NEW MEXICO OIL CONSERVATION COMMISSION

Form C-122
Revised 12-1-55

MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool Jalmat Formation Yates County Lea

Initial X Annual ____ Special ____ Date of Test 8-22-58

Company Jal Oil Company, Inc. Lease Watkins Well No. 2

Unit H Sec. 35 Twp. 24 Rge. 36 Purchaser ____

Casing 5 1/2 Wt. 15.5 I.D. ____ Set at 2982 Perf. ____ To ____

Tubing 2 Wt. ____ I.D. ____ Set at 2969 Perf. ____ To ____

Gas Pay: From 2942 To 2954 L ____ xG ____ -GL ____ Bar.Press. 13.2

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

Date of Completion: 8-22-58 Packer None Reservoir Temp. ____

OBSERVED DATA

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

| No. | Flow Data (Prover) (Line) Size | (Choke) (Orifice) Size | Press. psig | Diff. $h_w$ | Temp. °F. | Tubing Data Press. psig | Tubing Data Temp. °F. | Casing Data Press. psig | Casing Data Temp. °F. | Duration of Flow Hr. |
|---|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | | | | 1018 | | 72 |
| 1. | 4 x 2.000 | | 285 | 4.41 | 81 | 660 | | 838 | | 24 |
| 2. | 4 x 2.000 | | 312 | 11.56 | 88 | 507 | | 688 | | 24 |
| 3. | 4 x 2.000 | | 325 | [illegible] | 76 | 440 | | 585 | | 24 |
| 4. | | | | 12.6 12/5/58 G. [illegible] | | | | | | |
| 5. | | | | | | | | | | |

FLOW CALCULATIONS

| No. | Coefficient Flg.(24-Hour) | $\sqrt{h_w p_f w}$ | Pressure psia | Flow Temp. Factor $F_t$ | Gravity Factor $F_g$ | Compress. Factor $F_{pv}$ | Rate of Flow Q-MCFPD @ 15.025 psia |
|---|---|---|---|---|---|---|---|
| 1. | 25.58 | 36.25 | | .9804 | .9608 | 1.025 | 895 |
| 2. | 25.58 | 61.50 | | .9741 | .9608 | 1.027 | 1507 |
| 3. | 25.58 | 65.99 | | .9850 | .9608 | 1.029 | 1644 |
| 4. | | | | | | | |
| 5. | | | | | | | |

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio * cf/bbl. Specific Gravity Separator Gas ____
Gravity of Liquid Hydrocarbons ____ deg. Specific Gravity Flowing Fluid ____
$F_c$ Measured $(1-e^{-s})$ ____ $P_c$ 1031.2 $P_c^2$ 1063.4

| No. | $P_t$ (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. | 573.2 | 453.2 | | | | 724.5 | 338.9 | [illegible] | [illegible] |
| 2. | 520.2 | 270.6 | | | | 491.7 | 571.7 | [illegible] | [illegible] |
| 3. | 453.2 | 205.4 | | | | 355.5 | 707.9 | [illegible] | [illegible] |
| 4. | | | | | | | | | |
| 5. | | | | | | | | | |

* Well was flowing load oil and water

Absolute Potential: 2,325 MCFPD; n .819

COMPANY Jal Oil Company, Inc.

ADDRESS Drawer Z , Jal, New Mexico

AGENT and TITLE [signature] Engineer

WITNESSED H. H. Kerby

COMPANY El Paso Natural Gas Co.

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.

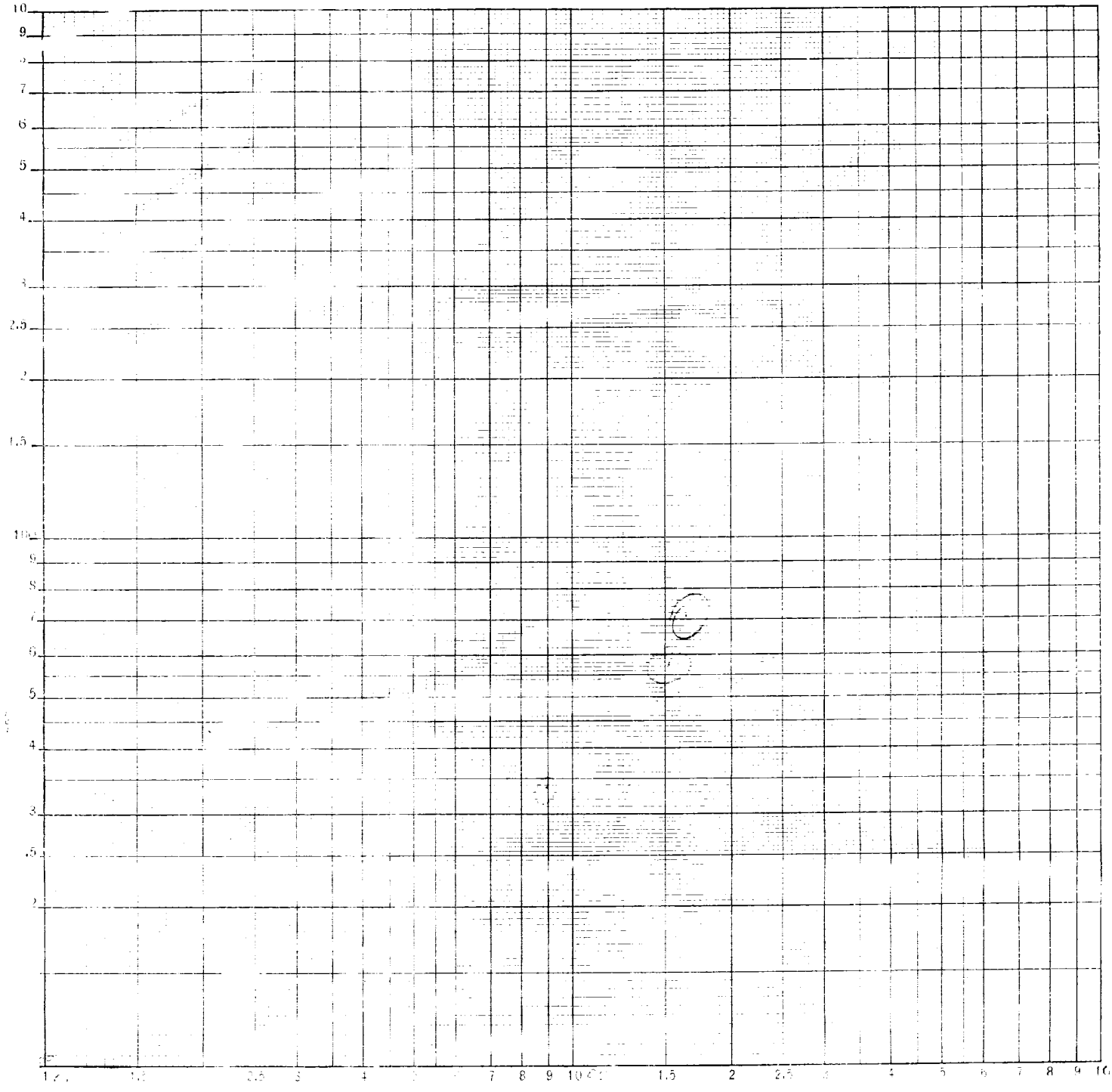
$F_g$ = Gravity correction factor.

$F_t$ = 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 $P_t$.



Form C-103
(Revised 3-55)

NEW MEXICO OIL CONSERVATION COMMISSION
MISCELLANEOUS REPORTS ON WELLS
(Submit to appropriate District Office as per Commission Rule 1106)

COMPANY Jal Oil Company, Inc. Drawer Z, Jal, New Mexico
(Address)

LEASE Watkins WELL NO. 2 UNIT H S 35 T 24 R 36

DATE WORK PERFORMED 8-12-58 POOL Jalmat

This is a Report of: (Check appropriate block)

- [ ] Beginning Drilling Operations
- [ ] Plugging
- [x] Results of Test of Casing Shut-off
- [ ] Remedial Work
- [ ] Other Running oil string

Detailed account of work done, nature and quantity of materials used and results obtained.

Drilled to T.D. 2987' . Ran 2973' 5½" 15# J-55 casing set at 2983.7 D.F.
Cemented with 150 sacks neat at shoe and 250 sacks at D V Tool set @ 1300'.
Circulated. Plugged down 2:15 A.M. 8-12-58 W.O.C. Moved off rig.
8-14-58 Drilled D V Tool and tested casing to 1000# No pressure drop.
Plugged back to 2968' . Logged well preparing to frac.

RECEIVED
AUG 20 1958
OIL CONSERVATION COMM.
HOBBS, NEW MEXICO

FILL IN BELOW FOR REMEDIAL WORK REPORTS ONLY

Original Well Data:

DF Elev. _____ TD _____ PBD _____ Prod. Int. _____ Compl Date _____
Tbng. Dia _____ Tbng Depth _____ Oil String Dia _____ Oil String Depth _____
Perf Interval (s) _____
Open Hole Interval _____ Producing Formation (s) _____

| RESULTS OF WORKOVER: | BEFORE | AFTER |
|---|---|---|
| Date of Test | | |
| Oil Production, bbls. per day | | |
| Gas Production, Mcf per day | | |
| Water Production, bbls. per day | | |
| Gas-Oil Ratio, cu. ft. per bbl. | | |
| Gas Well Potential, Mcf per day | | |

Witnessed by _____ _____ (Company)

OIL CONSERVATION COMMISSION

Name _____
Title _____
Date _____

I hereby certify that the information given above is true and complete to the best of my knowledge.

Name _____
Position Engineer
Company Jal Oil Co., Inc.