

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☒ Initial FOUR POINT ☐ Annual ☐ Special				Test Date 2-22-82		JUL 22 1982	
Company DEPCO				Connection AIR NEW WELL		O. C. D.	
Pool UNDESIGNATED				Formation ABO		ARTESIA, OFFICE	
Completion Date 2-19-82		Total Depth 5638		Plug Back TD 5200		Elevation 3787 KB	
Casing Size 4.500		Set At 5200		Perforations: From 4106 To 4434		Farm or Lease Name VANCE FEDERAL	
Tub. Size 2.375		Set At 4070		Perforations: From OPEN To ENDED		Well No. 1	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE				Packer Set At NONE		County CHAVES	
Producing Thru TUBING		Reservoir Temp. °F 105 4266		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2	
L 4266		H 4266		G _g .7403		State NEW MEXICO	
		% CO ₂ 11.338		% N ₂ 3.94		Prover 4.028	
						Meter Run FLANGE	

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.	Temp. °F	Press. p.s.i.g.	Temp. °F	of Flow
SI							955		1083		72 HRS.
1.	4.028	X	.750	340	19.5	80	913	69	1059		1
2.	4.028	X	.750	50	50.0	81	898	68	1041		1
3.	4.028	X	1.250	360	20.0	82	855	67	996		1
4.	4.028	X	1.250	360	35.0	80	773	67	950		1
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.7290	82.99	353.2	.9813	1.1625	1.0303	266
2	2.7290	134.76	363.2	.9804	1.1625	1.0309	432
3	7.6610	86.39	373.2	.9795	1.1625	1.0314	777
4	7.6610	114.29	373.2	.9813	1.1625	1.0320	1031
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcl/lbl.
1	.50	540	1.45	.942	A.P.I. Gravity of Liquid Hydrocarbons	7400
2	.51	541	1.45	.941	Specific Gravity Separator Gas	XXXXXXX
3	.53	542	1.46	.940	Specific Gravity Flowing Fluid	XXXXX
4	.53	540	1.45	.939	Critical Pressure	710 P.S.I.A.
5					Critical Temperature	372 °R

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1	1096.2	1072.2	1149.6	52.0
2	1201.7	1054.2	1111.3	90.0
3		1009.2	1118.5	183.0
4		963.3	927.8	274.0
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.3856$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,459.6$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.3555$

Absolute Open Flow	3,459.6	Mcfd @ 15.025	Angle of Slope °	50.7	Slope, n	.8189
--------------------	---------	---------------	------------------	------	----------	-------

Remarks: BOTTOM HOLE PRESSURES MEASURED WITH AMERADA PRESSURE ELEMENTS

Approved By Commission:	Conducted By: RICHARD TOWNLEY	Calculated By: BENNETT-CATHEY	Checked By:
-------------------------	----------------------------------	----------------------------------	-------------

DEPCO

VANCE FEDERAL #1

UNIT 0 SEC 27 TWP 7S RGE 26E

CHAVES COUNTY

2-22-82

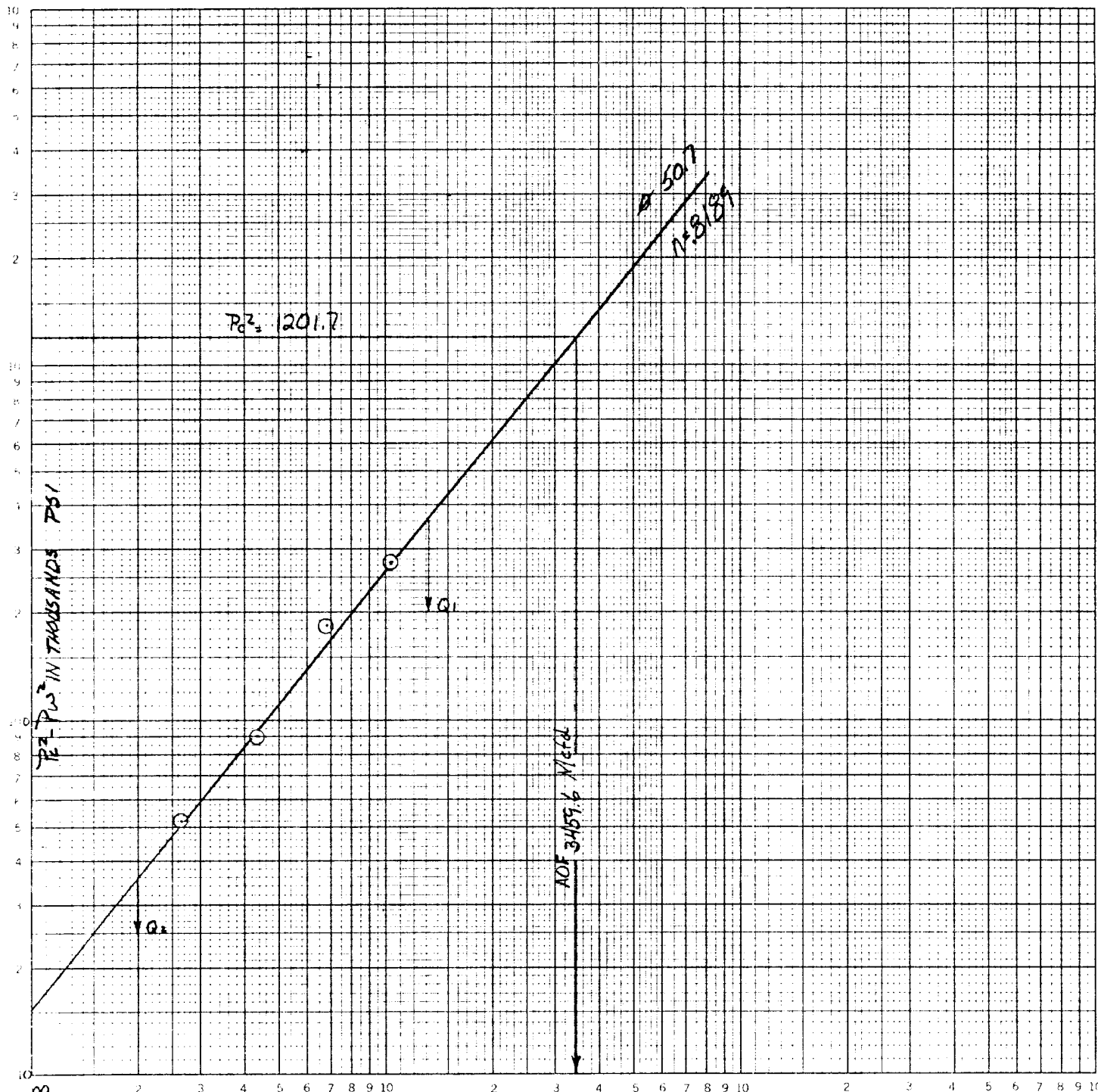
RECEIVED

JUL 22 1982

O. C. D.
ARTESIA, OFFICE

46 7400

LOGARITHMIC 3 X 3 CYCLES
KEUFFEL & ESSER CO. MADE IN U.S.A.



$$\Delta \bar{P} \frac{1}{2} P_c^2 - P_w^2 = 360$$

$Q, \text{ Mcfd}$

$$\log Q_1 = 2.1199$$

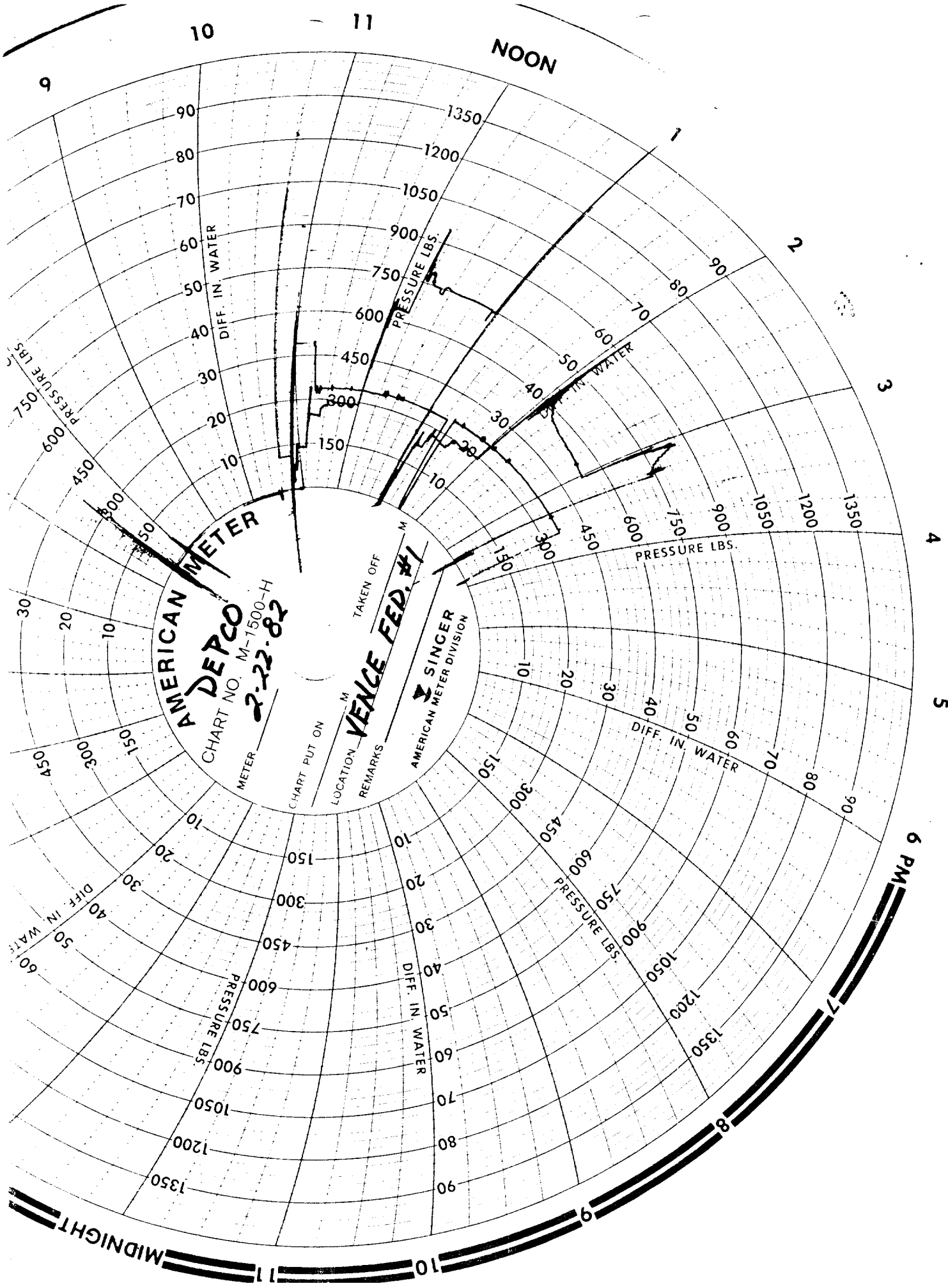
$$\Delta \bar{P} \frac{1}{2} P_c^2 - P_w^2 = 36$$

$$\log Q_2 = 2.3010$$

$$Q_1 = 1318$$

$$n = .8189$$

$$Q_2 = 200$$



AMERICAN METER
DEPCO
CHART NO. M-1500-H
2-22-82
METER

TAKEN OFF
VENICE FED. #1
SINGER
AMERICAN METER DIVISION
LOCATION
REMARKS

COMPANY DEPCO WELL NAME VANCE FEDERAL WELL NO. 1
DATE OF TEST 2-22-82 FORMATION ABO PAGE 1 OF 1
FOUR POINT BACK PRESSURE TEST

ELEMENT NUMBER RPG3 #22749 RANGE 5,150 LBS.
CLOCK NUMBER -1935 RANGE 12 HOURS
TIME WELL SHUT IN 1400 HOURS 2-19-82
TIME CLOCK STARTED 0830 HOURS
DEAD WEIGHT ELEMENT ON SURFACE 968 SHUT IN LBS.
TIME ELEMENT REACHED BOTTOM 1003 HOURS
DEAD WEIGHT ELEMENT ON BOTTOM 968 SHUT IN LBS.
ELEMENT SET AT 4,266 FEET.
TEMPERATURE 4,266 FT. 105 °F.
DEAD WEIGHT AT THE END OF 68 HOURS 3 MINUTES.
SECOND ELEMENT # 9526, 8,100 LBS.

Bryan Printers & Stationers, Inc

TEST DATE: 2-22-82
TEST DEPTH: 4,266 FEET

ELEMENT NO.: RFG3 #22749
RANGE: 5,150 LBS.

CLOCKS: 1935

RANGE: 12 HOURS

OPERATOR: RICHARD TOWNLEY

Note: See Attached Sheet for Tabulation of Pressure
And Time.

RECEIVED

JUL 22 1982

O. C. D.

ARTESIA, OFFICE

DANNY HOCKETT

DEPCO

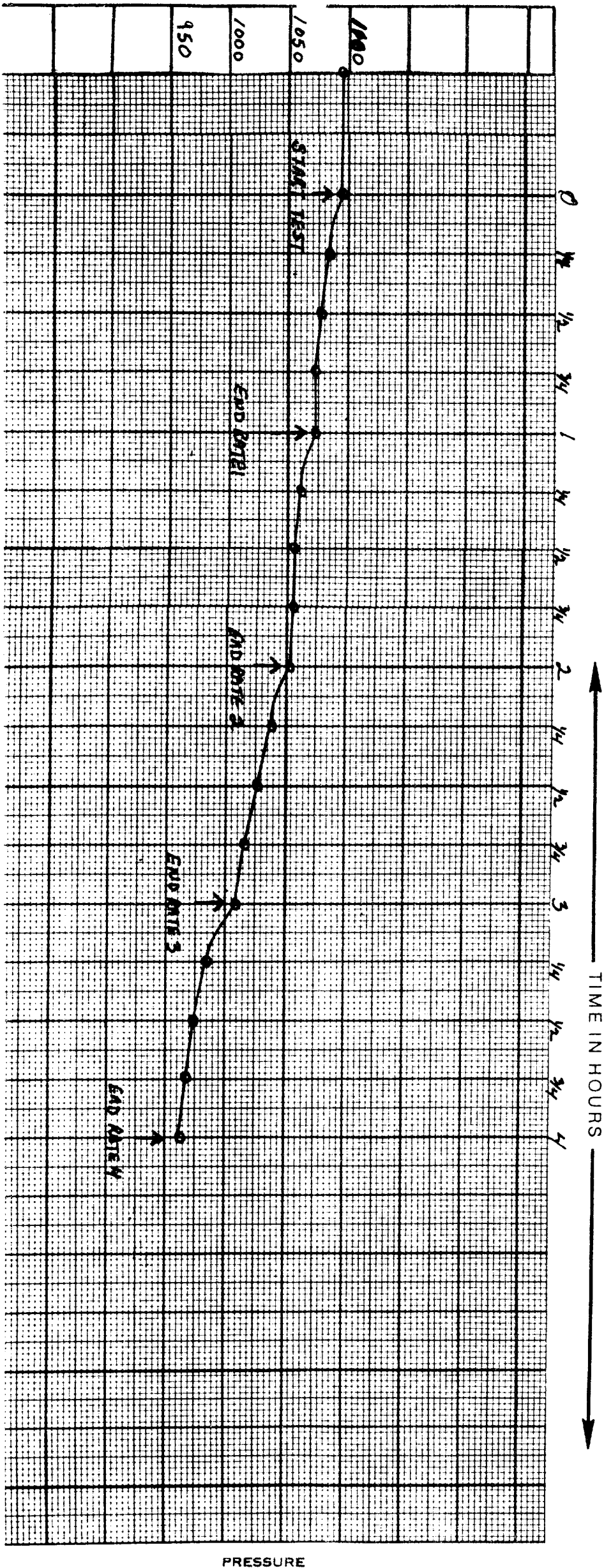
VANCE FEDERAL WELL NO. 1

BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210
505/7746-3281

Drawn By

Scale: As Shown

BENNETT-
CATHEY
WELL SERVICES



BENNETT - CATHEY
Artesia, New Mexico 88210
SUBSURFACE PRESSURE MEASUREMENTS

COMPANY DEPCO WELL NAME VANCE FEDERAL WELL NO. 1
DATE OF TEST 2-19-82 TO 2-22-82 FORMATION _____ PAGE 1 OF 1

CHART READINGS AND CALCULATIONS FOR BUILDUP OR DRAWDOWN TEST

ELEMENT NUMBER RPG3 #22794 RANGE 5,150 LBS.
CLOCK NUMBER 19040 RANGE 72 HOURS
TIME WELL SHUT IN 1400 HOURS 2-19-82
TIME CLOCK STARTED 1205 HOURS 2-19-82
DEAD WEIGHT ELEMENT ON SURFACE 168 PSIA FLOWING LBS.
TIME ELEMENT REACHED BOTTOM 1252 HOURS
DEAD WEIGHT ELEMENT ON BOTTOM 178 PSIA FLOWING LBS.
ELEMENT SET AT 4,266 FEET.
TEMPERATURE 4,266 FT. 105 °F.
968 PSIA DEAD WEIGHT AT THE END OF 68 HOURS 3 MINUTES.

DATE	HOUR	TIME	DEFLECTION in/inches	CALCULATED PRESSURE psig	CORRECTION P ± PC psig	CORRECTED PRESSURE psia	PRESSURE AT MID-POINT OF PERFORATIONS psia
2-19-82	0	1400		679	13.2	692	
	1/4	1415		858	13.2	871	
	1/2	1430		910	13.2	923	
	3/4	1445		939	13.2	952	
	1	1500		956	13.2	969	
	1-1/4	1515		964	13.2	977	
	1-1/2	1530		972	13.2	985	
	1-3/4	1545		979	13.2	992	
	2	1600		985	13.2	998	
	2-1/2	1630		992	13.2	1005	
	3	1700		999	13.2	1012	
	3-1/2	1730		1003	13.2	1019	
	4	1800		1009	13.2	1022	
	4-1/2	1830		1013	13.2	1025	
	5	1900		1015	13.2	1028	
	6	2000		1021	13.2	1034	
	7	2100		1026	13.2	1039	
	8	2200		1031	13.2	1044	
	9	2300		1033	13.2	1047	
	10	2400		1036	13.2	1049	
2-20-82	12	0200		1041	13.2	1054	
	14	0400		1046	13.2	1059	
	16	0600		1049	13.2	1062	
	18	0800		1052	13.2	1065	
	20	1000		1055	13.2	1068	
	25	1500		1059	13.2	1072	
	30	2000		1062	13.2	1075	
2-21-82	35	0100		1067	13.2	1080	
	40	0600		1072	13.2	1085	
	45	1100		1074	13.2	1087	
	50	1600		1076	13.2	1089	
	55	2100		1077	13.2	1090	
2-22-82	60	0200		1079	13.2	1092	
	65	0700		1080	13.2	1093	
	67-1/2	0930		1082	13.2	1095	

TEST DATE: 2-19-82
TEST DEPTH: 4,266 FEET

ELEMENT NO.: RPG3 #22794

RANGE: 5,150 FEET

CLOCKS: 19040

RANGE: 72 HOURS

OPERATOR: B.J. CATHEY

Note: See Attached Sheet for Tabulation of Pressure
And Time.

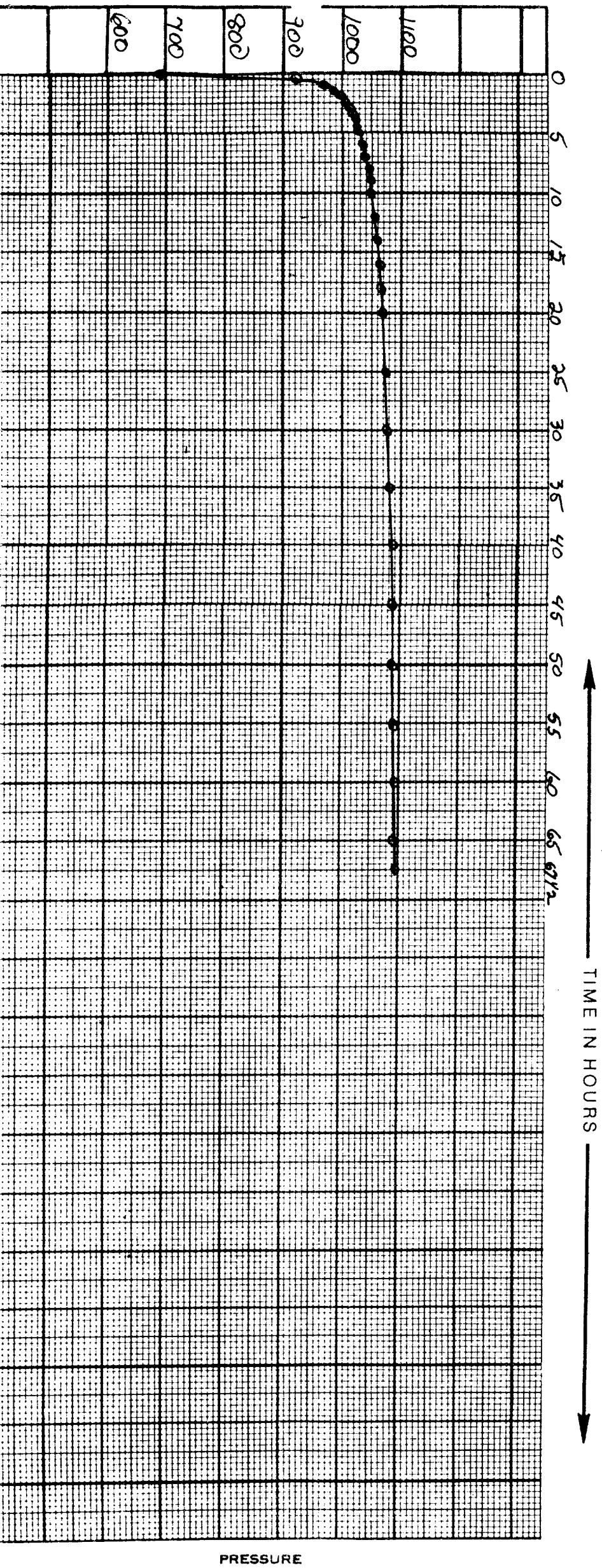
DANNY HOCKETT

DEPCO

VANCE FEDERAL WELL NO. 1

BENNETT-CATHEY WIRE LINE SERVICE
Box 787
Artesia, N.M. 88210
505/746-3281

Drawn By Scale: As Shown





BENNETT-CATHEY WIRE LINE SERVICE

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



BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR DEPCO
LEASE VANCE FEDERAL
WELL NO. 1
POOL FORMATION ABO
DATE 2-22-82 TIME 1003 HOURS
STATUS SHUT IN TEST DEPTH 4,266
TIME S.I. 1400 HRS. LAST TEST DATE 1ST TEST
CAS. PRES. 2-19-82 BHP LAST TEST
TUB. PRES. 968 BHP CHANGE
ELE. FLUID TOP
DATUM PLANE WATER TOP
DATUM PSIA 1096 RUN BY B.J. CATHEY
TEMP 105° PRESSURE RANGE 5,150 LBS.
CLOCK NO. 19040 72 HOURS
ELEMENT NO. RPG3 #22794

DEPTH	PRESSURE	GRADIENT
0	968	
1,000	999	3.1
2,000	1027	2.8
3,000	1056	2.9
4,116	1092	3.2
4,266	1096	2.9

TIME B.H.P. MEASURED: 1003 HOURS

LENGTH OF TIME WELL SHUT IN: 68 HRS.
3 MIN.

2 900 1000 1100

