NEW MEXICO OIL CONSERVATION COMMISSION

FEB 24 8 51 AM '64

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Mesa Formation Queen County Lea

Initial X Annual Special Date of Test 2/10-11/64

Company Bob Dean, Ltd. Lease Sinclair State Well No. 1-A

Unit H Sec. 18 Twp. 16 Rge. 32 Purchaser Phillips Pipeline

Casing 4 1/2" Wt. 9.5 I.D. 4.090 Set at 3425' Perf. 3372' To 3380'

Tubing 2" Wt. 4.7 I.D. 1.995 Set at 3400' Perf. 3384' To 3387'

Gas Pay: From 3372' To 3380' L 3384 xG 0.8609 -GL .2913 Bar.Press. 13.2

Producing Thru: Casing Tubing X Type Well Single
Single-Bradenhead-G. G. or G.O. Dual

Date of Completion: 2-11-64 Packer None Reservoir Temp. 87°F

OBSERVED DATA

Tested Through (Prover) (~~Choke~~) (~~Orifice~~) Type Taps -

No.	Flow Data (Prover) (~~Choke~~) Size	Flow Data (Choke) (Orifice) Size	Flow Data Press. psig	Flow Data Diff. h_w	Flow Data Temp. °F.	Tubing Data Press. psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						765	-	768	-	72.0
1.	2"	1" 10/16"	96	-	64	243	64	366	64	4 Hours
2.	2"	3/4" 7/16"	142	-	46	416	46	476	46	2 Hours
3.	2"	3/4" 5/16	98	-	40	567	40	591	40	2 Hours
4.	2"	1/2" 3/16"	50	-	32	730	32	732	32	4 Hours
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.	22.060	-	109.2	0.9962	0.8348	-	2,003.351
2.	12.200	-	155.2	1.0137	0.8348	1.029	1,648.765
3.	12.200	-	111.2	1.0198	0.8348	-	1,154.947
4.	5.523	-	63.2	1.0281	0.8348	-	299.578
5.							

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry Gas cf/bbl. Specific Gravity Separator Gas 0.8609
Gravity of Liquid Hydrocarbons - deg. Specific Gravity Flowing Fluid -
F_c - $(1-e^{-s})$ - BHP P_c 867.2 P_c^2 752.0

Bottom Hole Pressure @ (982) Datum * 3376 Used For Calculations

No.	P_w (~~P_{tbg}~~) (psia)	P_t^2	F_cQ	$(F_cQ)^2$	$\frac{(F_cQ)^2}{(1-e^{-s})}$	P_w^2	$P_c^2-P_w^2$	Cal. P_w	$\frac{P_w}{P_c}$
1.	416.2	-	-	-	-	173.2	578.8	-	- .480
2.	540.2	-	-	-	-	291.8	460.2	-	- .623
3.	670.2	-	-	-	-	449.2	302.8	-	- .773
4.	823.2	-	-	-	-	677.7	74.3	-	- .949
5.									

Absolute Potential: 2,595.000 MCFPD; n 0.94

COMPANY Bob Dean Ltd.
ADDRESS 1005 Midland National Bank Bldg. Midland, Texas
AGENT and TITLE Coleman Petroleum Engineering Company
WITNESSED -
COMPANY -

REMARKS

* Mid Point Of Casing Perforations

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.