

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



BRUCE KING
GOVERNOR

April 29, 1991

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

Shell Western E & P Inc.
PO Box 576
Houston, TX 77001

Attention: W.F.N. Kelldorf

*RE: Injection Pressure Increase
N. Hobbs G/SA Unit
Lea County, New Mexico*

Dear Mr. Kelldorf:

Reference is made to your request dated March 11, 1991, to increase the surface injection pressure on 9 wells within the N. Hobbs Grayburg/San Andres Unit Pressure Maintenance Project. This request is based on the step rate tests submitted with your application. 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 wells.

<u>WELL AND LOCATION</u>	<u>MAXIMUM INJECTION SURFACE PRESSURE</u>
NHGSAU Well No. 13-431 Unit I, Section 13, T-18S, R-37E, NMPM	990 PSIG
NHGSAU Well No. 14-321 Unit G, Section 14, T-18S, R-37E, NMPM	1360 PSIG
NHGSAU Well No. 24-311 Unit B, Section 24, T-18S R-37E, NMPM	1000 PSIG
NHGSAU Well No. 25-121 Unit E, Section 25, T-18S, R-37E, NMPM	1730 PSIG
NHGSAU Well No. 25-231 Unit K, Section 25, T-18S R-37E, NMPM	1460 PSIG
NHGSAU Well No. 25-431 Unit I, Section 25, T-18S, R-37E, NMPM	1430 PSIG

NHGSAU Well No. 26-411
Unit A, Ssection 26, T-18S
R-37E, NMPM

1830 PSIG

NHGSAU Well No. 27-111
Unit D, Section 27, T-18S
R-38E, NMPM

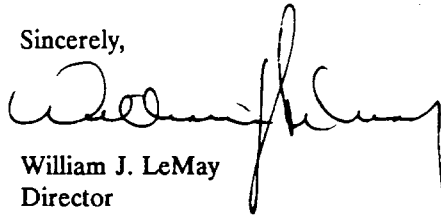
1450 PSIG

NHGSAU Well No. 36-211
Unit C, Section 36, T-18S
R-37E, NMPM

1700 PSIG

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', with a long horizontal stroke extending to the right.

William J. LeMay
Director

cc: Oil Conservation Division - Hobbs
File: Case No. 6653
D. Catanach
R. Brown

NO WAITING PERIOD

COMPANY: Shell Western E & P Inc.
ADDRESS: P.O. Box 576
CITY, STATE, ZIP: Houston, TX 77001
ATTENTION: W.F.N. Nickdorf

Re: Injection Pressure Increase

N. Hobbs G/SA Unit

Rea County, New Mexico

Dear Sir:

Reference is made to your request dated March 11, 1991, to increase the surface injection pressure on 9 wells within the N. Hobbs G/SA Unit Artesian Unit Pressure Maintenance Project. This request is based on step rate tests conducted on these wells submitted with your application 19 ch. 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 wells:

<u>Well & Location</u>	<u>Maximum Injection Surface Pressure</u>
NHGS AU Well No. 13-431 Unit I, Section 13, T-18S, R-37E, NM PM	990 PSIG
NHGS AU Well No. 14-321 Unit G, Section 14, T-18S, R-37E, NM PM	1360 PSIG
NHGS AU Well No. 24-311 Unit B, Section 24, T-18S, R-37E, NM PM	1000 PSIG
NHGS AU Well No. 25-121 Unit E, Section 25, T-18S, R-37E, NM PM	1730 PSIG
NHGS AU Well No. 25-231 Unit K, Section 25, T-18S, R-37E, NM PM	1460 PSIG
NHGS AU Well No. 25-431 Unit I, Section 25, T-18S, R-37E, NM PM	1430 PSIG
NHGS AU Well No. 26-411 Unit A, Section 26, T-18S, R-37E, NM PM	1830 PSIG
NHGS AU Well No. 27-111 Unit D, Section 27, T-18S, R-38E, NM PM	1450 PSIG
NHGS AU Well No. 36-211 Unit C, Section 36, T-18S, R-37E, NM PM	1700 PSIG

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.

xc: T. ~~CALLEGOS~~ D. CATANACH FILE- Case No. 6653 OCD- Hobbs
R. Brown

Oil Conservation Division
RECEIVED
MAR 9 00

Shell Western E&P Inc.
An Affiliate of Shell Oil Company



P.O. Box 576
Houston, TX 77001

March 11, 1991

CERTIFIED MAIL

Mr. David R. Catanach
New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
State Land Office Building
310 Old Santa Fe Trail
P. O. Box 2088
Santa Fe, New Mexico 87504

Dear Mr. Catanach:

SUBJECT: REQUEST FOR INCREASED SURFACE INJECTION PRESSURE
ON SELECTED WELLS IN THE NORTH HOBBS (G/SA) UNIT
LEA COUNTY, NEW MEXICO

SWEPI, as unit operator of the North Hobbs (G/SA) Unit, requests that the surface injection pressure limit be increased for the nine wells on the attached list. The requested increases are based on step rate tests which are attached for your review.

The increases in surface injection pressure are necessary to maintain adequate injection rates, thus ensuring the optimum performance of the waterflood.

Should you have any questions or require additional information, please contact Ellyn Schade at (713) 870-3016.

Yours very truly,

A handwritten signature in dark ink, appearing to read "W. F. N. Kelldorf".

W. F. N. Kelldorf
Division Environmental Engineer - HS&E
Western Division

EMS:rlb

Enclosures (10)

cc: Mr. Jerry Sexton
Oil Conservation Division
P. O. Box 1980
Hobbs, NM 88240

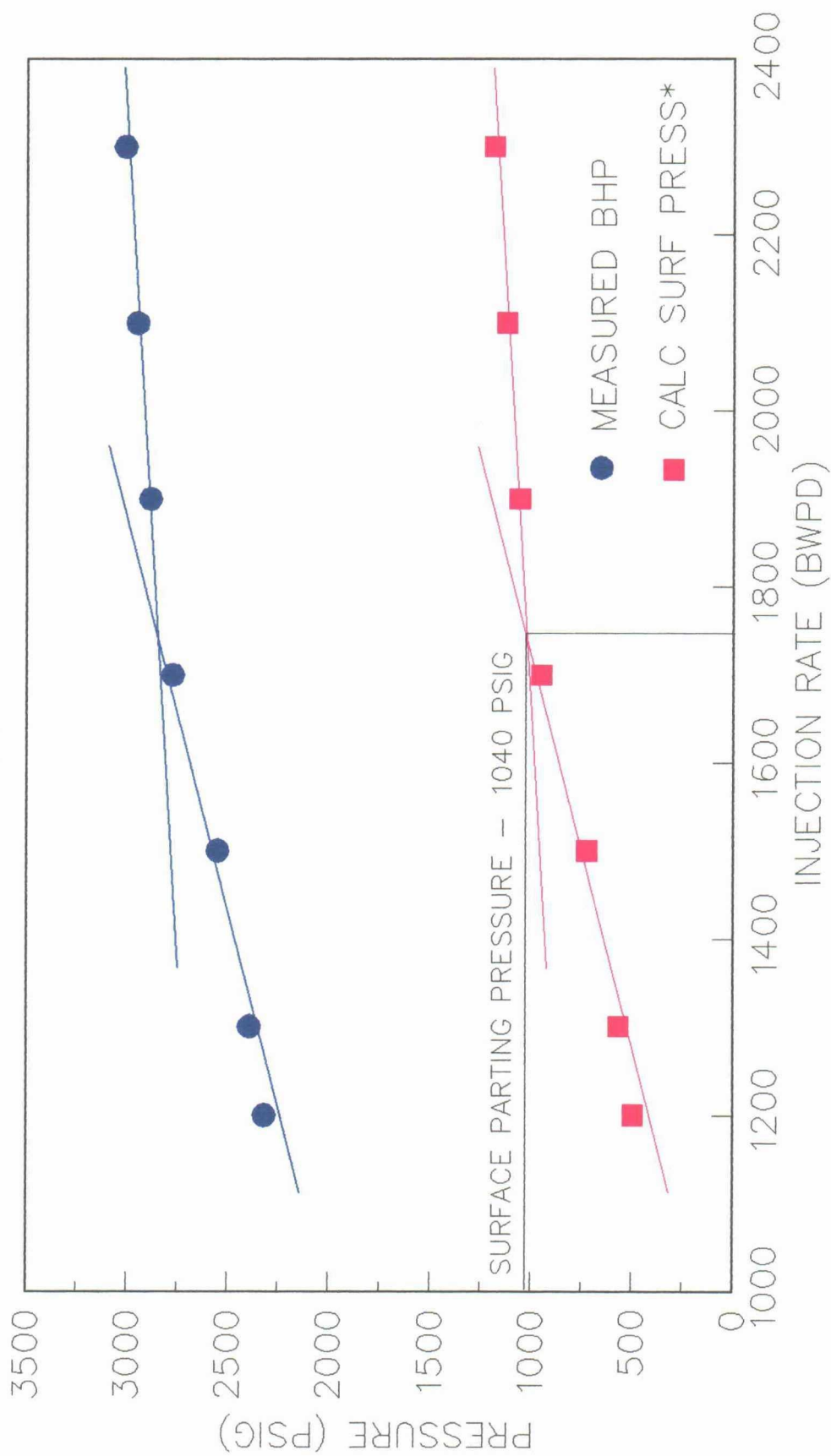
BNND9107105 - 0001.0.0

NORTH HOBBS (GB/SA) UNIT

<u>WELL</u>	<u>OBSERVED SURFACE PARTING PRESSURE PSIG</u>	<u>REQUESTED ALLOWED SURFACE PRESSURE (PSIG)</u>
13-431 ✓	1040	1020
14-321 ✓	1410	1390
24-311 ✓	1050	1030
25-121 ✓	1780	1760
25-231 ✓	1510	1490
25-431 ✓	1480	1460
26-411 ✓	1880	1860
27-111 ✓	1500	1480
36-211 ✓	1750	1730

NORTH HOBBS (GB/SA) UNIT

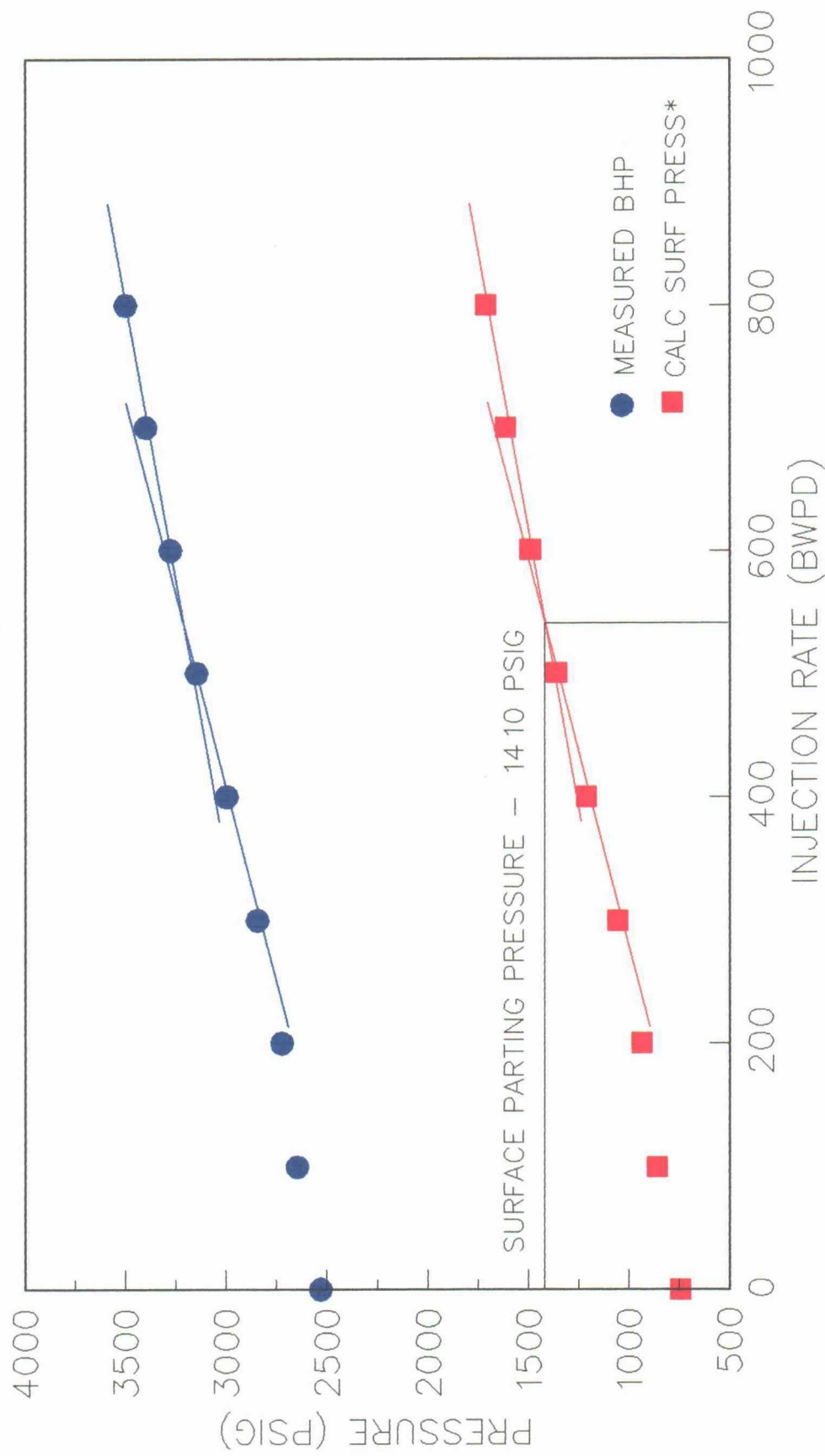
NHU 13-431 STEP RATE TEST



* BHP less HYDROSTATIC GRADIENT

NORTH HOBBS (GB/SA) UNIT

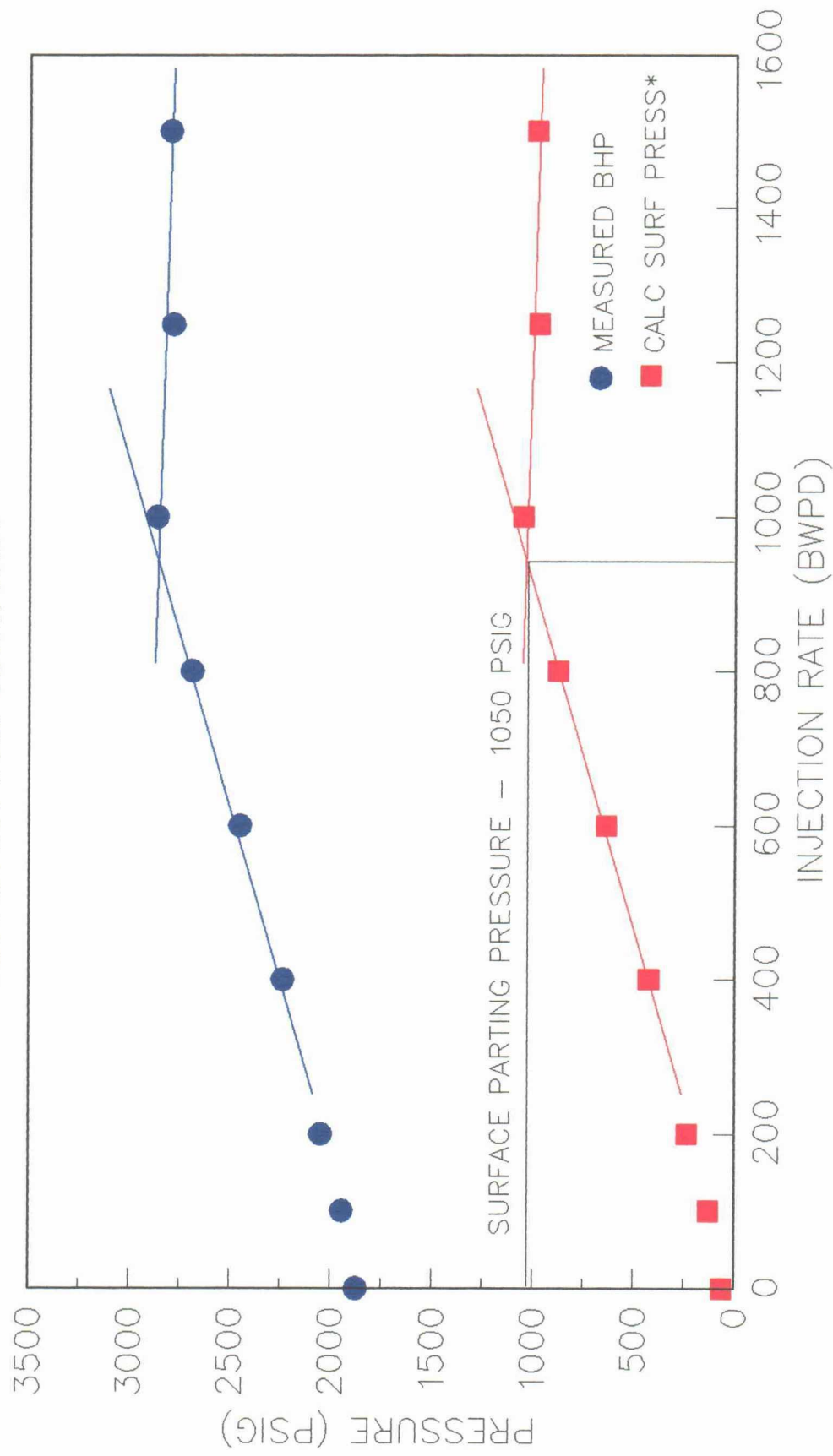
NHU 14-321 STEP RATE TEST



* BHP less HYDROSTATIC GRADIENT

NORTH HOBBS (GB/SA) UNIT

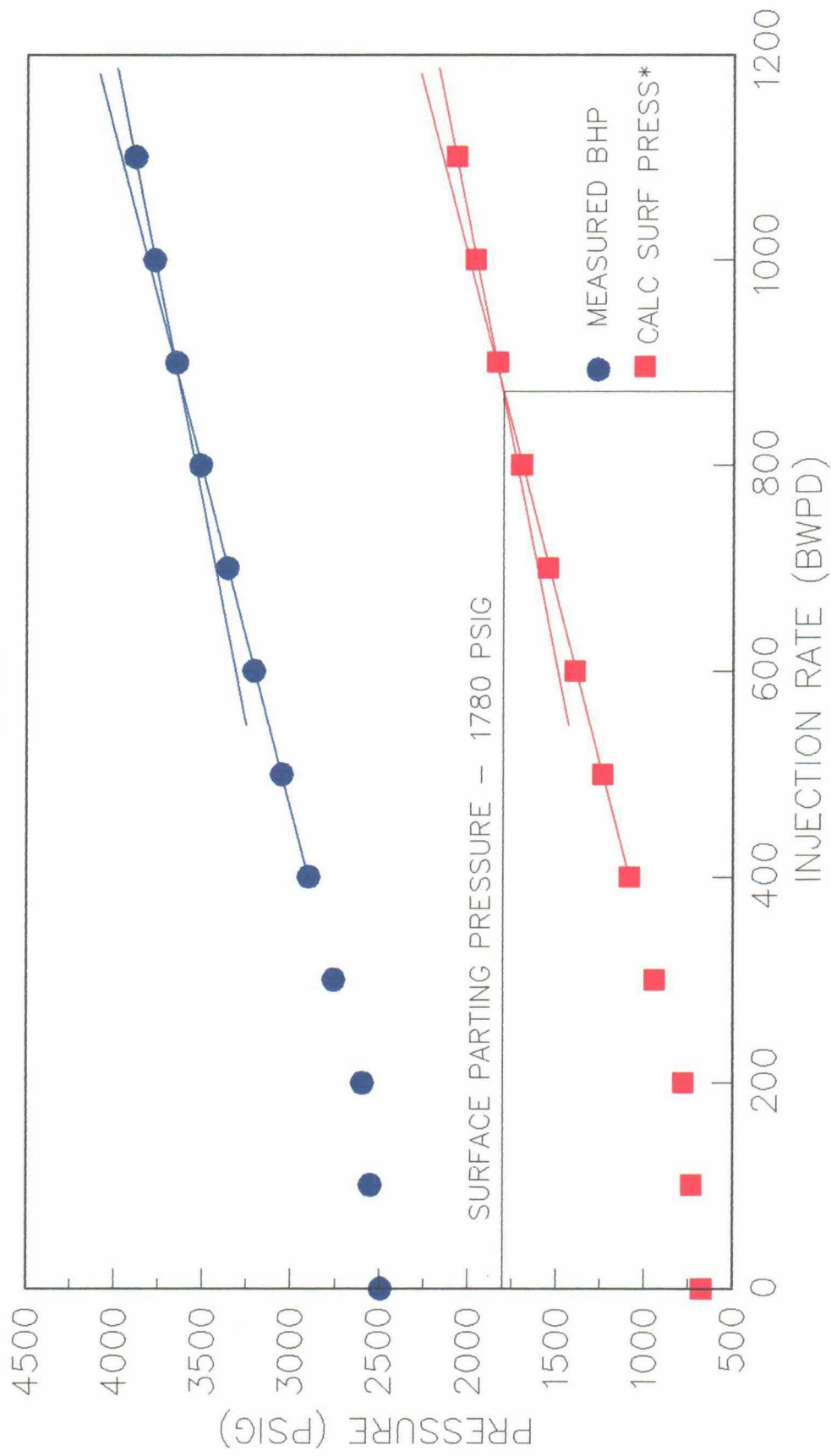
NHU 24-311 STEP RATE TEST



* BHP less HYDROSTATIC PRESSURE

NORTH HOBBS (GB/SA) UNIT

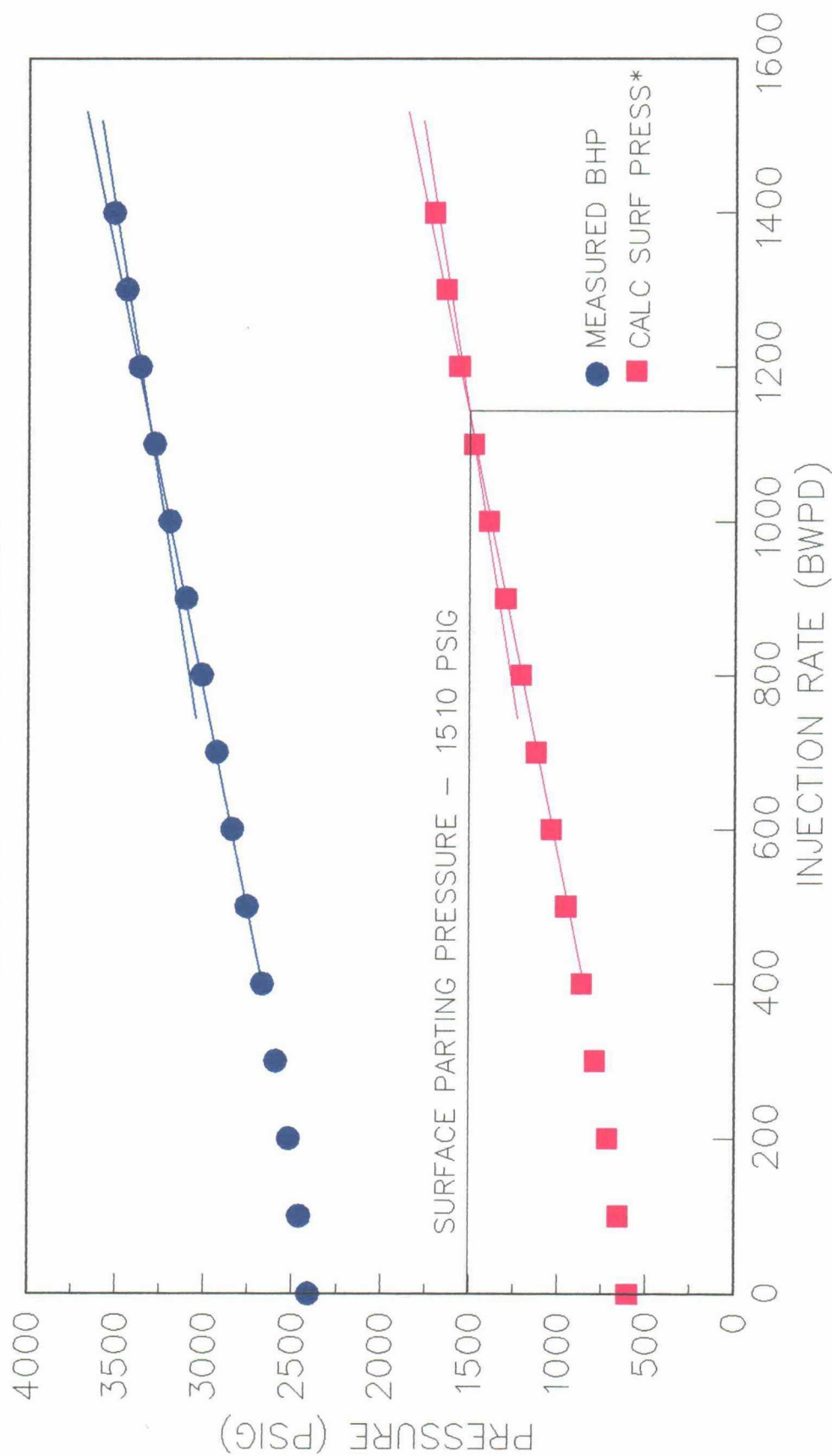
NHU 25-121 STEP RATE TEST



* BHP less HYDROSTATIC PRESSURE

NORTH HOBBS (GB/SA) UNIT

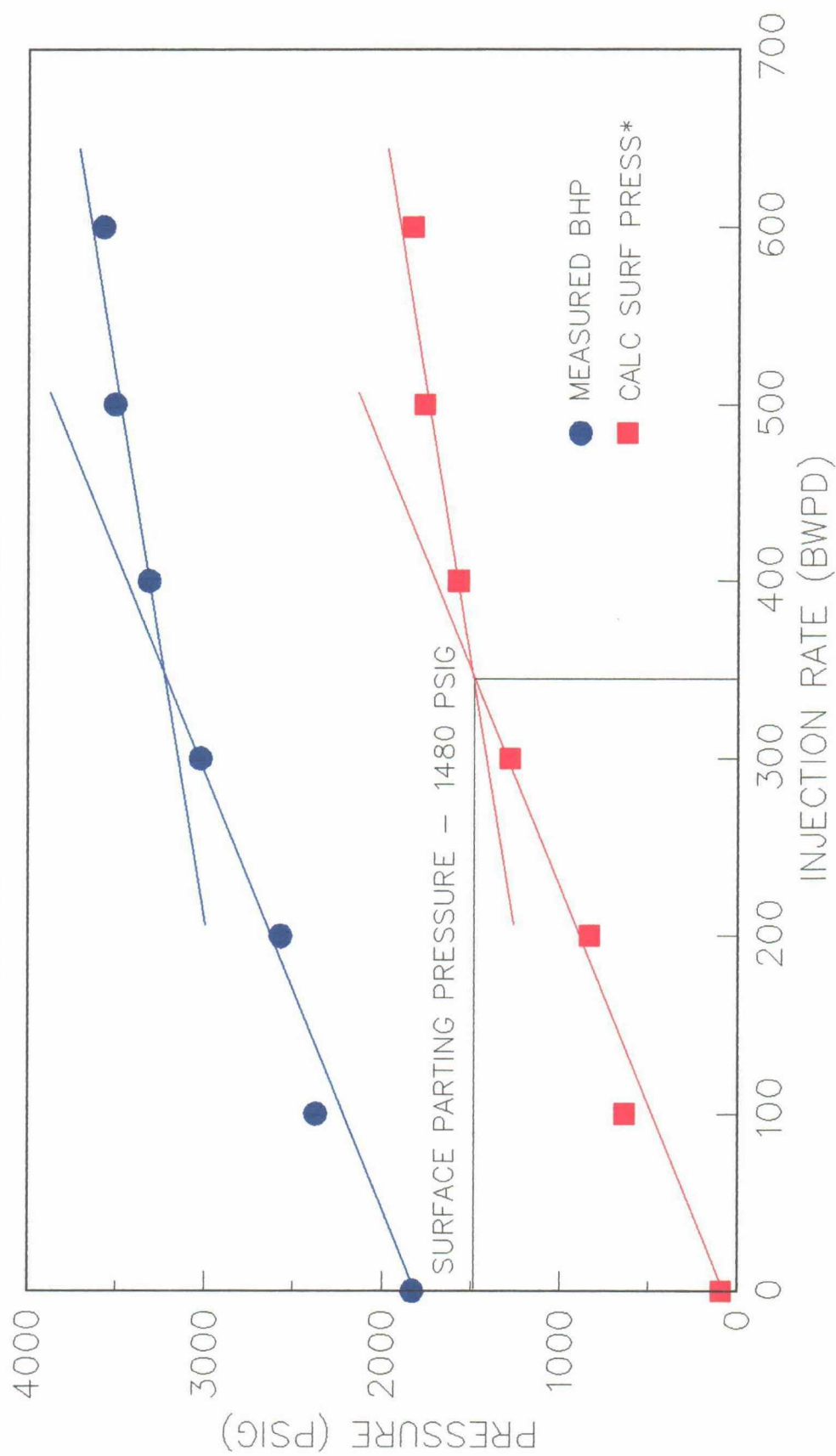
NHU 25-231 STEP RATE TEST



* BHP less HYDROSTATIC GRADIENT

NORTH HOBBS (GB/SA) UNIT

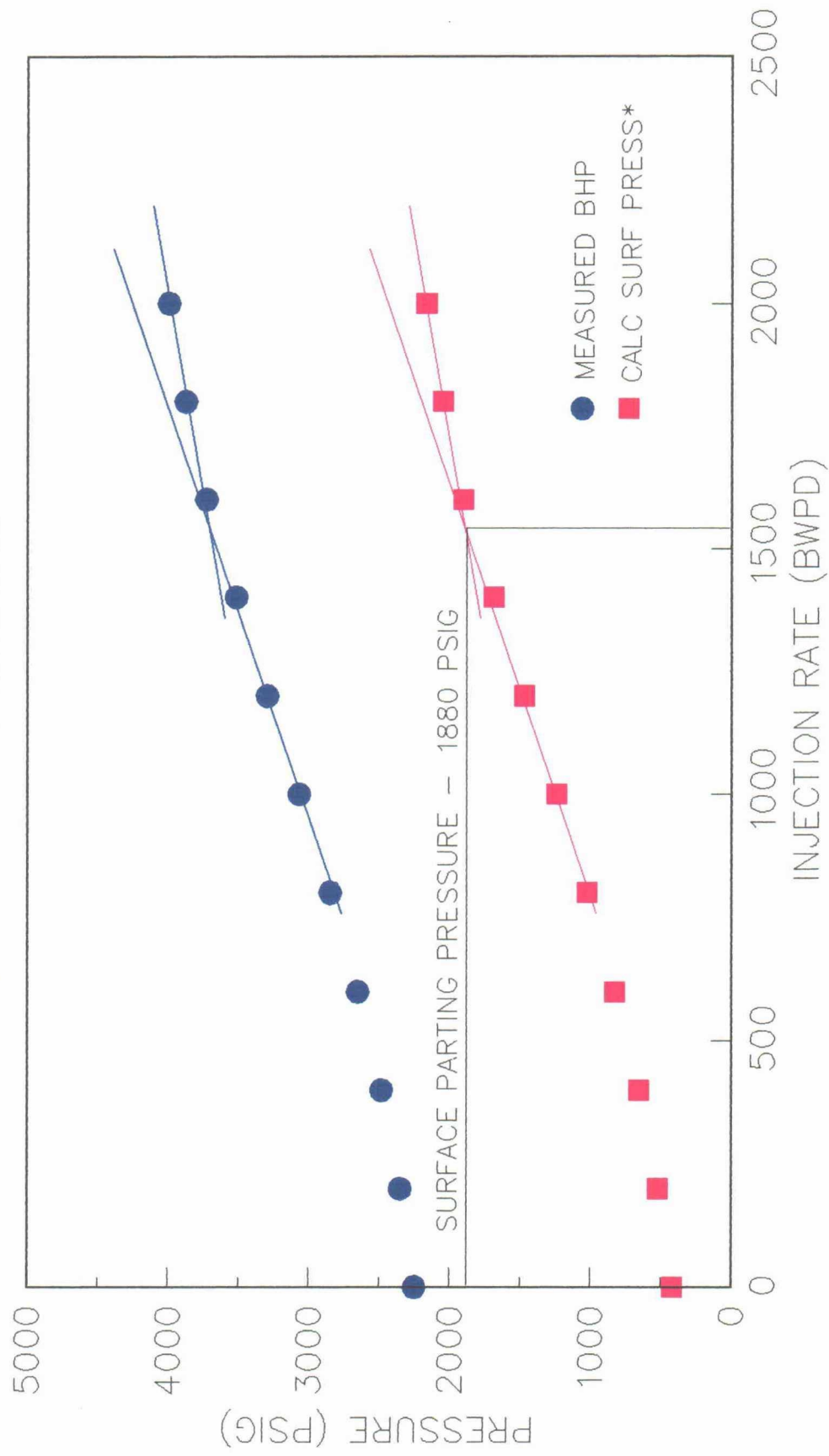
NHU 25-431 STEP RATE TEST



* BHP less HYDROSTATIC PRESSURE

NORTH HOBBS (GB/SA) UNIT

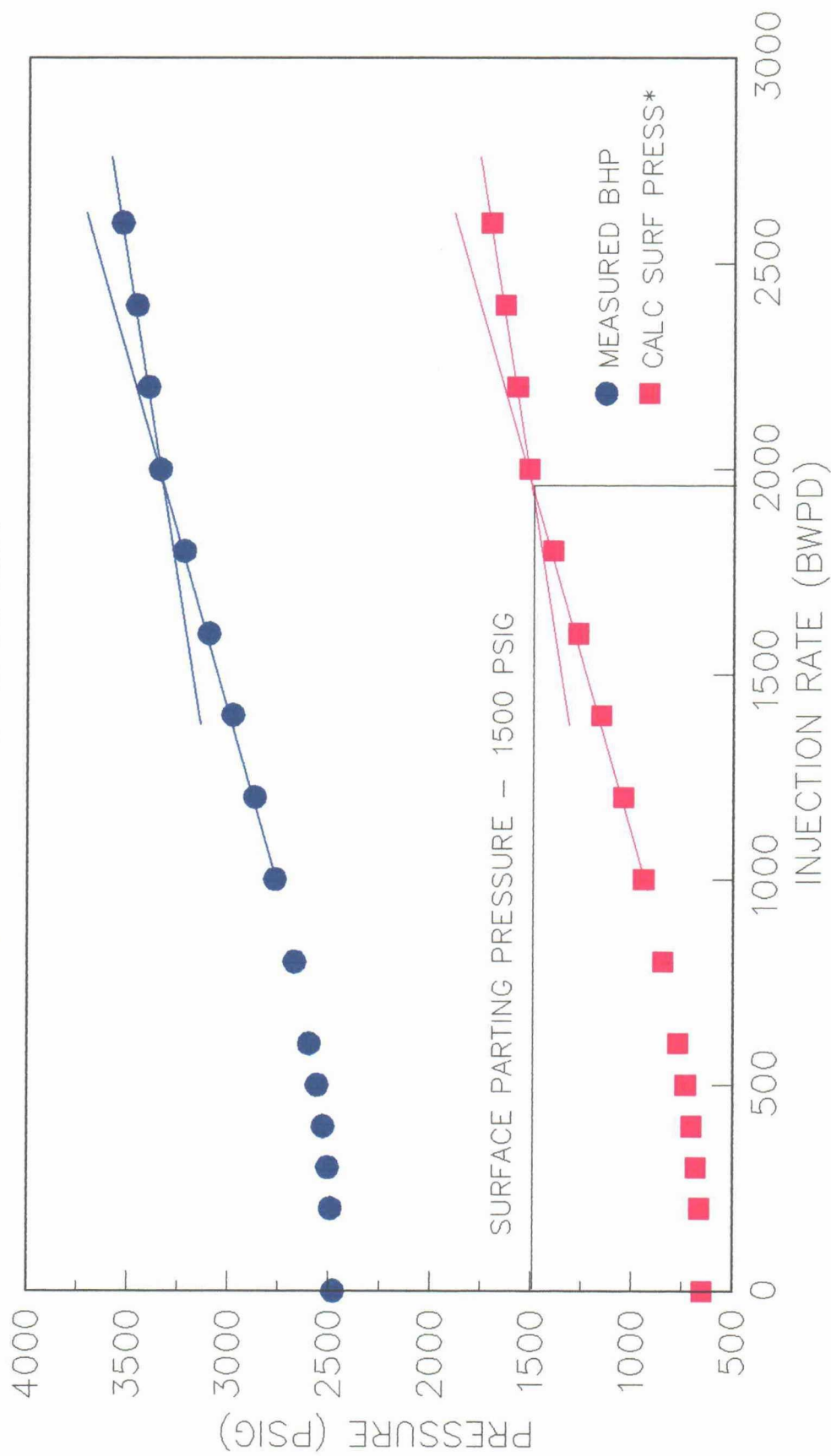
NHU 26-411 STEP RATE TEST



* BHP less HYDORSTATIC PRESSURE

NORTH HOBBS (GB/SA) UNIT

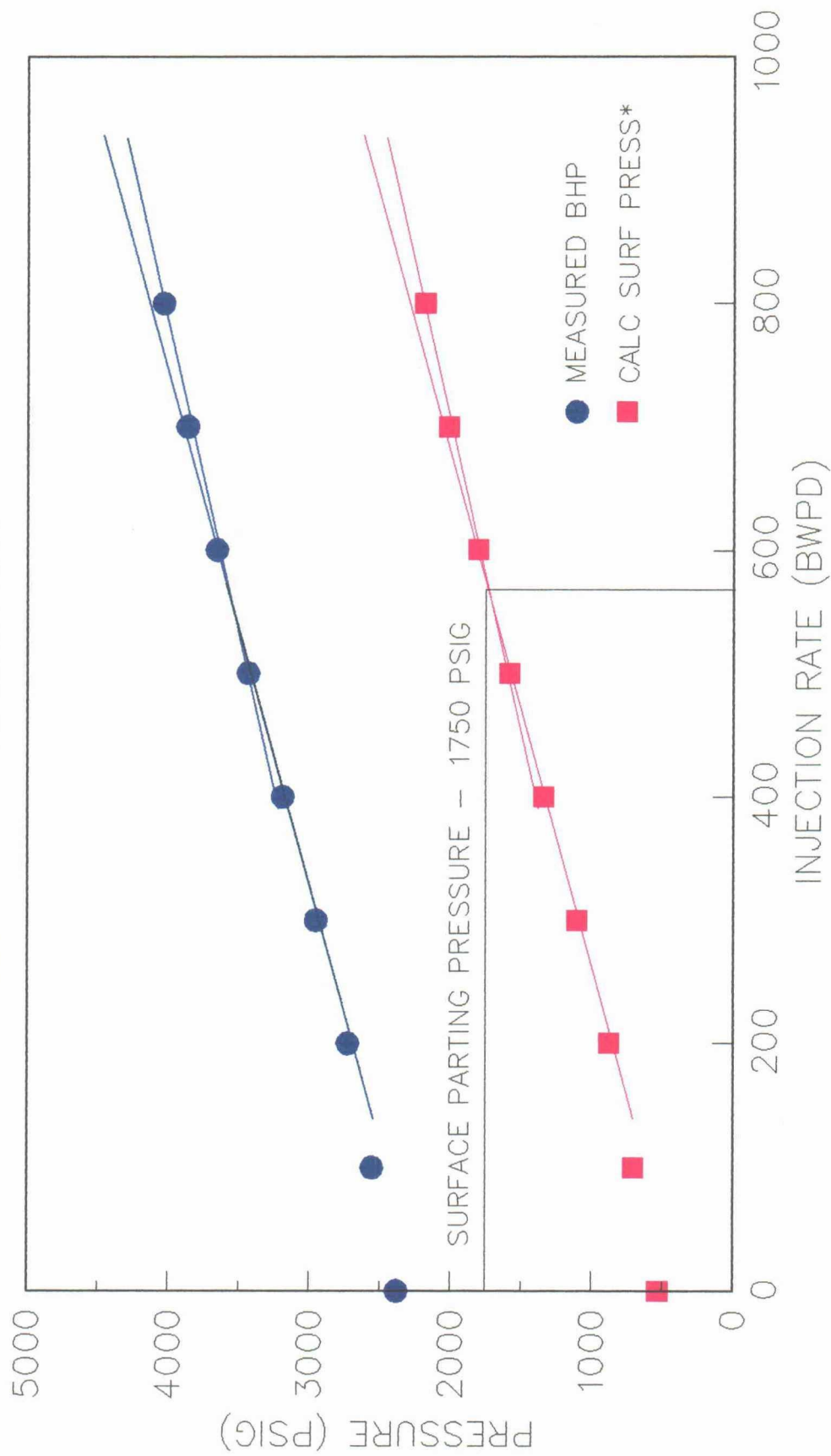
NHU 27-111 STEP RATE TEST



* BHP less HYDROSTATIC PRESSURE

NORTH HOBBS (GB/SA) UNIT

NHU 36-211 STEP RATE TEST



* BHP less HYDROSTATIC PRESSURE