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MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS

☒ Field ☐ Annual ☐ Special				Test Date 3/30/82		O. C. D. ARTESIA, OFFICE	
Company Estoril Producing Corporation				Production None		Unit	
Well Name P-22-1-1-1				Formation Abo		Turn of Lease Name Sheehan Federal	
Completion Date 3/22/82		Total Depth 4374'		Hole Back ID 3996'		Elevation 4102' GL	
Cas. Size 4 1/2"	Wt. 10.5	d 4.052	Set At 4038'	Perforations: From 3679' To 3948'		Well No. 3	
Tub. Size 2 3/8"	Wt. 4.7	d 1.995	Set At 3620'	Perforations: Open Ended		Unit Sec. Twp. Range NE 33 T5S R24e	
Type Well - Single - Independent - G.G. or G.C. Multiple Single				Packer Set At None		County Chaves	
Producing Tube Tubing		Reservoir Temp. °F 84 @ 3620'		Mean Annual Temp. °F 60		State New Mexico	
L 3814'	H -	G _g 0.687	% CO ₂ 3.819	% N ₂ 6.766	% H ₂ S -	Prover 2"	Meter Run -

FLOW DATA						TUBING DATA		CASING 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
51							935	60	935	60	3 days
1	2"	X	.125	912	-	69	912	60	880	60	1.0 hrs
2	2"	X	.250	819	-	70	819	60	803	60	1.0 hrs
3	2"	X	.3125	721	-	70	721	60	713	60	1.0 hrs
4	2"	X	.4375	529	-	70	529	60	555	60	1.0 hrs
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 _{sp}	Rate of Flow Q, Mscf/d
1	0.2648	-	925.2	0.9915	1.206	1.076	315.21
2	1.087	-	832.2	0.9905	1.206	1.068	1154.07
3	1.672	-	734.2	0.9905	1.206	1.061	1555.85
4	3.408	-	542.2	0.9905	1.206	1.045	2306.63
5							

NO	P _t	Temp. °R	T _r	Z	Gas-Liquid Hydrocarbon Ratio		Dry Gas	
					A.P.L. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure
1	1.37	529	1.48	0.863	-	0.687	674	
2	1.23	530	1.48	0.876	-	Y X X X X	358	
3	1.09	530	1.48	0.888	-	-	-	
4	0.80	530	1.48	0.916	-	-	-	
5								

NO	P _t	P _w	P _w ²	P _t ² - P _w ²
1	1052.2	1036.2	1073.7	33.4
2	944.2	891.5	215.6	215.6
3	868.2	753.8	353.3	353.3
4	671.2	450.5	656.6	656.6
5				

(1) $\frac{P_t^2}{P_t^2 - P_w^2} = 1.686$

ADP = C $\left[\frac{1}{P_t^2 - P_w^2} \right]^n = 3202$

(2) $\left[\frac{P_t^2}{P_t^2 - P_w^2} \right]^n = 1.588$

Absolute Open Flow 3202	Mold # 15.025	Angle of Slope to 57° 53'	Slope, c 0.628
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Remarks: BOTTOM HOLE PRESSURE @ (+288) 3814' USED FOR PRESSURE CALCULATIONS.
 WELL PRODUCED NO FLUID DURING TEST

Approved By Division	Controlled By:	Calculated By:	Checked By:
	JARREL WELL TESTING, INC.	D. Dickerson	Joe A. Coleman

COMPANY:

Estoril Producing Corporation

WELL:

Sheehan Feder No. 3

LOCATION:

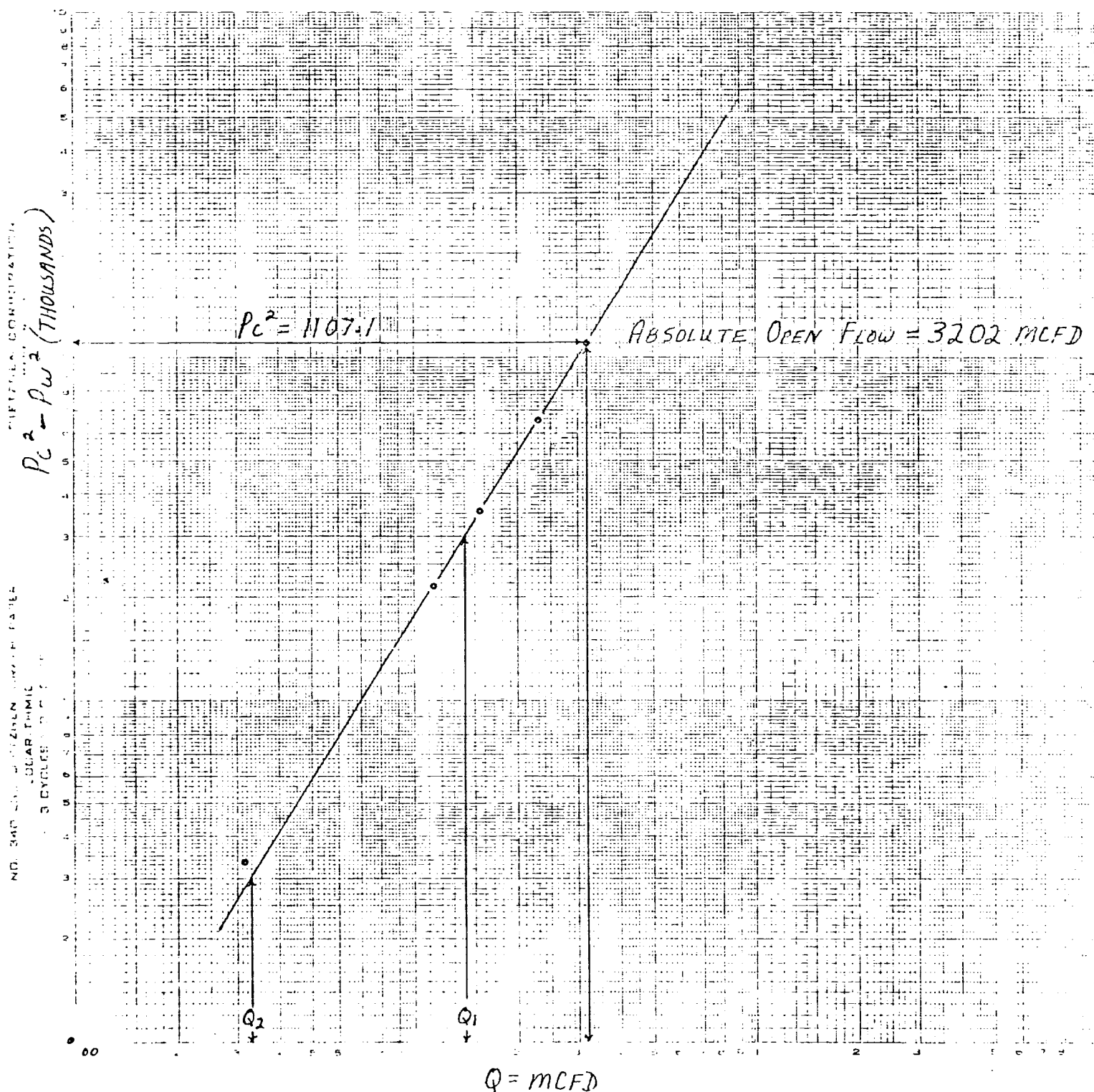
H 33 5s 24c

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

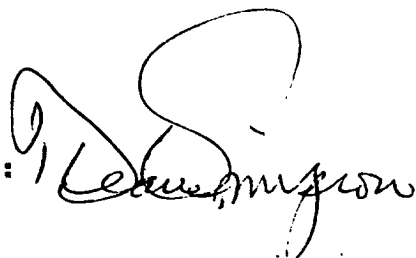
PROPANE GPM:	0.53	BUTANES GPM:	0.28
ETHANE GPM:	1.18	PENTANES PLUS GPM:	0.29

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	ELASPED 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 @ 3620'	11:45 AM	0	00	935	935	1039
	Started 1st Rate Flowing	1:30 PM	1	45	935	935	1039
	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 & Con't Flowing	5:30	1	00	529	555	658
	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

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DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (+288) 3814' PSIG
			HRS.	MIN.	TBG	CSG	
	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
4/1	"	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
4/2	"	11:45	53	00	-	-	1034
	"	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

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DATE	STATUS OF WELL	TIME	ELAPSED TIME		SURFACE PRESSURE		BHP @ (+288) 3814' PSIG
			HRS.	MIN.	TBG	CSG	
4/3	Shut in	9:45	75	00	-	-	1045
	"	10:45	76	00	-	-	1045
	"	11:45	77	00	-	-	1045
	"	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