

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

122
Fiber
Form C-122
Revised 9-1-65

RECEIVED

Type Test ☐ Initial ☐ Annual ☒ Special					Test Date 3/26/81		JUN 08 1981	
Company Amoco Production Co. ✓					Connection Cabot Corporation			
Pool Empire South <i>Morrow</i>					Formation Morrow		Unit O. C. D. ARTESIA, OFFICE	
Completion Date 1-23-81		Total Depth 11,119		Plug Back TD 10,976		Elevation 3678		Farm or Lease Name Empire South Deep Unit
Csg. Size 5.500	Wt. 15.5	d 4.950	Set At 11,119	Perforations: From 10,726 To 10,804		Well No. 21		
Tbg. Size 2.875	Wt. 6.5	d 2.441	Set At 10,822	Perforations: From To		Unit Soc. Twp. Rge. A 6 17S 28E		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single					Packer Set At 10,608		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 193 @ 10,765		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.2		State New Mexico
L 10,765	H 10,765	G _g 0.6711	% CO ₂ 0.571	% N ₂ 0.654	% H ₂ S -0-	Prover -0-	Meter Run 4"	Taps Flange

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
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
SI	SI						1623	54	0	0	14.75
1.	4.00 x 2.75			510	16.81	100	1538	59	0	0	0.5
2.	4.00 x 2.75			575	32.49	100	1433	63	0	0	0.5
3.	4.00 x 2.75			684	49.00	100	1288	65	0	0	0.5
* 4.	4.00 x 2.75			700	59.30	101	1188	66	0	0	0.5
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	41.23	93.78	523.2	0.9636	1.2207	1.0433	4746
2.	41.23	138.24	588.2	0.9636	1.2207	1.0488	7032
3.	41.23	180.00	661.2	0.9636	1.2207	1.0549	9210
* 4.	41.23	205.63	713.2	0.9628	1.2207	1.0587	10549
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>207.4</u> Mcf/bbl.			
1.	0.78	560	1.48	0.919	A.P.I. Gravity of Liquid Hydrocarbons <u>57.6</u> Deg.			
2.	0.88	560	1.48	0.909	Specific Gravity Separator Gas <u>0.671</u> X X X X X X X X			
3.	0.99	560	1.48	0.899	Specific Gravity Flowing Fluid <u>X X X X X</u> 0.684			
* 4.	1.06	561	1.48	0.892	Critical Pressure <u>670</u> P.S.I.A. 670 P.S.I.A.			
5.					Critical Temperature <u>378</u> R 382 R			

P _c <u>1636.2</u> P _c ² <u>2677</u>				
NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²
1	2406	1625	2641	36
2	2092	1609	2590	87
3	1693	1601	2563	114
* 4	1443	1613	2602	75
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = 23.50 \qquad (2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 8.639$$

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 79,560$$

Absolute Open Flow <u>79,560</u> Mcfd @ 15.025		Angle of Slope θ <u>55.68</u>	Slope, n <u>.683</u>
--	--	--------------------------------------	----------------------

Remarks: * Results obtained from fourth data point were considered erroneous and therefore excluded from the calculations in determining the AOF.

Approved By Commission:	Conducted By: John West Engr.	Calculated By: Tim Sexton	Checked By: L.W. Sheppard
-------------------------	----------------------------------	------------------------------	------------------------------