

489
FILE

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122
Revised 10-1-78

RECEIVED
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

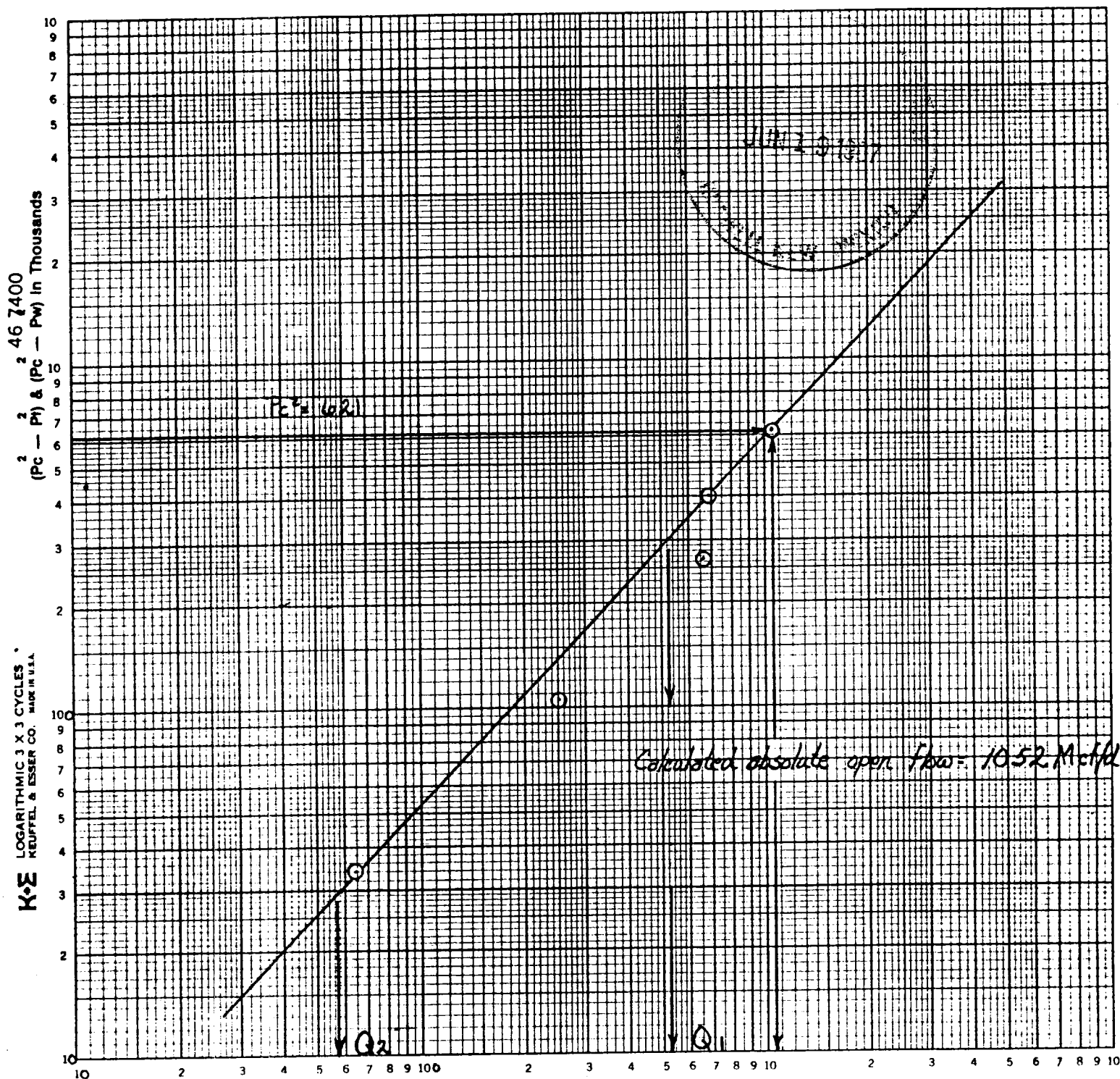
JUN 19 1987

Type Test 4 POINT ☐ Initial ☐ Annual		Test Date 5-28-87									
Company STEVENS OPERATING		Connection TO AIR O. C. D.									
Pool PECOS SLOPE ABO		Formation ARTESIA, OFFICE									
Completion Date 5-28-87		Total Length 4777	Plug Back TD 4777								
		Elevation 3812	Form or Lease Name IRWIN FEDERAL								
Csg. Size 4.5	Wt. 10.5	d 4.052	Set At 4777								
Thg. Size 2.375	Wt. 4.7	d 1.995	Set At 4503								
Type Well - Single - Drdhead - G.G. or G.O. Multiple SINGLE		Packer Set At NONE									
Producing Thru TUBING		Reservoir Temp. °F 100 # 4422	Mean Annual Temp. °F 60°								
		Baro. Press. - P _a 13.2	State NM								
L 4422	H 4422	Cg .671	% CO ₂ .17								
		% N ₂ 6.83	% H ₂ S 0								
Prover 2.000		Meter Run 0	Taps 0								
FLOW DATA											
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI							775	72	873	100	72 HRS.
1.	2.00	.063	765	0	72	765	72	848	100	60 MIN.	
2.	2.00	.125	727	0	70	727	70	794	100	60 MIN.	
3.	2.00	.219	605	0	70	605	70	652	100	60 MIN.	
4.	2.00	.250	490	0	70	490	70	512	100	60 MIN.	
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	0.06	0	778.2	0.9887	1.2208	1.0675	64				
2	0.26	0	740.2	0.9905	1.2208	1.0653	252				
3	0.84	0	618.2	0.9905	1.2208	1.0547	660				
4	1.08	0	503.2	0.9905	1.2208	1.0445	689				
5											
NO.	P _i	Temp. °R	T _i	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.						
					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
1	1.18	532	1.47		Specific Gravity Separator Gas _____ 0.671 XXXXXXXXXX						
2	1.13	530	1.46		Specific Gravity Flowing Fluid _____ XXXXX 0.671						
3	0.94	530	1.46		Critical Pressure _____ 658 P.S.I.A. 658 P.S.I.A.						
4	0.76	530	1.46		Critical Temperature _____ 362 R 362 R						
5											
NO.	P _i	P _w	P _w ²	P _i ² - P _w ²	(1) $\frac{P_c^2}{P_i^2 - P_w^2} = 1.5516$						
1		766	586	34	(2) $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 1.5256$						
2		719	516	104							
3		593	352	268							
4		470	221	400							
5					AOI = Q $\left[\frac{P_c^2}{P_i^2 - P_w^2} \right]^n = 1052$						
Absolute Open Flow _____ 1052 Mcfd @ 13.025					Angle of Slope @ _____ 46.1		Slope, n _____ 0.962				
Remarks: BHP W/AMERADA BOMBS											
Approved By Division		Conducted By:		Calculated By:		Checked By:					

BENNETT & CATHEY PRODUCTION TESTING BACK PRESSURE CURVE

2007

Operator Stevens Operating Lease Irwin Federal Well No. 1
 County Chaves Field Pecos Slope Location 13 7S 26E
 Date of Test 5-28-87 Slope "n" 0.962 Angle of Slope 46.1
 Calc. Abs. Potential 1052 MCF/D



$$\Delta P_1^* \quad P_c^* - P_w^* = 300$$

$$\Delta P_2^* \quad P_c^* - P_w^* = 30$$

$$Q_1 = 525$$

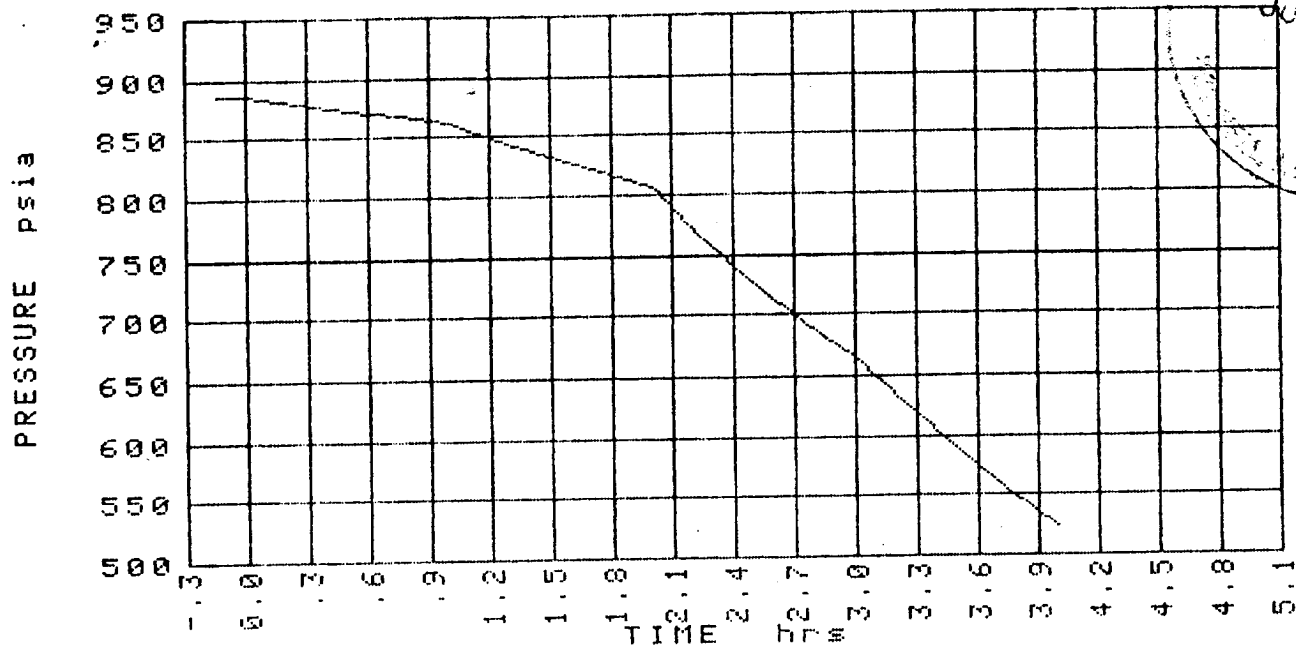
$$Q_2 = 57.3$$

Q, Mcfd

$$\text{LOG } Q_1 = 2.7202$$

$$\text{LOG } Q_2 = 1.7582$$

$$n = 0.9620$$



COMPANY: STEVENS OPERATING
 LEASE: IRWIN FEDERAL
 FIELD: PECOS SLOPE ABO
 COUNTY: CHAVES
 STATUS: FOUR POINT BACK PRESSURE TEST
 PERFORATIONS FROM: 4338 ft
 DEPTH: 4500 ft

CONTACT: JOHN WHITE
 WELL: #1
 ZONE: ABO
 STATE: NEW MEXICO
 OPERATOR: RICK HATCHETT
 TO: 4506 ft
 TEMPERATURE: 100°F

ELEMENT# RFG3#17772
 CLOCK# 21646
 ELEMENT# RFG3#37882
 CLOCK# 3443

ELEMENT RANGE: 3850 psig
 CLOCK RANGE: 12 hrs
 ELEMENT RANGE: 3500 psig
 CLOCK RANGE: 12 hrs

START CLOCK 05/28/87
 SET ELEMENT 05/28/87
 WELL SHUT IN 05/22/87
 TEST ENDED 05/28/87

08:50:00 775 psig
 10:13:00 775 psig
 10:00:00 0 psig
 14:30:00 490 psig

GAIN= 1
 FILE: 137-IRWIN:D701

BIAS= 0 psi
 BAROMETRIC PRESSURE= 13.2 psia

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

PRESSURE TRANSIENT TEST DATA

COMPANY: STEVENS OPERATING
 LEASE: IRWIN FEDERAL
 FIELD: PECOS SLOPE ABO
 COUNTY: CHAVES
 STATUS: FOUR POINT BACK PRESSURE TEST

CONTACT: JOHN WHITE
 WELL: #1
 ZONE: ABO
 STATE: NEW MEXICO
 OPERATOR: RICK HATCHETT

PERFORATIONS FROM: 4,338.0'
 DEPTH: 4,500.0'

TO: 4,506.0'
 TEMPERATURE: 100.0°F

ELEMENT: RFG3#17772
 CLOCK: 21646
 ELEMENT: RFG3#37882
 CLOCK: 3443

RANGE: 3850 psig
 RANGE: 12 hrs
 RANGE: 3500 psig
 RANGE: 12 hrs

SURFACE PRESSURE MEASUREMENTS

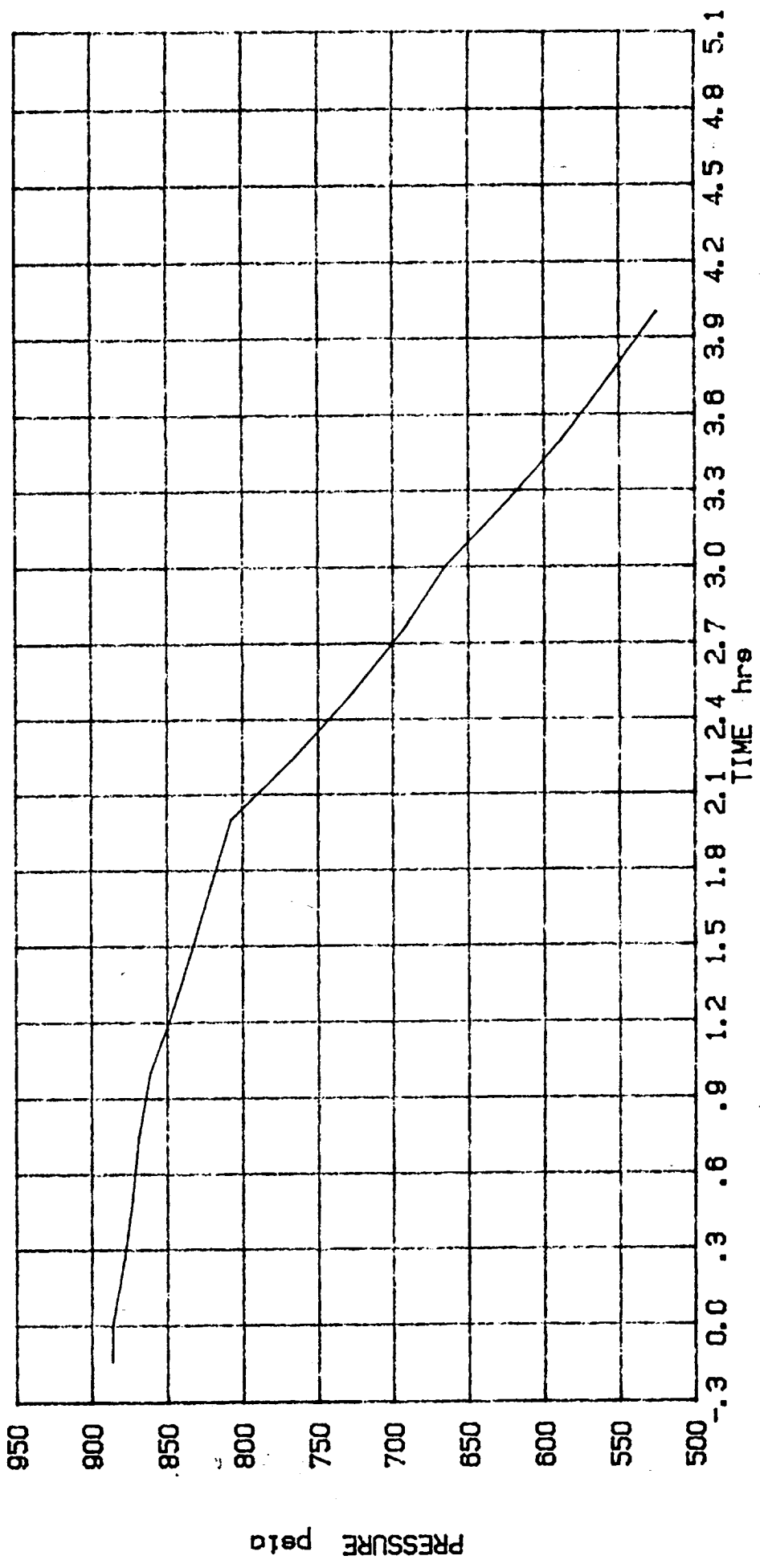
EVENT	DATE	TIME	DEAD WEIGHT PRESSURE
START CLOCK	05/28/87	08:50:00	775.0 psig
SET ELEMENT	05/28/87	10:13:00	775.0 psig
WELL SHUT IN	05/22/87	10:00:00	0.0 psig
TEST ENDED	05/28/87	14:30:00	490.0 psig

SUBSURFACE PRESSURE MEASUREMENTS

DATE	TIME	t hrs	GAUGE PRESSURE psig	ABSOLUTE PRESSURE psia	RESERVOIR PRESSURE psia
05/28/87	10:21:28	-.142	873.2	886.4	886.4
05/28/87	10:30:00	0.000	873.2	886.4	886.4
05/28/87	10:45:00	.250	865.6	878.8	878.8
05/28/87	11:00:00	.500	859.7	872.9	872.9
05/28/87	11:15:01	.750	855.5	868.7	868.7
05/28/87	11:30:00	1.000	848.0	861.2	861.2
05/28/87	11:45:00	1.250	832.7	845.9	845.9
05/28/87	12:00:00	1.500	819.4	832.6	832.6
05/28/87	12:15:00	1.750	806.9	820.1	820.1
05/28/87	12:30:00	2.000	794.3	807.5	807.5
05/28/87	12:45:00	2.250	751.9	765.1	765.1
05/28/87	13:00:00	2.500	714.4	727.6	727.6
05/28/87	13:15:00	2.750	680.0	693.2	693.2
05/28/87	13:30:00	3.000	652.1	665.3	665.3
05/28/87	13:45:00	3.250	611.6	624.8	624.8
05/28/87	14:00:00	3.500	575.1	588.3	588.3
05/28/87	14:15:00	3.750	542.7	555.9	555.9
05/28/87	14:30:00	4.000	512.1	525.3	525.3

TEST DATE: 05/28/87 TO 05/28/87
 TEST DEPTH: 4500 ft
 ELEMENT NO: RPC3#37882
 RANGE: 3500 psi
 CLOCK: 3443
 RANGE: 12 hrs
 OPERATOR: RICK HATCHETT

JOHN WHITE
STEVENS OPERATING
IRWIN FEDERAL #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

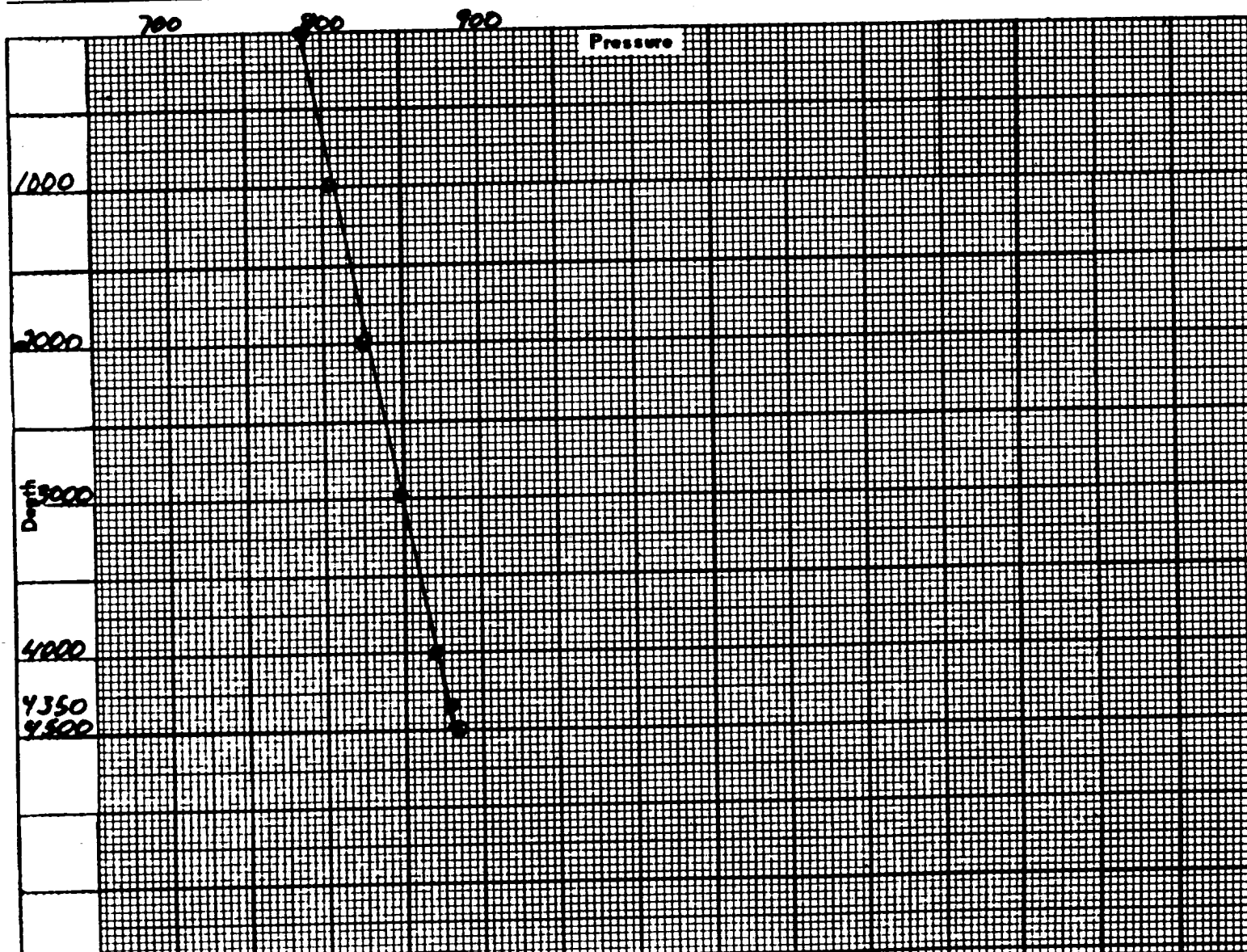


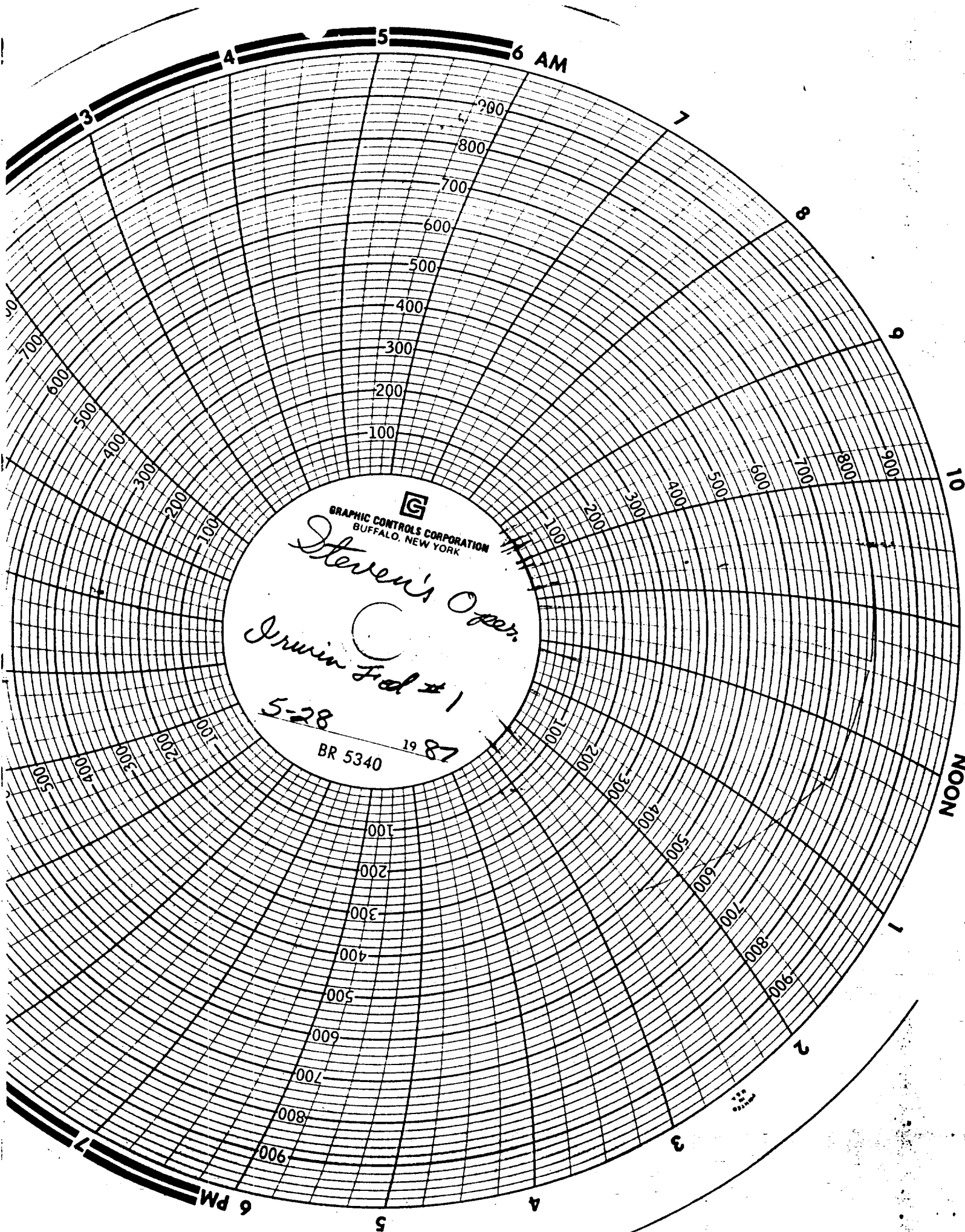
BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR STEVENS OPERATING
 LEASE IRWIN FEDERAL
 WELL NO. #1
 POOL pecos slope FORMATION ABO
 DATE 5-28-87 TIME 1015 hrs.
 CO. MAN JOHN WHITE
 STATUS SHUT IN TEST DEPTH 4500 FT.
 TIME S.I. 1000 hrs LAST TEST DATE 5-22-87
BHP LAST TEST
 TUB. PRES. 775# BHP CHANGE
 CAS. PRES. FLUID TOP
 DATUM PLANE WATER TOP
 DATUM PSIA 885.2 RUN BY JOE HERNANDEZ
 TEMP 100 CLOCK # 3443
 PRESSURE RANGE 0-3500#
 ELEMENT NO. RPG/17742

DEPTH	psia PRESSURE	lb/100ft GRADIENT
0	788.2	
1000	804.2	1.6
2000	826.2	2.2
3000	848.2	2.2
4000	871.2	2.3
4350	878.2	2.3
4500	885.2	4.0

length of time well shut in
 104 hrs. & 15 min.
 perfs: 4338 ft to 4506 ft.





GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

Steven's Oper.
Irwin Fred #1
5-28
BR 5340 19 87