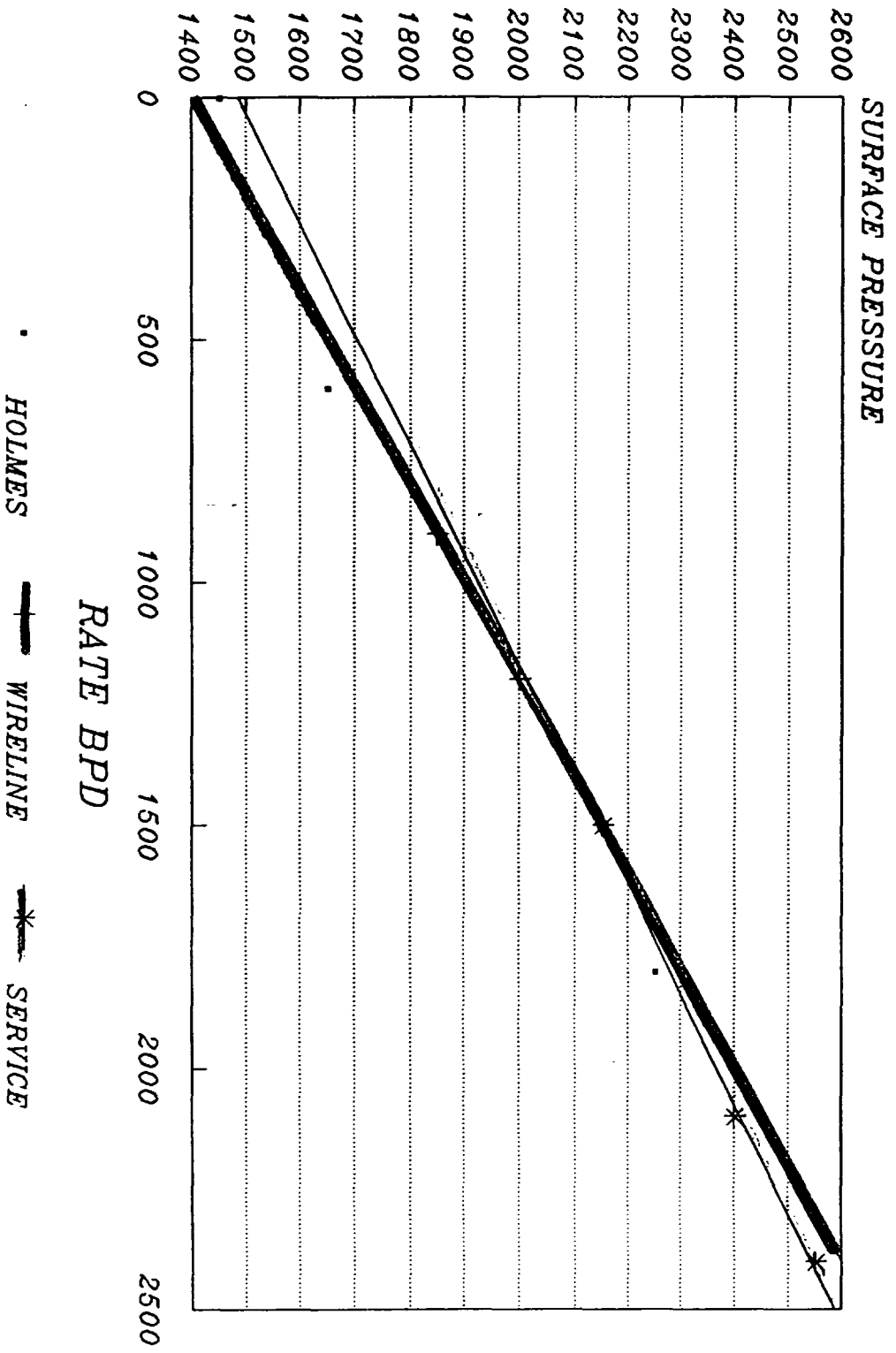
WISER OIL : CMU #51



FRACTURE AT APPROX. 3750 BHP 10-3-95

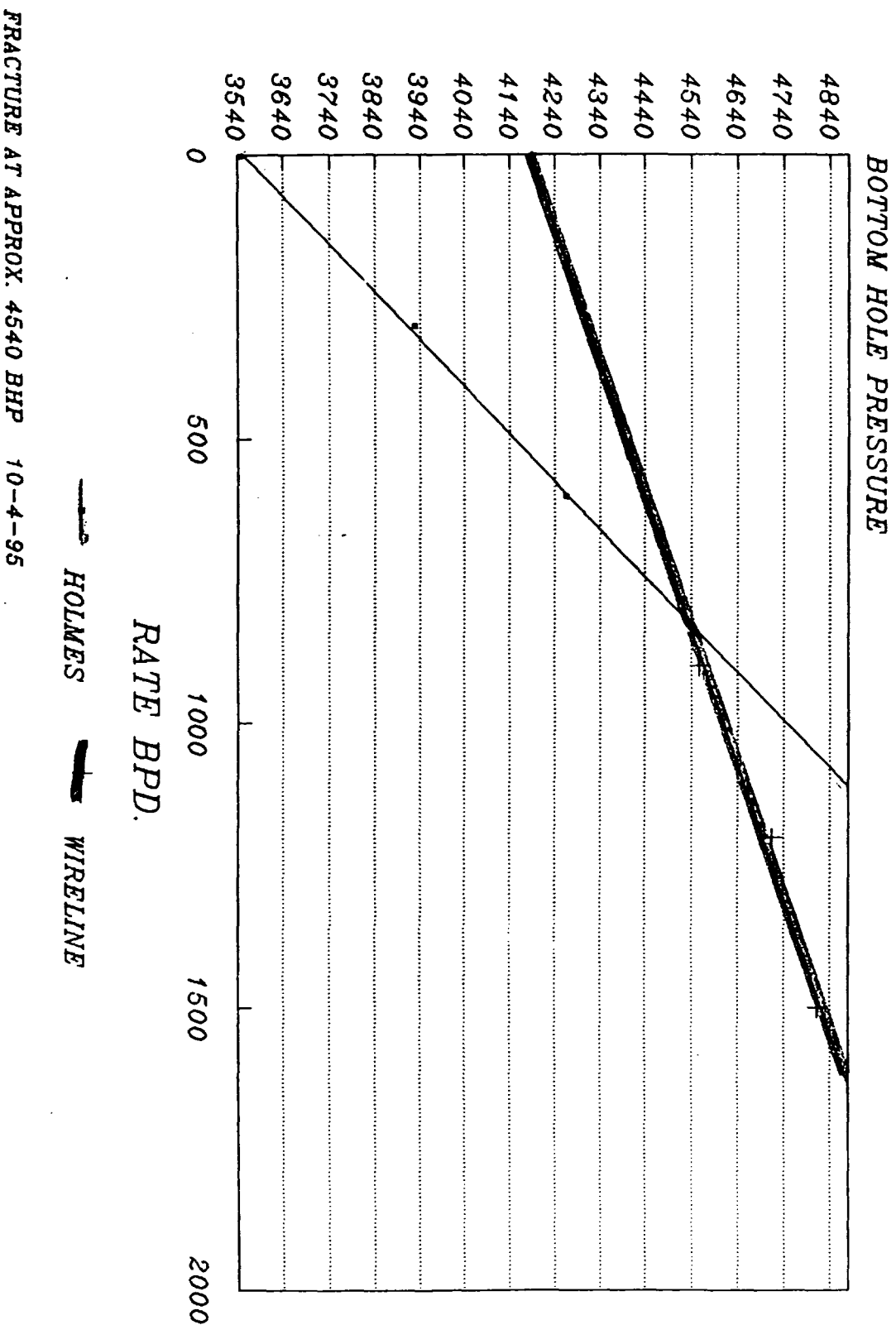
HOLMES WIRELINE SERVICE

WISER OIL : CMU #51

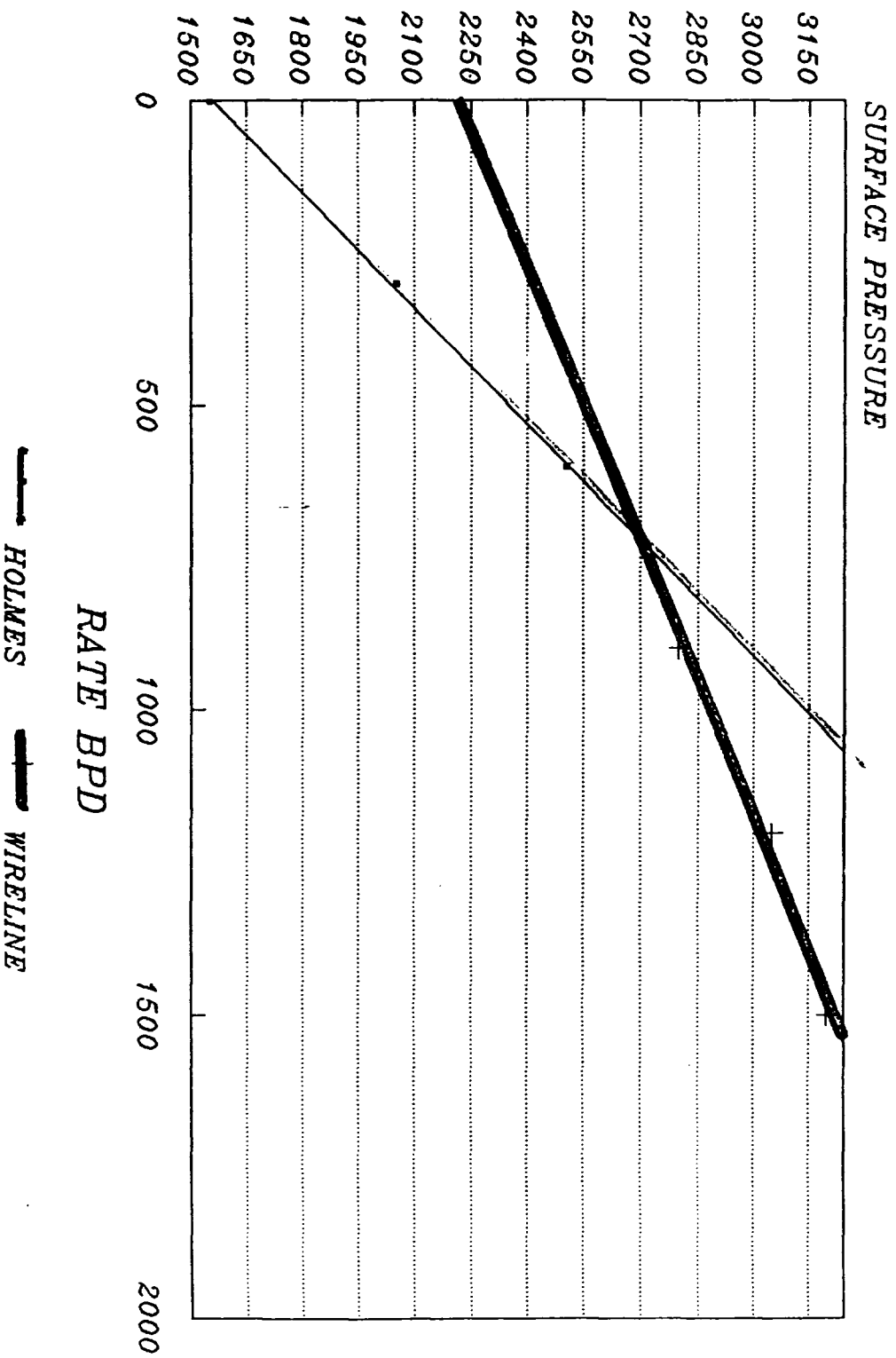


FRACTURE AT APPROX. 2125 PSI 10-3-95

WISER OIL : CMU #57

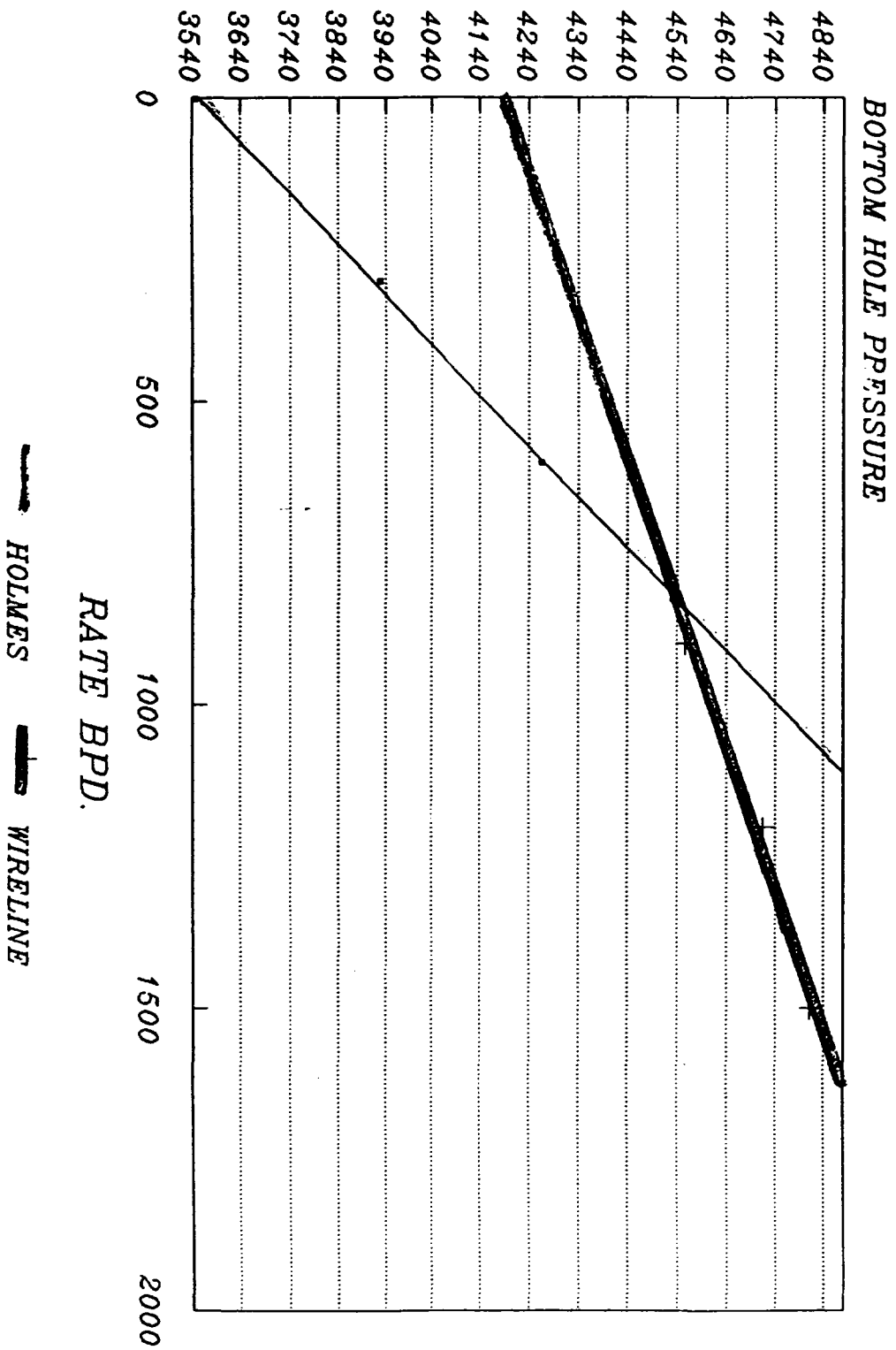


WISER OIL : CMU #57



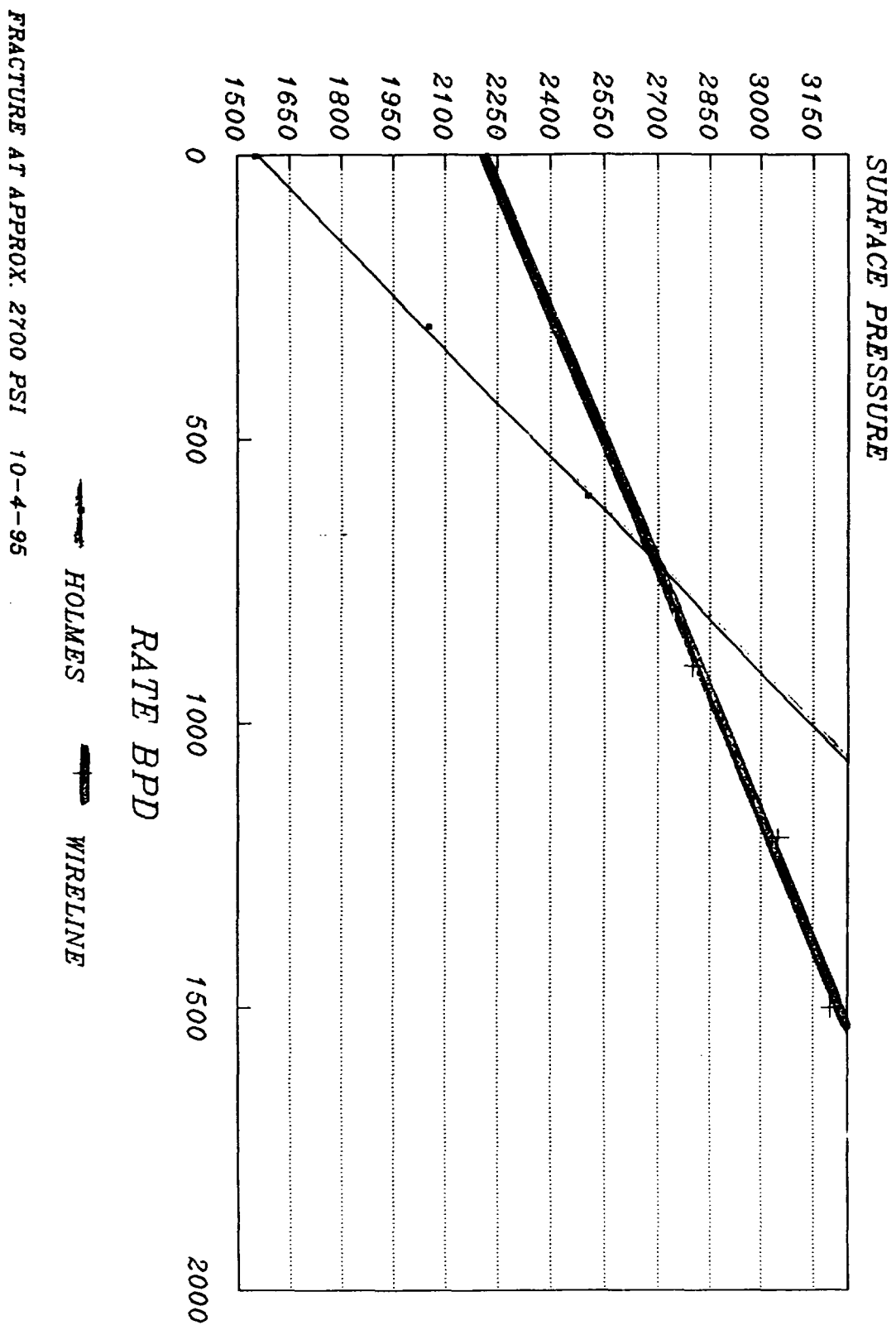
FRACTURE AT APPROX. 2700 PSI 10-4-95

WISER OIL : CMU #57



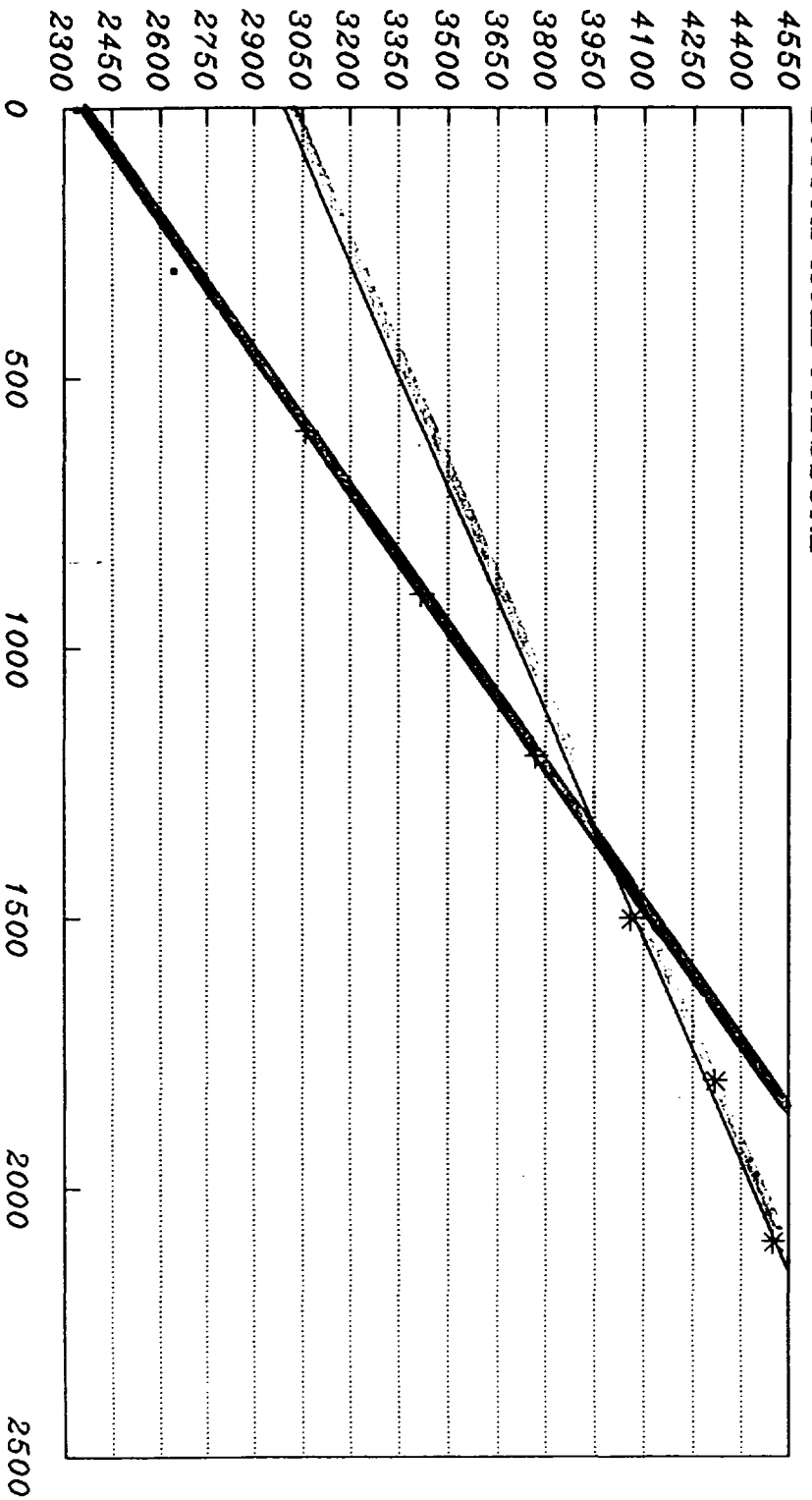
FRACTURE AT APPROX. 4540 BHP 10-4-95

WISER OIL : CMU #57



WISER OIL : CMU #59

BOTTOM HOLE PRESSURE

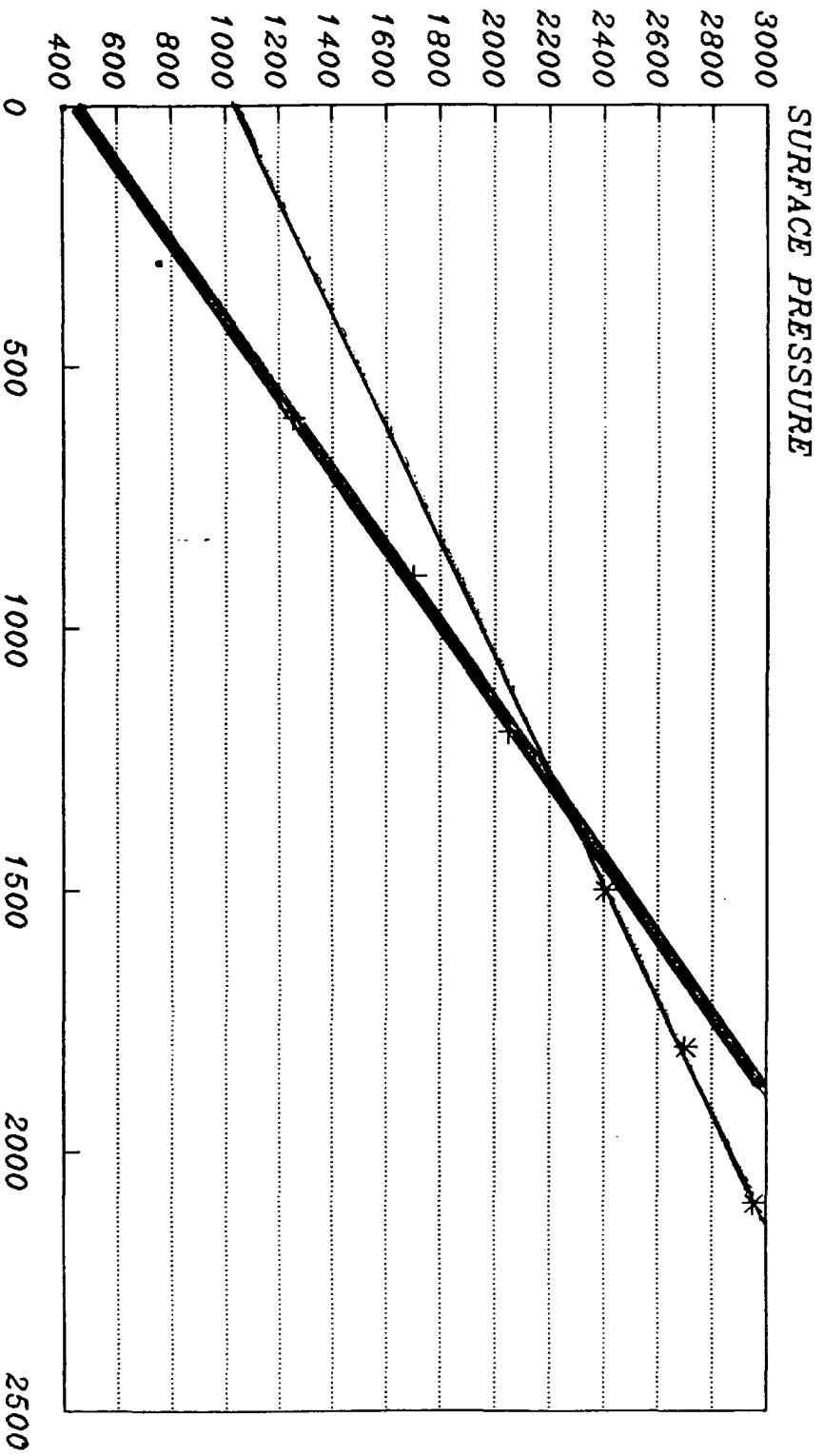


RATE BPD.

HOLMES WIRELINE SERVICE

FRACTURE AT APPROX. 4000 BHP 10-5-95

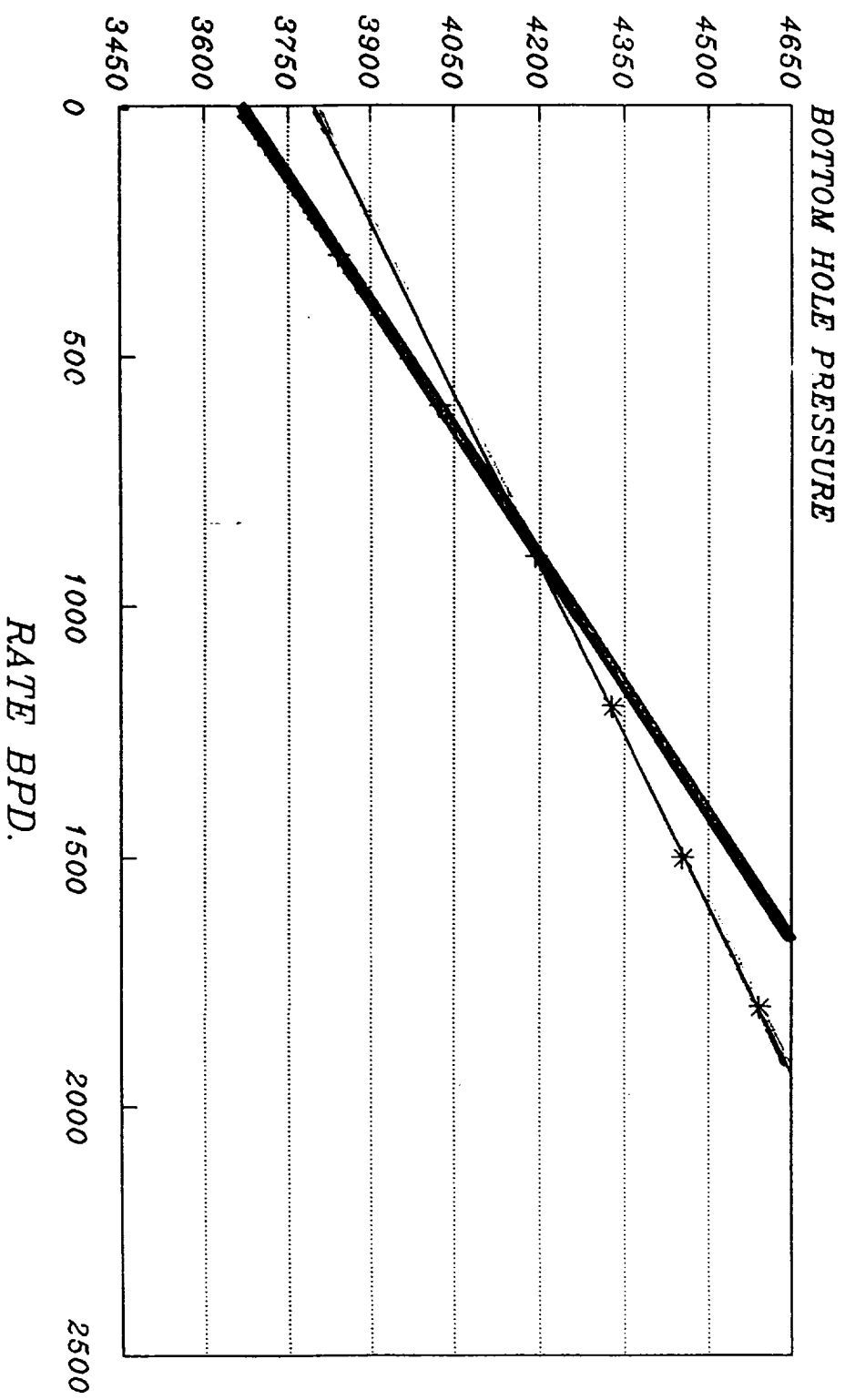
WISER OIL : CMU #59



• HOLMES — WIRELINE —*— SERVICE

FRACTURE AT APPROX. 2290 PSI 10-5-95

WISER OIL : CMU #70



FRACTURE AT APPROX. 4200 BHP 10-12-95

HOLMES WIRELINE SERVICE

RATE BPD.

WISER OIL : CMU #70

