Logged In 4/5/04 Suspense 4/15/04 IPI Enf DLC pDLC0409640339

ChevronTexaco

Fax

To:	David Catanach (NMOCD)	**From:**	Monte Duncan (432-687-7217) (fax 432-687-7871)
Fax:	505-476-3462	**Date:**	April 5, 2004
Phone:	505-476-3466	**Pages:**	Cover + ~~15~~ 8 & 9
Re:	VGSAU #34 Inj PSI Increase Request	**CC:**	

Urgent **X For Review** ☐ **Please Comment** **Please Reply** ☐ **Please Recycle**

•Comments:

Attached is a package requesting an injection pressure increase on Vacuum Grayburg San Andres Unit #34, a ChevronTexaco well located in Lea County, New Mexico.

This package was send by certified mail to you on Thursday, April 1, 2004. Please call Mario Ballesteros (432-687-7218) or myself (432-687-7217) if you have any questions.

Thanks!

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ChevronTexaco

April 1, 2004

State of New Mexico
Energy and Minerals Dept.
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Attention: Mr. David Catanach, Engineering Bureau

RE: Injection Pressure Increase
Vacuum Grayburg #34
2630' FSL & 2630' FEL
Section 1, Township 18-S, Range 34-E
Lea County, New Mexico

Dear Mr. Catanach,

ChevronTexaco is requesting permission to increase the surface injection pressure on **Vacuum Grayburg San Andres Unit #34 (API No. 30-025-24312)** from 1395 psig to 2000 psig. This request is based upon step rate tests conducted on February 23rd and March 29th of 2004 by Gray Wireline Services and Precision Pressure Data INC respectively. The results of the step rates are attached to this letter. The well location is shown on the attached surface map.

On November 10, 1993 the New Mexico Oil Conservation Division granted approval to increase the surface injection pressure to 1395 psig on this vertical injection well, based on step rate tests conducted between October 4th and 6th, 1993. The NMOCD approval letter is attached for your information.

According to the results from these two step rates, a parting pressure could not be attained because of surface capacity limitations and reservoir behavior. Attached is a table summarizing the different step rates performed recently in the VGSAU including one performed on VGSAU #34 in 1984. From this table we are trying to show the forecast of the parting pressure for this well. The parting pressure is around 3700 psi, which would require bigger pumps and different configurations in the surface equipment. Since the surface pressure is far below this value, ChevronTexaco would like permission to increase the pressure to 2000 psig.

ChevronTexaco currently has three different wells in the vicinity of this well with higher allowable pressures than the one from VGSAU #34. The pressures are as follows:

Well and Location	Maximum Surface Pressure
VGSAU 133 20 acre location West of VGSAU 34	1900 psi
VGSAU 135 10 Acre Location East of VGSAU 34	1900 psi
VGSAU 35 20 Acre Location East of VGSAU 34	2500 psi

Your prompt consideration and approval of this application will be greatly appreciated. If additional information is required, please contact me at (432) 687-7218.

Sincerely,

Mario A. Ballesteros

Mario A. Ballesteros
Petroleum Engineer
ChevronTexaco
15 Smith Road, Room #2235
Midland, TX 79705
Telephone: (432) 687-7218
Fax: (432) 687-7871

Last Injection Pressure Increase November 10, 1993

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

HOBBS AREA
TLF
RSP 11-15 JLA
MCA MLG
DAB PDH
DAD PLH
DDD JDL
RBD MGR
MCD JY
KJH
LWJ
WTL 11-17 CPM
DLM MKR
RTM SDU
RTM
LDR HMC
SGW OLH
CES PWM cc
JAP LML
LEASE FILE cc
WELL FILES
CORP FILE
copies-11-16-93 mdy

DRUG FREE

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

November 10, 1993

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

Texaco Exploration and Production, Inc.
P.O. Box 730
Hobbs, NM 88241

Attention: T. L. Fraizer

RE: Injection Pressure Increase Vacuum Grayburg San Andres Unit, Lea County, New Mexico

Dear Mr. Fraizer:

Reference is made to your request dated October 14, 1993 to increase the surface injection pressure on three wells in your Vacuum Grayburg San Andres Unit. This request is based on step rate tests conducted on these wells between October 4 and October 6, 1993. 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:

Well and Location	Maximum Injection Surface Pressure
VGSAU Well No. 30 Unit K, Section 2, Township 18 South, Range 34 East	1325 psig
VGSAU Well No. 34 Unit K, Section 2, Township 18 South, Range 34 East	1395 psig
VGSAU Well No. 50 Unit G, Section 1, Township 18 South, Range 34 East	1730 psig
All wells located in Lea County, New Mexico.	

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,

William J. LeMay
Director

WJL/BES/amg

cc: Oil Conservation Division - Hobbs
File: Case Nos.: 4852, 7591
PMX-111, PMX-120

NOV 1993
Received
Texaco
Hobbs Area

VGSAU #34
Location Map

W. S. Groves

NEW M[illegible]ICO OIL CONSERVATION COMMISSION

WELL LO[illegible]ATION AND ACREAGE DEDICATION PL[illegible]

Form C-102
Supersedes C-128
Effective 1-1-65

TEXACO Lse. No. 55035
Buckeye Area

All distances must be from the outer boundaries of the Section.

Operator	Lease	Well No.
TEXACO Inc.	New Mexico "R" State NCT-3	17

Unit Letter	Section	Township	Range	County
J	1	18 South	34 East	Lea

Actual Footage Location of Well:
2630 feet from the South line and 2630 feet from the East line Sec. I

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
3991' Not Available	Vacuum (Grayburg SA)	Grayburg San Andres	* 40 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

TD - 4710'

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

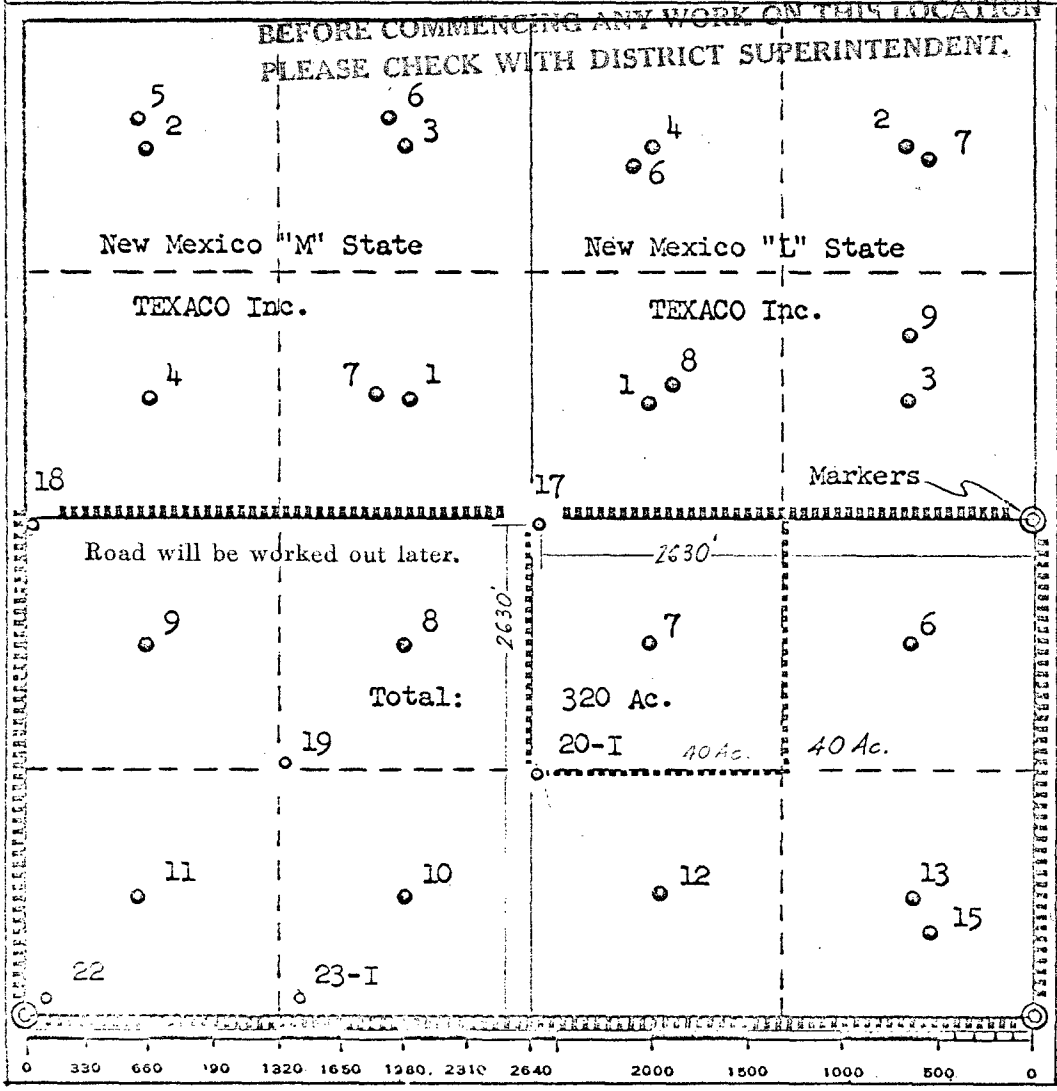
☐ Yes ☐ No If answer is "yes," type of consolidation _____

NOTICE OF LOCATION

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

* See note on C-101.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: Charles H. Moore

Position: Asst. Division Petr. Engr.

Company: TEXACO Inc.

Date: 12/5/72

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: 12/4/72

Registered Professional Engineer and/or Land Surveyor

Charles H. Moore

Certificate No. 3985

VGSAU #34

Step Rate

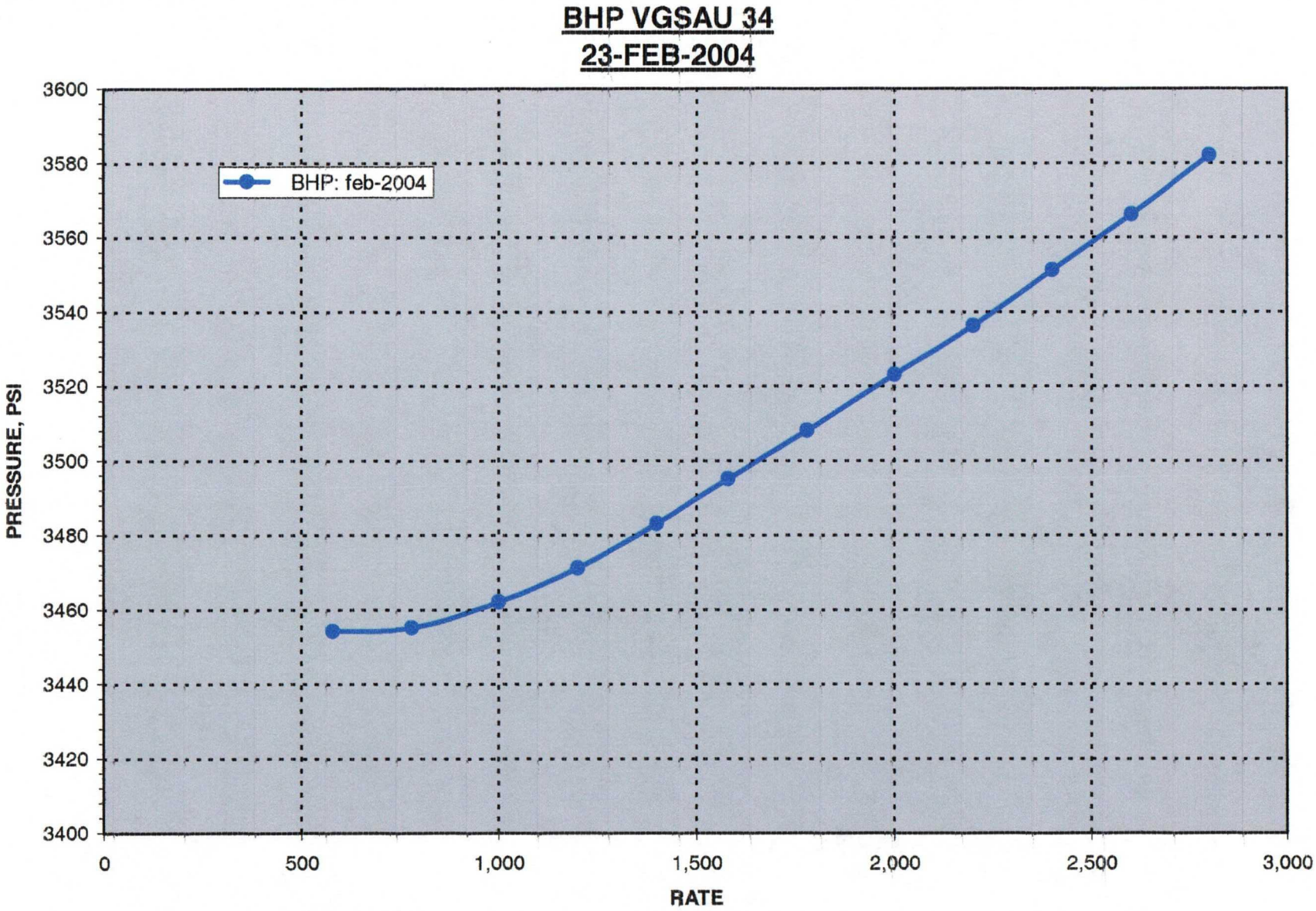
Test Results

February 23, 2004

GRAY WIRELINE SERVICES, INC

COMPANY: CHEVRON TEXACO
WELL: VACUUM GRAYBURG SAN ANDRES UNIT #34
TEST: 15 MINUTE STEP RATE TEST
DATE RUN: FEBRUARY 23, 2004
TUBING: 2 3/8" RICE DUOLINE
BHP TOOL: SET @ 4700'
RATE AND PRESSURE 575 @ 1280 PSI. PRIOR TO PUMPING.

POINT #	TIME	RATE	S PRESS	FRICTION	C PRESS	BHP
1	11:10	580	1280	15	1265	3454
2	11:25	780	1260	25	1235	3455
3	11:40	1000	1280	41	1239	3462
4	11:55	1200	1300	57	1243	3471
5	12:10	1400	1340	76	1264	3483
6	12:25	1580	1380	96	1284	3495
7	12:40	1780	1420	118	1302	3508
8	12:55	2000	1480	148	1332	3523
9	1:10	2200	1530	176	1354	3536
10	1:25	2400	1580	206	1374	3551
11	1:40	2600	1660	238	1422	3566
12	1:55	2800	1720	274	1446	3582


BHP VGSAU 34
23-FEB-2004
BHP: feb-2004
PRESSURE, PSI
3600
3580
3560
3540
3520
3500
3480
3460
3440
3420
3400
0
500
1,000
1,500
2,000
2,500
3,000
RATE

VGSAU #34

Step Rate Test Results

March 29, 2004

Step Rate Test

CHEVRON TEXACO
VGSAU #34
TEST DATE 3/29/2004

Injection Rate (BWPD)	Psurface (psig)	B.H.P. (psia)	Psurface W/O FRICTION
500	1235.80	3182.49	1225.80
700	1269.73	3201.11	1251.73
900	1308.90	3220.15	1278.90
1100	1357.17	3242.17	1314.17
1300	1407.50	3263.68	1348.50
1500	1470.50	3283.24	1392.50
1700	1528.70	3304.22	1430.70
1900	1579.90	3325.79	1458.90
2100	1650.62	3348.74	1503.62
2300	1713.23	3369.23	1539.23
2500	1770.55	3389.23	1566.55
2700	1852.50	3409.07	1616.50
2900	1900.90	3428.18	1631.90
3100	1968.57	3446.93	1664.57
3300	2034.79	3464.10	1691.79
3500	2129.50	3483.60	1747.50

Run Depth: 4277 Perforations: 4242-4312

Formation: Grayburg San Andres Total Depth: 4799

Tubing Depth: 4077 Pkr. Depth: 4077

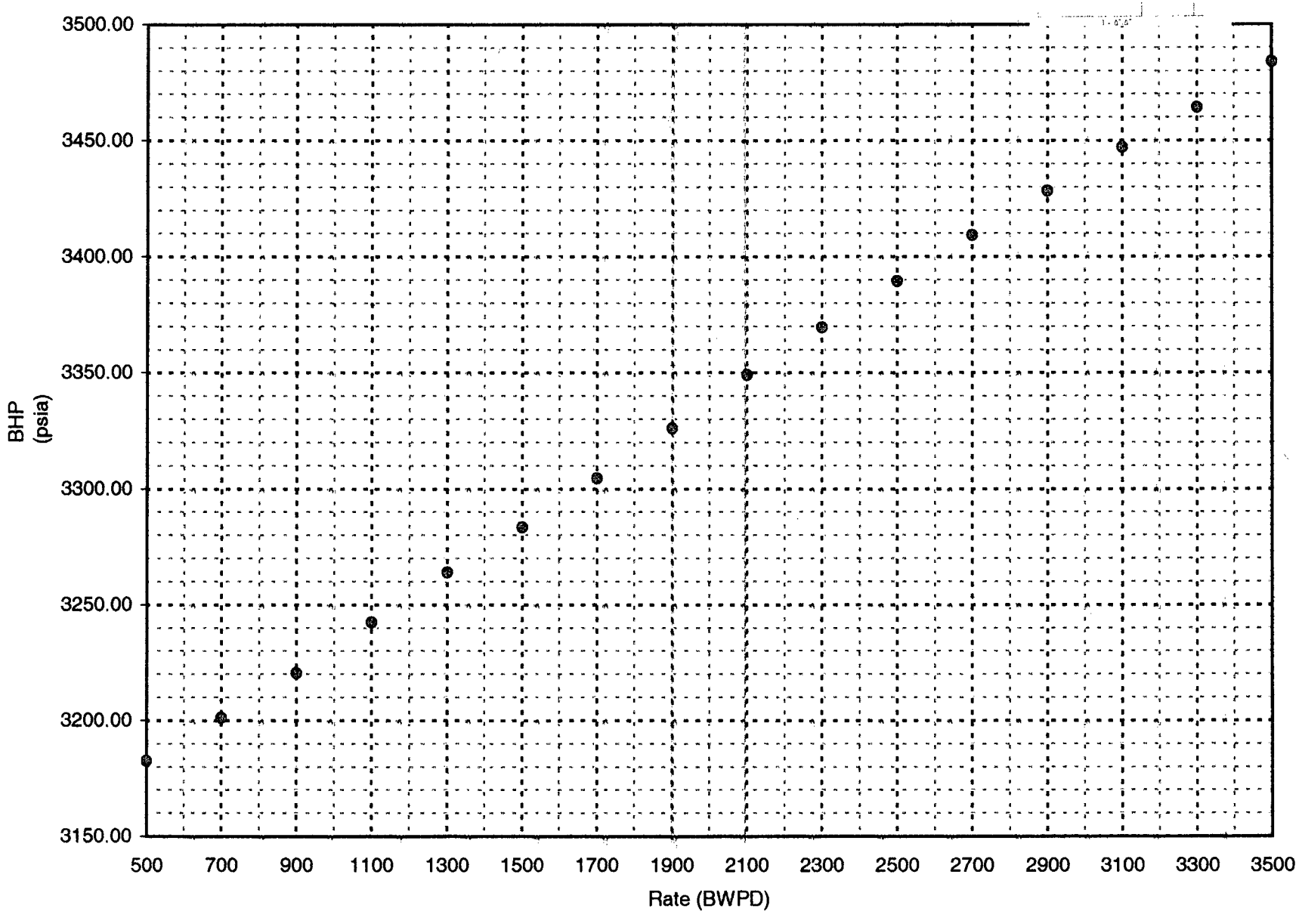
Tested By : J. Chesshir Instrument #: 75794

TEST RESULTS

Pumped up to 3500 BWPD, No Parting Pressure was Detected
Test is Inconclusive

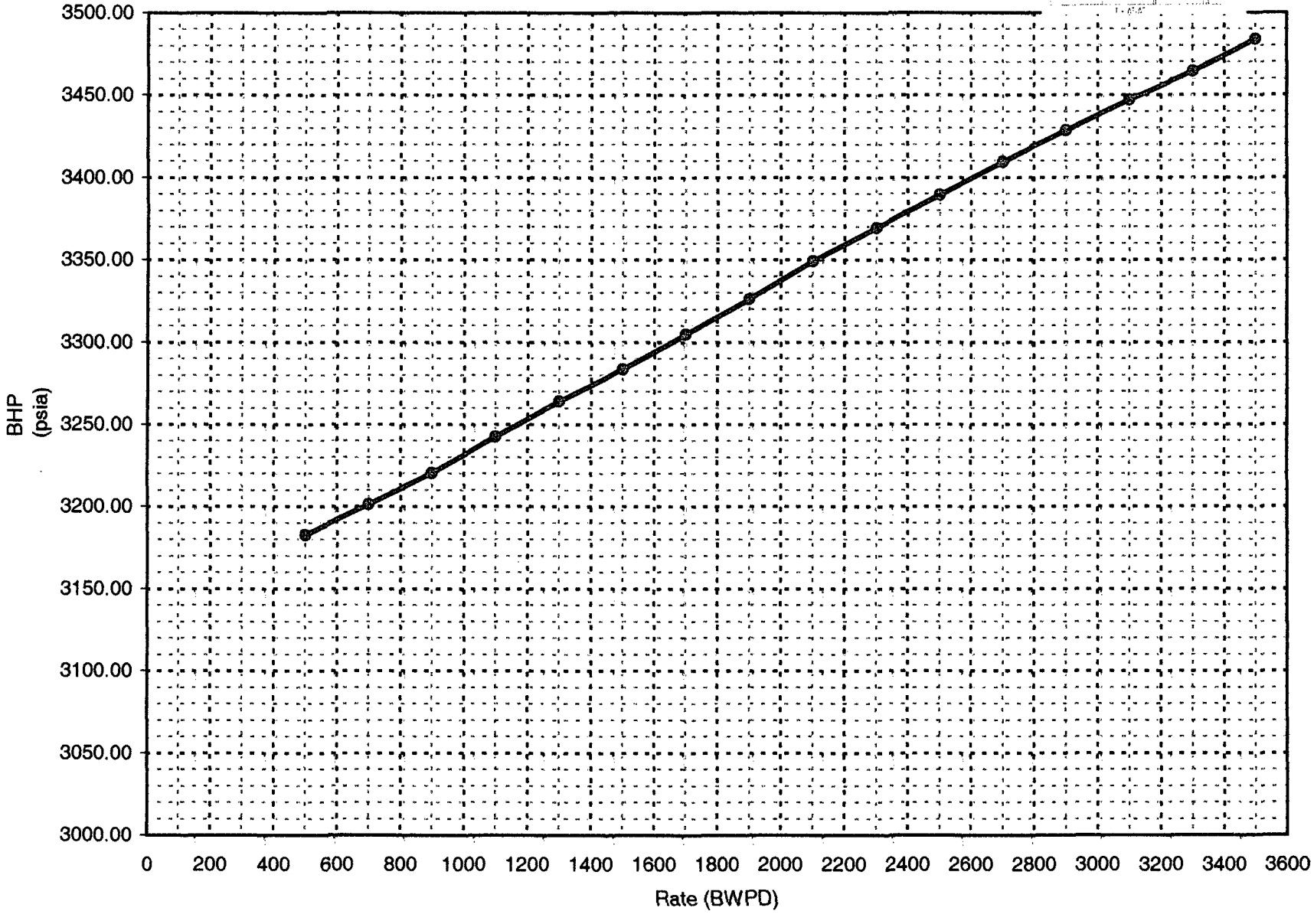
Step Rate Test
Chevron Texaco
VGSAU #34
3/29/2004

PRECISION
PRESSURE
DATA, INC.



Step Rate Test
Chevron Texaco
VGSAU #34
3/29/2004

PRECISION PRESSURE DATA, INC.



Parting Injection Pressure Calculations on VGSAU

PARTING PRESSURES IN VGSAU

		VGSAU 34			VGSAU 233		VGSAU 249	
		Step Rate VGSAU 34: Mar-84	Step Rate VGSAU 34: 23-Feb-2004	Step Rate VGSAU 34: 29-Mar-2004	Step Rate VGSAU 233: 14-Nov-03	Step Rate VGSAU 233: 31-mar-04	Step Rate VGSAU 249: 18-Jan-2002	Step Rate VGSAU 249: 23-May-2003
Frac Gradient:								
Parting Pressure:	psi	3,050			3,600		3,490	3,840
Depth Tool	ft	4,575			4,400		4,500	4,500
Gradient:	psi/ft	0.67			0.82		0.78	0.85
Pore Gradient:								
Wellhead Static Pressure:	psi			1,130	980	1,500	740	1,400
Depth Perfs / tool:	ft			4,277	4,400	4,400	4,500	4,500
Density Fluid:	ppg			8.6	8.40	8.40	8.60	8.60
BHP	psi			3,043	2,902	3,422	2,752	3,412
Gradient:	psi/ft			0.71	0.66	0.78	0.61	0.76
Reservoir Pressure	psi	1,460	3,400	3,130	2,800		2,660	3,500
Depth Tool	ft	4,575	4,700	4,277	4,400		4,500	4,500
Gradient:	psi/ft	0.32	0.72	0.73	0.64		0.59	0.78
Overburden	psi/ft	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Poisson's Ratio								
From Bottom Hole Reading		0.338			0.333		0.311	0.254
From Surface Reading					0.318		0.297	0.282

Prognostics								
Poisson's			0.338	0.338		0.333		
Pore Gradient	psi/ft		0.72	0.73		0.78		
Frac Gradient	psi/ft		0.86	0.87		0.89		
Desired Depth:	ft		4,300	4,300		4,400		
Parting Pressure:	psi		3,718	3,732		3,911		