

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Otero Formation Pictured Cliff County Rio Arriba
Initial X Annual _____ Special _____ Date of Test 10-16-57
Company FUBCO PETROLEUM CORPORATION Lease Otero Federal Well No. 2
Unit M Sec. 14 Twp. 24N Rge. 6W Purchaser El Paso Natural Gas Company
Casing 5 1/2 Wt. 14 1/2 I.D. _____ Set at 2255 KB Perf. 2061 To 2134
Tubing 1" Wt. 1.7 I.D. _____ Set at 2134 Perf. 2100 To 2140
Gas Pay: From 2061 To 2134 L 2094 xG .640 -GL 1340 Bar.Press. 12
Producing Thru: Casing _____ Tubing X Type Well single
Date of Completion: 10-16-57 Packer no Single-Bradenhead-G. G. or G.O. Dual
Reservoir Temp. 94

OBSERVED DATA

Tested Through (XXXXXX) (Choke) (XXXXXX) Type Taps _____

No.	Flow Data					Tubing Data		Casing Data		Duration of Flow Hr.
	(Prover) (Line) Size	(Choke) (Orifice) Size	Press. psig	Diff. h _w	Temp. °F.	Press. psig	Temp. °F.	Press. psig	Temp. °F.	
SI										
1.	2"	3/4	22		60	22	60	303		3 hr.
2.										
3.										
4.										
5.										

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_w p_f}$	Pressure psia	Flow Temp. Factor 60° F _t	Gravity Factor .640 _g	Compress. Factor F _{pv} 96 at 640	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.365		34	1.0	1.0077	1.007	426
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 50.40 (1-e^{-s}) .093
Specific Gravity Separator Gas .640
Specific Gravity Flowing Fluid _____
P_c 680 P_c 462,400

No.	P _w 395 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.	34	1.156	21,470	460,961	42,870	136,025	306,375		
2.									
3.									
4.					Calc. P _v			684	
5.									

Absolute Potential: 604 MCFPD; n .85
COMPANY FUBCO PETROLEUM CORPORATION
ADDRESS 106 West Chuska, Aztec, New Mexico
AGENT and TITLE M. L. Seelinger, Dist. Engr. *M. L. Seelinger*
WITNESSED _____
COMPANY _____

REMARKS



OIL CONSERVATION COMMISSION	
AZEC DISTRICT OFFICE	
No. Copies Received	3
Date	
Time	
By	
Transport	✓
Other	✓

Initial Deliverability
Test

Form C-122-A
Revised April 20, 1955

NEW MEXICO OIL CONSERVATION COMMISSION
GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA
EXCEPT BARKER DOME STORAGE AREA)

Pool Otero Formation Pictured Cliffs County San Juan
Purchasing Pipeline H. Pano Natural Gas Company Date Test Filed 2-4-58
Operator Fulco Petroleum Corp. Lease Otero Well No. 2
Unit M Sec. 14 Twp. 34N Rge. 6W Pay Zone: From 2062 To 2156
Casing: OD 2 1/2 WT. 14 Set At 2255 Tubing: OD 1" WT. 1.7 T. Perf. 2209
Produced Through: Casing ✓ Tubing ✓ Gas Gravity: Measured .673 Estimated
Date of Flow Test: From 1-26-58 To 1-27-58 * Date S.I.P. Measured 10-23-58
Meter Run Size 4" Orifice Size 3/4 Type Chart 24. 24. Type Taps Flange

OBSERVED DATA

Flowing casing pressure (Dwt) 289 psig + 12 = 301 psia (a)
Flowing tubing pressure (Dwt) 290 psig + 12 = 302 psia (b)
Flowing meter pressure (Dwt) 290 psig + 12 = 302 psia (c)
Flowing meter pressure (meter reading when Dwt. measurement taken:
Normal chart reading psig + 12 = psia (d)
Square root chart reading (7.0)² x spring constant 5 = 245 psia (d)
Meter error (c) - (d) or (d) - (c) ± = - 3 psi (e)
Friction loss, Flowing column to meter:
(b) - (c) Flow through tubing: (a) - (c) Flow through casing = 0 psi (f)
Seven day average static meter pressure (from meter chart):
Normal chart average reading psig + 12 = psia (g)
Square root chart average reading (7.05)² x sp. const. 5 = 249 psia (g)
Corrected seven day avge. meter press. (p_f) (g) + (e) = 246 psia (h)
P_t = (h) + (f) = 246 psia (i)
Wellhead casing shut-in pressure (Dwt) 668 psig + 12 = 680 psia (j)
Wellhead tubing shut-in pressure (Dwt) 668 psig + 12 = 680 psia (k)
P_c = (j) or (k) whichever well flowed through = 680 psia (l)
Flowing Temp. (Meter Run) 107 °F + 460 = 567 °Abs (m)
P_d = 1/2 P_c = 1/2 (l) = 340 psia (n)

FLOW RATE CALCULATION

$$Q = \frac{307}{(\text{integrated})} \times \left(\frac{\sqrt{(a)} \frac{246}{15.97635} = .92385}{\sqrt{(d)} \frac{245}{15.69248}} \right) = 305 \text{ MCF/day}$$

DELIVERABILITY CALCULATION

$$D = Q \frac{305}{\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{346,800}{378,963} \right]^n \frac{.85}{(.9251) = .9273}} = 283 \text{ MCF/day}$$

SUMMARY

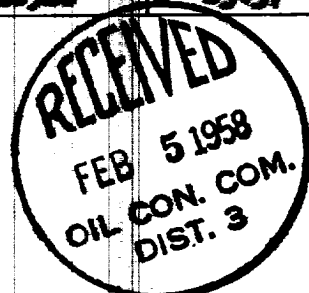
P_c = 680 psia
Q = 305 Mcf/day
P_w = 289 psia
P_d = 340 psia
D = 283 Mcf/day

Company Fulco Petroleum Corporation
By H. E. Russell, Jr.
Title Mgr. Prod. Dist.
Witnessed by Walter Martin
Company Fulco Petroleum Corp.

- * 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
1406	.097	236.298	22981	60216	60437	289



OK

1874. 1875. 1876. 1877.

1878.

1879.

1880. 1881. 1882. 1883.

1884. 1885. 1886. 1887.

1888. 1889. 1890. 1891.

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2018. 2019. 2020.

2021. 2022. 2023.

2024. 2025. 2026.

2027. 2028. 2029.

2030. 2031. 2032.

2033. 2034. 2035.