

## 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 22, 1965  
Company Western Drilling Company Lease Aikman Federal Well No. 1  
Unit A Sec. 24 Twp. 9S Rge. 37E Purchaser Nearburg & Ingram  
Casing 4 1/2" Wt. 11.60# I.D. 4" Set at 5,014' Perf. 4,930' To 4,955'  
Tubing 2-3/8" Wt. 4.70# I.D. 1.995" Set at 4,920' Perf. Open To           
Gas Pay: From 4,965' To 5,015' L          xG          -GL          Bar.Press. 13.2 psia  
Producing Thru: Casing          Tubing X Type Well Single  
Single-Bradenhead-G. G. or G.O. Dual  
Date of Completion: January 10, 1966 dker None Reservoir Temp. -

## OBSERVED DATA

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

| No. | Flow Data                  |                              |                |                         |              | Tubing Data    |              | Casing Data    |              | Duration<br>of Flow<br>Hr. |
|-----|----------------------------|------------------------------|----------------|-------------------------|--------------|----------------|--------------|----------------|--------------|----------------------------|
|     | (Prover)<br>(Line)<br>Size | (Choke)<br>(Orifice)<br>Size | Press.<br>psig | Diff.<br>h <sub>w</sub> | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. | Press.<br>psig | Temp.<br>°F. |                            |
| SI  |                            |                              |                |                         |              | 962            |              | 1,045          | 62°          | 72 hrs                     |
| 1.  | 2"                         | 0.125"                       | 800            |                         | 74°          | 710            |              | 800            | 74°          | 3 hrs 0 min                |
| 2.  | 3.066"                     | 0.750"                       | 339.6          | 41.60                   | 74°          | 605            |              | 680            | 74°          | 3 hrs 0 min                |
| 3.  | 3.066"                     | 0.750"                       | 327.1          | 67.24                   | 64°          | 500            |              | 575            | 64°          | 3 hrs 0 min                |
| 4.  | 3.066"                     | 1.250"                       | 327.1          | 11.70                   | 82°          | 341            |              | 428            | 82°          | 20 hrs 0 min               |
| 5.  |                            |                              |                |                         |              |                |              |                |              |                            |

## FLOW CALCULATIONS

| No. | Coefficient<br>(24-Hour) | $\sqrt{h_{wpf}}$ | Pressure<br>psia | Flow Temp.<br>Factor<br>F <sub>t</sub> | Gravity<br>Factor<br>F <sub>g</sub> | Compress.<br>Factor<br>F <sub>pv</sub> | Rate of Flow<br>Q-MCFPD<br>@ 15.025 psia |
|-----|--------------------------|------------------|------------------|----------------------------------------|-------------------------------------|----------------------------------------|------------------------------------------|
| 1.  | 0.3418                   | -                | 813.2            | .9868                                  | .8743                               | 1.075                                  | 258                                      |
| 2.  | 2.6719                   | 121.15           | 352.8            | .9868                                  | 1.1287                              | 1.034                                  | 373                                      |
| 3.  | 2.6719                   | 151.27           | 340.3            | .9962                                  | 1.1287                              | 1.037                                  | 471                                      |
| 4.  | 7.5773                   | 63.09            | 340.3            | .9795                                  | 1.1287                              | 1.032                                  | 545                                      |
| 5.  |                          |                  |                  |                                        |                                     |                                        |                                          |

## PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio          cf/bbl.  
Gravity of Liquid Hydrocarbons          deg.  
F<sub>c</sub> P<sub>w</sub> Measured (1-e<sup>-S</sup>)  
Specific Gravity Separator Gas 0.785  
Specific Gravity Flowing Fluid           
P<sub>c</sub> 1058.2 P<sub>c</sub> 1119.8

| No. | P <sub>w</sub><br>P <sub>t</sub> (psia) | P <sub>t</sub> <sup>2</sup> | F <sub>c</sub> Q | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> Q) <sup>2</sup><br>(1-e <sup>-S</sup> ) | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> -P <sub>w</sub> <sup>2</sup> | Cal.<br>P <sub>w</sub> | P <sub>w</sub><br>P <sub>c</sub> |
|-----|-----------------------------------------|-----------------------------|------------------|---------------------------------|---------------------------------------------------------|-----------------------------|----------------------------------------------------------|------------------------|----------------------------------|
| 1.  | 813.2                                   |                             |                  |                                 |                                                         | 661.3                       | 458.5                                                    |                        | 76.8                             |
| 2.  | 693.2                                   |                             |                  |                                 |                                                         | 480.5                       | 639.3                                                    |                        | 65.5                             |
| 3.  | 588.2                                   |                             |                  |                                 |                                                         | 346.0                       | 773.8                                                    |                        | 55.6                             |
| 4.  | 441.2                                   |                             |                  |                                 |                                                         | 194.7                       | 925.1                                                    |                        | 41.69                            |
| 5.  |                                         |                             |                  |                                 |                                                         |                             |                                                          |                        |                                  |

Absolute Potential: 659.7 MCFPD; n 1.0000COMPANY Denton Oil CompanyADDRESS Post Office Box 4359 Tech Station, Lubbock, TexasAGENT and TITLE C. J. Jordan, Jr., Gas EngineerWITNESSED         COMPANY         

## REMARKS

CO<sub>2</sub> and N composition of gas considered as being 10% each.

\*Note: Critical flow prover used on first point due to hydrate formation while attempting to produce into pipeline.

DENTON OIL COMPANY

COMPANY: Western Drilling Company  
LSE & WELL: Aikman Federal No. 1  
LOCATION: A-24-9S-37E  
FIELD: Sawyer  
COUNTY: Lee  
DATE: April 22, 1965

