

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool North Osudo Formation Morrow County Lea
Initial X Annual _____ Special _____ Date of Test 2-12-81
Company Adams Exploration Company Lease _____ State "16" Well No. 1
Unit L Sec. 16 Twp. 20-S Rge. 36-E Purchaser Northern Natural Gas Co.
Liner Casing N-80 Wt. 13.50 I.D. 3,920 Set at 11,001 Perf. 10,912 To 10,923'
Tubing N-80 Wt. 4.70 I.D. 1.995 Set at 10,708 Perf. _____ To _____
Gas Pay: From 10,912 To 10,923 L _____ xG _____ -GL _____ Bar. Press. 13.20
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: 8-22-80 Packer _____ Model R Reservoir Temp. 222

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) Type Taps Flange

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.	4"	1.750"	88	2.0	56	2572	53	PKR		1
2.	4"	1.750"	89	3.8	67	2458	55	PKR		1
3.	4"	1.750"	84	8.0	72	2272	58	PKR		1
4.	4"	1.750"	84	14.5	75	2030	61	PKR		1
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.	19.64	14.354	103.025	1.0025	.9893	0.824	282
2.	19.41	19.882	104.025	0.9933	.9893	0.823	386
3.	19.27	28.146	99.025	0.9887	.9893	0.821	543
4.	19.24	37.893	99.025	0.9859	.9893	0.822	729
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 0 cf/bbl.
Gravity of Liquid Hydrocarbons 42.2 deg.
F_c (1-e⁻⁵)

Specific Gravity Separator Gas 0.613
Specific Gravity Flowing Fluid 0.613
P_c 2836.2 P_c 8044030

No.	P _w P _t (psia)	P _t ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ⁻⁵)	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w /P _c
1.	2587	6692569				6693	1356.9		.912
2.	2473	6115729				6116	1933.5		.872
3.	2287	5230369				5230	2818.6		.806
4.	2045	4182025				4182	3866.8		.721
5.									

Absolute Potential: 1419 MCFPD; n 0.910COMPANY Adams Exploration CompanyADDRESS P. O. Box 10385 Midland, Texas 79702AGENT and TITLE D.C. Helm D.C. Helm, Operations ManagerWITNESSED M. L. Hansen M. L. HansenCOMPANY Northern Natural Gas Co.

REMARKS