



NEW MEXICO OIL CONSERVATION COMMISSION

COPY
Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Formation Pictured Cliffs County San Juan
Initial X Annual _____ Special _____ Date of Test 8-21-58
Company PETRO-ATLAS, INC. Lease ATK Well No. 1
Unit F Sec. 8 Twp. 27N Rge. 9W Purchaser El Paso Natural Gas
Casing 3-1/2" Wt. 15.54 I.D. _____ Set at 2516' Perf. 2412 To 2441
Tubing 1-1/4" Wt. 2.44 I.D. _____ Set at 2409' Perf. 2406 To 2406
Gas Pay: From 2412 To 2464 L _____ xG 0.84 -GL _____ Bar.Press. 12
Producing Thru: Casing X Tubing _____ Type Well Single Gas
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 8-14-58 Packer _____ Reservoir Temp. _____

OBSERVED DATA

Tested Through (PROVER) (Choke) (MUTTER) Type Taps _____

Flow Data						Tubing Data		Casing Data		Duration of Flow Hr.
No.	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.		<u>3/4"</u>	<u>178</u>		<u>57</u>	<u>618</u> <u>187</u>		<u>618</u> <u>178</u>	<u>57</u>	<u>3 hours</u>
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	<u>12.2</u>		<u>199</u>	<u>1.0029</u>	<u>0.8452</u>	<u>1.014</u>	<u>1.998</u>
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
P_c _____ (1-e^{-S})
Specific Gravity Separator Gas _____
Specific Gravity Flowing Fluid _____
P_c 630 P_c 306,900

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ^{-S})	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.						<u>36,100</u>	<u>306,900</u>		
2.									
3.									
4.									
5.									

Absolute Potential: 2,164 MCFPD; n 0.85

COMPANY PETRO-ATLAS, INC.
ADDRESS 7294 E. Main St., Farmington, New Mexico
AGENT and TITLE H. R. GAY, ENGINEER
WITNESSED _____
COMPANY _____

REMARKS

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
Initial Delivered Exhibit NO. 3
CASE NO. 1593
TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA
EXCEPT BARKER DOME STORAGE AREA)

Form C-122-A
Revised April 20, 1955

COPY

Pool El Paso Natural Gas Company Formation Pictured Cliffs County San Juan
Purchasing Pipeline _____ Date Test Filed 5-11-58
Operator WIND-CELLS, INC. Lease ALTEX Well No. 1
Unit _____ Sec. _____ Twp. 27N Rge. 9E Pay Zone: From 2000 To 2442
Casing: OD 1-1/2" WT. 13.500 Set At 2314' Tubing: OD 1-1/4" WT. 8.4 T. Perf. 2000
Produced Through: Casing _____ Tubing _____ Gas Gravity: Measured _____ Estimated _____
Date of Flow Test: From 11-30-58 To 12-8-58 * Date S.I.P. Measured _____
Meter Run Size _____ Orifice Size 1.25 Type Chart _____ Type Taps _____

OBSERVED DATA

Flowing casing pressure (Dwt) _____ psig + 12 = _____ psia (a)
Flowing tubing pressure (Dwt) _____ psig + 12 = _____ psia (b)
Flowing meter pressure (Dwt) _____ psig + 12 = _____ psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading _____ psig + 12 = _____ psia (d)
Square root chart reading (_____) ² x spring constant _____ = _____ psia (d)
Meter error (c) - (d) or (d) - (c) _____ ± _____ = _____ psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing _____ = _____ psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading 7.00 _____ psig + 12 = 245 _____ psia (g)
Square root chart average reading (_____) ² x sp. const. _____ = 245 _____ psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) _____ = 245 _____ psia (h)
P_t = (h) + (f) _____ = 610 _____ psia (i)
Wellhead casing shut-in pressure (Dwt) _____ psig + 12 = 610 _____ psia (j)
Wellhead tubing shut-in pressure (Dwt) _____ psig + 12 = 610 _____ psia (k)
P_c = (j) or (k) whichever well flowed through 31 _____ = 211 _____ psia (l)
Flowing Temp. (Meter Run) _____ °F + 460 _____ = 280 _____ ° Abs (m)
P_d = 1/2 P_c = 1/2 (l) _____ = _____ psia (n)

FLOW RATE CALCULATION

$$Q = \frac{\int_{P_c}^{P_d} \frac{1}{P} dP}{\left(\frac{\sqrt{P_c}}{\sqrt{P_d}} \right)} = \text{_____ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^{1/n} = \text{_____ MCF/day}$$

SUMMARY

P_c = 245 psia
Q = 245 Mcf/day
P_w = 211 psia
P_d = 211 psia
D = _____ Mcf/day

Company WIND-CELLS, INC.
By Superintendent
Title _____
Witnessed by _____
Company _____

* This is date of completion test.
* Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

GL	(1-e ^{-S})	(F _c Q) ²	(F _c Q) ² (1-e ^{-S}) R ²	P _t ² (Column i)	P _t ² + R ²	P _w
			Regtable			