

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Blanco Formation Mesaverde County Rio Arriba
 Initial X Annual _____ Special _____ Date of Test 7-23-58
 Company Occidental Petroleum Corp. Lease X Well No. 1-21
 Unit M Sec. 21 Twp. 24N Rge. 3W Purchaser _____
 Casing 7-5/8 Wt. 26.40# I.D. 4.100 Set at 6162 Perf. _____ To _____
 Tubing _____ Wt. _____ I.D. _____ Set at 6012 Perf. _____ To _____
 Gas Pay: From _____ To _____ L 6012 xG .620 est GL 3738 Bar. Press. _____
 Producing Thru: Casing _____ Tubing X Type Well Single
 Date of Completion: _____ Packer _____ Reservoir Temp. _____
 Single-Bradenhead-G. G. or G.O. Dual

OBSERVED DATA

Tested Through (Prover) (Choke) (Meter) 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.						1246		1168	
2.		3/4"	148		167			1142	3 hrs
3.									
4.									
5.									

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.365		160	1.0039	0.9837	1.015	1982
2.							
3.							
4.							
5.							

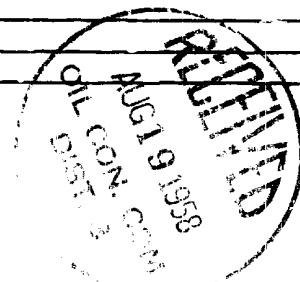
PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.
 Gravity of Liquid Hydrocarbons _____ deg.
 F_c 9.936 (1-e^{-s}) .327
 Specific Gravity Separator Gas .620 est
 Specific Gravity Flowing Fluid _____
 P_c 1256 P_c 1583

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.	160	25.6	19.70	388	38	113.6	146944		1.0795
2.									
3.									
4.									
5.									

Absolute Potential: 2098 MCFPD; n .75
 COMPANY Occidental Petroleum Corp.
 ADDRESS Box 167, Gardena, California
 AGENT and TITLE T. A. Began, Consulting Engineer
 WITNESSED _____
 COMPANY _____

REMARKS



INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log-log paper used for plotting the back pressure curve shall be of at least three inch cycles.

NOMENCLATURE

- Q = Actual rate of flow at end of flow period at W. H. working pressure (P_w).
MCF/da. @ 15.025 psia and 60° F.
- P_c = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater.
psia
- P_w = Static wellhead working pressure as determined at the end of flow period.
(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if
flowing through casing.) psia
- P_f = Meter pressure, psia.
- h_w = Differential meter pressure, inches water.
- F_g = Gravity correction factor.
- F_t = Flowing temperature correction factor.
- F_{pv} = Supercompressability factor.
- n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .

3-104000

2-000

1-Rose

1-El Paso (Lou Galloway)

1-File

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Revised 12-1-55

Pool Elance Formation Mesa Verde County Rio Arriba

Initial _____ Annual _____ Special X Date of Test 9-11-58

Company Occidental Petroleum Corp. Lease B Well No. 1-21

Unit M Sec. 21 Twp. 26N Rge. 3 W Purchaser _____

Casing 7-5/8 26.40# I.D. 4100 Set at 6162 Perf. _____ To _____

Tubing 2-3/8 4.7 I.D. _____ Set at 6012 Perf. _____ To _____

Gas Pay: From _____ To _____ L _____ xG .620 est GL _____ Bar. Press. _____

Producing Thru: Casing _____ Tubing X Type Well Single

Date of Completion: _____ Packer _____ Reservoir Temp. Single

OBSERVED DATA

Tested Through (Packer) (Choke) (Meter) 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.	
SI						1247	1248	
1.								
2.		3/4	173		70°		653	3 hrs
3.								
4.								
5.								

FLOW CALCULATIONS

No.	Coefficient (24-Hour)	$\sqrt{h_{wpf}}$	Pressure psia	Flow Temp. Factor F _t	Gravity Factor F _g	Compress. Factor F _{pv}	Rate of Flow Q-MCFPD @ 15.025 psia
1.	12.365		185	.9905	.9837	1.0155	2263
2.							
3.							
4.							
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio _____ cf/bbl.

Gravity of Liquid Hydrocarbons _____ deg.

P_c 9.936 (1-e^{-s})

Specific Gravity Separator Gas .620 est

Specific Gravity Flowing Fluid _____

P_c 1260 P_c^2 1588

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	$\frac{P_w}{P_c}$
1.									
2.									
3.	665					442	1146		1.386
4.									
5.									

Absolute Potential: 2890 MCFPD; n .75 1.277

COMPANY Occidental Petroleum Corporation

ADDRESS P.O. Box 167, Gardena, California

AGENT and TITLE T. A. Dugan, Consulting Engineer

WITNESSED _____

COMPANY _____

REMARKS _____



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psia
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(Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- P_t = Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia
- P_f = Meter pressure, psia.
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- F_{pv} = Supercompressability factor.
- n = Slope of back pressure curve.

Note: If P_w cannot be taken because of manner of completion or condition of well, then P_w must be calculated by adding the pressure drop due to friction within the flow string to P_t .

VAL R. REESE & ASSOCIATES, INC.

Company Confidential

Lease 8 Well No. 1-21

Date of Test 9-11-58

Shut in Pressure (PSIG): Tubing 1247 Casing 1245 S.I. Period Days

Size Blow Nipple 3/4" 10 Check

Flow Through Tubing 2-3/8 Working Pressures From 0 to 800

Time		Pressure	Q (MCFD) @ 15.025 PSIA & 60 F	Wellhead Working Pressure (PSIG)	Temp
Hours	Minutes				
	30	390		807	
1	00	277		730	
2	00	168		646	66 °
3	00	173		653	79 °

Start At 12:00 Noon End Test At 3:00 P.M.

Remarks: blowing heavy spray of distillate and water for one hour,
spray of fluid final two hours.

Tested By: Jim Jacobs

Witness: Charles Werner