DATE IN	SUSPENSE	ENGINEER	LOGGED IN	TYPE	APP NO.
3/23/09		T. Warnell	3/23/09	IPI	pKAA0908251399

ABOVE THIS LINE FOR DIVISION USE ONLY

Cata San Andres Unit

RECEIVED
2009 MAR 23 PM 1 38

NEW MEXICO OIL CONSERVATION DIVISION
Engineering Bureau -
1220 South St. Francis Drive, Santa Fe, NM 87505

Cano Petro
248802

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

IPI-319

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.

KEITH B. MASTERS, P.E.	(Keith B. Masters, P.E.	CONSULTANT	03/18/09
Print or Type Name	Signature	Title	Date

k_b_masters@mastersconsultingllc.com
e-mail Address

1220

Masters Consulting, LLC

7500 Rialto Blvd.; Ste, 180
Austin, TX 78735

Keith B. Masters, P.E.
President
email: k_b_masters@mastersconsultingllc.com
Phone: (512) 906-2016
Fax: (512) 906-2729

March 18, 2009

Mr. Terry G. Warnell
New Mexico Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Injection Pressure Increase
Cano Petro of New Mexico, Inc.
Cato San Andres Unit
Chaves County, NM

Dear Terry:

Cano Petro of New Mexico, Inc. ("Cano") hereby requests an increase in the authorized surface injection pressure for certain wells within the Cato San Andres Unit, Chaves County, New Mexico. The enclosed table entitled "Current & Proposed Maximum Injection Pressures" provides the requested pressure limitation on a well by well basis.

NMOCD Order No. R-9029-A, dated September 3, 2008, granted Cano authority to expand the Cato San Andres Unit Waterflood Project. Forty-three injection wells were permitted, and the maximum surface injection pressure was set at 650 psi. Injection was commenced on September 17, 2008. The current total injection rate is approximately 8,000 BWPD. Administrative Order IPI-315, dated March 4, 2009 granted Cano authority to inject at surface pressures exceeding 650 psi into five injection wells. The authorized injection pressures range from 850 psi to 1,380 psi, and were based on step-rate tests run in the subject wells.

Step rate tests have been run in six additional injection wells. The location of these wells is indicated on the enclosed map of the project area. A wellbore diagram for each well and the step rate test reports as received from the service company conducting the test are also enclosed. These data support Cano's request as outlined above.

Thank you for your assistance. Please direct any inquiries regarding this matter to the undersigned.

Sincerely,

Keith B. Masters, P.E.
for Cano Petro of New Mexico, Inc.

cc: Cano Petro of New Mexico, Inc.

CURRENT & PROPOSED MAXIMUM SURFACE INJECTION PRESSURES

CANO PETRO OF NEW MEXICO, INC.

CATO SAN ANDRES UNIT

Well No.	API No.	Current Maximum Surface Injection Pressure (psig)	Surface Parting Pressure (psig)	Proposed Maximum Surface Injection Pressure (psig)	
16	30-005-20067	650	1,621 ✓	1,570	~~of~~ Feb 24
19	30-005-20013	650	1,665 ✓	1,615	Feb 28
20	30-005-10504	650	1,590 ✓	1,540	Feb 18
48	30-005-10484	650	1,580 ✓	1,530	Feb 22
49	30-005-10455	650	1,060 ✓	1,010	Feb 20
94	30-005-20677	650	1,503 ✓	1,450	Feb 25

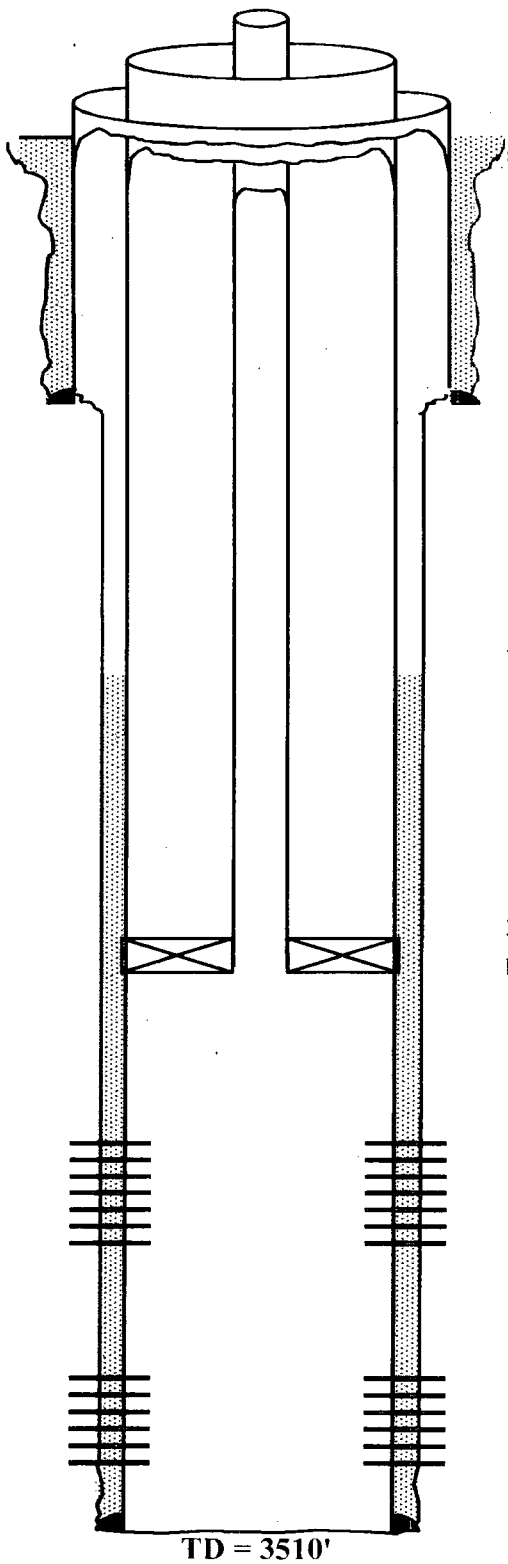
Current Completion

Strawn 3/16/2009

CSAU #16

660' FNL, 660' FEL
Section 9 T8S R30E
Chaves County, NM

DF: 4063.0'
GL: 4053.0'
datum: 10' above GL



surface csg cmt circ to surface

12 1/4" hole to 545'
8 5/8" 20# csg @ 545'

TOC @ 2390' in long string

2-3/8" seal tite tubing
packer @ 3140'

P1 perfs 3238-3266 (1 spf)

P2 perfs 3308-3344 (1 spf)

5-1/2" 14# csg @ 3510'
7 7/8" hole to 3510'

TD = 3510'

CANO PETROLEUM

CSAU #16
CHAVEZ COUNTY, NEW MEXICO

TEST DATE
2/24/2009

STEP RATE TEST

Ran step rate test with electronic surface readout unit, 1 electronic pressure instrument @ run depth of 3,326' and surface pressure transducer.

PRECISION PRESSURE DATA, INC. · P. O. BOX 9571 · MIDLAND, TEXAS 79708-9571 · (432) 570-7600

STEP RATE TEST

CANO PETROLEUM
CSAU #16
TEST DATE 2/24/2009

Injection Rate (BWPD)	Psurface (psig)	B.H.P. (psia)	Psurface W/O FRICTION
0	1150.80	2728.20	1150.80
100	1203.30	2783.20	1202.30
200	1270.50	2844.40	1268.50
300	1332.30	2914.20	1328.30
400	1407.10	2991.60	1401.10
500	1488.90	3066.60	1478.90
600	1563.00	3141.20	1549.00
700	1636.00	3196.30	1618.00
800	1667.90	3221.30	1643.20
900	1701.50	3247.50	1671.40

Run Depth: 3326 Perforations: 3238-3266

Formation: San Andres Total Depth: 3510

Tubing Depth: 3140 Pkr. Depth: 3140

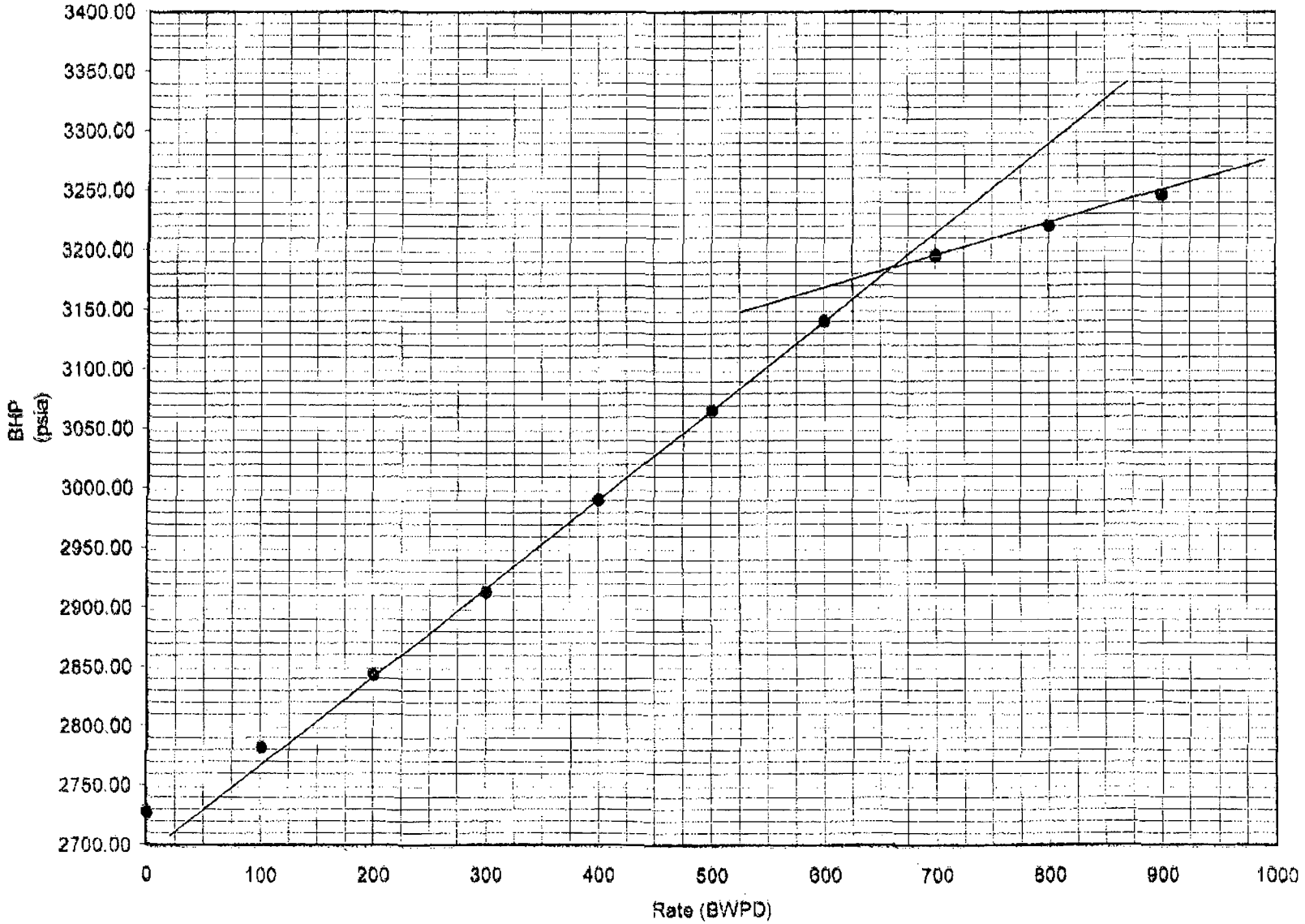
Tested By: J. Chesshir Instrument #: 78298

TEST RESULTS

Parting Pressure @ 3185 BHP (psia) @ 660 BWPD

STEP RATE TEST
CANO PETROLEUM
CSAU #16
2/24/08

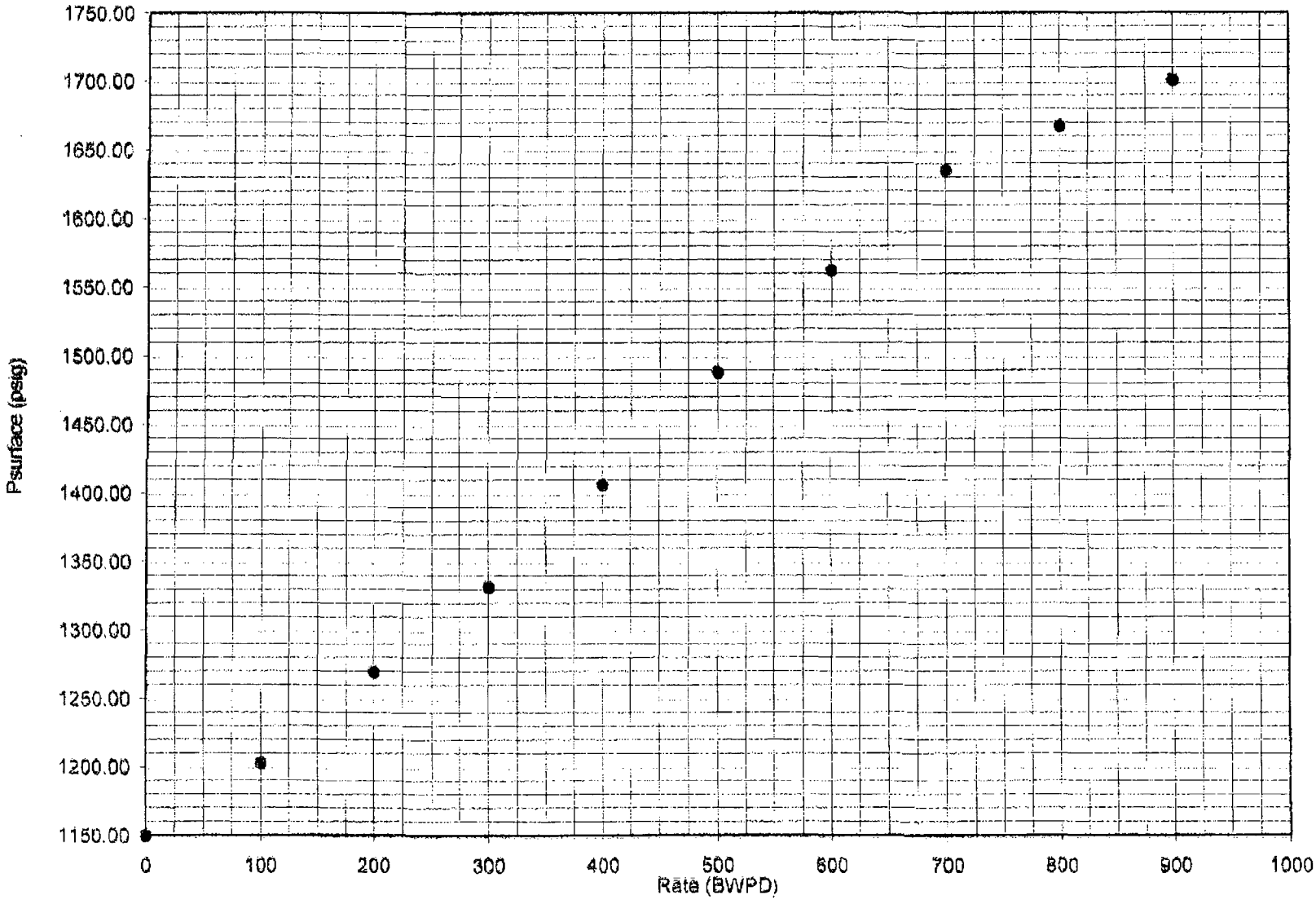
PRECISION
PRESSURE
DATA, INC.



PRECISION PRESSURE DATA, INC. · P.O. BOX 8571 · MIDLAND, TEXAS 79708-8571 · (432) 570-7600

STEP RATE TEST
CANO PETROLEUM
CSAU #16
2/24/2009

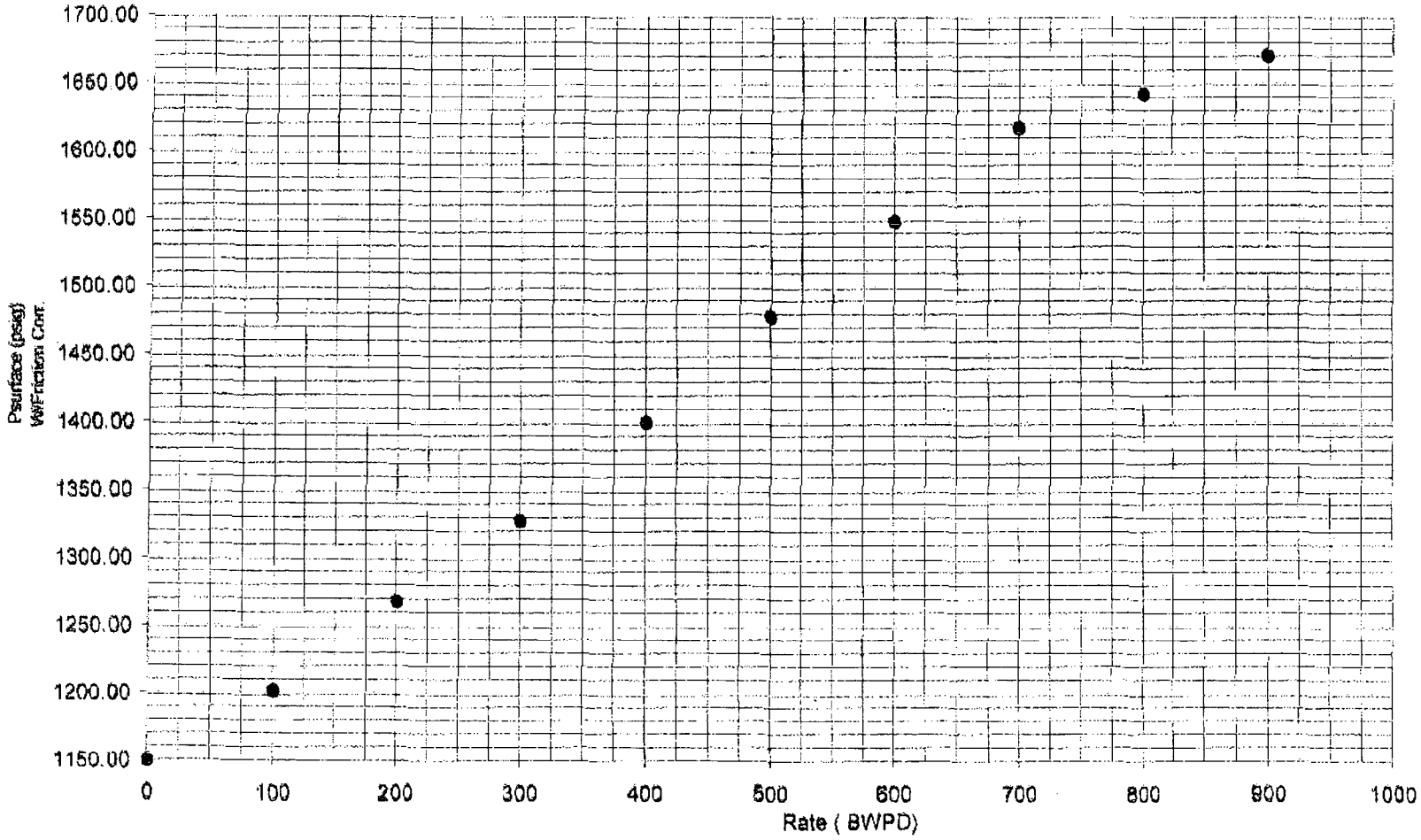
PRECISION
PRESSURE
DATA, INC



PRECISION PRESSURE DATA, INC. • P.O. BOX 8571 • MIDLAND, TEXAS 79708-8571 • (432) 570-7800

STEP RATE TEST
CANO PETROLEUM
CSAU #16
2/24/2009

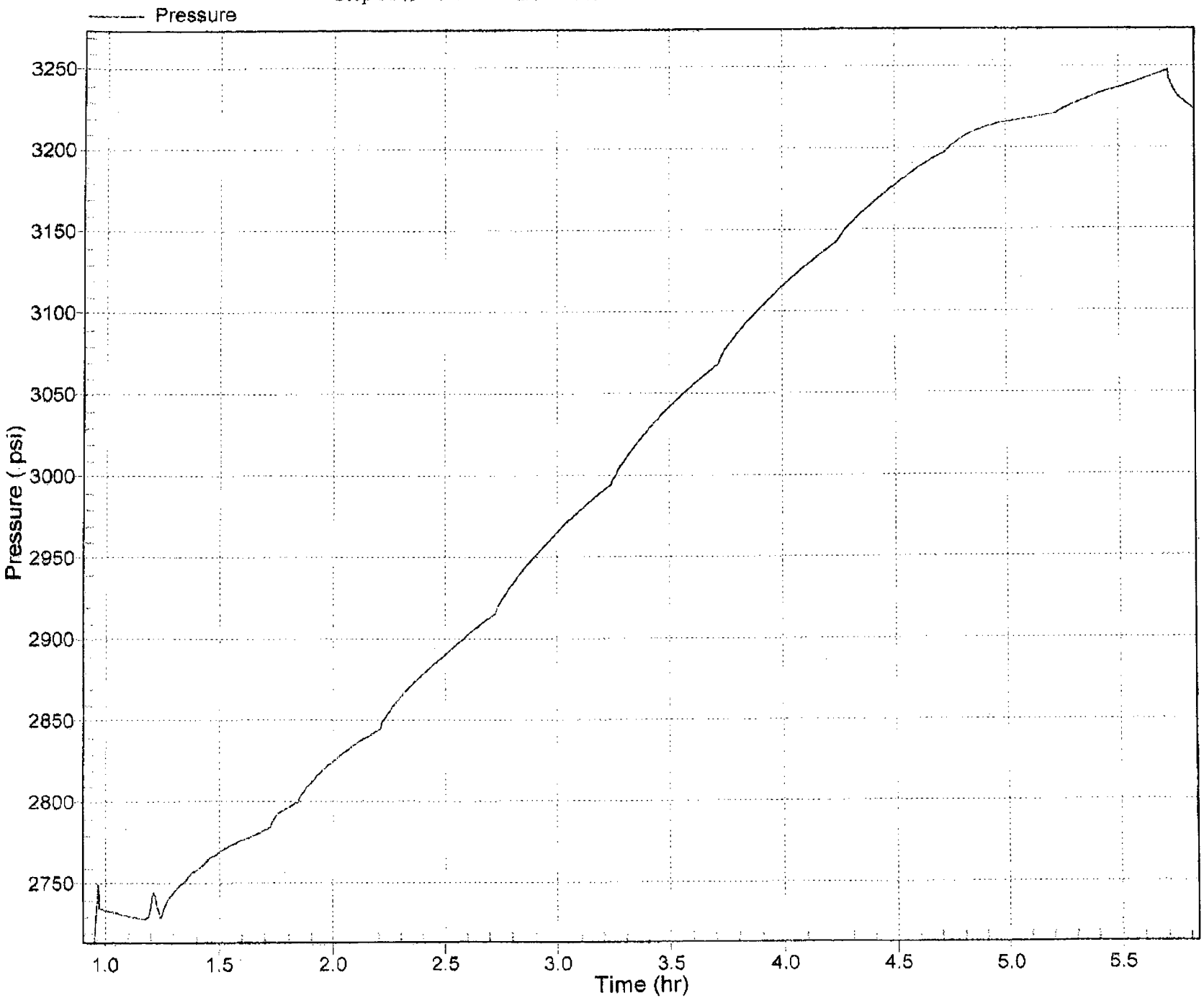
PRECISION PRESSURE DATA, INC.



PRECISION PRESSURE DATA, INC. • P. O. BOX 8671 MIDLAND, TEXAS 79708-8671 • (432) 570-7500

CANO PETROLEUM - CSAU #16

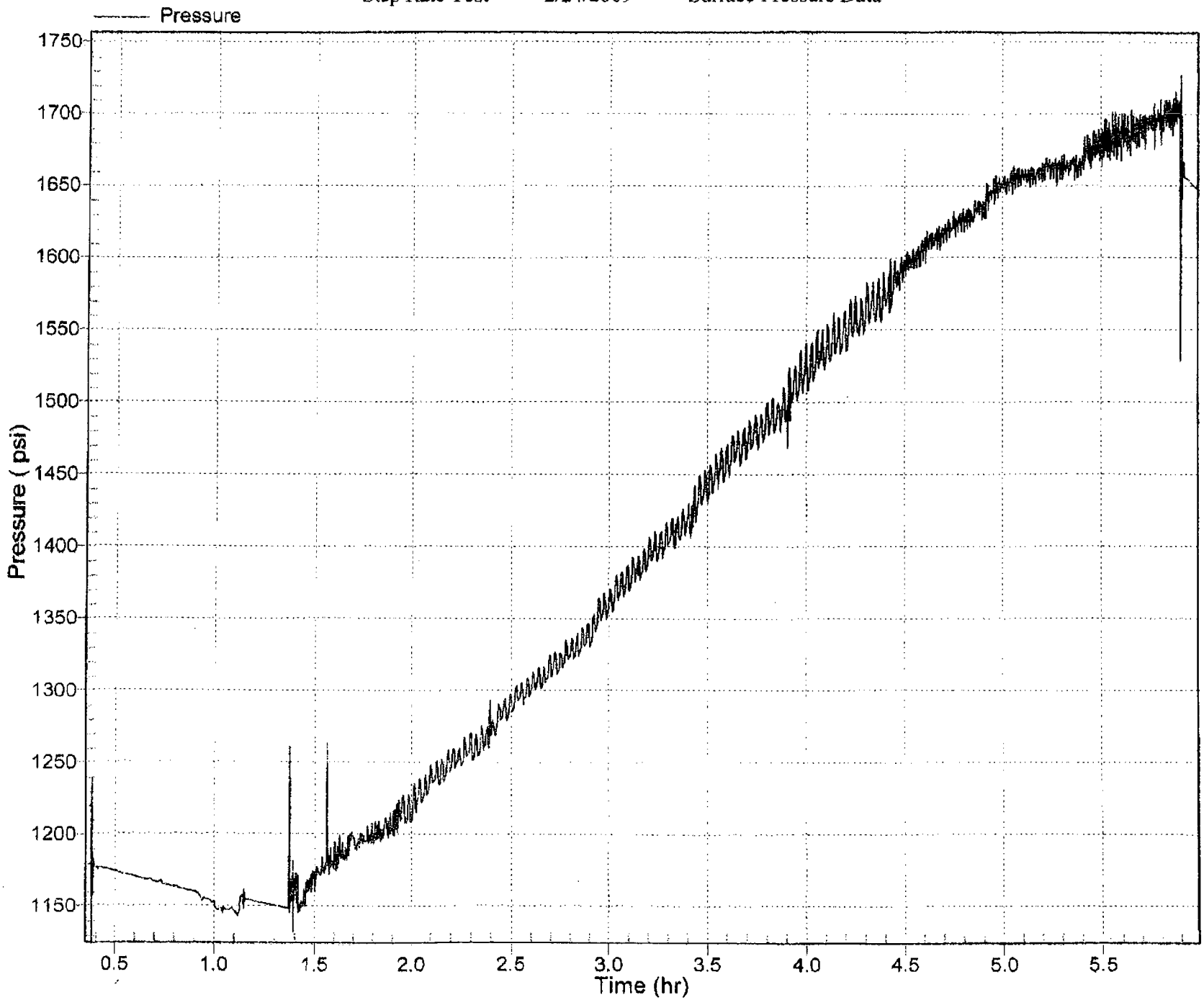
Step Rate Test 2/24/2009 Bottom Hole Pressure Data



PRECISION PRESSURE DATA, INC. · P. O. BOX 8571 · MIDLAND, TEXAS 79708-8571 · (432) 570-7600

CANO PETROLEUM - CSAU #16

Step Rate Test 2/24/2009 Surface Pressure Data



PRECISION PRESSURE DATA, INC. · P.O. BOX 8671 MIDLAND, TEXAS 79708-8071 · (432) 570-7500

Current Completion

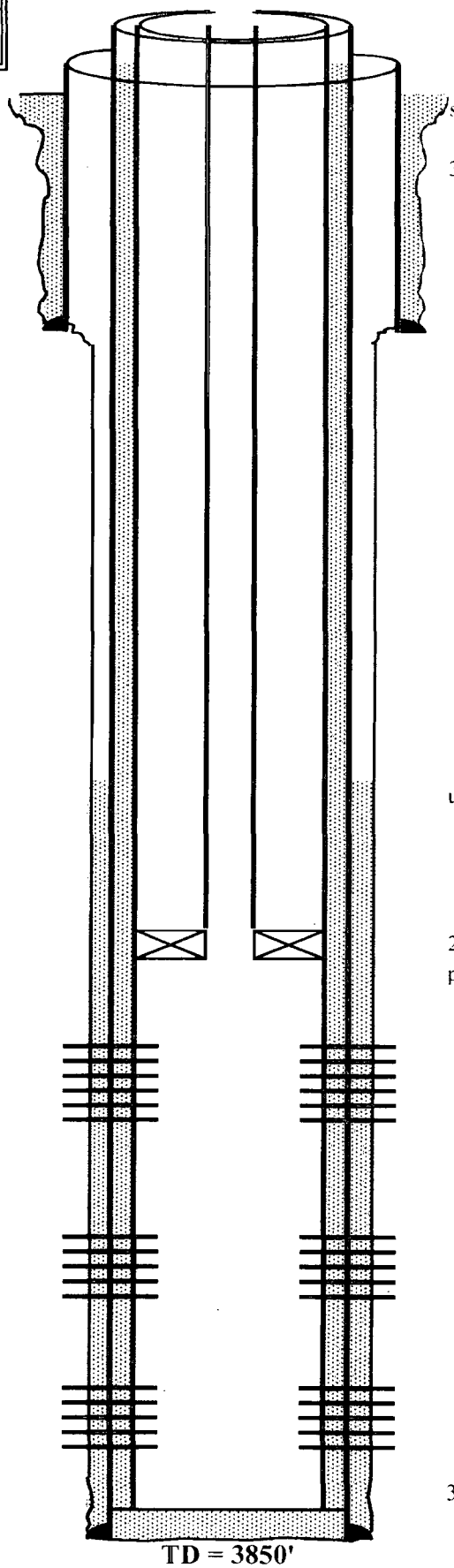
KB: 4104.0'

GL: 4095.0'
Datum: 9.0' above GL

CSAU #19

Strawn 1/5/2009

660' FNL & 660' FEL
Section 10 T8S R30E
Chaves County, NM



surface csg cemented to surface

3-1/2" liner cemented to surface

11" hole to 467'
8 5/8" csg @ 467'

unknown TOC in 4-1/2" string

2-1/16" seal tite to 3210'
packer @ 3210'

P1 perfs: 3308-3357, 4 spf

P2 perfs: 3389-3424, 4 spf

P3 perfs: 3470-3530, 4 spf

3-1/2" liner from surface to TD

7-7/8" hole to 3850'
4-1/2" 9.5# csg @ 3850'

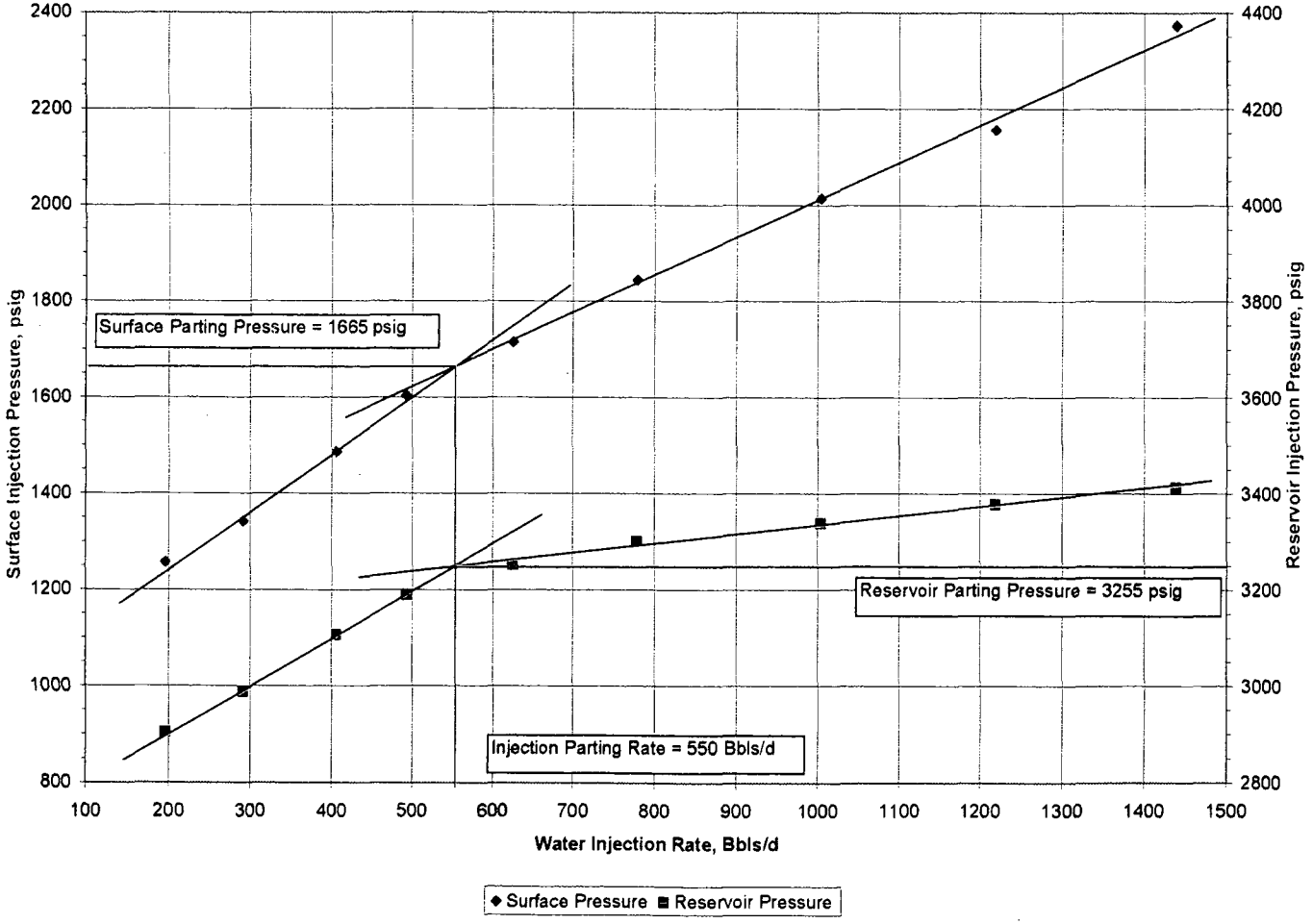
TD = 3850'

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

STEP RATE INJECTION TEST

Company:	Cano Petro of New Mexico, Inc.	Test Date:	2/23/2009
Well:	CSAU No. 19	Perforations:	3308 - 3357, 3389 - 3424, 3470 - 3530 ft
Field:		Gauge Depth:	3490 ft
Location:	Chaves County, NM		



	Injection Rate Bbls/d	Surface Pressure PsiG	Reservoir Pressure PsiG
1	196	1258	2906
2	291	1343	2990
3	406	1487	3108
4	493	1604	3191
5	626	1715	3253
6	779	1845	3302
7	1004	2014	3340
8	1219	2157	3380
9	1439	2374	3416

J200902231405

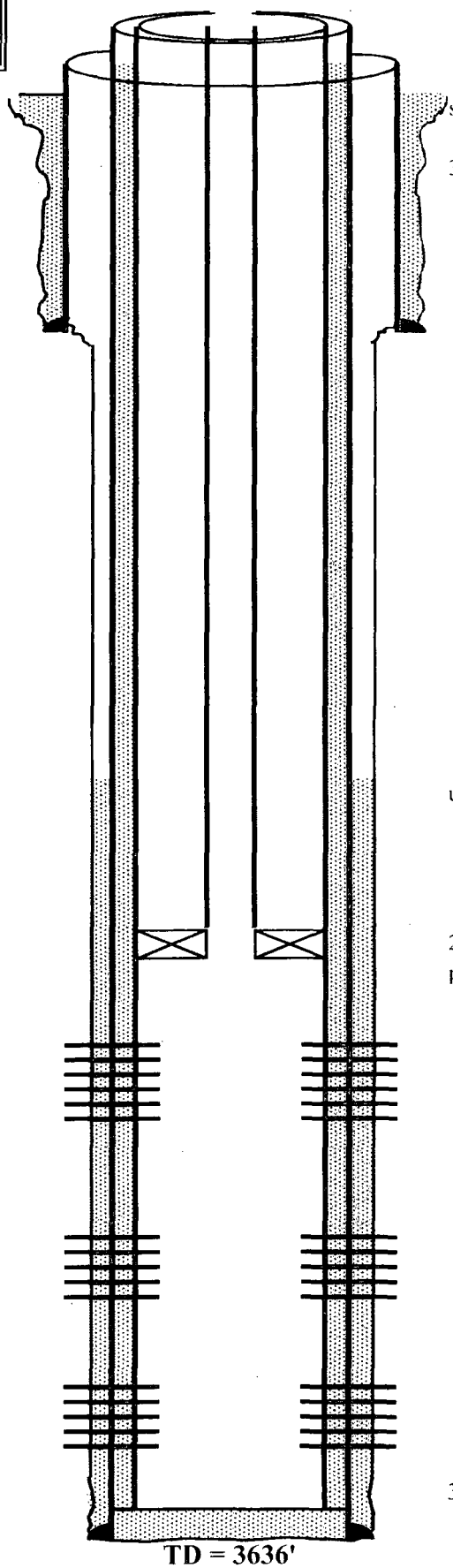
Current Completion

KB: 4128.0'
DF: 4127.0'
GL: 4117.0'
Datum: 11.0' above GL

CSAU #20

Strawn 3/15/2009

660' FNL & 660' FWL
Section 11 T8S R30E
Chaves County, NM



surface csg cemented to surface

3-1/2" liner cemented to surface

12-1/4" hole to 515'
8 5/8" csg @ 515'

~~unknown~~ TOC in 4-1/2" string
@ 2200'
(TS)

2-1/16" seal tite to 3250'
packer @ 3250'

P1 perfs: 3342-3403, 4 spf

P2 perfs: 3425-3470, 4 spf

P3 perfs: 3519-3550, 4 spf

3-1/2" liner from surface to 3570'

7-7/8" hole to 3636'
4-1/2" 9.5# csg @ 3636'

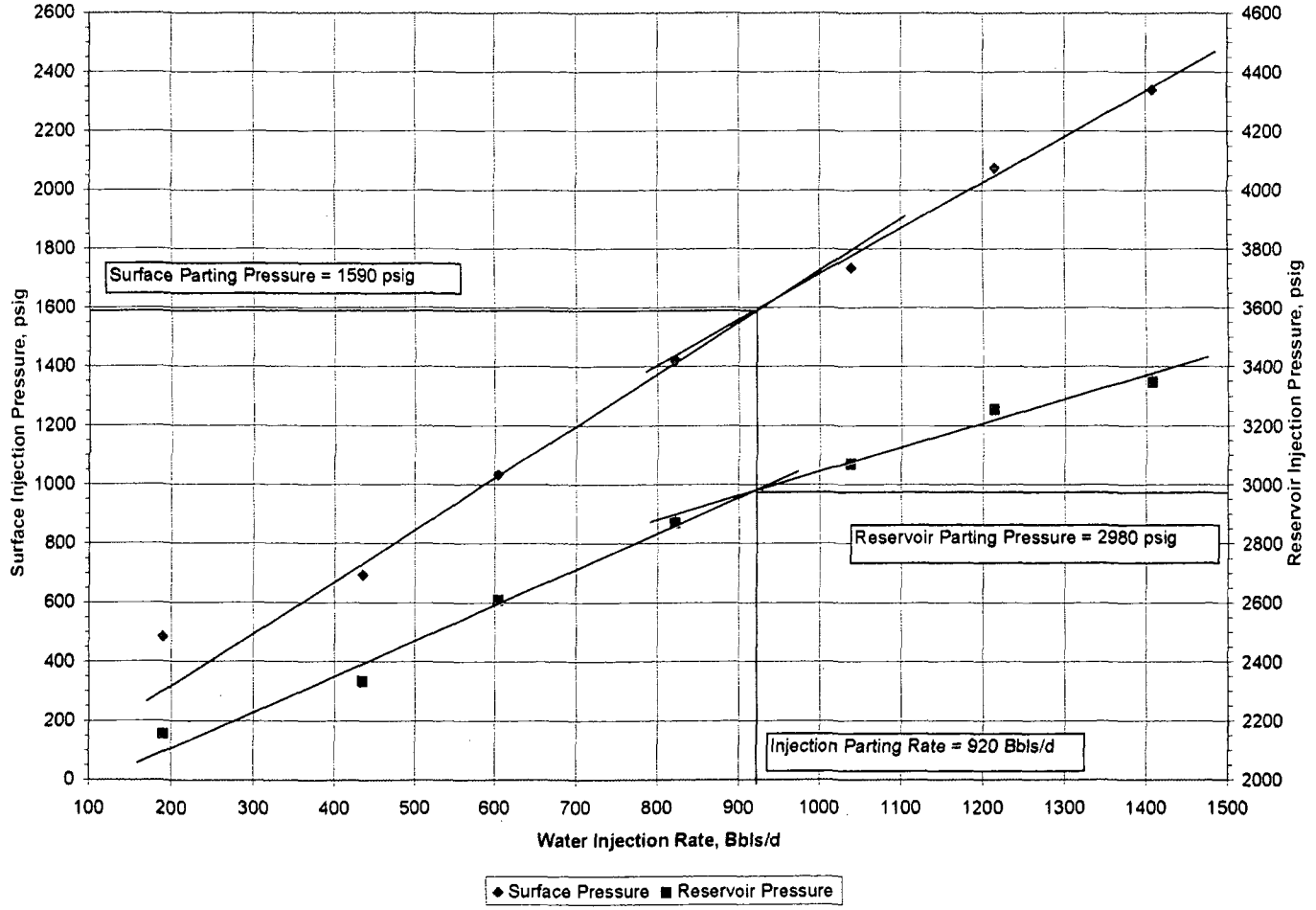
TD = 3636'

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

STEP RATE INJECTION TEST

Company:	Cano Petro of New Mexico, Inc.	Test Date:	2/18/2009
Well:	CSAU No. 20	Perforations:	3342 - 3403, 3425 - 3470, 3519 - 3550 ft
Field:		Gauge Depth:	3450 ft
Location:	Chaves County, NM		



	Injection Rate Bbls/d	Surface Pressure PsiG	Reservoir Pressure PsiG
1	189	484	2159
2	435	695	2337
3	605	1035	2612
4	822	1422	2874
5	1039	1736	3073
6	1214	2076	3259
7	1408	2340	3352

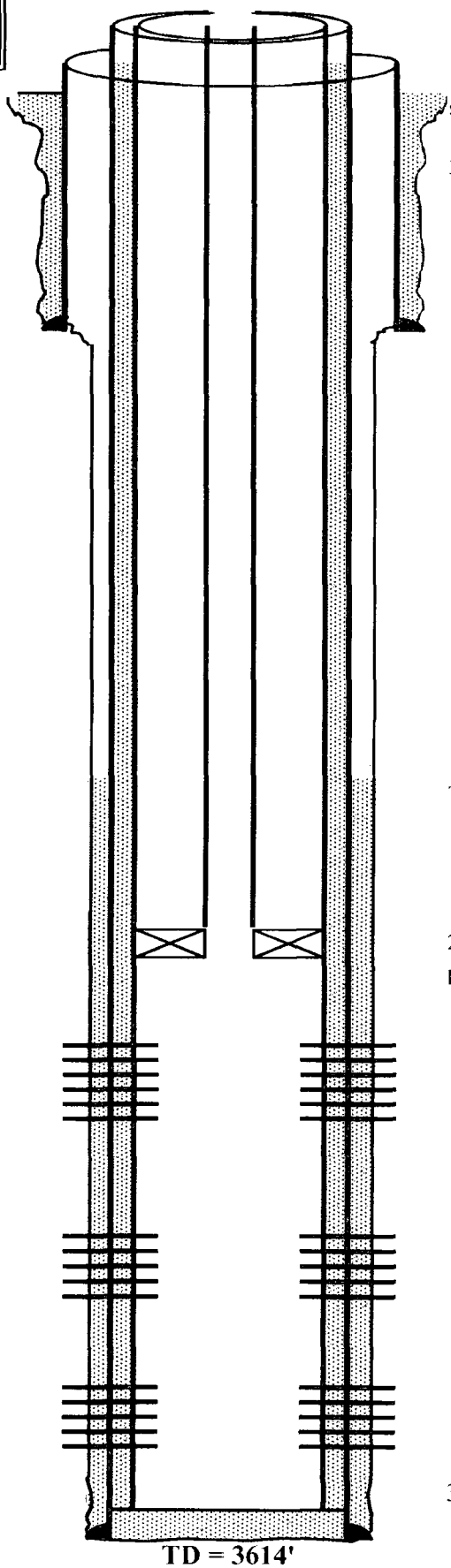
Current Completion

KB: 4130.0'
DF: 4129.0'
GL: 4119.0'
Datum: 11.0' above GL

CSAU #48

Strawn 3/15/2009

1980' FSL & 660' FEL
Section 10 T8S R30E
Chaves County, NM



surface csg cemented to surface

3-1/2" liner cemented to surface

12-1/4" hole to 512'
8 5/8" csg @ 512'

TOC @ 2010' in 4-1/2" string
(T3)

2-1/16" seal tite to 3250'
packer @ 3250'

P1 perfs: 3380-3426, 4 spf

P2 perfs: 3456-3473, 4 spf

P3 perfs: 3532-3568, 4 spf

3-1/2" liner from surface to TD

7-7/8" hole to 3614'
4-1/2" 9.5# csg @ 3614'

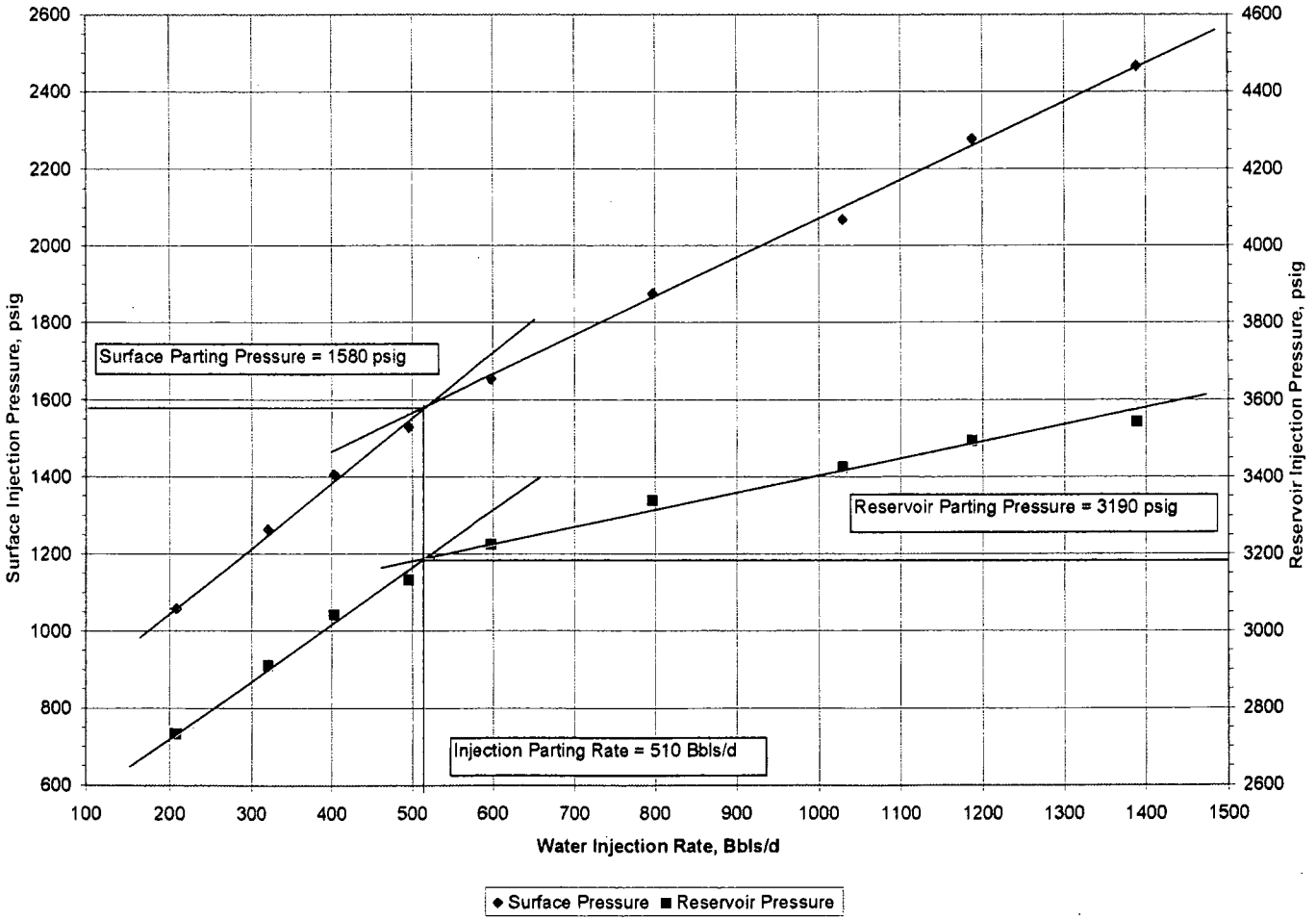
TD = 3614'

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

STEP RATE INJECTION TEST

Company:	Cano Petro of New Mexico, Inc.	Test Date:	2/22/2009
Well:	CSAU No. 48	Perforations:	3380 - 3426, 3456 - 3473, 3532 - 3568 ft
Field:		Gauge Depth:	3540 ft
Location:	Chaves County, NM		



	Injection Rate Bbls/d	Surface Pressure PsiG	Reservoir Pressure PsiG
1	208	1059	2736
2	320	1265	2913
3	403	1407	3045
4	496	1529	3135
5	598	1655	3228
6	797	1876	3341
7	1029	2068	3427
8	1188	2278	3496
9	1389	2467	3545

J200902231403

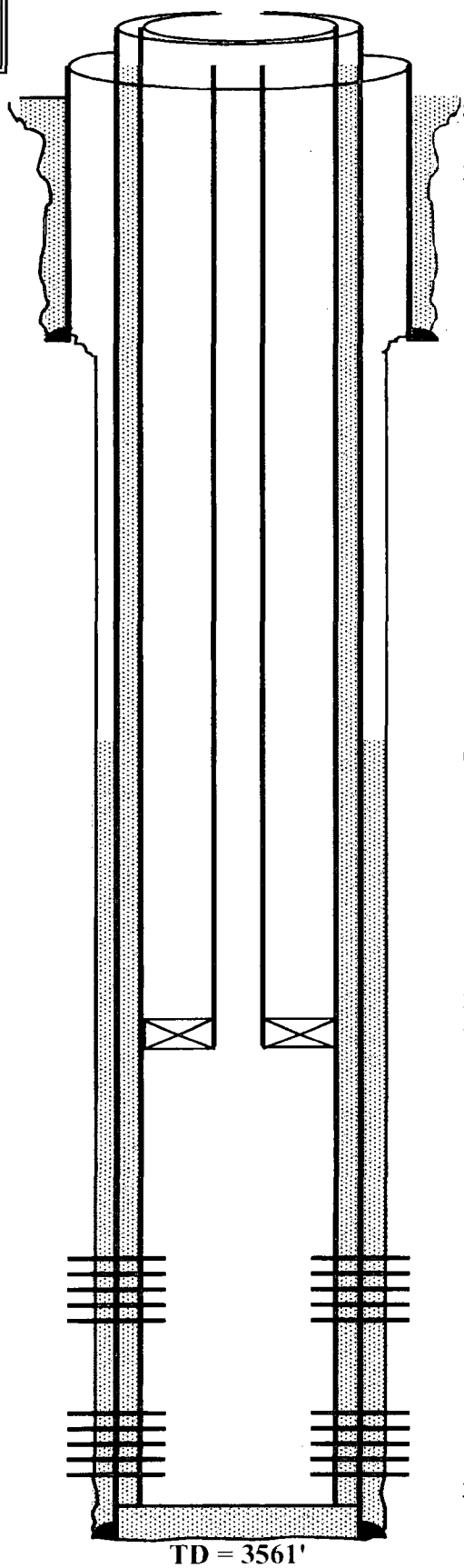
Current Completion

KB: 4143.0'
DF: 4142.0'
GL: 4132.0'
Datum: 11.0' above GL

CSAU #49

Strawn 3/15/2008

1980' FSL & 660' FWL
Section 11, T08S R30E
Chaves County, NM



8-5/8" csg cemented to surface

3-1/2" liner cemented to surface

12 1/4" hole to 511'
8 5/8" 24# csg @ 511'

unknown TOC for 4-1/2" string

2-1/16" seal tite tubing to 3320'
packer @ 3320'

P1 perfs 3414-3465' (4 spf)

P2 perfs 3492-3539' (4 spf)

3-1/2" liner from surface to 3555'

7 7/8" hole to 3561'
4-1/2" 9.5# csg @ 3561'

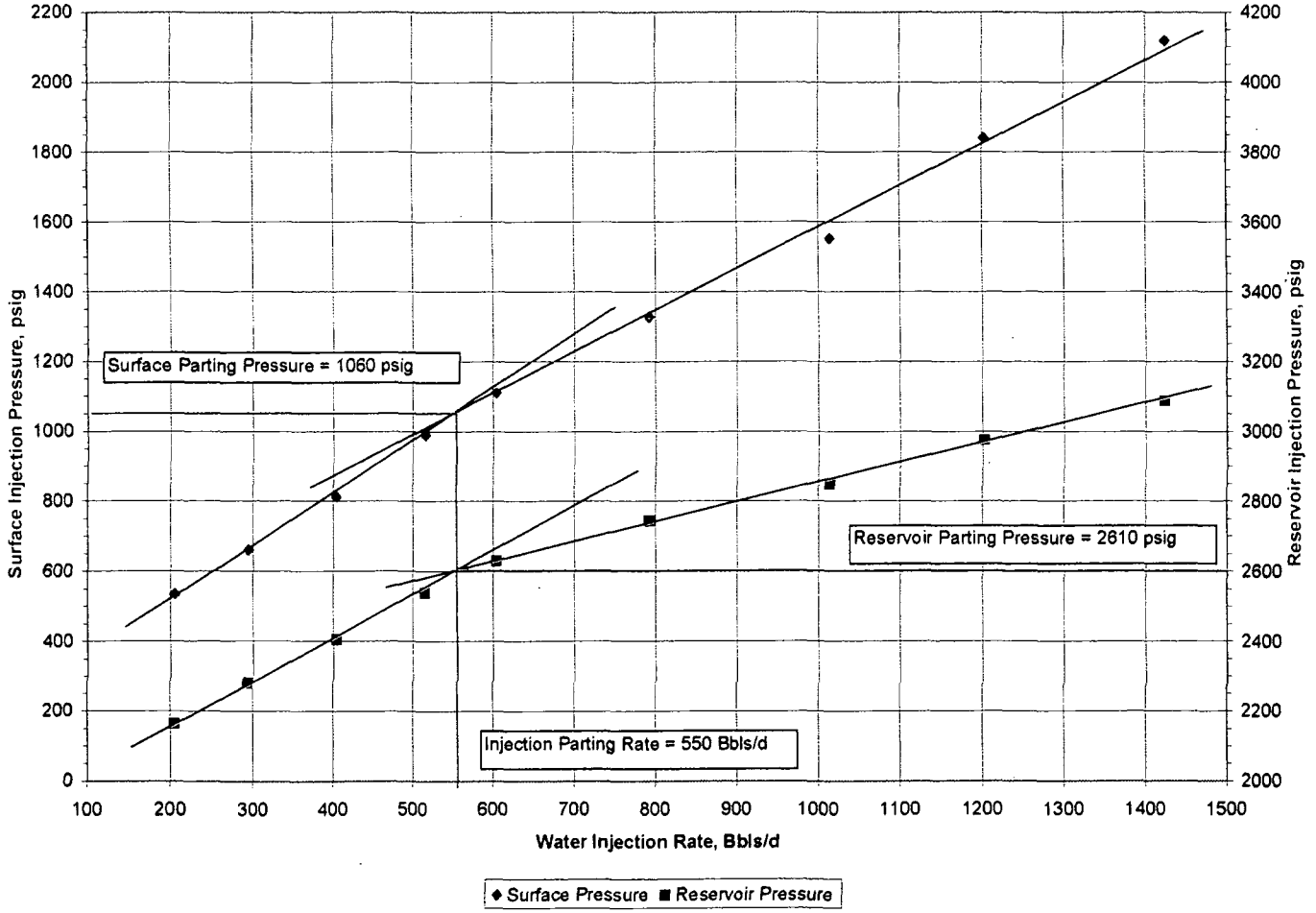
TD = 3561'

FESCO, Ltd.

1000 Fesco Ave. - Alice, Texas 78332

STEP RATE INJECTION TEST

Company:	Cano Petro of New Mexico, Inc.	Test Date:	2/20/2009
Well:	CSAU No. 49	Perforations:	3414 - 3465, 3492 - 3539 ft
Field:		Gauge Depth:	3490 ft
Location:	Chaves County, NM		



	Injection Rate Bbls/d	Surface Pressure PsiG	Reservoir Pressure PsiG
1	205	536	2167
2	294	662	2282
3	404	814	2408
4	515	990	2541
5	604	1111	2632
6	792	1328	2747
7	1014	1553	2853
8	1202	1842	2978
9	1424	2119	3090

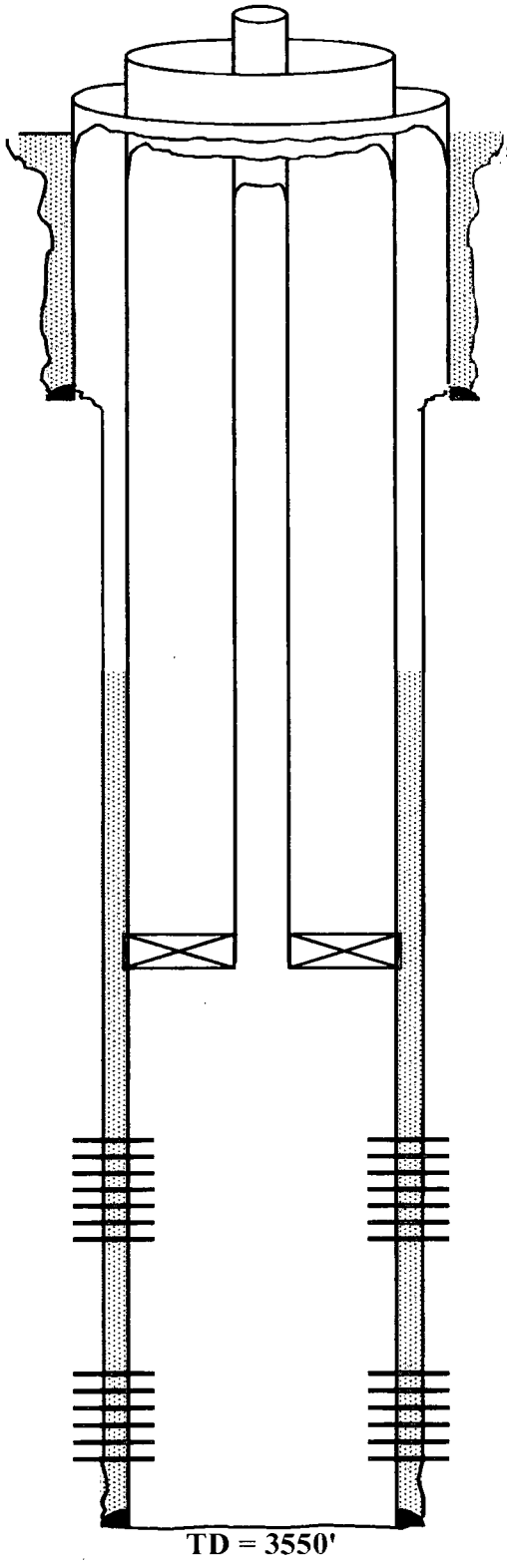
Current Completion

CSAU #94

Strawn 3/16/2009

DF: 4091.0'
GL: 4081.0'
datum: 10' above GL

1328' FNL, 1336' FEL
Section 16 T8S R30E
Chaves County, NM



surface csg cmt circ to surface

11" hole to 516'
8 5/8" 24# csg @ 516'

unknown TOC in long string

2-3/8" seal tite tubing
packer @ 3190'

P1 perfs 3292-3338 (1 spf)

P2 perfs 3457-3476 (1 spf)

5-1/2" 15.5# csg @ 3550'
7 7/8" hole to 3550'

TD = 3550'

CANO PETROLEUM

CSAU #94
CHAVEZ COUNTY, NEW MEXICO

TEST DATE
2/25/2009

STEP RATE TEST

Ran step rate test with electronic surface readout unit, 1 electronic pressure instrument @ run depth of 3,384' and surface pressure transducer.

PRECISION PRESSURE DATA, INC. · P. O. BOX 8571 · MIDLAND, TEXAS 79708-8571 · (432) 570-7600

STEP RATE TEST

CANO PETROLEUM

CSAU #94

TEST DATE 2/25/2009

Injection Rate (BWPD)	Psurface (psig)	B.H.P. (psia)	Psurface W/O FRICTION
0	1118.00	2719.70	1118.00
100	1131.50	2735.50	1130.50
200	1149.30	2754.90	1147.30
300	1192.80	2787.40	1188.80
400	1207.40	2816.30	1201.40
600	1309.50	2881.50	1295.50
800	1368.60	2946.90	1344.60
1000	1446.70	3008.20	1410.70
1200	1517.10	3063.20	1466.10
1400	1560.30	3095.30	1491.30
1600	1608.10	3127.20	1520.10

Run Depth: 3384 Perforations: 3292-3476

Formation: San Andres Total Depth: 3550

Tubing Depth: 3190 Pkr. Depth: 3190

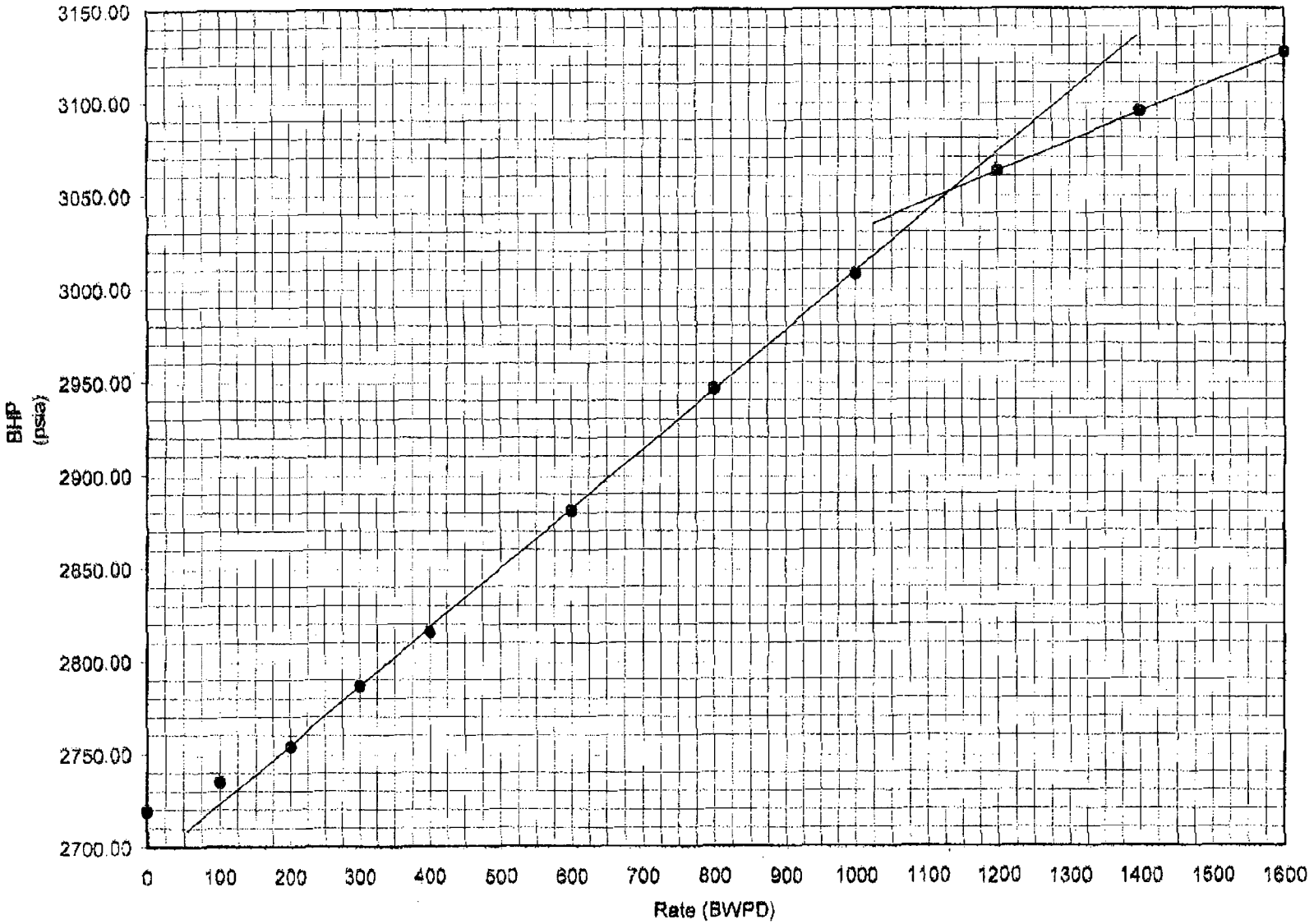
Tested By: J. Chesshir Instrument #: 78298

TEST RESULTS

Parting Pressure @ 3052 BHP (psia) @ 1125 BWPD

STEP RATE TEST
CANO PETROLEUM
CSAU #94
2/25/08

PRECISION PRESSURE DATA INC.



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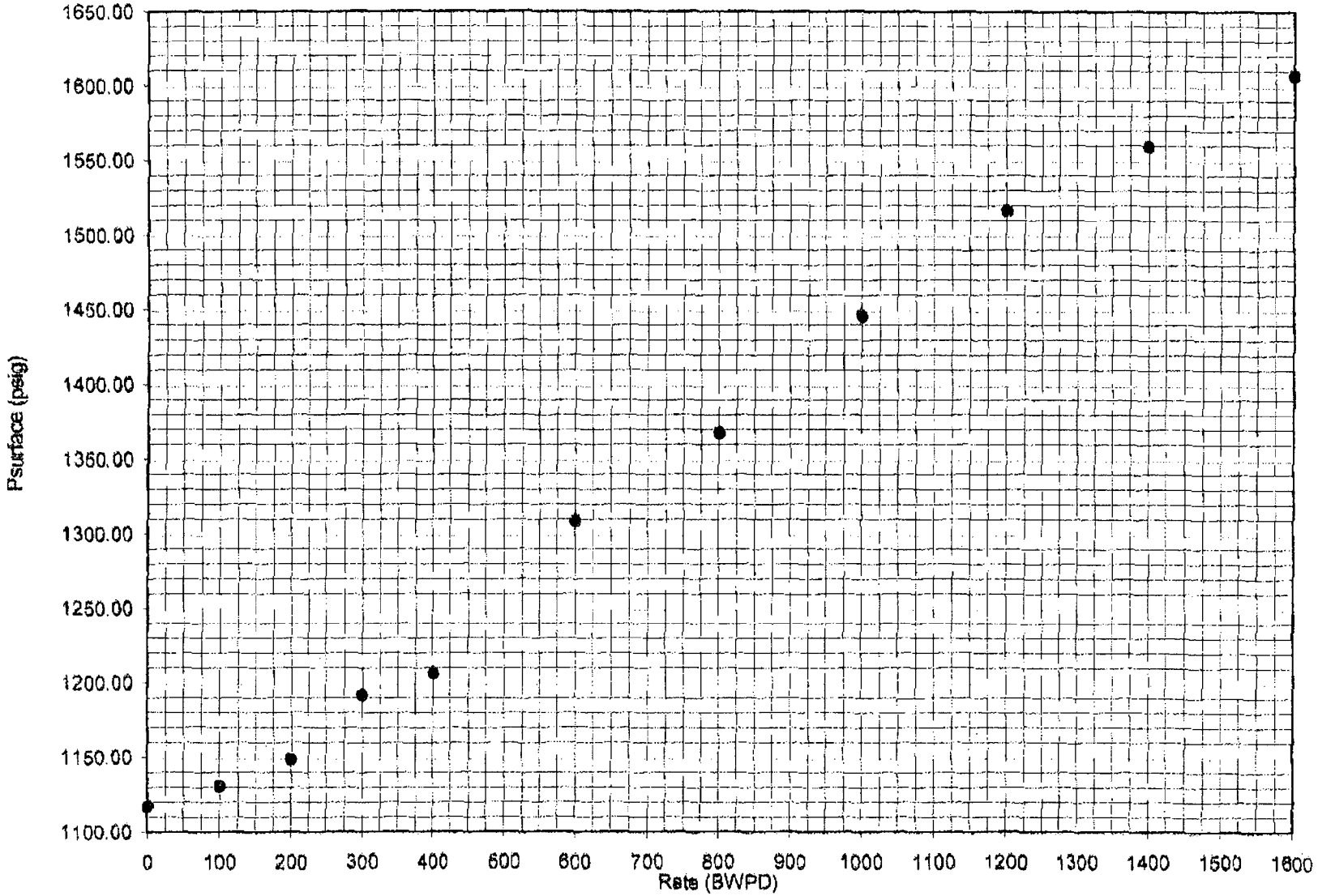
STEP RATE TEST
CANO PETROLEUM
CSAU #94
2/25/2009

PRECISION PRESSURE DATA, INC.



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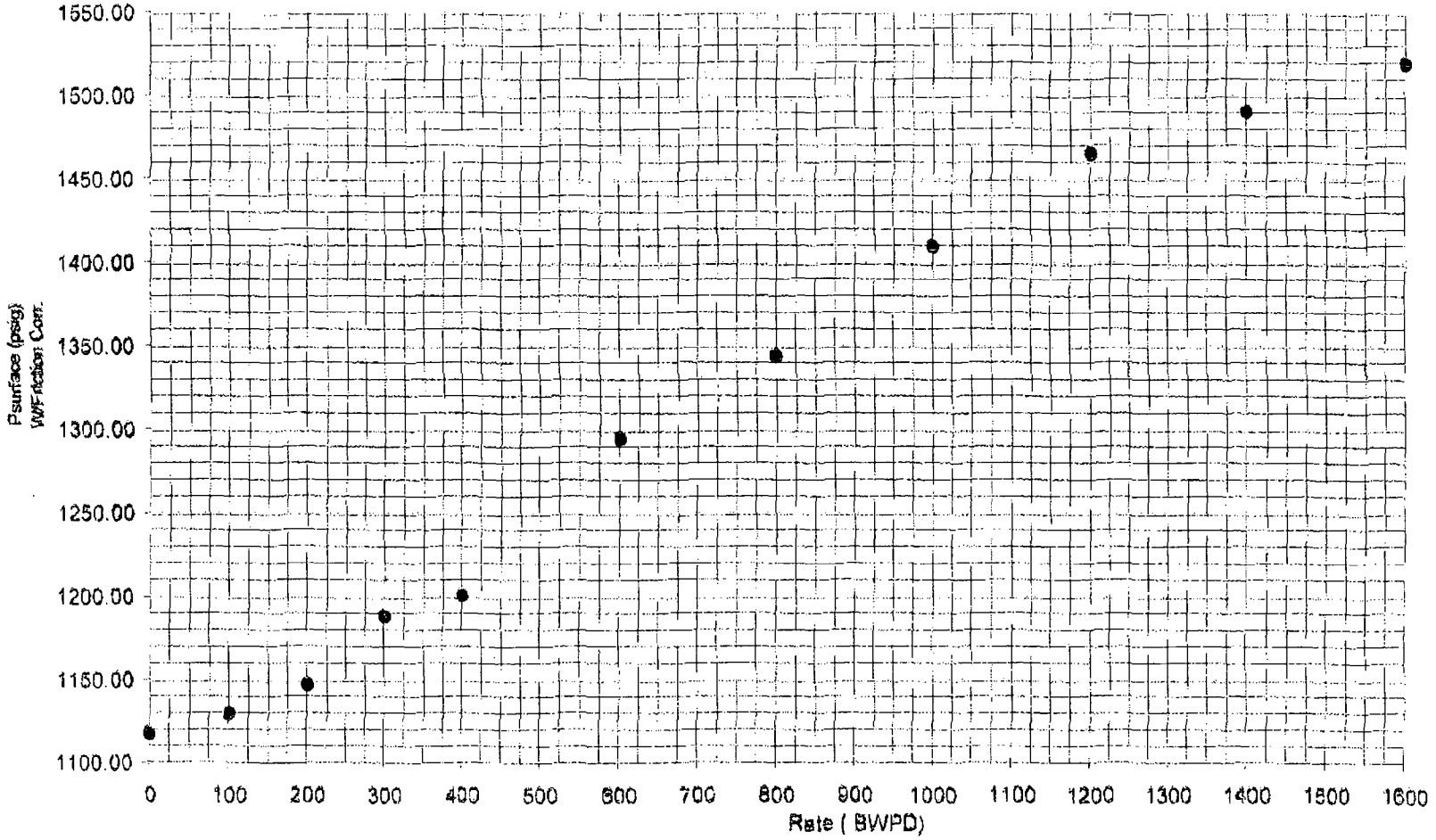
STEP RATE TEST
CANO PETROLEUM
CSAU #94
2/25/2009

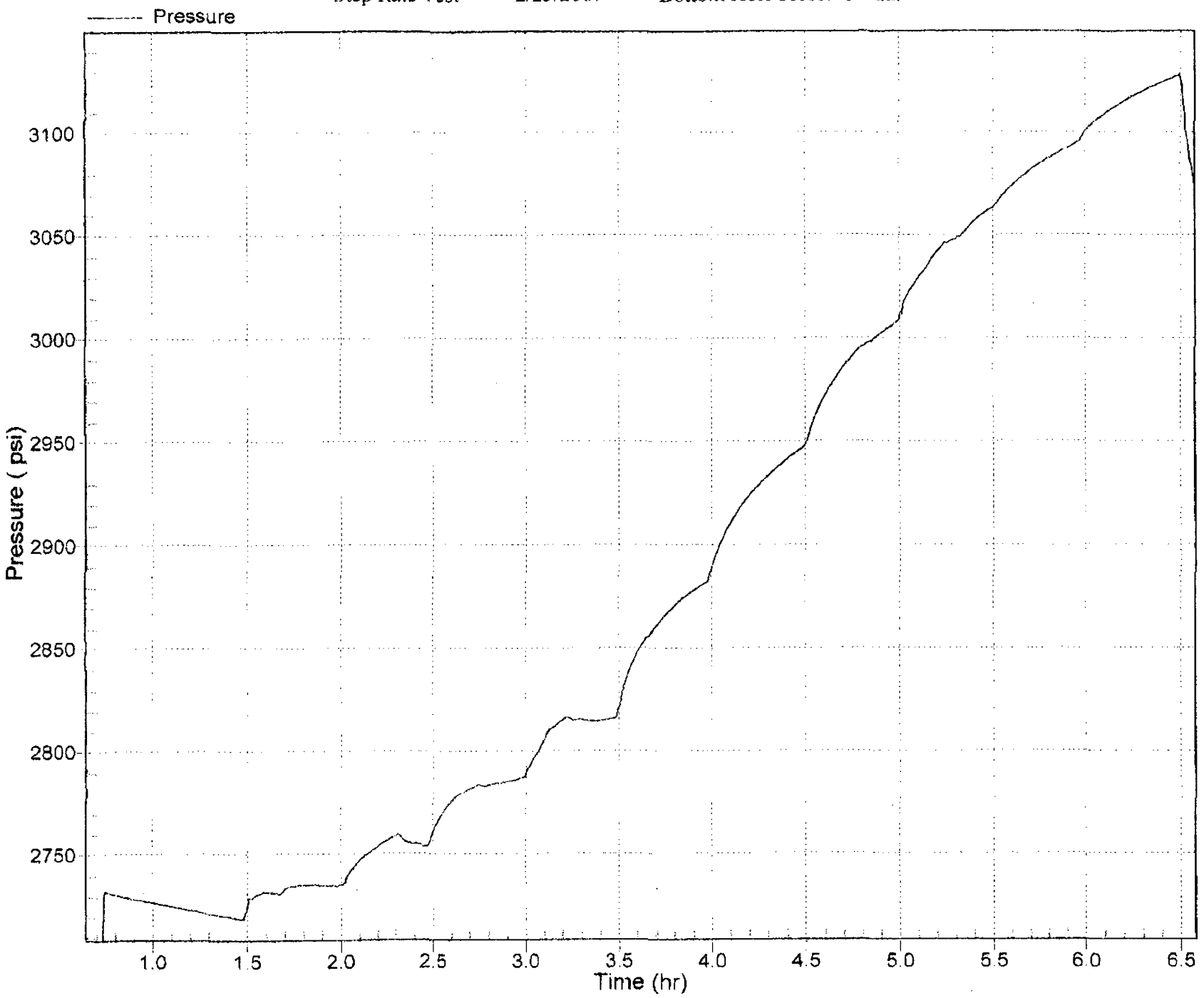
PRECISION PRESSURE DATA, INC



PRECISION PRESSURE DATA, INC. · P. O. BOX 8571 · MIDLAND, TEXAS 79708-8571 · (432) 570-7500

CANO PETROLEUM - CSAU #94

Step Rate Test 2/25/2009 Bottom Hole Pressure Data



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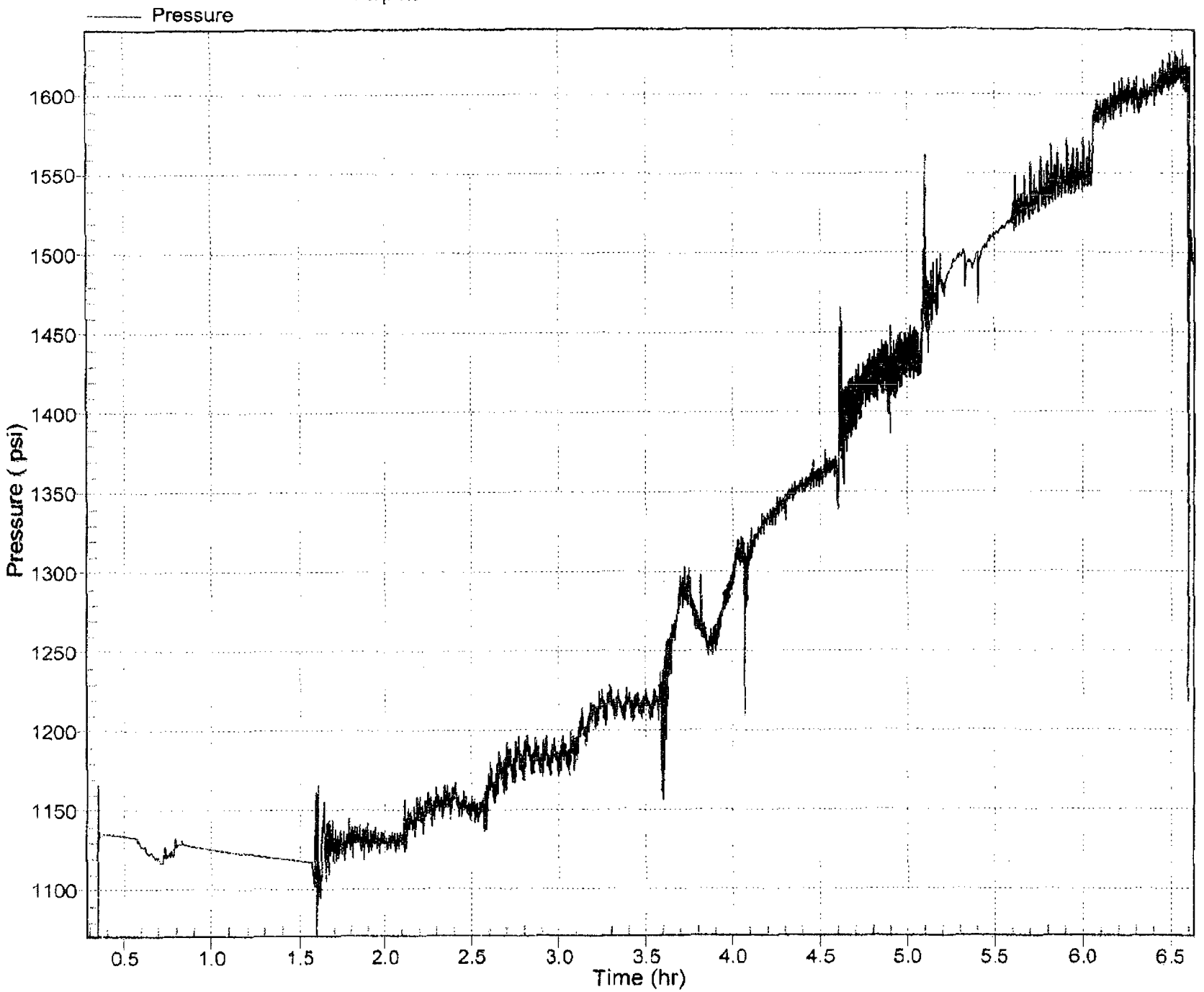
CANO PETROLEUM - CSAU #94

Step Rate Test 2/25/2009 Surface Pressure Data



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