well file

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED
AUG 12 1960
O. C. C.
ARTESIA, OFFICE

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Undesignated Cisco Formation Morrow Sand County Eddy

Initial X Annual - Special - Date of Test August 7, 1960

Company Union Oil Company of California Lease A. J. Crawford Well No. 2-27

Unit K Sec. 27 Twp. 24-S Rge. 26-E Purchaser Transwestern Pipe Line Company

Casing 7" Wt. 23 & 26# I.D. 6.276" Set at 9,707.25 Perf. - To -
Liner 4½ 11.60 4.000 11,358 11,188-11,196 & 11,204-11,212
Tubing 2⅜ Wt. 6.5 I.D. 2.441" Set at 11,015 Perf. Open ended To -

Gas Pay: From 11,188 To 11,212 L 11,180 xG 0.588 -GL 6,574 Bar.Press. 13.2 psia

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

Date of Completion: August 7, 1960 Packer X Reservoir Temp. 204° F

OBSERVED DATA

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

No.	Flow Data ~~(Prover)~~ (Line) Size	~~(Choke)~~ (Orifice) Size	Press. psig	Diff. h_w	Temp. °F.	Tubing Data Press. DWG psig	Tubing Data Temp. °F.	Casing Data Press. psig	Casing Data Temp. °F.	Duration of Flow Hr.
SI						3751				72 hr
1.	3.068 ID	2.250	150	15"	108	3303	-	Packer	-	3 hrs
2.	"	"	350	7"	30	3246	-	"	-	3 hrs
3.	"	"	480	17	77	2822	-	"	-	4 hrs
4.	"	"	492	24"	79	2590	-	"	-	4 hrs
5.	"	"	492	20	83	2533	-	"	-	24 hrs

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.	37.35	49.5	163.2	0.9568	1.0102	1.009	1,793
2.	"	90.4	363.2	1.0302	"	1.030	2,007
3.	"	91.5	493.2	0.9840	"	1.033	3,400
4.	"	110.1	505.2	0.9822	"	1.034	4,196
5.	"	100.5	505.2	0.9786	"	1.033	3,813

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio Dry cf/bbl.
Gravity of Liquid Hydrocarbons - deg.
F_c 5.836 $(1-e^{-s})$ 0.364

Specific Gravity Separator Gas .588
Specific Gravity Flowing Fluid .588
P_c 3764.2 psia P_c^2 14,169.2 x 10^3

No.	P_w / P_t (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.	3305.2	10,997.2	10.518	110.63	40.3	11,037.5	3,131.7	3322.3	0.883
2.	3259.2	10,622.4	11.773	138.60	50.5	10,673.4	3,495.8	3267.0	0.868
3.	2835.2	8,038.4	20.472	419.10	152.6	8,191.0	5,978.2	2862.0	0.760
4.	2603.2	6,776.7	24.614	605.85	220.5	6,997.2	7,172.0	2645.2	0.703
5.	2546.2	6,483.1	22.367	500.28	182.1	6,665.2	7,504.0	2581.7	0.686

Absolute Potential: 7,200 MCFPD; n 1.0

COMPANY Union Oil Company of California
ADDRESS 619 West Texas Avenue, Midland, Texas
AGENT and TITLE G. W. Coombes - Engineer
WITNESSED E. P. Matthies
COMPANY Union Oil Company of California

G. W. Coombes
E. P. Matthies

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.