

DATE IN 1-20-05	SUSPENSE	ENGINEER Catanach	LOGGED IN 1-20-05	TYPE IPI	APP NO. PSEM0502038156
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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



247

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]**

[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.

Print or Type Name

Signature

Title

Date

e-mail Address

RECEIVED

DEC 20 2005
JAN
Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505

MEWBOURNE OIL COMPANY

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

January 14, 2005

New Mexico Oil Conservation Commission
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Att: Mr. David Catanach

Re: *Application for Increased Surface Pressure*
Querecho Plains Queen Associated 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). Step rate tests were run in December to bring wells in compliance with permit pressures.

<u>Well</u>	<u>Permit Pressure</u>	<u>Frac Pressure</u>	<u>Requested Pressure</u>
QPQASU No. 3	1780	1870	1850 psig
QPQASU No. 6	1370	1525	1500 psig
QPQASU No. 13	1800	2320	2300 psig
QPQASU No. 14	1900	2250	2230 psig

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 Queen and/or Penrose formations.

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.

I have attached a copy of the most recent QPQASU performance graph. The waterflood is in later stages of production. Continued injection for ten years has caused continued increase in pore 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. Decreasing injectivity is demonstrated by the injection curve shown in violet color. I point this out for the fact that approved injection pressure have a pressure 50 psig below the fracture pressure as shown on the previous step-rate test. Fracture pressure is a continually moving target. By the time that approval is obtained, fracture pressure will have progressed above the current request.

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New Mexico Oil Conservation Commission
Mr. David Catanach
January 14, 2005

The attached step rate tests show an injection pressure of less than 100 psig below the lowest test pressure on any well would prevent any injection into the reservoir. For this reason, I respectfully request the approval of the requested pressures without a reduction of 50 psig. If you have any questions, please contact me at the above number. Thank you for your consideration in this matter.

Yours truly,

A handwritten signature in black ink, appearing to read "K.M. Calvert". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

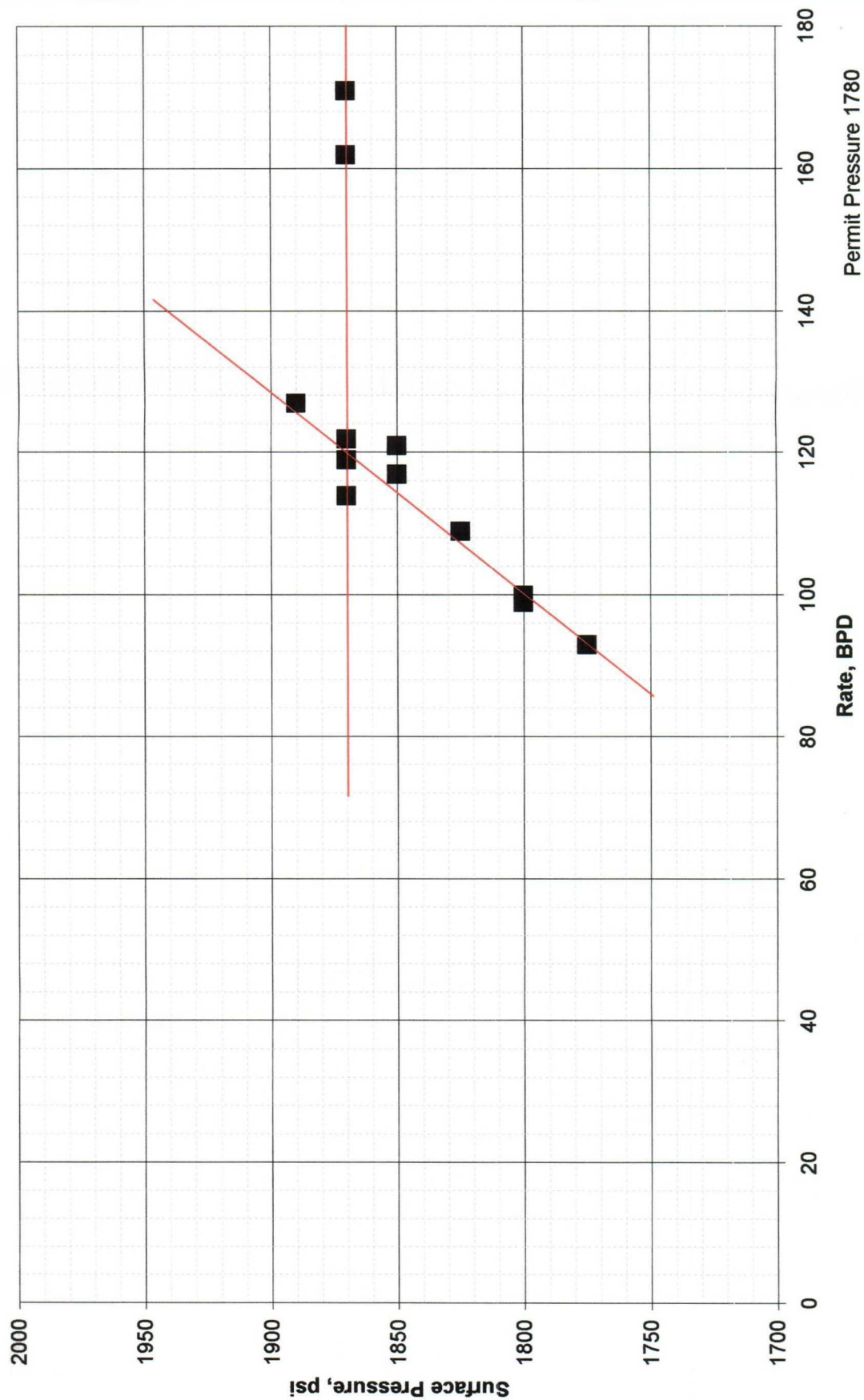
K. M. Calvert

KMC/sh
Attachments: Step-Rate Graphs
Total Unit Graph

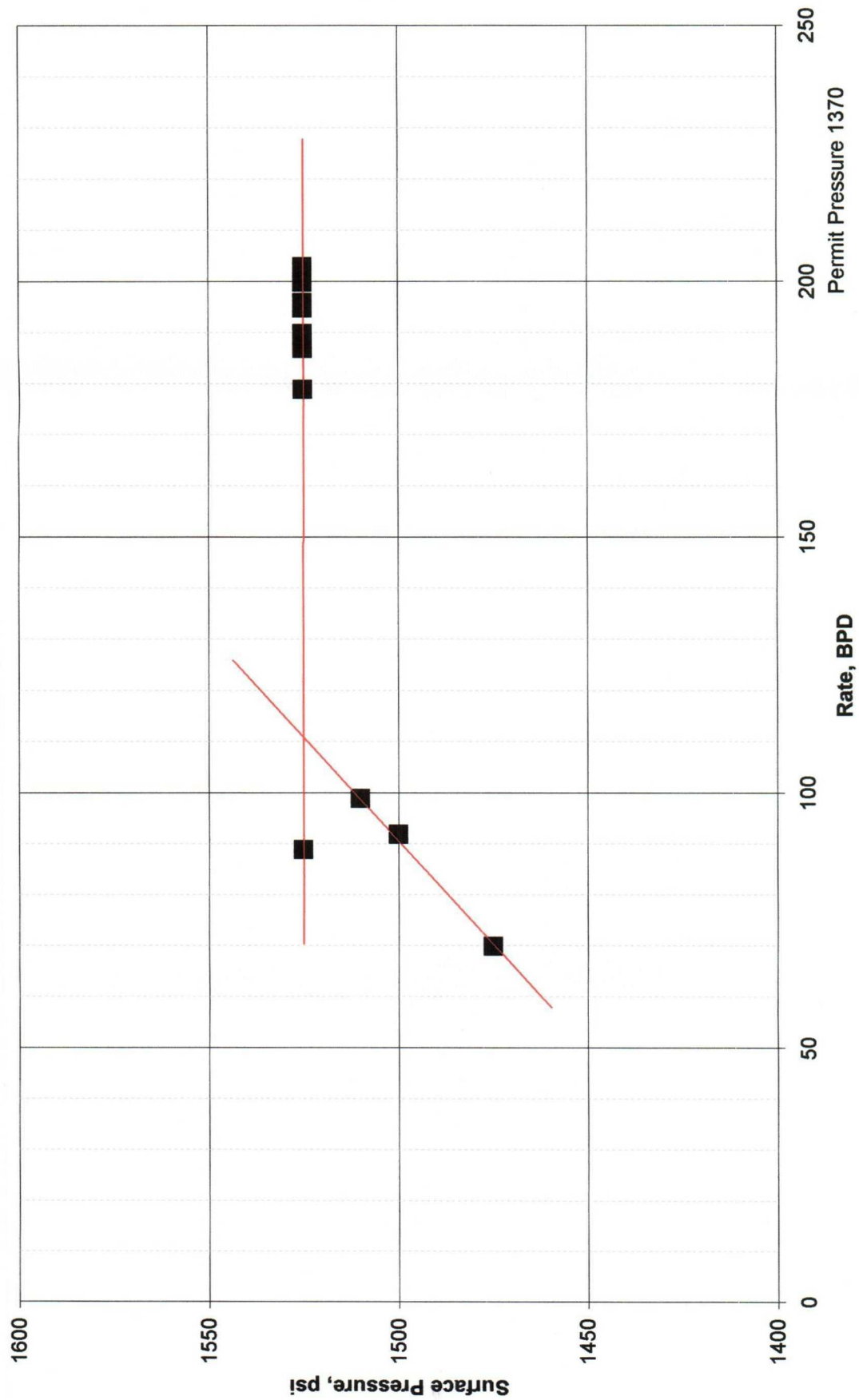
cc: Arthur Boice

Mr. Chris Williams
New Mexico Oil Conservation Division
1625 N. French Drive
Hobbs, NM 88241

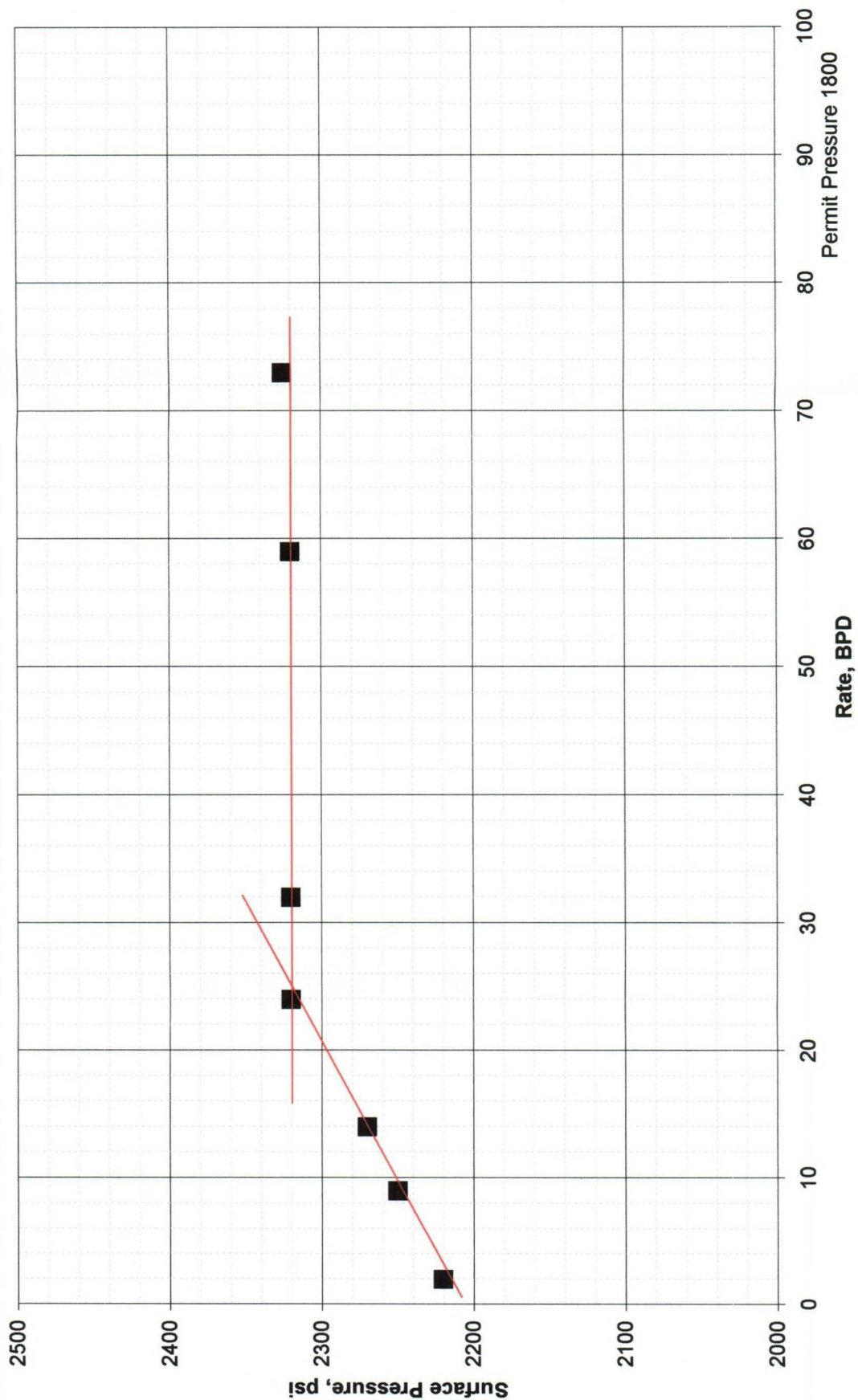
QPQASU NO. 3 STEP RATE TEST



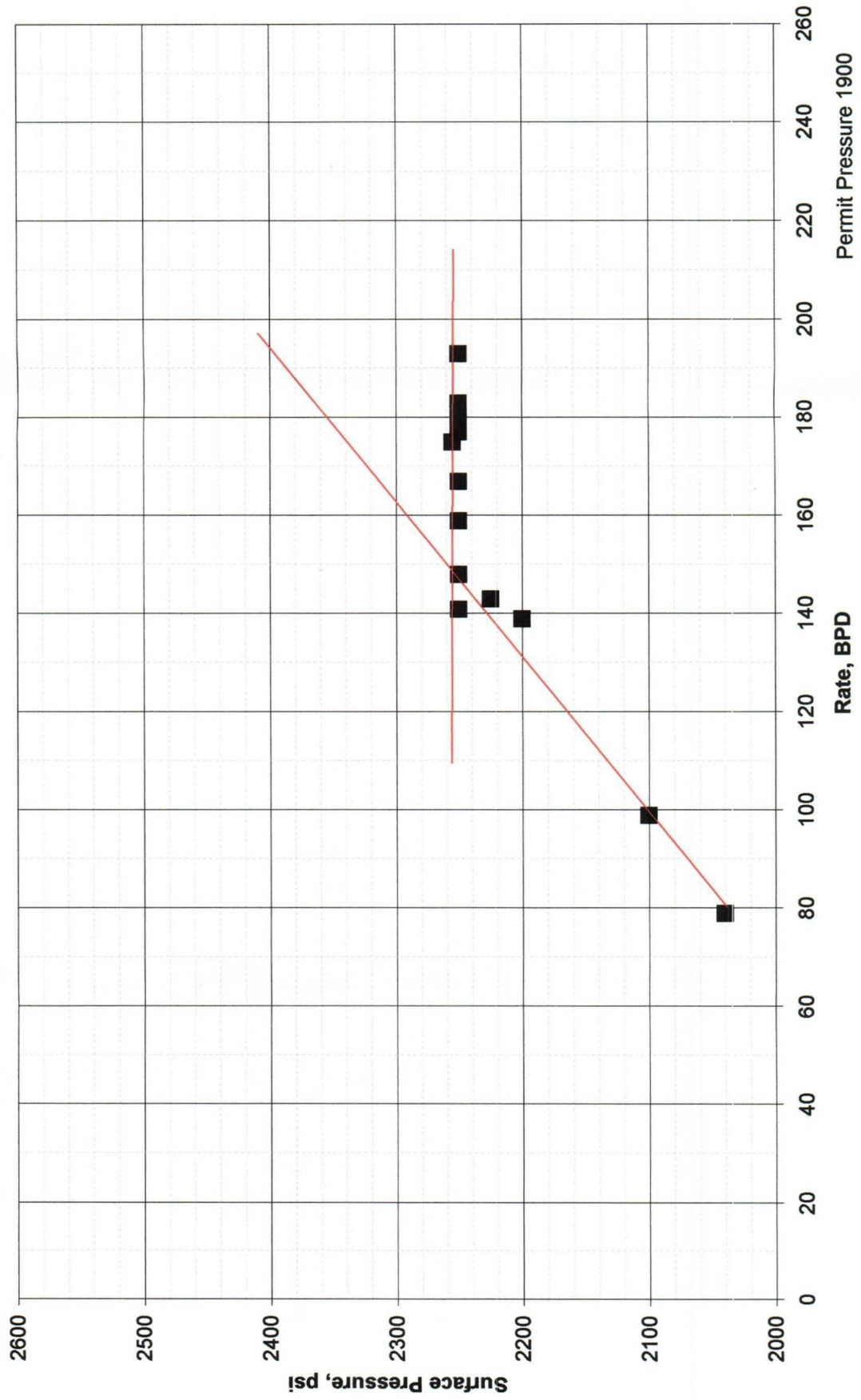
QPQASU NO. 6 STEP RATE TEST



QPQASU NO. 13 STEP RATE TEST



QPQASU 14 STEP RATE TEST



Lease: QPQASU

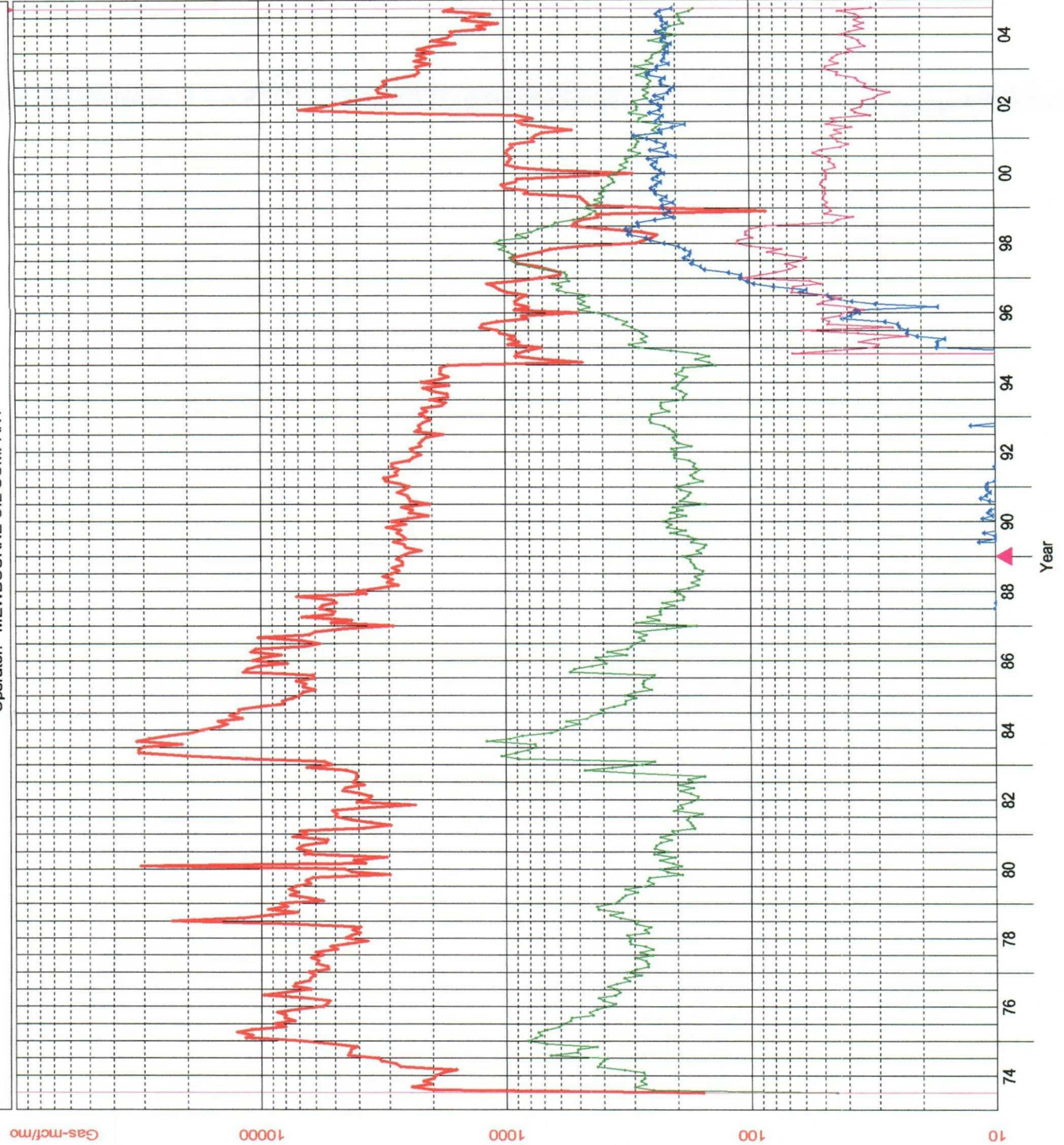
Location: QUEEN ASSOCIATED SAND
 Reservoir: QUERRECHO PLAINS
 Field: LEA, NM
 City/St: MEWBOURNE OIL COMPANY

Gas-mcf/mo
 Ref= 10/2004
 Cum= 1682617

Oil-bbl/mo
 Ref= 10/2004
 Cum= 1258958

Water-bbl/mo
 Ref= 10/2004
 Cum= 2303412

Water Inject
 Ref= 10/2004
 Cum= 5980049



RBDMS New Mexico 2004

Edit Inquiry Switchboard User Queries Refresh Data

API Well Number :
 OGRID Name : MEWBOURNE
 Property Name : QUERECHO P
 Pool Name :
 County :
 Well Type :
 Well Status :
 Permit :

Section Land:
 Township Dir.
 Range Dir.

Company Inspections Well Master
 Scheduler Mech. Int. Tests Well History
 Data Action Inactive Detail Env. Inspections
 Admin Permits Inactive Mat. Incidents
 Hearing Orders
 Compliance

Close all
 Functions
 and Exit
 RBDMS

Clear Criteria Fields

Apply Selection Criteria

Make User Table for
 Group Inspection, 'Sync',
 Schedule Prevent, Etc!



WELL FILTER SUB FORM

Active API Record Below is Carried Throughout RBDMS for Inspections, Compliance, MITs, W

API WELL #	Well Name	Well #	Op	SCS	UL	Sec	Tw	N/Rn	W/	Feet	NS	Ft	EW	Last	Order No	
30-025-24382-00-00	QUERECHO PLAINS QA SA	026	M			K	27	18	S	32	E	1650	S	1980	W	/2005 R-10151
30-025-24455-00-00	QUERECHO PLAINS QA SA	017	M			N	23	18	S	32	E	660	S	1980	W	/2005 R-10151
30-025-24520-00-00	QUERECHO PLAINS QA SA	027	M			L	27	18	S	32	E	1650	S	990	W	/2005 R-10151
30-025-24674-00-00	QUERECHO PLAINS QA SA	003	M			J	23	18	S	32	E	1980	S	1980	E	/2005 R-10151
30-025-24888-00-00	QUERECHO PLAINS QA SA	002	M			F	23	18	S	32	E	2300	N	2300	W	/2005 WFX-680
30-025-26875-00-00	QUERECHO PLAINS QA SA	001	M			E	23	18	S	32	E	1650	N	330	W	/2004 R-10151
30-025-27909-00-00	QUERECHO PLAINS QA SA	006	M			I	22	18	S	32	E	1650	S	330	E	/2004 WFX-695
30-025-28050-00-00	QUERECHO PLAINS QA SA	014	M			O	22	18	S	32	E	660	S	1650	E	/2004 R-10151
30-025-28068-00-00	QUERECHO PLAINS QA SA	018	M			D	26	18	S	32	E	330	N	330	W	/2005 R-10151
30-025-28149-00-00	QUERECHO PLAINS QA SA	013	M			N	22	18	S	32	E	330	S	2310	W	/2004 WFX-695
30-025-28492-00-00	QUERECHO PLAINS QA SA	025	M			H	27	18	S	32	E	1650	N	660	E	/2005 R-10151
30-025-28493-00-00	QUERECHO PLAINS QA SA	022	M			H	28	18	S	32	E	1980	N	330	E	/2004 R-10151
30-025-29179-00-00	QUERECHO PLAINS QA SA	011	M			P	21	18	S	32	E	400	S	660	E	/2004 R-9240
30-025-29557-00-00	QUERECHO PLAINS QA SA	030	M			A	26	18	S	32	E	660	N	660	E	/2005 R-9737-A

WFX-695