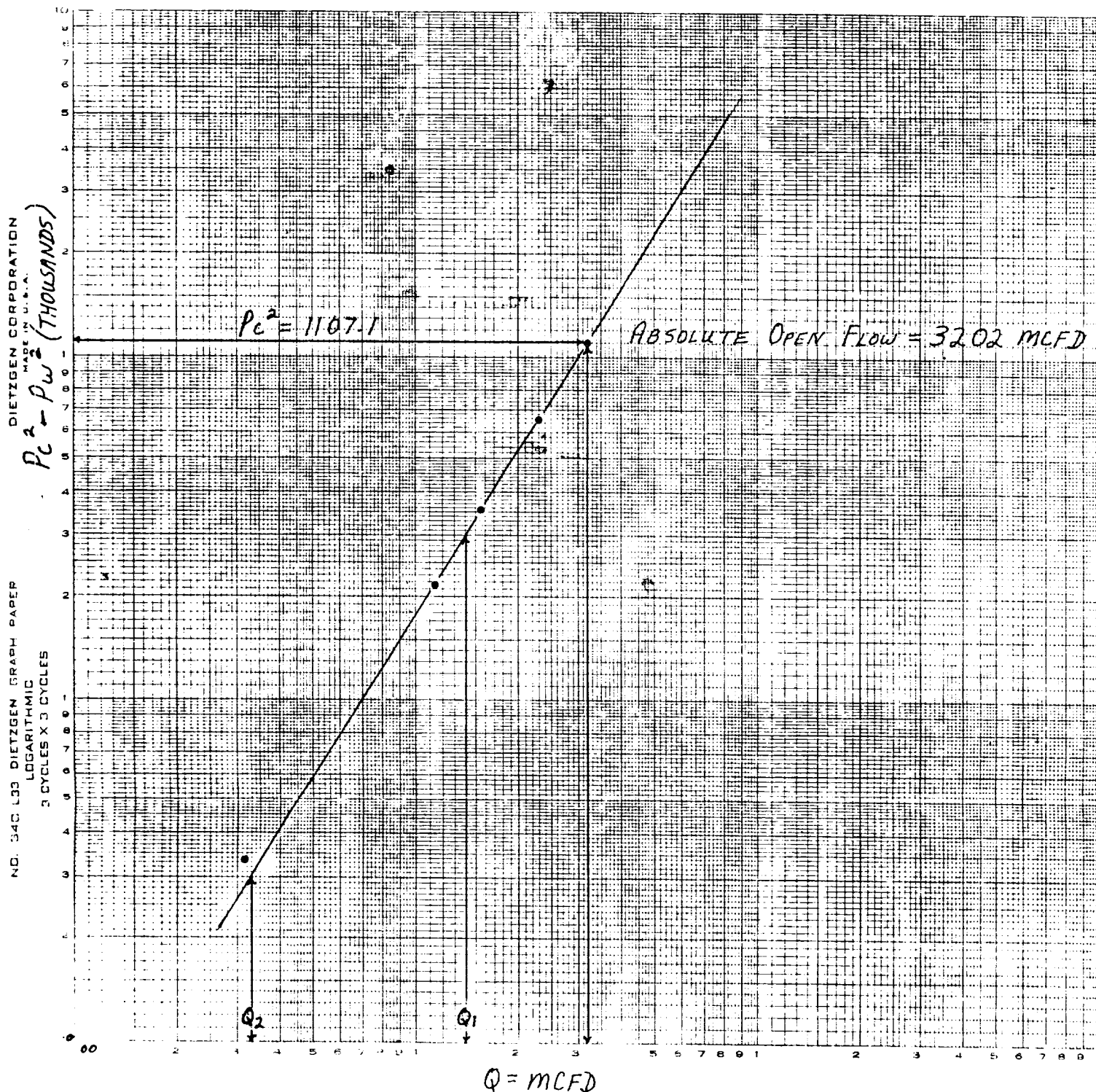


RECEIVED

C/SF MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 3/30/82	APR 28 1982																																																												
Company Estoril Producing Corporation		Connection None		O.C.D. ARTESIA OFFICE																																																											
Well Name <i>Cocos Slope also</i> Undesignated		Formation Abo																																																													
Completion Date 3/22/82		Total Depth 4374'	Plug Back TD 3996'	Elevation 4102' GL																																																											
Cas. Size 4 1/2"	Wt. 10.5	Set At 4.052	4038'	Perforations: From 3679' To 3948'																																																											
Tub. Size 2 3/8"	Wt. 4.7	Set At 1.995	3620'	Perforations: Open Ended To																																																											
Type Well - Single - Blindhead - G.G. or G.O. Multiple Single		Packer Set At None		Form or Lease Name Sheehan Federal																																																											
Producing Thru Tubing		Reservoir Temp. °F 84° 3620'	Mean Annual Temp. °F 60°	Baro. Press. - P _a 13.2																																																											
L 3814'	H -	G _g 0.687	% CO ₂ 3.819	% N ₂ 6.766																																																											
			% H ₂ S -	Prover 2"																																																											
METER RUN -																																																															
Taps -																																																															
FLOW DATA																																																															
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	Duration of Flow																																																				
1	2"	X	.125	912	-	69	935	60	935	60	3 days																																																				
2	2"	X	.250	819	-	70	912	60	880	60	1.0 hrs																																																				
3	2"	X	.3125	721	-	70	819	60	803	60	1.0 hrs																																																				
4	2"	X	.4375	529	-	70	721	60	713	60	1.0 hrs																																																				
5							529	60	555	60	1.0 hrs																																																				
RATE OF FLOW CALCULATIONS																																																															
NO	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super. Compress. Factor, F _{sp}	Rate of Flow Q, MCF/D																																																								
1	0.2648	-	925.2	0.9915	1.206	1.076	315.21																																																								
2	1.087	-	852.2	0.9905	1.206	1.068	1154.07																																																								
3	1.672	-	754.2	0.9905	1.206	1.061	1555.85																																																								
4	3.408	-	542.2	0.9905	1.206	1.045	2506.63																																																								
5																																																															
<table border="0" style="width:100%;"> <tr> <td>NO</td> <td>P_t</td> <td>Temp. °R</td> <td>T_r</td> <td>Z</td> <td>Gas Liquid Hydrocarbon Ratio</td> <td>Dry Gas</td> <td>McCand. Corr. Factor</td> </tr> <tr> <td>1</td> <td>1.37</td> <td>529</td> <td>1.48</td> <td>0.865</td> <td>A.P.L. Gravity of Liquid Hydrocarbons</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>1.23</td> <td>530</td> <td>1.48</td> <td>0.876</td> <td>Specific Gravity Separator Gas</td> <td>0.687</td> <td>XX XX XX XX</td> </tr> <tr> <td>3</td> <td>1.09</td> <td>530</td> <td>1.48</td> <td>0.888</td> <td>Specific Gravity Flowing Fluid</td> <td>XXXXXX</td> <td>XX XX XX XX</td> </tr> <tr> <td>4</td> <td>0.80</td> <td>530</td> <td>1.48</td> <td>0.916</td> <td>Critical Pressure</td> <td>674 P.S.I.A</td> <td>- P.S.I.A</td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td>Critical Temperature</td> <td>353 °R</td> <td>- °R</td> </tr> </table>								NO	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Dry Gas	McCand. Corr. Factor	1	1.37	529	1.48	0.865	A.P.L. Gravity of Liquid Hydrocarbons	-	-	2	1.23	530	1.48	0.876	Specific Gravity Separator Gas	0.687	XX XX XX XX	3	1.09	530	1.48	0.888	Specific Gravity Flowing Fluid	XXXXXX	XX XX XX XX	4	0.80	530	1.48	0.916	Critical Pressure	674 P.S.I.A	- P.S.I.A	5					Critical Temperature	353 °R	- °R								
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Remarks: BOTTOM HOLE PRESSURE @ (+288) 3814' USED FOR PRESSURE CALCULATIONS WELL PRODUCED NO FLUID DURING TEST																																																															
Approved By Division		Conducted By:		Calculated By:		Checked By: PE #2268																																																									
		JARREL WELL TESTING, INC.		D. Dickerson		Joe A. Coleman																																																									

COMPANY: Estaril Producing Corporation
 WELL: Sheehan Federal, No. 3
 LOCATION: H 33 . 5s 24e
 COUNTY: Chaves
 DATE: March 30, 1982



$$Q_1 = 1400 \text{ MCFD}; \text{LOG } Q_1 = 3.14613$$

$$Q_2 = 330 \text{ MCFD}; \text{LOG } Q_2 = 2.51851$$

$$n = 0.62762 = 0.628$$

NEW-TEX LAB
P.O. BOX 1161
HOBBS NM 88241-1161
505-393-3561

ANALYSIS NUMBER: 7060
DATE OF RUN: 4/01/82
DATE SECURED: 3/31/82

ANALYSIS CERTIFICATE

SAMPLE IDENT: ESTORIL PRODUCING CO.-SHEEHAN FEDERAL #3 UNIT H
CLIENT: JARREL WELL TESTING INC.
ADDRESS: BOX 1457
CITY, STATE: HOBBS NM 88240

SAMPLING PRESS: SAMPLING TEMP:

***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	6.766	
CARBON DIOXIDE	3.819	
METHANE	81.483	
ETHANE	4.414	1.177
PROPANE	1.926	0.529
ISO-BUTANE	0.295	0.096
NORMAL BUTANE	0.579	0.182
ISO-PENTANE	0.182	0.066
NORMAL PENTANE	0.204	0.074
HEXANES	0.159	0.065
HEPTANES PLUS	0.173	0.080
TOTAL	100.000	2.269

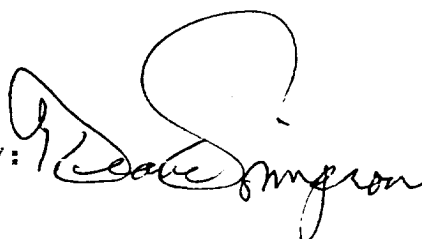
PROPANE GPM: 0.53 BUTANES GPM: 0.28
ETHANE GPM: 1.18 PENTANES PLUS GPM: 0.29

SPECIFIC GRAV (CALC): 0.6873
MOLE WEIGHT: 19.92

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		993	1011
14.650		990	1008
14.730		996	1013
14.735		996	1014

ANALYZED BY: DEANE SIMPSON

APPROVED BY:



JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONE 505 393-5396

HOBBS, NEW MEXICO 88240

COMPANY: Estoril Producing Corporation

WELL: Sheehan Federal, No. 3

FIELD: Undesignated - Abo

CHRONOLOGICAL PRESSURE DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (+288) 3814' PSIG
			HRS.	MIN.	TBG	CSG	
1982							
3/30	Shut in 3 days. Run						
	Static Gradient w/Tandem						
	Bombs & Set Bombs off				DWT	DWT	
	@ 3620'	11:45 AM	0	00	935	935	1039
	Started 1st Rate	1:30 PM	1	45	935	935	1039
	Flowing						
	Finished 1st Rate	2:30	1	00	912	880	1023
	Started 2nd Rate						
	Finished 2nd Rate	3:30	1	00	819	803	931
	Started 3rd Rate						
	Finished 3rd Rate	4:30	1	00	721	713	855
	Started 4th Rate						
	Finished 4th Rate	5:30	1	00	529	555	658
	& Con't Flowing						
	Shut in	6:45	1	15	390	510	622
	"	6:50	0	05	-	-	754
	"	6:55	0	10	-	-	802
	"	7:00	0	15	-	-	828
	"	7:05	0	20	-	-	850
	"	7:10	0	25	-	-	863
	"	7:15	0	30	-	-	877
	"	7:20	0	35	-	-	888
	"	7:25	0	40	-	-	896
	"	7:30	0	45	-	-	901
	"	7:45	1	00	-	-	918
	"	8:45	2	00	-	-	951
	"	9:45	3	00	-	-	968
	"	10:45	4	00	-	-	978
	"	11:45	5	00	-	-	984
3/31	"	12:45 AM	6	00	-	-	989
	"	1:45	7	00	-	-	995
	"	2:45	8	00	-	-	998
	"	3:45	9	00	-	-	1001
	"	4:45	10	00	-	-	1003
	"	5:45	11	00	-	-	1004
	"	6:45	12	00	-	-	1006
	"	7:45	13	00	-	-	1009
	"	8:45	14	00	-	-	1011
	"	9:45	15	00	-	-	1012
	"	10:45	16	00	-	-	1014
	"	11:45	17	00	-	-	1014
	"	12:45 PM	18	00	-	-	1015
	"	1:45	19	00	-	-	1015

WELL: Sheehan Federal, No. 3

PAGE: 2

DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (288)
			HRS.	MIN.	TBG	CSG	3814' PSIG
4/1	Shut in	2:45	20	00	-	-	1017
	"	3:45	21	00	-	-	1017
	"	4:45	22	00	-	-	1019
	"	5:45	23	00	-	-	1020
	"	6:45	24	00	-	-	1020
	"	7:45	25	00	-	-	1022
	"	8:45	26	00	-	-	1022
	"	9:45	27	00	-	-	1023
	"	10:45	28	00	-	-	1023
	"	11:45	29	00	-	-	1025
	"	12:45 AM	30	00	-	-	1025
	"	1:45	31	00	-	-	1025
	"	2:45	32	00	-	-	1027
	"	3:45	33	00	-	-	1027
	"	4:45	34	00	-	-	1027
	"	5:45	35	00	-	-	1028
	"	6:45	36	00	-	-	1028
	"	7:45	37	00	-	-	1028
	"	8:45	38	00	-	-	1030
	"	9:45	39	00	-	-	1030
	"	10:45	40	00	-	-	1030
	"	11:45	41	00	-	-	1030
	"	12:45 PM	42	00	-	-	1031
	"	1:45	43	00	-	-	1031
	"	2:45	44	00	-	-	1031
	"	3:45	45	00	-	-	1031
	"	4:45	46	00	-	-	1031
	"	5:45	47	00	-	-	1033
	"	6:45	48	00	-	-	1033
	"	7:45	49	00	-	-	1033
	"	8:45	50	00	-	-	1033
	"	9:45	51	00	-	0	1034
	"	10:45	52	00	-	-	1034
	"	11:45	53	00	-	-	1034
4/2	"	12:45 AM	54	00	-	-	1034
	"	1:45	55	00	-	-	1036
	"	2:45	56	00	-	-	1036
	"	3:45	57	00	-	-	1036
	"	4:45	58	00	-	-	1036
	"	5:45	59	00	-	-	1038
	"	6:45	60	00	-	-	1038
	"	7:45	61	00	-	-	1038
	"	8:45	62	00	-	-	1039
	"	9:45	63	00	-	-	1039
	"	10:45	64	00	-	-	1039
	"	11:45	65	00	-	-	1041
	"	12:45 PM	66	00	-	-	1041
	"	1:45	67	00	-	-	1041
	"	2:45	68	00	-	-	1042
	"	3:45	69	00	-	-	1042
	"	4:45	70	00	-	-	1042
	"	5:45	71	00	-	-	1044
	"	6:45	72	00	-	-	1044
	"	7:45	73	00	-	-	1044
	"	8:45	74	00	-	-	1045

WELL: Sheehan Federal, No. 3

PAGE: 3

DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (+288)
			HRS.	MIN.	TBG	CSG	
	Shut in	9:45	75	00	-	-	1045
	"	10:45	76	00	-	-	1045
	"	11:45	77	00	-	-	1045
4/3	"	12:45 AM	78	00	-	-	1047
	"	1:45	79	00	-	-	1047
	"	2:45	80	00	-	-	1047
	"	3:45	81	00	-	-	1047
	"	4:45	82	00	-	-	1049
	"	5:45	83	00	-	-	1049
	"	6:45	84	00	-	-	1049
	"	7:45	85	00	-	-	1049
	"	8:45	86	00	-	-	1050
	"	9:45	87	00	-	-	1050
	"	10:45	88	00	-	-	1050
	Fished Bombs & Ran Static Gradient	11:15	88	30	939	-	1050

JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONES 505 393-5396 — 393-8274

HOBBS, NEW MEXICO 88240

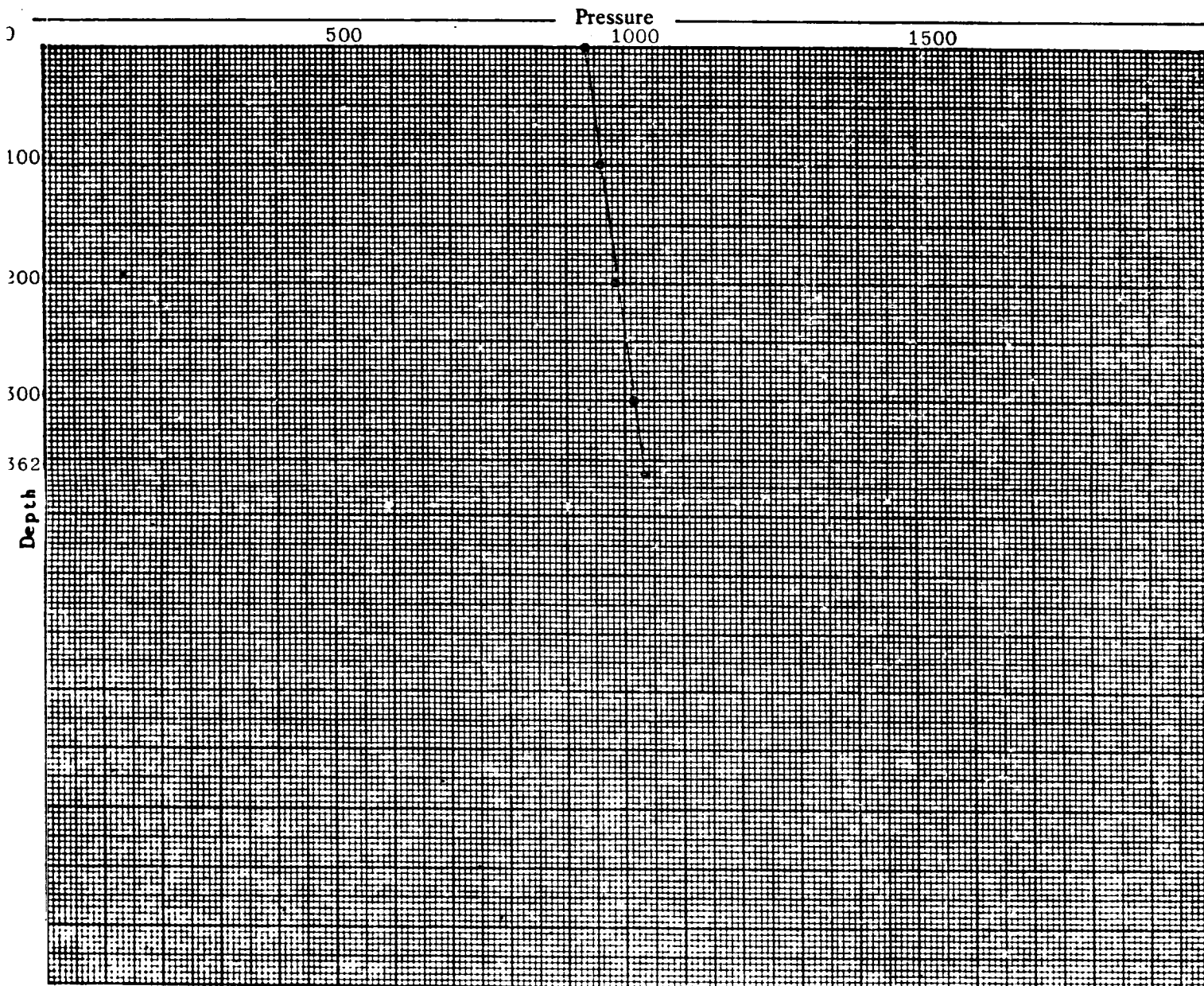
OPERATOR Estoril Producing Corporation
FIELD Undesignated
FORMATION Abo
LEASE Sheehan Federal WELL #3
COUNTY Chaves STATE New Mexico
DATE 3/30/82 TIME 11:45 AM
Status Shut in
Test Depth 3620'
Time S. I. 3 days Last test date -
Tub Pres. 935 DWT BHP last test -
Cas. Pres. 935 DWT BHP change -
Elev. 4102' GL Fluid top None
Datum (+288)** Water top None
Temp. @ 84 F Run by JSI #10
Cal. No. A20274N Chart No. 1

BOTTOM HOLE PRESSURE RECORD

Depth	Pressure	Gradient
0	935	-
1000	961	.025
2000	987	.027
3000	1014	.028
3620	1033	.029
3814 (+288)	1039 * **	(.029)

* EXTRAPOLATED PRESSURE

** MIDPOINT OF CASING PERFORATIONS



DIETZEN CORPORATION

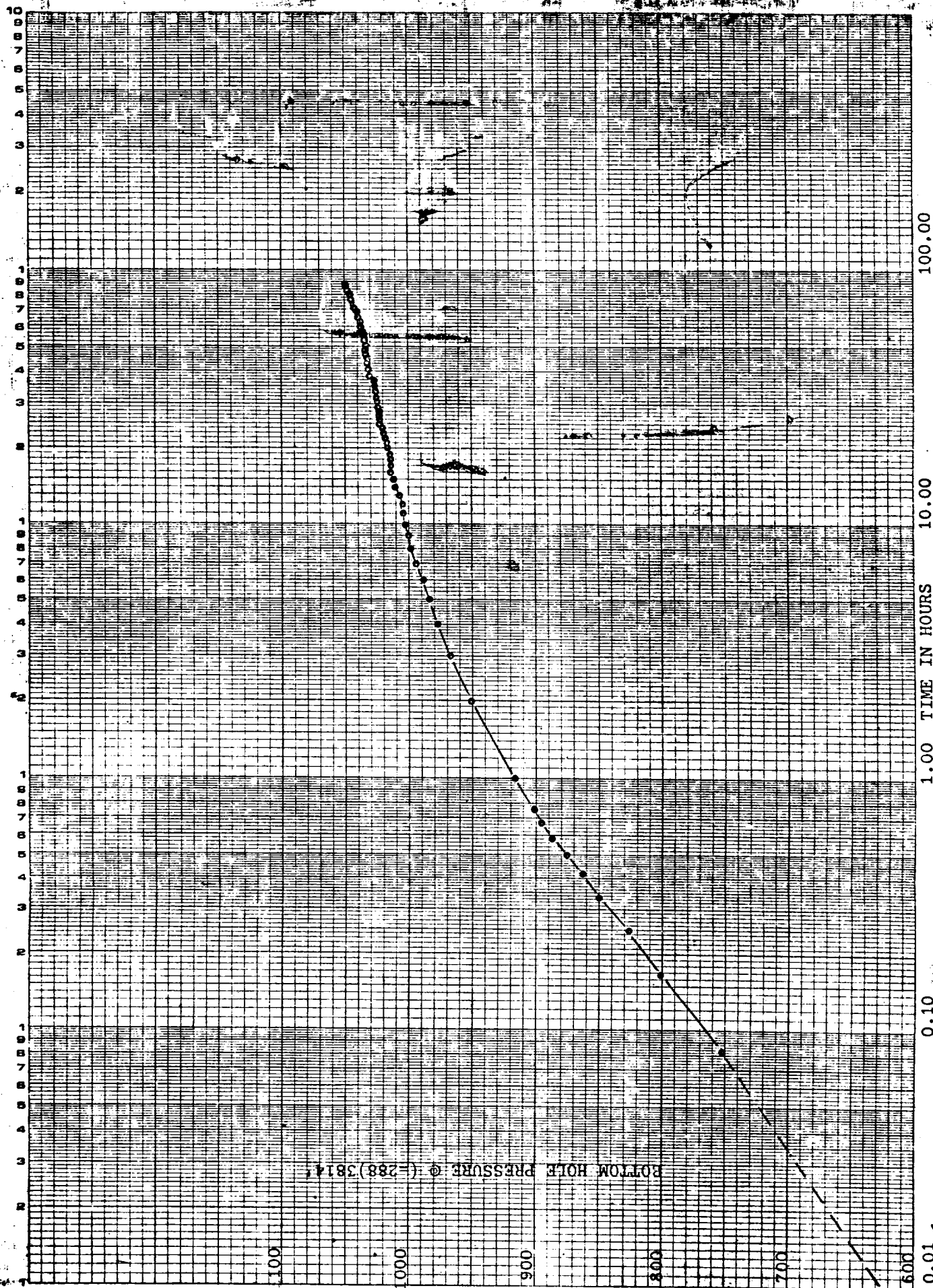
MADE IN U.S.A.

NO. 340R-LS10 DIETZEN GRAPH PAPER

SEMI-LOGARITHMIC

5 CYCLES X 10 DIVISIONS PER INCH

JARREL SERVICES, INC.



JARREL SERVICES, INC.

POST OFFICE BOX 1654

PHONES 505 393-5396 — 393-8274

HOBBS, NEW MEXICO 88240

OPERATOR Estoril Producing Corporation
 FIELD Undesignated
 FORMATION Abo
 LEASE Sheehan Federal WELL #3
 COUNTY Chaves STATE New Mexico
 DATE 4/3/82 TIME 11:15 AM
 Status Shut in
 Test Depth 3620'
 Time S. I. 88.5 hrs. Last test date 3/30/82
 Tub Pres. 939 BHP last test 1039
 Cas. Pres. - BHP change 11# Gain
 Elev. 4102' GL Fluid top None
 Datum (+288)** Water top None
 Temp. @ 84 F Run by JSI #16
 Cal. No. A20274N Chart No. 2

BOTTOM HOLE PRESSURE RECORD

Depth	Pressure	Gradient
0	939	-
1000	968	.029
2000	997	.029
3000	1026	.029
3620	1044	.029
3814 (+288)	1050 * **	(.029)

* EXTRAPOLATED PRESSURE

** MIDPOINT OF CASING PERFORATIONS

