NEW MEXICO OIL CONSERVATION COMMISSION

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED BY
APR 16 1985
O. C. D.
ARTESIA, OFFICE

Type Test: ☒ Initial ☐ Annual ☐ Special		Test Date: 3/2/85	
Company: PENNZOIL Co.	Connection: TO AIR		
Pool: WHITE CITY Penn	Formation: MORROW		Unit: F
Completion Date: 2/26/85	Total Depth: ~~11696~~ 11,700	Plug Back TD: ~~11651~~ 11,650	Elevation: 3419
Farm or Lease Name: WHITE BABY Com			
Csg. Size: 5.500 / Wt.: 26.0 / d: 4.548 / Set At: 11696	Perforations: From 11234 To 11624		Well No.: 2
Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.995 / Set At: 11194	Perforations: From 0 To 0		Unit: F / Sec.: 16 / Twp.: 24S / Rge.: 26E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE	Packer Set At: 11129		County: EDDY
Producing Thru: TUBING	Reservoir Temp. °F: 230 @ 11433	Mean Annual Temp. °F: 60.0	Baro. Press. – P_a: 13.2
State: NEW MEXICO			

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
11433	11433	0.586	1.96	0.25	0	2.0	0	

NO.	FLOW DATA: Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g.	Temp. °F	B.H.P. DATA: Press. p.s.i.g.	CHOKE	Duration of Flow
SI							2496		3215		68.0
1.	2.00	X	0.250	400	0	64	2405	0	3107	4/64	1.0
2.	2.00	X	0.440	165	0	73	2267	0	2939	9/64	1.0
3.	2.00	X	0.440	205	0	76	2155	0	2798	11/64	1.0
4.	2.00	X	0.440	276	0	80	1980	0	2584	12.5/64	1.0
5.											

RATE OF FLOW CALCULATIONS

NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1	1.08	0	413.2	0.9962	1.3063	1.0323	602
2	3.44	0	178.2	0.9877	1.3063	1.0129	800
3	3.44	0	218.2	0.9850	1.3063	1.0156	980
4.	3.44	0	289.2	0.9813	1.3063	1.0203	1300
5.							

NO.	P_r	Temp. °R	T_r	Z
1	0.61	524	1.50	0.938
2	0.26	533	1.52	0.975
3	0.32	536	1.53	0.970
4	0.42	540	1.54	0.961
5				

Gas Liquid Hydrocarbon Ratio: 0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 0 Deg.
Specific Gravity Separator Gas: 0.586 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX 0.586
Critical Pressure: 681 P.S.I.A. 681 P.S.I.A.
Critical Temperature: 350 R 350 R

P_c 2531.2 P_c^2 6407

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	9736	2445	5977	430
2	8715	2312	5344	1063
3	7903	2201	4844	1563
4	6745	2034	4139	2268
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.8249$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.9763$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2569$

Absolute Open Flow: 2569 Mcfd @ 15.025 Angle of Slope θ: 56.75 Slope, n: .656

Remarks:

Approved By Commission:	Conducted By:	Calculated By:	Checked By:

"Let ur Interest in Measurement be our Concern"

PRECISION SERVICE INC.

Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 302-2
Date Run 03/02/85
Date Sampled 03/02/85

Analysis For: BENNETT & CATHEY WRLN.
Lease: White Baby Com. #2 — Producer: Pennzoil Company
Location: White City — County: Eddy — State: New Mexico
Purpose: Well Test — Sampled By: B & C WRLN.
Sampling Temp.: 100 °F — Atmos Temp.: 60 °F
Volume/day: 999 MCF — Formation: Morrow
Pressure on Bomb: 280 — PSIG; Line Pressure: 293.2 PSIA PSIG

Gas Component Analysis — Press. Base: 14.73

	Mol. %	Liq. %	GPM Per MCF
Carbon Dioxide CO_2	1.958		
Oxygen O_2	.004		
Nitrogen N_2	.249		
Hydrogen Sulfide H_2S			
Methane C1	96.021		16.275
Ethane C2	1.458		.390
Propane C3	.181		.050
Iso-Butane IC4	.030		.010
Nor-Butane NC4	.031		.010
Iso-Pentane IC5	.009		.003
Nor-Pentane NC5	.004		.002
exanes plus	.056		.026
Hexanes C6			
eptanes			
Heptanes Plus C7+			
Total	100.000		16.765
Pentane + G.P.M.			.031
opane + GPM			.100
-lb Gasoline			.174

BTU Dry 1010
BTU Wet 993
Calc. Specific Gravity .586

@ Std. Press. 14.696
BTU Dry 1008
BTU Wet 990

Calc. Vap. Press. #/Sq.In.
Reid Vap. Press. #/Sq.In.

Z Factor .9980
N Value 1.3049
Ave Mol Wt 16.9565
Ave Cu Ft/Gal

Run by Jeffrey A. Propp
Calculated By Jeffrey A. Propp

Ethane + GPM .490

marks:

Distribution:

2967

BENNETT & CATHEY PRODUCTION TESTING

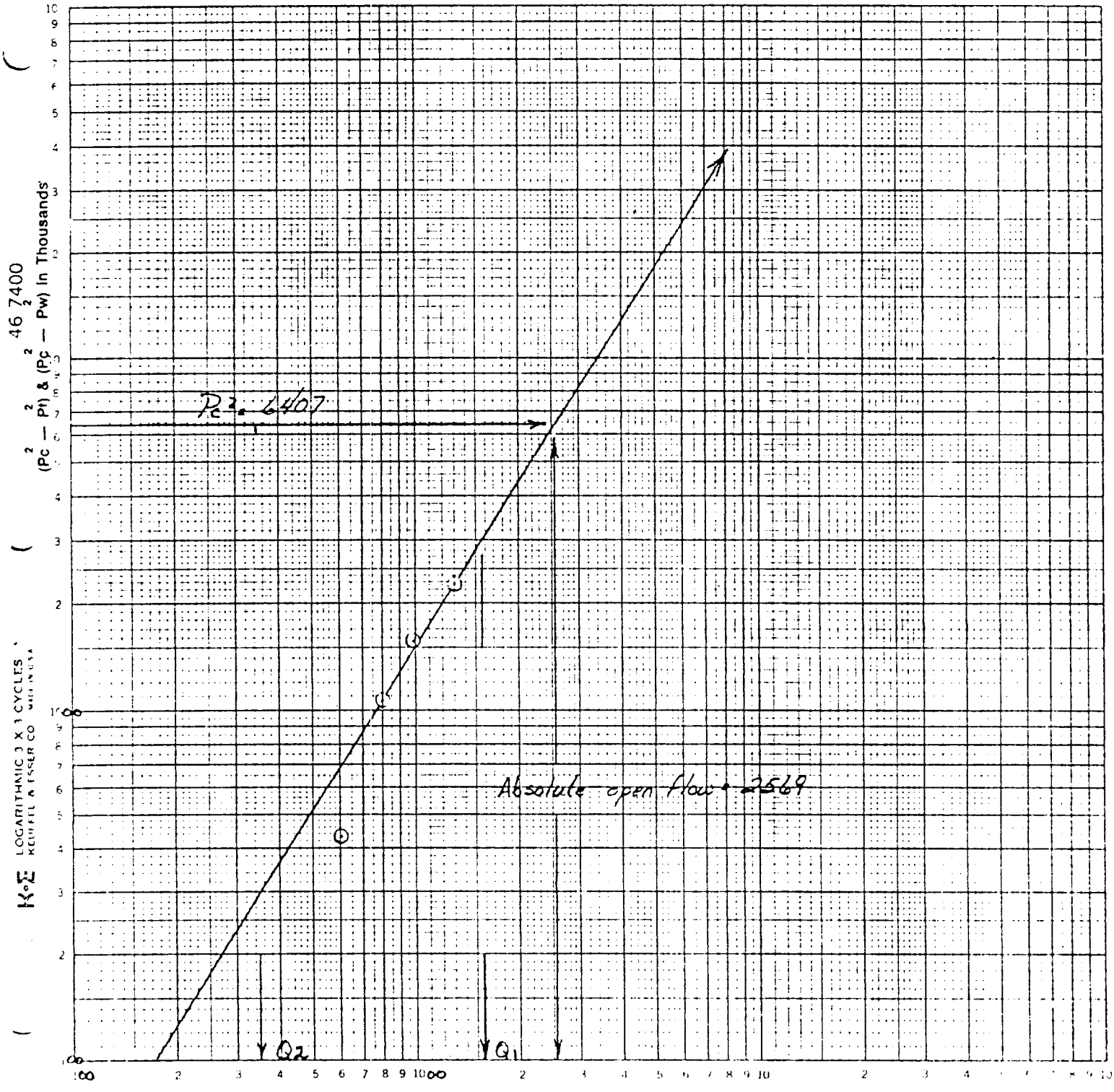
BACK PRESSURE CUR

Operator Pennzoil Company Lease White Baby Com Well No. 2

County Eddy Field White City Location 16 24S 26E

Date of Test 3-2-85 Slope "n" .656 Angle of Slope 56.75

Calc. Abs. Potential 2569 MCF/D



ΔP_1^2 Pc^2-Pw^2 = 3000

ΔP_2^2 Pc^2-Pw^2 = 300

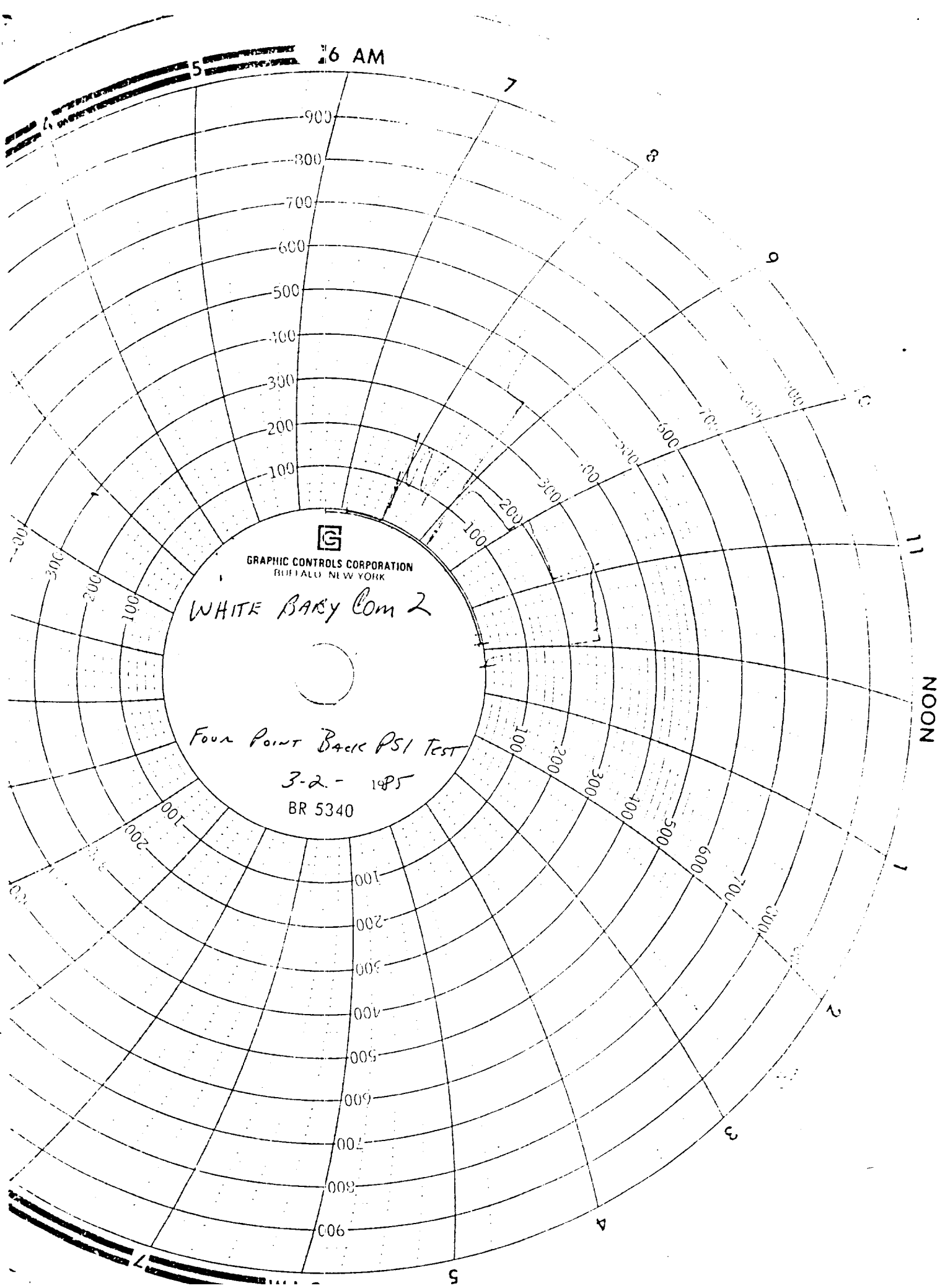
Q_1 = 1585

Q_2 = 350

LOG Q_1 = 3.2000

LOG Q_2 = 2.5440

n = 0.6560


6 AM
NOON
GRAPHIC CONTROLS CORPORATION
BUFFALO NEW YORK
WHITE BAKY Com 2
FOUR POINT BACK PSI TEST
3-2- 1985
BR 5340

COMPANY: PENNZOIL
LEASE: WHITE BABY
FIELD: White City
COUNTY: EDDY
STATUS: FOUR POINT BACK PRESSURE TEST
PERFORATIONS FROM: 11234 ft
DEPTH: 11150 ft

DISTRICT: [illegible]
WELL: #2
ZONE: MORROW
STATE: NEW MEXICO
OPERATOR: DON BENNETT
TD: 11834 ft
TEMPERATURE: 181 F

ELEMENT#: RPG3#18753
CLOCK#: 30995
ELEMENT#: RPG3#21024
CLOCK#: 27744

ELEMENT RANGE: 7500 psig
CLOCK RANGE: 48 hrs
ELEMENT RANGE: 3000 psig
CLOCK RANGE: 48 hrs

START CLOCK	03/01/85	15:30:00	2435 psig
SET ELEMENT	03/01/85	15:53:00	2485 psig
WELL SHUT IN	02/26/85	12:00:00	0 psig
TEST ENDED	03/02/85	13:10:00	1991 psig

GAUGE# 1
FILE: PENN-B:D701

GAUGE# 82 psi
BAROMETRIC PRESSURE= 13.2 psia

BENNETT-CATHEY WIRE LINE SERVICE
PHONE (505) 748-[illegible]
ARTESIA, NEW MEXICO 88210

PRESSURE DRAWDOWN TEST DATA

COMPANY: PENNZOIL
LEASE: WHITE BABY
FIELD: White City
ISOLAT: EDDY
STATUS: FOUR POINT BACK PRESSURE TEST

COUNTY: [illegible]
STATE: NEW MEXICO
OPERATOR: [illegible]

PERFORATIONS FROM: 11,094.0
ELEMENT DEPTH: 11,150.0

TO: 11,[illegible]
TEMPERATURE: 210.0 F

ELEMENT: RPQ3#13752
CLOCK: 30858
ELEMENT: RPQ3#21094
CLOCK: 27744

RANGE: 7500 PSIG
RANGE: 48 HRS
RANGE: 8000 PSIG
RANGE: 48 HRS

ILLEGIBLE

SURFACE PRESSURE MEASUREMENTS

EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	08/01/85	15:30:00	2,485.0 PSIG
SET ELEMENT	08/01/85	18:58:00	2,485.0 PSIG
WELL SHUT IN	08/26/85	12:00:00	0.0 PSIG
END OF TEST	08/02/85	12:10:01	1,980.1 PSIG

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t HRS	GAUGE PRESSURE PSIG	ABSOLUTE PRESSURE PSIA	PRESS/DIF PRESSURE PSIG
08/01/85	20:00:57	-13.151	3,177.0	3,190.2	[illegible]
08/01/85	22:48:47	-8.887	3,175.6	3,188.8	[illegible]
08/02/85	01:18:13	-6.388	3,180.6	3,193.8	[illegible]
08/02/85	04:08:39	-4.033	3,182.6	3,195.[illegible]	[illegible]
08/02/85	08:10:00	0.000	3,182.4	3,195.6	[illegible]
08/02/85	08:24:58	.250	3,145.7	3,158.9	[illegible]
08/02/85	08:40:01	.500	3,111.7	3,124.9	[illegible]
08/02/85	08:54:58	.750	3,081.5	3,094.7	[illegible]
08/02/85	09:10:01	1.000	3,075.8	3,089.[illegible]	[illegible]
08/02/85	09:25:00	1.250	3,044.0	3,057.2	[illegible]
08/02/85	09:40:02	1.500	3,029.2	3,042.4	[illegible]
08/02/85	09:55:00	1.750	3,[illegible]	3,[illegible]	[illegible]
08/02/85	10:09:59	2.000	3,[illegible]	3,[illegible]	[illegible]
08/02/85	10:25:01	2.250	3,[illegible]	3,[illegible]	[illegible]
08/02/85	10:39:59	2.500	3,[illegible]	3,[illegible]	[illegible]
08/02/85	10:55:01	2.750	3,[illegible]	3,[illegible]	[illegible]
08/02/85	11:10:00	3.000	3,[illegible]	3,[illegible]	[illegible]
08/02/85	11:24:58	3.250	3,[illegible]	3,[illegible]	[illegible]
08/02/85	11:40:01	3.500	3,[illegible]	3,[illegible]	[illegible]
08/02/85	11:54:58	3.750	3,[illegible]	3,[illegible]	[illegible]
08/02/85	12:10:01	4.000	3,[illegible]	3,[illegible]	[illegible]

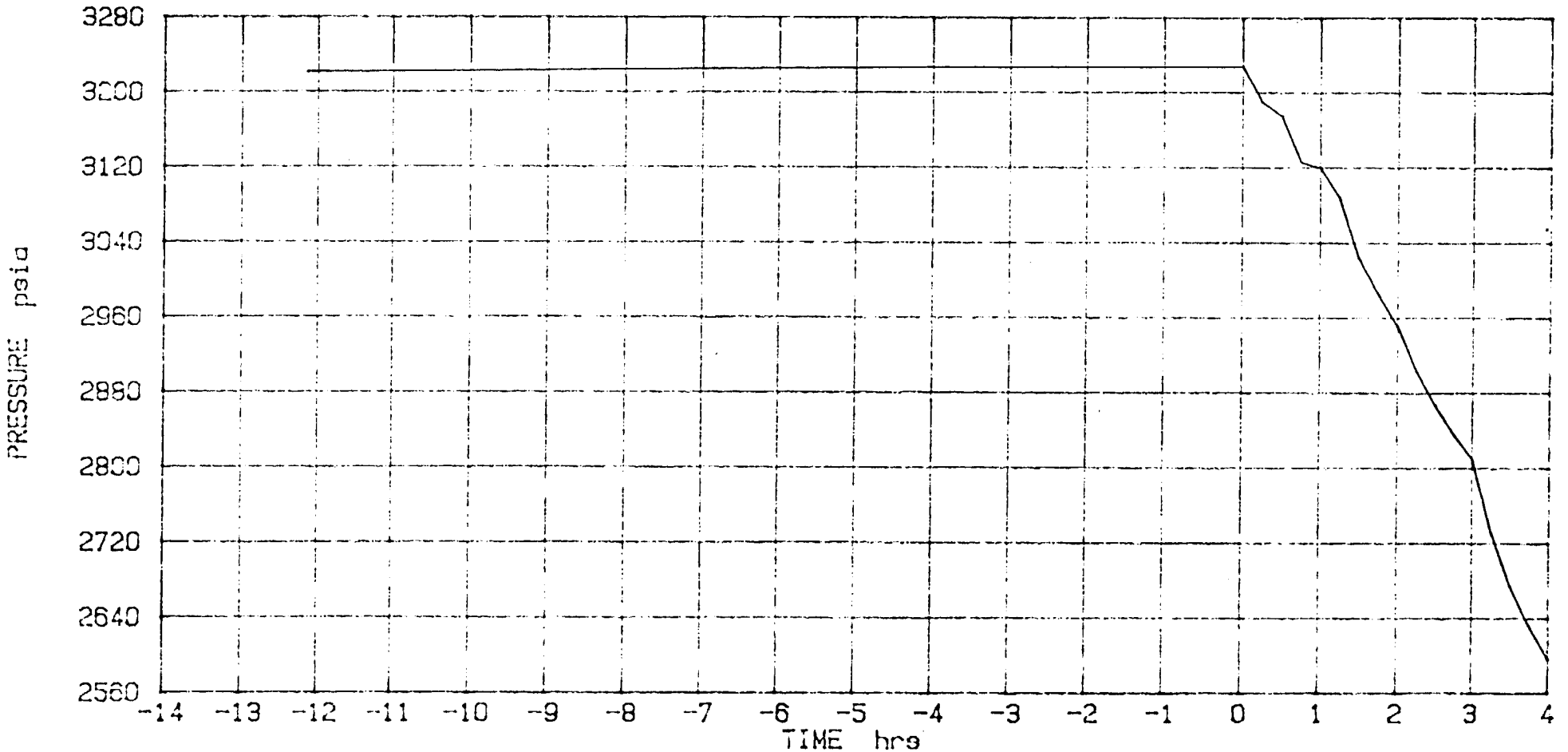
TEST DATE: 03/01/85 TO 03/02/85
TEST DEPTH: 11150 ft
ELEMENT NO: RPG3#21034
RANGE: 8000 psig
CLOCK: 27744
RANGE: 48 hrs
OPERATOR: DON BENNETT

JIM THURMAN

PENNZOIL

WHITE BABY #2

BENNETT-CATHEY WIRE LINE SERVICE
Box 787 Artesia, N. M. 88210 (505) 748-3354



BENNETT-CATHEY WIRE LINE SERVICE

P. O. BOX 787
ARTESIA, NEW MEXICO 88210
Phone (505) 746-3281

BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR PENNZOIL
LEASE WHITE BABY
WELL NO. #1
POOL _____ **FORMATION** MORROW
DATE 3/1/85 **TIME** 1858 HOUR
CO. MAN JIM THURMAN
STATUS SHUT IN **TEST DEPTH** 11150 FT.
TIME S.I. 1200 HOUR **LAST TEST DATE** 1/6/85
2/26/85 **BHP LAST TEST** 3688.2
TUB. PRES. 2498.2 **BHP CHANGE** 468-
CAS. PRES. _____ **FLUID TOP** _____
DATUM PLANE _____ **WATER TOP** _____
DATUM PSIA 3220.2 **RUN BY** BO FAULKENBERRY
TEMP 230° **CLOCK #** 27744
PRESSURE RANGE 8000 LBS
ELEMENT NO. 21034

DEPTH	PSIA PRESSURE	LBS/100FT. GRADIENT
0	2498.2	
3000	2693.2	6.5
6000	2879.2	6.2
9000	3062.2	6.1
11000	3171.2	5.5
11150	3188.2	11.3
11429	3220.2	11.5

11429 FT. WAS EXTRAPOLATED
TIME B.H.P. MEASURED 1858 HOUR
LENGTH OF TIME WELL SHUT IN 55 HOURS
PERFORATIONS FROM 11234 TO 11624