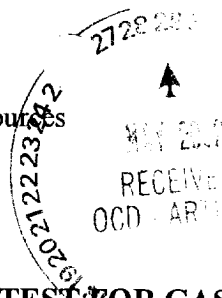


Submit in duplicate to
appropriate district office.
See Rule 401 & Rule 1122

State of New Mexico
Energy Minerals and Natural Resources

Form C-122
Revised October, 1999

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505



0151

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Operator Fasken Oil and Ranch, Ltd.					Lease or Unit Name Knight "28" Federal				
Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 2-16-02		Well No. 1		
Completion Date 12-18-01		Total Depth 9759'		Plug Back TD 9750'		Elevation 3561' GR		Unit Ltr. - Sec. - TWP - Rge. M 28 20S 25E	
Csg. Size 4-1/2"	Wt. 11.6	d 4.000	Set At 9759'	Perforations: From: 9466 To: 9531				County Eddy	
Tbg. Size 2-3/8"	Wt. 4.7	d 1.995	Set At 9405'	Perforations: From: To:				Pool Avalon	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At 9390'		Formation Morrow		
Producing Thru Tubing		Reservoir Temp. °F 168		Mean Annual Temp. °F 60		Baro. Press - P _a 13.2		Connection Fasken - Transporter	
L 9405'	H 9405'	Gg 0.625	%CO ₂ 0.83	%N ₂ 0.20	%H ₂ S 0.00	Prover Orifice	Meter Run 3"	Taps Flange	

FLOW DATA					TUBING DATA		CASING DATA		Duration Of Flow
No.	Prover Line Size	Orifice X Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI						1757	80	0	80
1.		3.068" x 1.25"	1000	37.8	80	1000	80	0	80
2.									
3.									
4.									
5.									

RATE OF FLOW CALCULATIONS							
No.	COEFFICIENT (24 HOUR)	 h _w P _m	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1.	7.577	78.94	1013.2	0.9813	1.265	1.037	770
2.							
3.							
4.							
5.							

No.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.665	540	1.479	0.930	A. P. I. Gravity of Liquid Hydrocarbons	Deg.
2.					Specific Gravity Separator Gas 0.625	XXXXXXXXXX
3.					Specific Gravity Flowing Fluid 0.625	XXXXXX
4.					Critical Pressure 674	P.S.I.A. P.S.I.A.
5.					Critical Temperature 365	R. R.

No.	P _c	P _w	P _c ²	P _w ²	P _c ² - P _w ²
1.	1013.2	1021.3	1043.8	2089.1	
2.					
3.					
4.					
5.					

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{3132.9}{2089.1}$

AOF = Q (770) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1155$

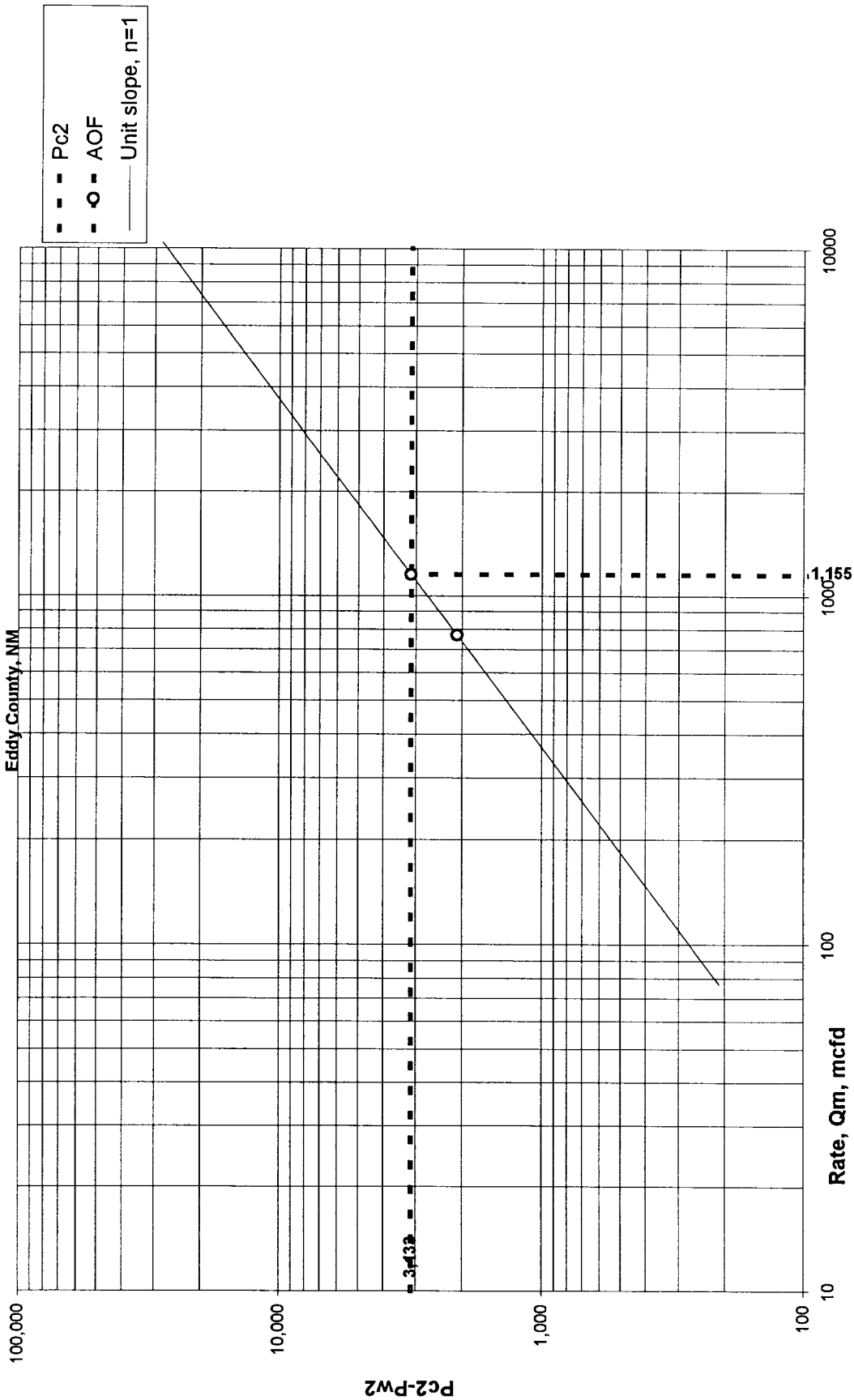
(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.4996$

Absolute Open Flow	1155	Mcf/d @ 15.025	Angle of Slope θ:	45	Slope, n:	1.00
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Remarks:
Drawdown limited by dehydrator capacity. An approximation of AOF was made with unit slope through the maximum rate.

Approved By Division	Conducted By: Fasken Oil and Ranch, Ltd.	Calculated By: Carl Brown	Checked By:
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Fasken Oil and Ranch, Ltd.
 Knight "28" Federal No. 1
 Unit M, Sec 28, T20S, R25E
 Cemetery (Morrow) Field
 Eddy County, NM



WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (Pw)

C-122D

DATE: 02/16/2001

COMPANY Fasken Oil and Ranch, Ltd. LEASE Knight "28" Federal WELL NO. 1

LOCATION: Unit M Section 28 Township 20S Range 25E

L 9405 H 9405 L / H 1 G 0.625 %CO₂ 0.2 %N₂ 0.83 %H₂S 0

d 1.995 Fr 0.018231 GH 5878.125 P_{cr} 674 T_{cr} 365

LINE	1st Rate	2nd Rate	3rd Rate	4th Rate	5th Rate
1 Qm	0.77				
2 Tw(W.H.DegR)	540				
3 Ts(B.H.DegR)	628				
4 T = (Tw+Ts) / 2	584				
5 Z (Est.)	0.841				
6 TZ	491.4				
7 GH / TZ	11.963				
8 e ^s (Table XIV)	1.566				
9 1-e ^s (Table XIV)	0.361				
10 Pt	1,013.2				
11 Pt ² / 1000	1,026.6				
12 Fr (Table XV)	0.018231				
13 Fc = FrTZ	8.958				
14 FcQm	6.898				
15 L / H(FcQm) ²	47.581				
16 Fw = L / H(FcQm) ² (1-e ^s)	17.199				
17 Pw ² = Pt ² +Fw	1,043.8				
18 Ps ² = e ^s Pw ²	1,634.7				
19 Ps	1,278.5				
20 P = (Pt+Ps) / 2	1,145.9				
21 Pr = (P / P _{cr})	1.700				
22 Tr = (T / T _{cr})	1.600				
23 Z (Table XI)	0.841				