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File

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION  
P. O. BOX 7000  
SANTA FE, NEW MEXICO 87501

Form C-122  
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                                 |             |                                  |                            |                                       |                         |                                        |                  |                                              |            |
|---------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------|----------------------------|---------------------------------------|-------------------------|----------------------------------------|------------------|----------------------------------------------|------------|
| Type Test<br>4 PT. <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             |                                  |                            |                                       | Test Date<br>5-15-87    |                                        |                  |                                              |            |
| Company<br>MCKAY OIL CORP.                                                                                                      |             |                                  |                            |                                       | Connection<br>TO AIR    |                                        |                  |                                              |            |
| Well<br>PECOS SLOPE                                                                                                             |             |                                  |                            |                                       | Formation<br>ABO        |                                        |                  |                                              |            |
| Completion Date<br>5-12-87                                                                                                      |             | Total Length<br>3450             |                            | Flow Back TO<br>O. C. D.              |                         | Elevation<br>3372 ARTESIA. OFFICE 4092 |                  | Fracture or Lease Name<br>FIVE MILE TANK FLD |            |
| Coq. Size<br>4.500                                                                                                              | Wt.<br>10.5 | d<br>4.092                       | Set At<br>3436             | Perforations<br>From 2906.5 To 3247.5 |                         | Well No.<br>5                          |                  |                                              |            |
| Thg. Size<br>2.375                                                                                                              | Wt.<br>4.7  | d<br>1.995                       | Set At<br>2877             | Perforations<br>From OPEN To ENDED    |                         | Unit<br>K                              |                  | Soc.<br>17                                   | Twp.<br>6S |
| Type Well - Single - Production - O.G. or G.O. Multiple<br>SINGLE                                                               |             |                                  |                            |                                       | Packer Set At<br>NONE   |                                        | County<br>CHAVES |                                              |            |
| Producing Thru<br>TUBING                                                                                                        |             | Reservoir Temp. °F<br>101 ° 3077 |                            | Mean Annual Temp. °F<br>60°           |                         | Darcy Press. - P <sub>0</sub><br>13.2  |                  | State<br>NEW MEXICO                          |            |
| L<br>3077                                                                                                                       | H<br>3077   | G <sub>0</sub><br>.6124          | % CO <sub>2</sub><br>0.000 | % N <sub>2</sub><br>3.485             | % H <sub>2</sub> S<br>0 | Prover<br>2.000                        | Meter Run<br>0   | Taps<br>0                                    |            |

| FLOW DATA |                  |       |              |                 |                      | TUBING DATA |                 | CASING DATA |                 | Duration of Flow |          |
|-----------|------------------|-------|--------------|-----------------|----------------------|-------------|-----------------|-------------|-----------------|------------------|----------|
| NO.       | Prover Line Size | X     | Orifice Size | Press. p.s.i.g. | Diff. h <sub>w</sub> | Temp. °F    | Press. p.s.i.g. | Temp. °F    | Press. p.s.i.g. |                  | Temp. °F |
| SI        |                  |       |              |                 |                      |             | 890             | 60          | 809             | 60               | 72 HRS   |
| 1.        | 2.000            | .125  | 876          | 0.00            | 58                   |             | 876             | 60          | 878             | 60               | 60 MIN.  |
| 2.        | 2.000            | .1875 | 865          | 0.00            | 60                   |             | 865             | 61          | 869             | 61               | 60 MIN   |
| 3.        | 2.000            | .250  | 840          | 0.00            | 62                   |             | 840             | 61          | 851             | 61               | 60 MIN   |
| 4.        | 2.000            | .4375 | 710          | 0.00            | 62                   |             | 710             | 61          | 770             | 61               | 60 MIN   |
| 5.        |                  |       |              |                 |                      |             |                 |             |                 |                  |          |

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                                  |                               |                                         |                       |
|---------------------------|-----------------------|------------------|-------------------------|----------------------------------|-------------------------------|-----------------------------------------|-----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>sp</sub> | Rate of Flow Q, Mcf/d |
| 1                         | .2648                 | 0.00             | 883.2                   | 1.002                            | 1.278                         | 1.076                                   | 322                   |
| 2                         | .6082                 | 0.00             | 878.2                   | 1.000                            | 1.278                         | 1.076                                   | 734                   |
| 3                         | 1.087                 | 0.00             | 853.2                   | .9981                            | 1.278                         | 1.072                                   | 1268                  |
| 4                         | 3.408                 | 0.00             | 723.2                   | .9981                            | 1.278                         | 1.061                                   | 3336                  |
| 5                         |                       |                  |                         |                                  |                               |                                         |                       |

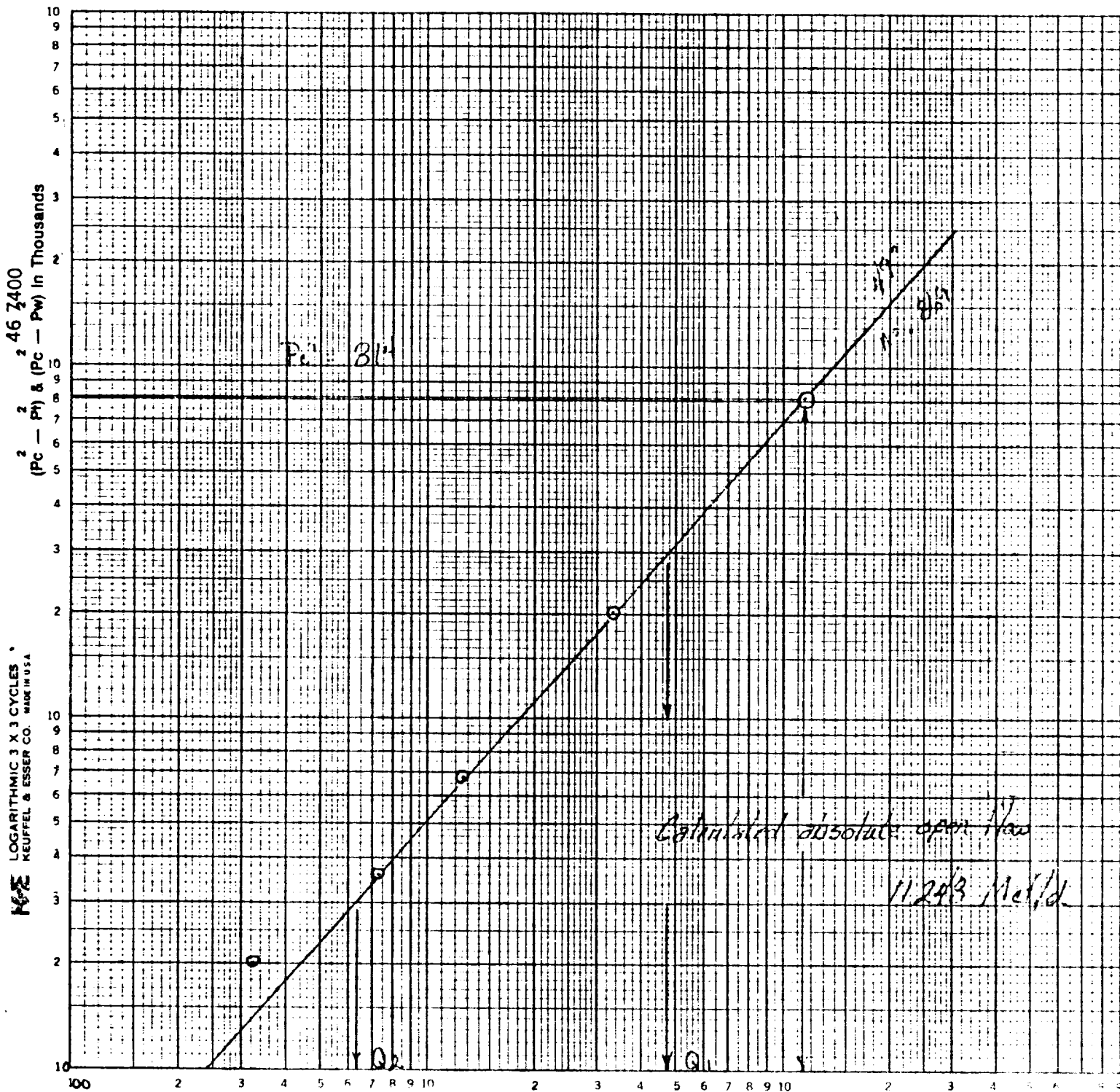
|     |                |          |                |      |                                       |              |
|-----|----------------|----------|----------------|------|---------------------------------------|--------------|
| NO. | P <sub>1</sub> | Temp. °F | T <sub>1</sub> | Z    | Gas Liquid Hydrocarbon Ratio          | Mcf/bbl.     |
| 1   | 1.33           | 518      | 1.47           | .863 | A.P.I. Gravity of Liquid Hydrocarbons | 0            |
| 2   | 1.32           | 520      | 1.47           | .863 | Specific Gravity Separator Gas        | .6124        |
| 3   | 1.28           | 522      | 1.48           | .870 | Specific Gravity Flowing Fluid        | XXXXXX       |
| 4   | 1.09           | 522      | 1.48           | .889 | Critical Pressure                     | 666 P.S.I.A. |
| 5   |                |          |                |      | Critical Temperature                  | 353 °F       |

|     |                |                |                             |                             |                                                                |                                                             |
|-----|----------------|----------------|-----------------------------|-----------------------------|----------------------------------------------------------------|-------------------------------------------------------------|
| NO. | P <sub>1</sub> | P <sub>2</sub> | P <sub>1</sub> <sup>2</sup> | P <sub>2</sub> <sup>2</sup> | (1) $\frac{P_1^2}{P_2^2 - P_1^2} = 4.0497$                     | (2) $\left[ \frac{P_1^2}{P_2^2 - P_1^2} \right]^n = 3.3717$ |
| 1   | 780            | 891.2          | 794                         | 20                          | AGF = 0 $\left[ \frac{P_1^2}{P_2^2 - P_1^2} \right]^n = 11248$ |                                                             |
| 2   | 778            | 882.2          | 778                         | 36                          |                                                                |                                                             |
| 3   | 728            | 864.2          | 747                         | 67                          |                                                                |                                                             |
| 4   | 523            | 783.2          | 613                         | 20                          |                                                                |                                                             |

|                      |       |              |                  |     |            |     |
|----------------------|-------|--------------|------------------|-----|------------|-----|
| Absolute Open Flow   | 11248 | Mcf @ 15.025 | Angle of Slope α | 49° | Slope, β = | 869 |
| Remarks:             |       |              |                  |     |            |     |
| Approved By Division |       |              |                  |     |            |     |
| Conducted By:        |       |              |                  |     |            |     |
| Calculated By:       |       |              |                  |     |            |     |
| Checked By:          |       |              |                  |     |            |     |

## BACK PRESSURE CURVE

Operator McKay Oil Corp Lease Five Mile Trail Well No. 2  
 County Greene Field Dove Slope Location 17 24 28  
 Date of Test 5-15-87 Slope "n" .869 Angle of Slope 49  
 Calc. Abs. Potential 11243 MCF/D



$$\Delta P_1^2: P_c^2 - P_w^2 = 30$$

$$\Delta P_2^2: P_c^2 - P_w^2 = 30$$

$$Q_1 = 473$$

$$Q_2 = 64$$

Q, Mcfd

$$\text{LOG } Q_1 = 2.6752$$

$$\text{LOG } Q_2 = 1.8062$$

$$n = 0.869$$

