

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 8-28-87	
Company CARL A SCHELLINGER			Connection TO AIR		CARL SCHELLINGER OIL PROPERTIES
Post H. Fox Ranch, Penn.			Formation Penn.		
Completion Date 8-16-87		Total Depth 6480	Plug Back TD 6350		Elevation 3906.64
Csg. Size 5.5000		Wt. 17.00	Set At 6350	Perforations: From 6229 To 6248	Well No. 1
Tbg. Size 2.3750		Wt. 4.70	Set At 6164	Perforations: From To	Unit Sec. Twp. Rge. L 5 9S 27E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 6164	County CHAVES
Producing Thru TUBING		Reservoir Temp. °F 139 @ 6239	Mean Annual Temp. °F 60°		State NEW MEXICO
L 6239	H 6239	Gg 0.695	% CO ₂ 8.08	% N ₂ 3.11	% H ₂ S 0
Prover 0		Meter Run 3.1	Taps FLNG.		

FLOW DATA						TUBING DATA		B.H.P. DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	CHOKED	Press. p.s.i.g.	
SI.							1939		2350	139
1.	3.07	0.750		185	22.0	80	1839	0 3/64	2219	139
2.	3.07	1.000		191	16.0	79	1748	0 5/64	2098	139
3.	3.07	1.000		197	34.0	61	1604	0 6 3/64	1927	139
4.	3.07	1.000		200	72.0	51	1375	0 9/64	1643	139
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	2.67	66.03	198.2	0.9813	1.1995	1.0160	211
2	4.79	57.16	204.2	0.9822	1.1995	1.0166	328
3	4.79	84.54	210.2	0.9990	1.1995	1.0191	494
4	4.79	123.90	213.2	1.0088	1.1995	1.0204	733
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.28	540	1.48	0.969	0	
2	0.29	539	1.47	0.968	0	
3	0.30	521	1.42	0.963	0.695	XXXXXXX
4	0.31	511	1.40	0.960	0.695	XXXXXXX
5					698	698
					366	366

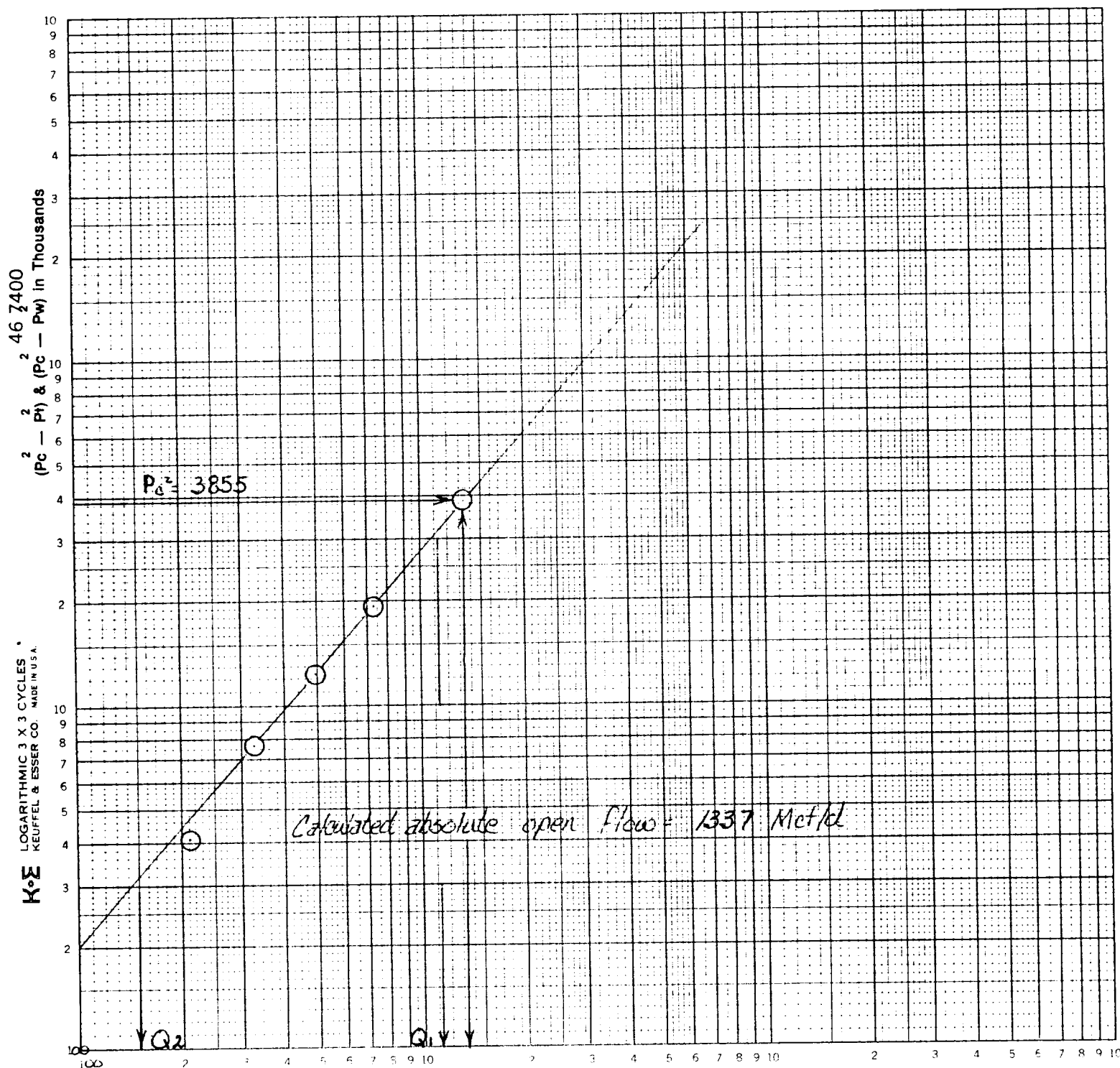
P _c 1963.4 P _c ² 3855				(1) $\frac{P_c^2}{P_e^2 - P_w^2} = 1.9974$		(2) $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 1.8243$	
NO.	P ₁ ²	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 1337.2$ Post IO-2 9-11-87 comp & BK		
1		1856	3446	409			
2		1758	3090	765			
3		1619	2620	1234			
4		1387	1925	1930			
5							

Absolute Open Flow 1337.2 Mcfd @ 15.025		Angle of Slope 49.0	Slope, n 0.869
Remarks: BOTTOM HOLE PRESSURES GAUGED WITH AMERADA PRESSURE GAUGE			
Approved By Division	Conducted By: BENNETT & CATHEY	Calculated By: RICHARD TOWNLEY	Checked By:

45P
File

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CU. E

Operator Carl A. Schellinger Lease Glo State Well No. 1
 County Chaves Field _____ Location 5 9S 27E
 Date of Test 8-18 87 Slope "n" 0.869 Angle of Slope 49°
 Calc. Abs. Potential 1337 MCF/D



$$\overline{\Delta P}_1^2 \quad P_c^2 - P_w^2 = 3200$$

$$\overline{\Delta P}_2^2 \quad P_c^2 - P_w^2 = 320$$

$$Q_1 = 1169$$

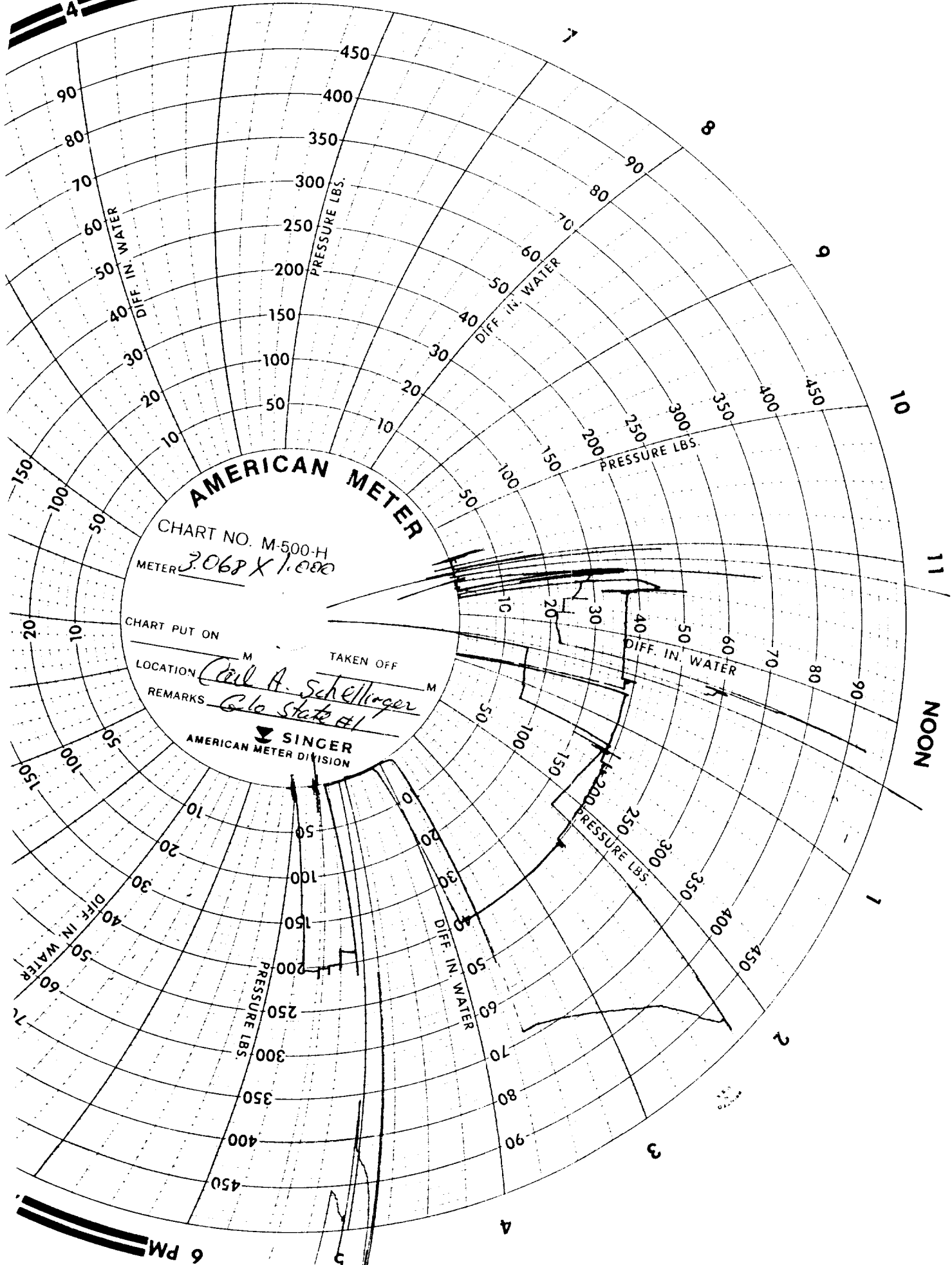
$$Q_2 = 150$$

$$\text{LOG } Q_1 = 3.0750$$

$$\text{LOG } Q_2 = 2.1760$$

$$n = 0.869$$

4 5 6 AM



At your Interest in Measurement be our Conce.



PRECISION SERVICE INC.
Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 818-1
Date Run 08/18/87
Date Sampled 08/18/87

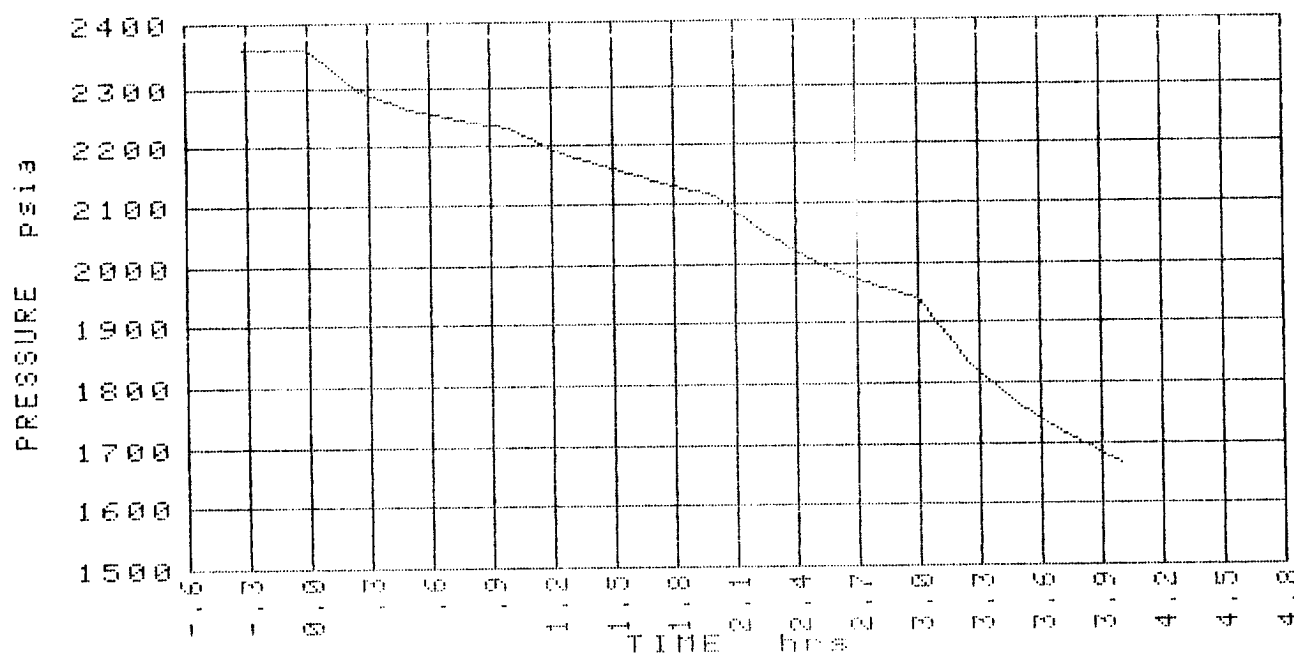
Analysis For: BENNETT & CATHEY WRLN.

Lease: <u>GLO STATE</u>	Producer: <u>CARL A. SCHELLINGER</u>
Location: <u>S5-T9S-R27E</u>	County: <u>CHAVES</u> State: <u>NEW MEXICO</u>
Purpose: <u>WELL TEST</u>	Sampled By: <u>B & C WRLN.</u>
Sampling Temp. <u>84</u> °F	Atmos Temp. <u>95</u> °F
Volume/day	Formation
Pressure on Bomb <u>180</u>	PSIG; Line Pressure <u>193.2</u> PSIA PSIG

Gas Component			Analysis	Press. Base: 14.73
	Mol. %	Liq. %	GPM Per MCF	
Carbon Dioxide CO ₂	8.080			BTU Dry 978
Oxygen O ₂				BTU Wet 961
Nitrogen N ₂	3.109			Calc. Specific Gravity .695
Hydrogen Sulfide H ₂ S				
				@ Std. Press. 14.696
Methane C ₁	83.055		14.078	BTU Dry 976
Ethane C ₂	3.601		.963	BTU Wet 959
Propane C ₃	1.040		.286	
Iso-Butane IC ₄	.177		.058	Calc. Vap. Press. #/Sq. In.
Nor-Butane NC ₄	.384		.121	Reid Vap. Press. #/Sq. In.
				Z Factor .9976
Iso-Pentane IC ₅	.122		.044	N Value 1.3005
Nor-Pentane NC ₅	.151		.055	Ave Mol Wt 20.0972
Hexanes plus	.281		.130	Ave Cu Ft/Gal
Hexanes C ₆				
Heptanes				
Heptanes Plus C ₇ +				Run by JEFFREY A. PROPP
Total	100.000		15.735	Calculated By JEFFREY A. PROPP
Pentane + G.P.M.			.229	
Propane + GPM			.694	Ethane + GPM 1.657
26-lb Gasoline			.358	

Remarks:

Distribution:



COMPANY: CARL A. SCHELLENGER
 LEASE: GLOW STATE
 FIELD:
 COUNTY: CHAVES
 STATUS: FOUR POINT BACK PRESSURE TEST
 PERFORATIONS FROM: 6229 ft
 DEPTH: 6100 ft

CONTACT: FRANK MORGAN
 WELL: #1
 ZONE:
 STATE: NEW MEXICO
 OPERATOR: RICHARD TOWNLEY
 TO: 6629 ft
 TEMPERATURE: 139°F

ELEMENT# RPG3#22749
 CLOCK# 3443
 ELEMENT# RPG3#23914
 CLOCK# 21664

ELEMENT RANGE: 5150 psig
 CLOCK RANGE: 12 hrs
 ELEMENT RANGE: 5025 psig
 CLOCK RANGE: 12 hrs

START CLOCK	08/18/87	09:55:00	1939 psig
SET ELEMENT	08/18/87	10:59:00	1939 psig
WELL SHUT IN	11/11/11	00:00:00	0 psig
TEST ENDED	08/18/87	13:45:00	1375 psig

GAIN= 1
 FILE: 138-GLOW:D701

BIAS= 10 psi
 BAROMETRIC PRESSURE= 13.2 psia

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

COMPANY: CARL A. SCHELLENGER	CONTACT: FRANK MORGAN
LEASE: GLOW STATE	WELL: #1
FIELD:	ZONE:
COUNTY: CHAVES	STATE: NEW MEXICO
STATUS: FOUR POINT BACK PRESSURE TEST	OPERATOR: RICHARD TOWNLEY

PERFORATIONS FROM: 6,229.0'	TO: 6,629.0'
DEPTH: 6,100.0'	TEMPERATURE: 139.0°F

ELEMENT: RFG3#22749	RANGE: 5150 psig
CLOCK: 3443	RANGE: 12 hrs
ELEMENT: RFG3#23914	RANGE: 5025 psig
CLOCK: 21664	RANGE: 12 hrs

SURFACE PRESSURE MEASUREMENTS

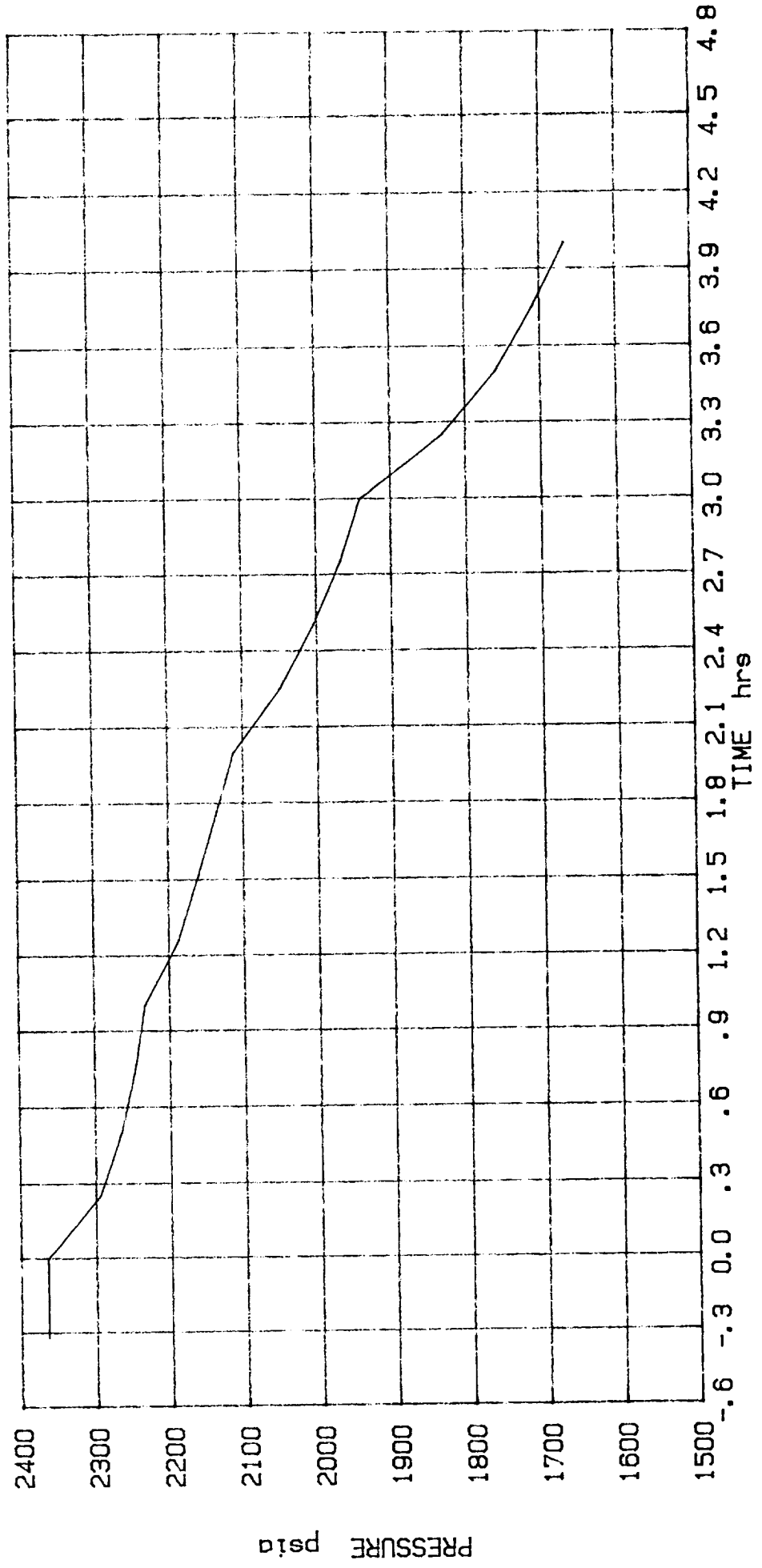
EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	08/18/87	09:55:00	1,939.0 psig
SET ELEMENT	08/18/87	10:59:00	1,939.0 psig
WELL SHUT IN	11/11/11	00:00:00	0.0 psig
TEST ENDED	08/18/87	13:45:00	1,375.0 psig

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
08/18/87	11:25:50	-.319	2,340.3	2,353.5	2,363.5
08/18/87	11:45:00	0.000	2,340.3	2,353.5	2,363.5
08/18/87	12:00:00	.250	2,270.8	2,284.0	2,294.0
08/18/87	12:15:00	.500	2,241.5	2,254.7	2,264.7
08/18/87	12:30:00	.750	2,222.1	2,235.3	2,245.3
08/18/87	12:45:00	1.000	2,209.3	2,222.5	2,232.5
08/18/87	13:00:00	1.250	2,164.7	2,177.9	2,187.9
08/18/87	13:15:00	1.500	2,138.0	2,151.2	2,161.2
08/18/87	13:30:00	1.750	2,112.8	2,126.0	2,136.0
08/18/87	13:45:00	2.000	2,088.3	2,101.5	2,111.5
08/18/87	14:00:00	2.250	2,026.1	2,039.3	2,049.3
08/18/87	14:15:00	2.500	1,980.5	1,993.7	2,003.7
08/18/87	14:30:00	2.750	1,943.9	1,957.1	1,967.1
08/18/87	14:45:00	3.000	1,917.0	1,930.2	1,940.2
08/18/87	15:00:00	3.250	1,807.8	1,821.0	1,831.0
08/18/87	15:15:00	3.500	1,736.0	1,749.2	1,759.2
08/18/87	15:30:00	3.750	1,686.4	1,699.6	1,709.6
08/18/87	15:45:00	4.000	1,643.3	1,656.5	1,666.5

TEST DATE: 08/18/87 TO 08/18/87
TEST DEPTH: 6100 ft
ELEMENT NO: RPC3#23914
RANGE: 5025 psig
CLOCK: 21664
RANGE: 12 hrs
OPERATOR: RICHARD TOWNLEY

FRANK MORGAN
CARL A. SCHELLENGER
GLOW STATE #1
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



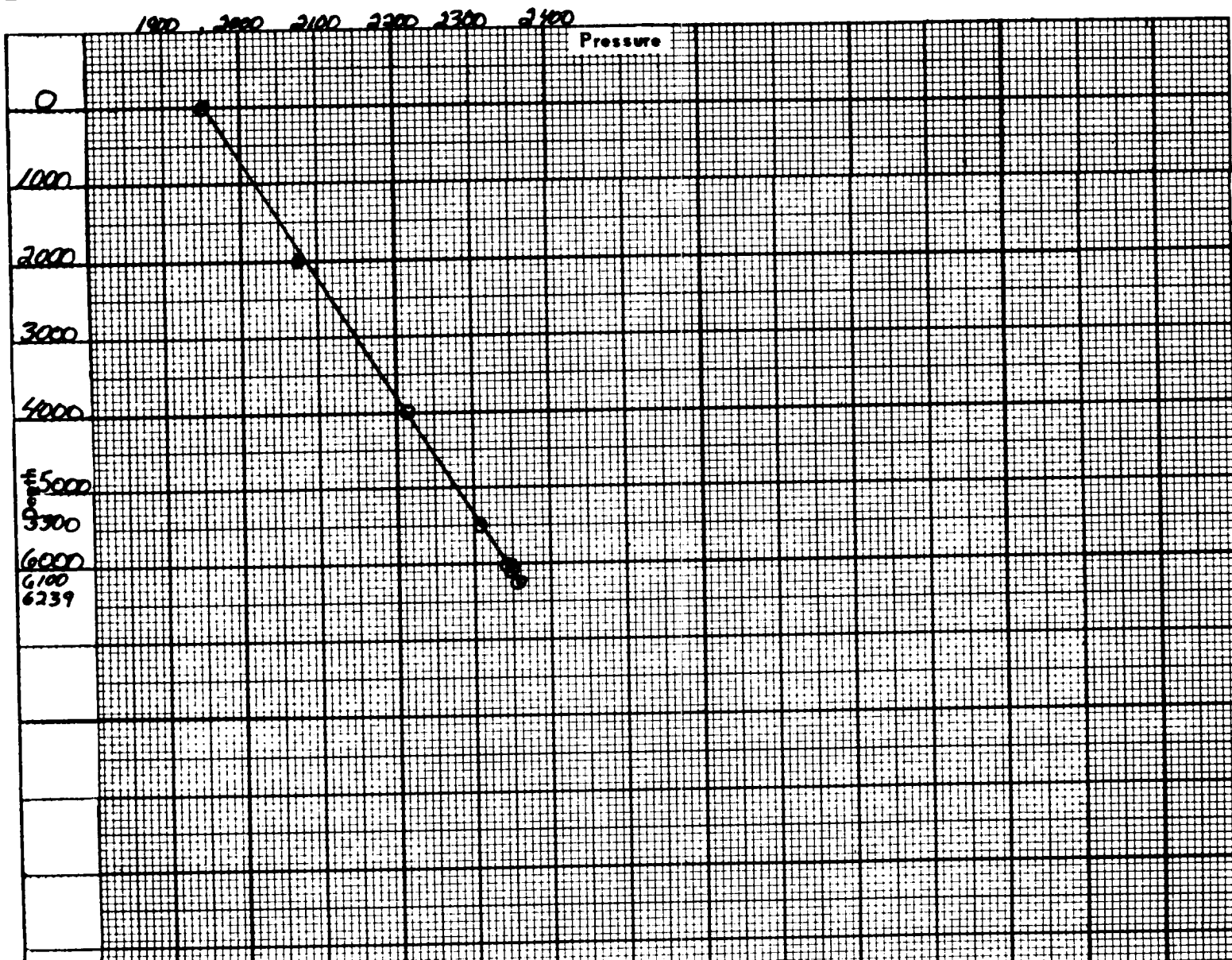
BOTTOM HOLE PRESSURE SURVEY REPORT

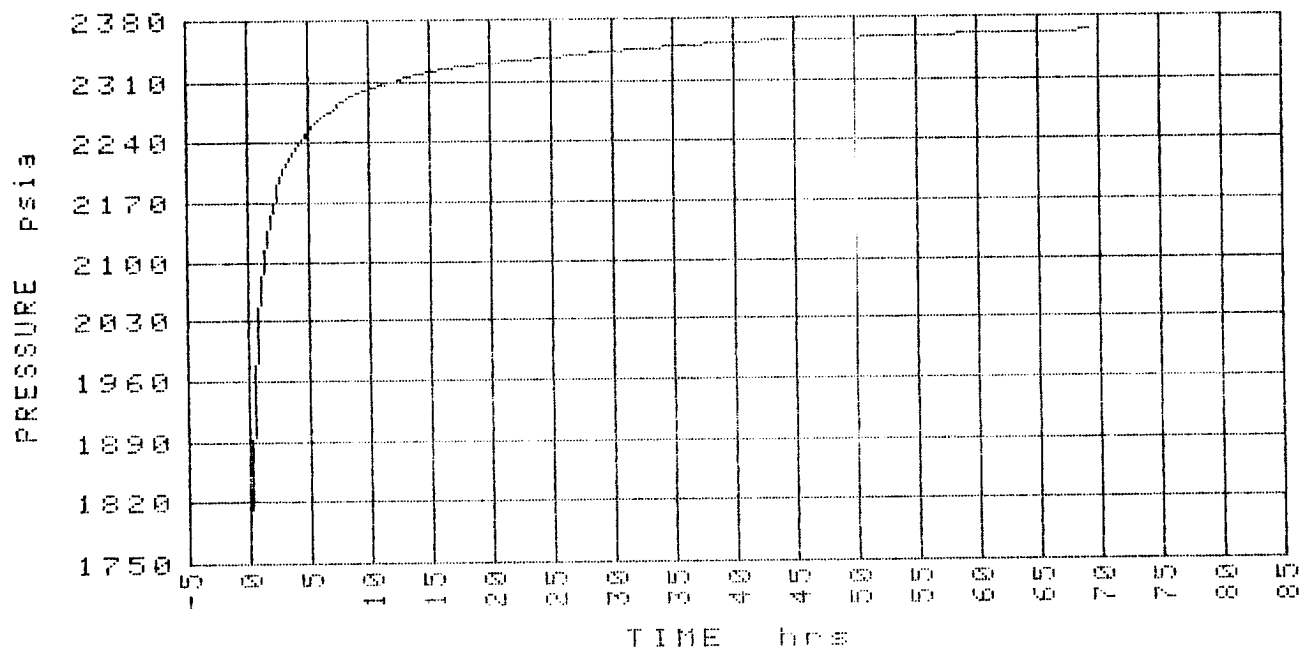
OPERATOR CARL A. SCHELLENGER
 LEASE GLOW STATE
 WELL NO. #1
 POOL FORMATION
 DATE 8-18-87 TIME 10:59
 CO. MAN FRANK MORGAN
 STATUS SHUT IN TEST DEPTH 6239
 TIME S.I. LAST TEST DATE
 BHP LAST TEST
 TUB. PRES. 1939 BHP CHANGE
 CAS. PRES. FLUID TOP
 DATUM PLANE WATER TOP
 DATUM PSIA 2359 RUN BY RICHARD TOWNLEY
 TEMP 139 CLOCK # 30336
 PRESSURE RANGE 5025
 ELEMENT NO. 22749

DEPTH	PRESSURE	GRADIENT
0	1952	
2000	2077	6.2
4000	2215	6.9
5500	2309	6.3
6000	2342	6.6
6100	2349	7.0
6239	2359	7.2

STATIC RAN BEFORE FOUR POINT TEST

6239 IS EXTRAPOLATED





COMPANY: CARL A. SCHELLENGER
 LEASE: GLOW STATE
 FIELD:
 COUNTY: CHAVES
 STATUS: BOTTOM HOLE PRESSURE BUILD UP TEST
 PERFORATIONS FROM: 6229 ft
 DEPTH: 6100 ft

CONTACT: FRANK MORGAN
 WELL: #1
 ZONE:
 STATE: NEW MEXICO
 OPERATOR: RICHARD TOWNLEY
 TO: 6629 ft
 TEMPERATURE: 139°F

ELEMENT# RP63#22749
 CLOCK# 30336
 ELEMENT# RP63#23914
 CLOCK# 30326

ELEMENT RANGE: 5150 psig
 CLOCK RANGE: 72 hrs
 ELEMENT RANGE: 5025 psig
 CLOCK RANGE: 72 hrs

START CLOCK	08/18/87	17:00:00	1362 psig
SET ELEMENT	08/18/87	16:45:00	1362 psig
WELL SHUT IN	07/18/87	18:00:00	1362 psig
TEST ENDED	08/21/87	18:15:00	1940 psig

GAIN= 1
 FILE: 139-GLO:D701

BIAS= 10 psi
 BAROMETRIC PRESSURE= 13.2 psia

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 743-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

COMPANY: CARL A. SCHELLENGER	CONTACT: FRANK MORGAN
LEASE: GLOW STATE	WELL: #1
FIELD:	ZONE:
COUNTY: CHAVES	STATE: NEW MEXICO
STATUS: BOTTOM HOLE PRESSURE BUILD UP TEST	OPERATOR: RICHARD TOWNLEY

PERFORATIONS FROM: 6,229.0'	TO: 6,629.0'
DEPTH: 6,100.0'	TEMPERATURE: 139.0°F

ELEMENT: RFG3#22749	RANGE: 5150 psig
CLOCK: 30336	RANGE: 72 hrs
ELEMENT: RFG3#23914	RANGE: 5025 psig
CLOCK: 30326	RANGE: 72 hrs

SURFACE PRESSURE MEASUREMENTS

EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	08/18/87	17:00:00	1,362.0 psig
SET ELEMENT	08/18/87	16:45:00	1,362.0 psig
WELL SHUT IN	07/18/87	18:00:00	1,362.0 psig
TEST ENDED	08/21/87	18:15:00	1,940.0 psig

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/18/87	18:11:24	.190	1,788.2	1,801.4	1,811.4
07/18/87	18:15:00	.250	1,817.1	1,830.3	1,840.3
07/18/87	18:20:00	.333	1,856.0	1,869.2	1,879.2
07/18/87	18:25:00	.417	1,888.7	1,901.9	1,911.9
07/18/87	18:30:00	.500	1,919.2	1,932.4	1,942.4
07/18/87	18:35:00	.583	1,945.8	1,959.0	1,969.0
07/18/87	18:40:00	.667	1,969.6	1,982.8	1,992.8
07/18/87	18:45:00	.750	1,987.4	2,000.6	2,010.6
07/18/87	18:50:00	.833	2,005.2	2,018.4	2,028.4
07/18/87	18:55:00	.917	2,019.0	2,032.2	2,042.2
07/18/87	19:00:00	1.000	2,032.3	2,045.5	2,055.5
07/18/87	19:05:00	1.083	2,045.6	2,058.8	2,068.8
07/18/87	19:10:00	1.167	2,058.2	2,071.4	2,081.4
07/18/87	19:15:00	1.250	2,068.3	2,081.5	2,091.5
07/18/87	19:20:00	1.333	2,078.3	2,091.5	2,101.5
07/18/87	19:25:00	1.417	2,087.8	2,101.0	2,111.0
07/18/87	19:30:00	1.500	2,096.0	2,109.2	2,119.2
07/18/87	19:35:00	1.583	2,104.2	2,117.4	2,127.4
07/18/87	19:40:00	1.667	2,112.3	2,125.5	2,135.5
07/18/87	19:45:00	1.750	2,119.0	2,132.2	2,142.2
07/18/87	19:50:00	1.833	2,125.1	2,138.3	2,148.3
07/18/87	19:55:00	1.917	2,131.3	2,144.5	2,154.5

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/18/87	20:00:00	2.000	2,137.4	2,150.6	2,160.6
07/18/87	20:15:00	2.250	2,152.0	2,165.2	2,175.2
07/18/87	20:30:00	2.500	2,165.1	2,178.3	2,188.3
07/18/87	20:45:00	2.750	2,175.7	2,188.9	2,198.9
07/18/87	21:00:00	3.000	2,185.6	2,198.8	2,208.8
07/18/87	21:15:00	3.250	2,193.2	2,206.4	2,216.4
07/18/87	21:30:00	3.500	2,200.7	2,213.9	2,223.9
07/18/87	21:45:00	3.750	2,206.7	2,219.9	2,229.9
07/18/87	22:00:00	4.000	2,212.1	2,225.3	2,235.3
07/18/87	22:15:00	4.250	2,217.1	2,230.3	2,240.3
07/18/87	22:30:00	4.500	2,221.8	2,235.0	2,245.0
07/18/87	22:45:00	4.750	2,226.6	2,239.8	2,249.8
07/18/87	23:00:00	5.000	2,230.9	2,244.1	2,254.1
07/18/87	23:15:00	5.250	2,235.1	2,248.3	2,258.3
07/18/87	23:30:00	5.500	2,239.0	2,252.2	2,262.2
07/18/87	23:45:00	5.750	2,242.1	2,255.3	2,265.3
07/19/87	00:00:00	6.000	2,245.1	2,258.3	2,268.3
07/19/87	00:15:00	6.250	2,248.1	2,261.3	2,271.3
07/19/87	00:30:00	6.500	2,250.9	2,264.1	2,274.1
07/19/87	00:45:00	6.750	2,253.3	2,266.5	2,276.5
07/19/87	01:00:00	7.000	2,255.7	2,268.9	2,278.9
07/19/87	01:15:00	7.250	2,258.1	2,271.3	2,281.3
07/19/87	01:30:00	7.500	2,260.5	2,273.7	2,283.7
07/19/87	01:45:00	7.750	2,262.7	2,275.9	2,285.9
07/19/87	02:00:00	8.000	2,265.0	2,278.2	2,288.2
07/19/87	02:15:00	8.250	2,267.3	2,280.5	2,290.5
07/19/87	02:30:00	8.500	2,269.5	2,282.7	2,292.7
07/19/87	02:45:00	8.750	2,271.5	2,284.7	2,294.7
07/19/87	03:00:00	9.000	2,272.7	2,285.9	2,295.9
07/19/87	03:15:00	9.250	2,274.0	2,287.2	2,297.2
07/19/87	03:30:00	9.500	2,275.3	2,288.5	2,298.5
07/19/87	03:45:00	9.750	2,276.6	2,289.8	2,299.8
07/19/87	04:00:00	10.000	2,277.9	2,291.1	2,301.1
07/19/87	04:15:00	10.250	2,279.2	2,292.4	2,302.4
07/19/87	04:30:00	10.500	2,280.5	2,293.7	2,303.7
07/19/87	04:45:00	10.750	2,281.7	2,294.9	2,304.9
07/19/87	05:00:00	11.000	2,282.8	2,296.0	2,306.0
07/19/87	05:15:00	11.250	2,283.8	2,297.0	2,307.0
07/19/87	05:30:00	11.500	2,284.8	2,298.0	2,308.0
07/19/87	05:45:00	11.750	2,285.8	2,299.0	2,309.0
07/19/87	06:00:00	12.000	2,286.8	2,300.0	2,310.0
07/19/87	06:15:00	12.250	2,287.8	2,301.0	2,311.0
07/19/87	06:30:00	12.500	2,288.8	2,302.0	2,312.0
07/19/87	06:45:00	12.750	2,289.8	2,303.0	2,313.0
07/19/87	07:00:00	13.000	2,290.8	2,304.0	2,314.0
07/19/87	07:15:00	13.250	2,291.8	2,305.0	2,315.0

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/19/87	07:30:00	13.500	2,292.8	2,306.0	2,316.0
07/19/87	07:45:00	13.750	2,293.7	2,306.9	2,316.9
07/19/87	08:00:00	14.000	2,294.5	2,307.7	2,317.7
07/19/87	08:15:00	14.250	2,295.3	2,308.5	2,318.5
07/19/87	08:30:00	14.500	2,296.0	2,309.2	2,319.2
07/19/87	08:45:00	14.750	2,296.8	2,310.0	2,320.0
07/19/87	09:00:00	15.000	2,297.6	2,310.8	2,320.8
07/19/87	09:15:00	15.250	2,298.3	2,311.5	2,321.5
07/19/87	09:30:00	15.500	2,299.1	2,312.3	2,322.3
07/19/87	09:45:00	15.750	2,299.9	2,313.1	2,323.1
07/19/87	10:00:00	16.000	2,300.6	2,313.8	2,323.8
07/19/87	10:15:00	16.250	2,301.4	2,314.6	2,324.6
07/19/87	10:30:00	16.500	2,302.0	2,315.2	2,325.2
07/19/87	10:45:00	16.750	2,302.4	2,315.6	2,325.6
07/19/87	11:00:00	17.000	2,302.8	2,316.0	2,326.0
07/19/87	11:15:00	17.250	2,303.2	2,316.4	2,326.4
07/19/87	11:30:00	17.500	2,303.7	2,316.9	2,326.9
07/19/87	11:45:00	17.750	2,304.1	2,317.3	2,327.3
07/19/87	12:00:00	18.000	2,304.5	2,317.7	2,327.7
07/19/87	12:15:00	18.250	2,304.9	2,318.1	2,328.1
07/19/87	12:30:00	18.500	2,305.3	2,318.5	2,328.5
07/19/87	12:45:00	18.750	2,305.7	2,318.9	2,328.9
07/19/87	13:00:00	19.000	2,306.1	2,319.3	2,329.3
07/19/87	13:15:00	19.250	2,306.6	2,319.8	2,329.8
07/19/87	13:30:00	19.500	2,307.0	2,320.2	2,330.2
07/19/87	13:45:00	19.750	2,307.4	2,320.6	2,330.6
07/19/87	14:00:00	20.000	2,307.8	2,321.0	2,331.0
07/19/87	14:15:00	20.250	2,308.2	2,321.4	2,331.4
07/19/87	14:30:00	20.500	2,308.5	2,321.7	2,331.7
07/19/87	14:45:00	20.750	2,308.8	2,322.0	2,332.0
07/19/87	15:00:00	21.000	2,309.1	2,322.3	2,332.3
07/19/87	15:15:00	21.250	2,309.3	2,322.5	2,332.5
07/19/87	15:30:00	21.500	2,309.6	2,322.8	2,332.8
07/19/87	15:45:00	21.750	2,309.9	2,323.1	2,333.1
07/19/87	16:00:00	22.000	2,310.2	2,323.4	2,333.4
07/19/87	16:15:00	22.250	2,310.5	2,323.7	2,333.7
07/19/87	16:30:00	22.500	2,310.8	2,324.0	2,334.0
07/19/87	16:45:00	22.750	2,311.1	2,324.3	2,334.3
07/19/87	17:00:00	23.000	2,311.4	2,324.6	2,334.6
07/19/87	17:15:00	23.250	2,311.7	2,324.9	2,334.9
07/19/87	17:30:00	23.500	2,312.0	2,325.2	2,335.2
07/19/87	17:45:00	23.750	2,312.3	2,325.5	2,335.5
07/19/87	18:00:00	24.000	2,312.6	2,325.8	2,335.8
07/19/87	18:15:00	24.250	2,312.9	2,326.1	2,336.1
07/19/87	18:30:00	24.500	2,313.2	2,326.4	2,336.4
07/19/87	18:45:00	24.750	2,313.6	2,326.8	2,336.8

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/19/87	19:00:00	25.000	2,313.9	2,327.1	2,337.1
07/19/87	19:15:00	25.250	2,314.3	2,327.5	2,337.5
07/19/87	19:30:00	25.500	2,314.6	2,327.8	2,337.8
07/19/87	19:45:00	25.750	2,315.0	2,328.2	2,338.2
07/19/87	20:00:00	26.000	2,315.3	2,328.5	2,338.5
07/19/87	20:15:00	26.250	2,315.7	2,328.9	2,338.9
07/19/87	20:30:00	26.500	2,316.0	2,329.2	2,339.2
07/19/87	20:45:00	26.750	2,316.4	2,329.6	2,339.6
07/19/87	21:00:00	27.000	2,316.7	2,329.9	2,339.9
07/19/87	21:15:00	27.250	2,317.1	2,330.3	2,340.3
07/19/87	21:30:00	27.500	2,317.4	2,330.6	2,340.6
07/19/87	21:45:00	27.750	2,317.8	2,331.0	2,341.0
07/19/87	22:00:00	28.000	2,318.1	2,331.3	2,341.3
07/19/87	22:15:00	28.250	2,318.5	2,331.7	2,341.7
07/19/87	22:30:00	28.500	2,318.8	2,332.0	2,342.0
07/19/87	22:45:00	28.750	2,319.0	2,332.2	2,342.2
07/19/87	23:00:00	29.000	2,319.3	2,332.5	2,342.5
07/19/87	23:15:00	29.250	2,319.5	2,332.7	2,342.7
07/19/87	23:30:00	29.500	2,319.8	2,333.0	2,343.0
07/19/87	23:45:00	29.750	2,320.1	2,333.3	2,343.3
07/20/87	00:00:00	30.000	2,320.3	2,333.5	2,343.5
07/20/87	00:15:00	30.250	2,320.6	2,333.8	2,343.8
07/20/87	00:30:00	30.500	2,320.8	2,334.0	2,344.0
07/20/87	00:45:00	30.750	2,321.1	2,334.3	2,344.3
07/20/87	01:00:00	31.000	2,321.3	2,334.5	2,344.5
07/20/87	01:15:00	31.250	2,321.6	2,334.8	2,344.8
07/20/87	01:30:00	31.500	2,321.8	2,335.0	2,345.0
07/20/87	01:45:00	31.750	2,322.1	2,335.3	2,345.3
07/20/87	02:00:00	32.000	2,322.3	2,335.5	2,345.5
07/20/87	02:15:00	32.250	2,322.6	2,335.8	2,345.8
07/20/87	02:30:00	32.500	2,322.8	2,336.0	2,346.0
07/20/87	02:45:00	32.750	2,323.0	2,336.2	2,346.2
07/20/87	03:00:00	33.000	2,323.3	2,336.5	2,346.5
07/20/87	03:15:00	33.250	2,323.5	2,336.7	2,346.7
07/20/87	03:30:00	33.500	2,323.7	2,336.9	2,346.9
07/20/87	03:45:00	33.750	2,324.0	2,337.2	2,347.2
07/20/87	04:00:00	34.000	2,324.2	2,337.4	2,347.4
07/20/87	04:15:00	34.250	2,324.4	2,337.6	2,347.6
07/20/87	04:30:00	34.500	2,324.7	2,337.9	2,347.9
07/20/87	04:45:00	34.750	2,324.9	2,338.1	2,348.1
07/20/87	05:00:00	35.000	2,325.1	2,338.3	2,348.3
07/20/87	05:15:00	35.250	2,325.4	2,338.6	2,348.6
07/20/87	05:30:00	35.500	2,325.6	2,338.8	2,348.8
07/20/87	05:45:00	35.750	2,325.8	2,339.0	2,349.0
07/20/87	06:00:00	36.000	2,326.1	2,339.3	2,349.3
07/20/87	06:15:00	36.250	2,326.3	2,339.5	2,349.5

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/20/87	06:30:00	36.500	2,326.5	2,339.7	2,349.7
07/20/87	06:45:00	36.750	2,326.8	2,340.0	2,350.0
07/20/87	07:00:00	37.000	2,327.0	2,340.2	2,350.2
07/20/87	07:15:00	37.250	2,327.2	2,340.4	2,350.4
07/20/87	07:30:00	37.500	2,327.5	2,340.7	2,350.7
07/20/87	07:45:00	37.750	2,327.6	2,340.8	2,350.8
07/20/87	08:00:00	38.000	2,327.8	2,341.0	2,351.0
07/20/87	08:15:00	38.250	2,328.0	2,341.2	2,351.2
07/20/87	08:30:00	38.500	2,328.1	2,341.3	2,351.3
07/20/87	08:45:00	38.750	2,328.3	2,341.5	2,351.5
07/20/87	09:00:00	39.000	2,328.5	2,341.7	2,351.7
07/20/87	09:15:00	39.250	2,328.6	2,341.8	2,351.8
07/20/87	09:30:00	39.500	2,328.8	2,342.0	2,352.0
07/20/87	09:45:00	39.750	2,329.0	2,342.2	2,352.2
07/20/87	10:00:00	40.000	2,329.1	2,342.3	2,352.3
07/20/87	10:15:00	40.250	2,329.3	2,342.5	2,352.5
07/20/87	10:30:00	40.500	2,329.5	2,342.7	2,352.7
07/20/87	10:45:00	40.750	2,329.6	2,342.8	2,352.8
07/20/87	11:00:00	41.000	2,329.8	2,343.0	2,353.0
07/20/87	11:15:00	41.250	2,330.0	2,343.2	2,353.2
07/20/87	11:30:00	41.500	2,330.1	2,343.3	2,353.3
07/20/87	11:45:00	41.750	2,330.3	2,343.5	2,353.5
07/20/87	12:00:00	42.000	2,330.5	2,343.7	2,353.7
07/20/87	12:15:00	42.250	2,330.6	2,343.8	2,353.8
07/20/87	12:30:00	42.500	2,330.8	2,344.0	2,354.0
07/20/87	12:45:00	42.750	2,331.0	2,344.2	2,354.2
07/20/87	13:00:00	43.000	2,331.1	2,344.3	2,354.3
07/20/87	13:15:00	43.250	2,331.3	2,344.5	2,354.5
07/20/87	13:30:00	43.500	2,331.5	2,344.7	2,354.7
07/20/87	13:45:00	43.750	2,331.6	2,344.8	2,354.8
07/20/87	14:00:00	44.000	2,331.8	2,345.0	2,355.0
07/20/87	14:15:00	44.250	2,331.8	2,345.0	2,355.0
07/20/87	14:30:00	44.500	2,331.9	2,345.1	2,355.1
07/20/87	14:45:00	44.750	2,332.0	2,345.2	2,355.2
07/20/87	15:00:00	45.000	2,332.1	2,345.3	2,355.3
07/20/87	15:15:00	45.250	2,332.1	2,345.3	2,355.3
07/20/87	15:30:00	45.500	2,332.2	2,345.4	2,355.4
07/20/87	15:45:00	45.750	2,332.3	2,345.5	2,355.5
07/20/87	16:00:00	46.000	2,332.4	2,345.6	2,355.6
07/20/87	16:15:00	46.250	2,332.4	2,345.6	2,355.6
07/20/87	16:30:00	46.500	2,332.5	2,345.7	2,355.7
07/20/87	16:45:00	46.750	2,332.6	2,345.8	2,355.8
07/20/87	17:00:00	47.000	2,332.6	2,345.8	2,355.8
07/20/87	17:15:00	47.250	2,332.7	2,345.9	2,355.9
07/20/87	17:30:00	47.500	2,332.8	2,346.0	2,356.0
07/20/87	17:45:00	47.750	2,332.9	2,346.1	2,356.1

BENNETT-CATHEY WIRE LINE SERVICE
 PHONE (505) 748-3354
 ARTESIA, NEW MEXICO, 88210

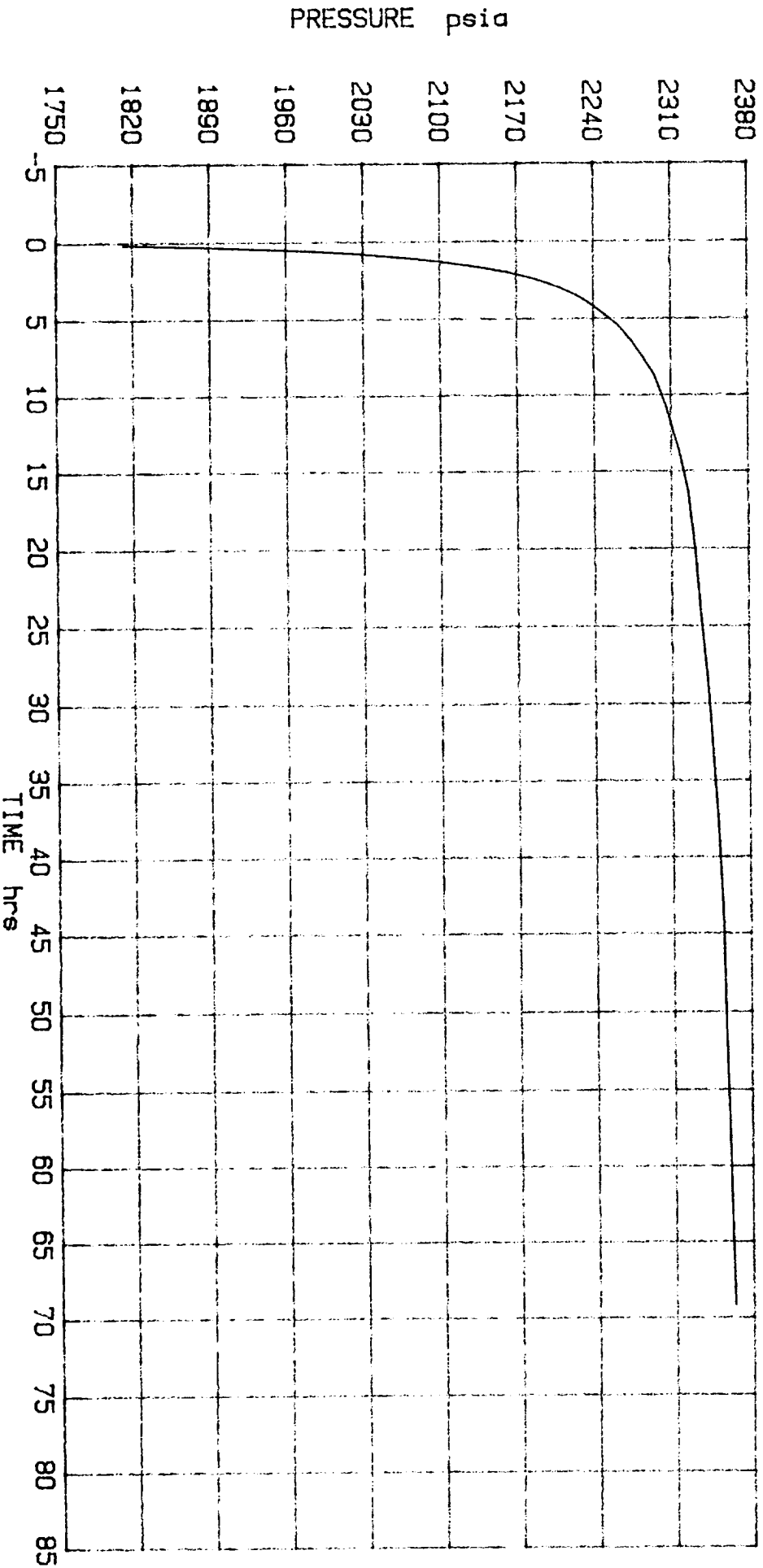
PRESSURE TRANSIENT TEST DATA

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
07/20/87	18:00:00	48.000	2,332.9	2,346.1	2,356.1
07/20/87	18:15:00	48.250	2,333.0	2,346.2	2,356.2
07/20/87	18:30:00	48.500	2,333.1	2,346.3	2,356.3
07/20/87	18:45:00	48.750	2,333.1	2,346.3	2,356.3
07/20/87	19:00:00	49.000	2,333.2	2,346.4	2,356.4
07/20/87	19:15:00	49.250	2,333.3	2,346.5	2,356.5
07/20/87	19:30:00	49.500	2,333.4	2,346.6	2,356.6
07/20/87	19:45:00	49.750	2,333.4	2,346.6	2,356.6
07/20/87	20:00:00	50.000	2,333.5	2,346.7	2,356.7
07/20/87	21:00:00	51.000	2,333.9	2,347.1	2,357.1
07/20/87	22:00:00	52.000	2,334.3	2,347.5	2,357.5
07/20/87	23:00:00	53.000	2,334.6	2,347.8	2,357.8
07/21/87	00:00:00	54.000	2,335.0	2,348.2	2,358.2
07/21/87	01:00:00	55.000	2,335.4	2,348.6	2,358.6
07/21/87	02:00:00	56.000	2,335.8	2,349.0	2,359.0
07/21/87	03:00:00	57.000	2,336.2	2,349.4	2,359.4
07/21/87	04:00:00	58.000	2,336.5	2,349.7	2,359.7
07/21/87	05:00:00	59.000	2,336.8	2,350.0	2,360.0
07/21/87	06:00:00	60.000	2,337.1	2,350.3	2,360.3
07/21/87	07:00:00	61.000	2,337.5	2,350.7	2,360.7
07/21/87	08:00:00	62.000	2,337.8	2,351.0	2,361.0
07/21/87	09:00:00	63.000	2,338.1	2,351.3	2,361.3
07/21/87	10:00:00	64.000	2,338.4	2,351.6	2,361.6
07/21/87	11:00:00	65.000	2,338.7	2,351.9	2,361.9
07/21/87	12:00:00	66.000	2,339.1	2,352.3	2,362.3
07/21/87	13:00:00	67.000	2,339.4	2,352.6	2,362.6
07/21/87	14:00:00	68.000	2,339.7	2,352.9	2,362.9
07/21/87	15:00:00	69.000	2,340.0	2,353.2	2,363.2
07/21/87	15:11:47	69.196	2,340.1	2,353.3	2,363.3

TEST DATE: 08/18/87 TO 08/21/87
TEST DEPTH: 6100 ft
ELEMENT NO: RFG3#23914
RANGE: 5025 psig
CLOCK: 30326
RANGE: 72 hrs
OPERATOR: RICHARD TOWNLEY

FRANK MORGAN
CARL A. SCHELLENGER
GLOW STATE #1
BENNETT-CATHEY WIRE LINE SERVICE
Box 787 Artesia, N.M. 88210 (505) 748-3354



your Interest in Measurement be our Concer.



PRECISION SERVICE INC.
Flow Measurement Engineers
Analysis Results Summary
Casper, WY 82601

Run No. 821-17
Date Run 08/21/87
Date Sampled 08/21/87

Analysis For: BENNETT & CATHEY WRLN.
Lease: CERF FEDERAL #1 Producer E H P
Location BURTON FLATS County EDDY State NEW MEXICO
Purpose WELL TEST Sampled By R & C WRLN.
Sampling Temp. 90 °F Atmos Temp. 93 °F
Volume/day 355.4 MCF Formation WOLF CAMP
Pressure on Bomb 100 PSIG; Line Pressure 113.2 PSIA PSIG

Gas Component			Analysis	Press. Base: 14.73	
	Mol. %	Liq. %	GPM Per MCF		
Carbon Dioxide CO ₂	.335			BTU Dry	1300
Oxygen O ₂				BTU Wet	1278
Nitrogen N ₂	.879			Calc. Specific Gravity	.753
Hydrogen Sulfide H ₂ S					
Methane C ₁	75.433		12.786	@ Std. Press. 14.696	
Ethane C ₂	13.292		3.555	BTU Dry	1297
Propane C ₃	6.197		1.708	BTU Wet	1275
Iso-Butane IC ₄	.879		.287	Calc. Vap. Press. #/Sq. In.	
Nor-Butane NC ₄	1.844		.581	Reid Vap. Press. #/Sq. In.	
Iso-Pentane IC ₅	.408		.149	Z Factor	.9962
Nor-Pentane NC ₅	.402		.145	N Value	1.2734
Hexanes plus	.332		.153	Ave Mol Wt	21.7239
Hexanes C ₆				Ave Cu Ft/Gal	
Heptanes					
Heptanes Plus C ₇ +				Run by	H. THOMAS BLAKE
Total	100.000		19.365	Calculated By	JEFFREY A. PROPP
Pentane + G.P.M.			.448		
Propane + GPM			3.024	Ethane + GPM	6.579
26-lb Gasoline			.659		

Remarks:

Distribution: