

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Sawyer Formation San Andres (Gas) County Lea
Initial _____ Annual X Special _____ Date of Test April 27, 1965
Company Western Drilling Company Lease Great Western Federal Well No. 1
Unit M Sec. 28 Twp. 9S Rge. 38E Purchaser Nearburg & Ingram
Casing 5 1/2" Wt. 15.50# I.D. 4.95" Set at 5,036' Perf. 4,915' To 4,931'
Tubing 2-3/8" Wt. 4.70# I.D. 1.995" Set at 5,005' Perf. _____ To _____
Gas Pay: From 4,910' To 5,010' L 4,960 xG 0.812 -GL 4,028 Bar.Press. 13.2 psia
Producing Thru: Casing _____ Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual
Date of Completion: May 5, 1958 Packer Yes Reservoir Temp. -

OBSERVED DATA

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

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						983	61°			72 hrs
1.	2"	0.0625"			61°	924	61°			1 hr 15 min
2.	3.068"	0.750"	361#	9"	68°	802	68°			3 hrs 0 min
3.	3.068"	0.750"	359#	18.9"	61°	828	61°			3 hrs 0 min
4.	3.068"	0.750"	348#	33.6"	49°	779	49°			3 hrs 0 min
5.	3.068"	0.750"	373#	30.3"	54°	736	54°			20 hrs 0 min

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.	0.0827		937.2	.9990	.8596	1.106	74
2.	2.6719	58.03	374.2	.9924	1.1097	1.039	177
3.	2.6719	83.87	372.2	.9990	1.1097	1.041	259
4.	2.6719	110.16	361.2	1.0108	1.1097	1.047	346
5.	2.6719	108.18	386.2	1.0058	1.1097	1.045	337

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
Gravity of Liquid Hydrocarbons _____ deg.
F_c 9.936 (1-e⁻⁸) .242
Specific Gravity Separator Gas 0.812
Specific Gravity Flowing Fluid _____
P_c 996.2 P_c 992.4

No.	P _w P _t (psia)	P _c ²	F _c Q	(F _c Q) ²	(F _c Q) ² (1-e ⁻⁸)	P _w ²	P _c ² -P _w ²	Cal. P _w	P _w P _c
1.	937.2	878.3	.7353	.5407	.1308	878.4	114.0	937.2	94.1
2.	815.2	664.6	1.7587	3.0930	.7485	665.4	327.0	815.7	81.8
3.	841.2	707.6	2.5734	6.6224	1.6026	709.2	283.2	842.2	84.4
4.	792.2	627.6	2.4379	11.8192	2.8602	630.5	361.9	794.1	79.8
5.	749.2	561.3	2.3483	11.2118	2.7133	564.0	428.4	751.0	75.2

Absolute Potential: 781 MCFPD; n 1.0000
COMPANY Denton Oil Company
ADDRESS Post Office Box 4359 Tech Station, Lubbock, Texas
AGENT and TITLE C. J. Jordan, Jr., Gas Engineer
WITNESSED _____
COMPANY _____

REMARKS

CO₂ and N composition of gas considered as being 10% each.

*Note: Critical flow prover used on first point due to hydrate formation in choke while producing into pipeline.