

1-File

1-Engr PWS

1-BLM-Roswell (Copy)

## NEW MEXICO OIL CONSERVATION COMMISSION

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

O. C. D.  
ARTESIA, OFFICE

|                                                                                                                           |                         |                                          |                         |
|---------------------------------------------------------------------------------------------------------------------------|-------------------------|------------------------------------------|-------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                         | Test Date<br>3/27/84                     |                         |
| Company<br>GETTY OIL COMPANY ✓                                                                                            |                         | Connection<br>NONE                       |                         |
| Pool<br>PECOS SLOPE ABO                                                                                                   |                         | Formation<br>ABO                         |                         |
| Completion Date<br>3/ 26 /84                                                                                              |                         | Total Depth<br>4200'                     | Plug Back TD<br>4115'   |
| Elevation<br>3679.1 GR                                                                                                    |                         | Farm or Lease Name<br>GETTY P.S. FEDERAL |                         |
| Csg. Size<br>4.5                                                                                                          | Wt.<br>10.5             | d<br>4.052                               | Set At<br>4200'         |
| Perforations:<br>From 3757' To 4024'                                                                                      |                         | Well No. 1                               |                         |
| Tbg. Size<br>2-3/8"                                                                                                       | Wt.<br>4.7              | d<br>1.995                               | Set At<br>3739'         |
| Perforations:<br>From Open To Ended                                                                                       |                         | Unit Sec. Twp. Rge.<br>J 8 6S 26F        |                         |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                         | Packer Set At<br>None                    |                         |
| Producing Thru<br>Tbg.                                                                                                    |                         | State<br>New Mexico                      |                         |
| Reservoir Temp. °F<br>96 @ 4200                                                                                           |                         | Mean Annual Temp. °F<br>60               |                         |
| Baro. Press. - P <sub>a</sub><br>13.2                                                                                     |                         | County<br>Chaves                         |                         |
| L<br>3739'                                                                                                                | H<br>3739'              | G <sub>g</sub><br>0.74                   | % CO <sub>2</sub><br>12 |
| % N <sub>2</sub><br>4                                                                                                     | % H <sub>2</sub> S<br>- | Prover<br>-                              | Meter Run<br>3"         |
| Taps<br>Flange                                                                                                            |                         |                                          |                         |

| 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         | Duration of Flow |
| 1.        | 3"               | x | 7/8"         | 300             | 28                   | 68°         | 895             | 67°         | 930             | 67°              | 1 hr.            |
| 2.        | 3"               | x | 7/8"         | 300             | 41                   | 67°         | 890             | 67°         | 930             | 67°              | 1.5 hr.          |
| 3.        | 3"               | x | 7/8"         | 300             | 52                   | 67°         | 885             | 67°         | 930             | 67°              | .75 hr.          |
| 4.        | 3"               | x | 7/8"         | 300             | 92                   | 67°         | 870             | 67°         | 930             | 67°              | .75 hr.          |
| 5.        |                  |   |              |                 |                      |             |                 |             |                 |                  |                  |

| RATE OF FLOW CALCULATIONS |                       |                  |                         |                       |                               |                                         |                      |
|---------------------------|-----------------------|------------------|-------------------------|-----------------------|-------------------------------|-----------------------------------------|----------------------|
| NO.                       | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor Ft. | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
| 1                         | 3.657                 | 93.65            | 313.2                   | .9924                 | 1.162                         | 1.029                                   | 406.4                |
| 2                         | 3.657                 | 113.32           | 313.2                   | .9933                 | 1.162                         | 1.029                                   | 492.2                |
| 3                         | 3.657                 | 127.62           | 313.2                   | .9933                 | 1.162                         | 1.029                                   | 554.3                |
| 4                         | 3.657                 | 169.75           | 313.2                   | .9933                 | 1.162                         | 1.029                                   | 737.3                |
| 5.                        |                       |                  |                         |                       |                               |                                         |                      |

| NO. | P <sub>t</sub> | Temp. °R | T <sub>f</sub> | Z     | Gas Liquid Hydrocarbon Ratio          | Mcf/bbl.  |
|-----|----------------|----------|----------------|-------|---------------------------------------|-----------|
| 1.  | 0.439          | 528      | 1.416          | 0.945 | A.P.I. Gravity of Liquid Hydrocarbons | -         |
| 2.  | 0.439          | 527      | 1.413          | 0.945 | Specific Gravity Separator Gas        | 0.74      |
| 3.  | 0.439          | 527      | 1.413          | 0.945 | Specific Gravity Flowing Fluid        | X X X X X |
| 4.  | 0.439          | 527      | 1.413          | 0.945 | Critical Pressure                     | 713       |
| 5.  |                |          |                |       | Critical Temperature                  | 373       |

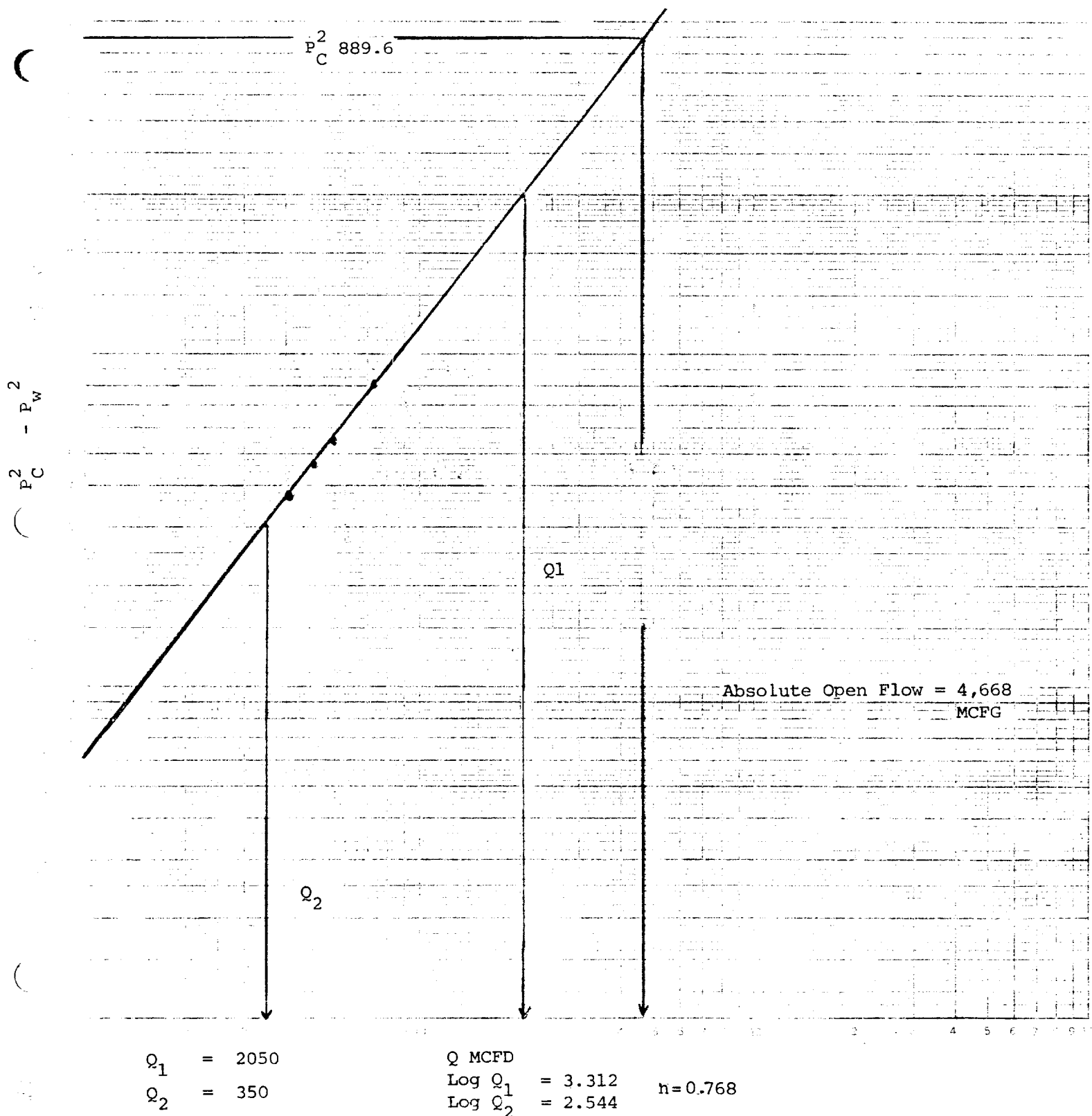
| NO. | P <sub>t</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup> | (1) $\frac{P_c^2}{P_c^2 - R_w^2} = 11.01$                      | (2) $\left[ \frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 6.311$ |
|-----|-----------------------------|-----------------------------|-----------------------------|-----------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|
| 1   |                             | 923.2                       | 852.3                       | 37.3                                                      | AOF = Q $\left[ \frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 4,668$ | Post FD-2<br>5-18-84<br>Comp & BK.                         |
| 2   |                             | 918.2                       | 843.1                       | 46.5                                                      |                                                                |                                                            |
| 3   |                             | 913.2                       | 833.9                       | 55.7                                                      |                                                                |                                                            |
| 4   |                             | 898.2                       | 808.8                       | 80.80                                                     |                                                                |                                                            |
| 5   |                             |                             |                             |                                                           |                                                                |                                                            |

|                                                                                                                                                                    |  |               |                |                  |          |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------|----------------|------------------|----------|--------------|
| Absolute Open Flow                                                                                                                                                 |  | 4,668         | Mcf/d @ 15.025 | Angle of Slope @ | Slope, n | 0.768        |
| Remarks: The 95% and 75% flowing pressure criteria was not met. We did not want to flow greater than 750 MCFPD to avoid returning frac sand and to minimize waste. |  |               |                |                  |          |              |
| Approved By Commission:                                                                                                                                            |  | Conducted By: |                | Calculated By:   |          | Checked By:  |
|                                                                                                                                                                    |  | Joe Tippy     |                | Phil Smith PWS   |          | D.J. Steiner |

GETTY OIL COMPANY  
GETTY PS FEDERAL NO. 1

8-6-26 CHAVES  
3-29-84



# NEW-TEX LAB

PHONE 505/393-3561

P. O. BOX 1161

611 W. SNYDER

HOBBS, NEW MEXICO 88240

## ANALYSIS CERTIFICATE

CLIENT: GETTY OIL COMPANY  
ADDRESS: BOX 730  
CITY, STATE: HOBBS NM 88240

ANALYSIS NUMBER: 2872  
DATE OF RUN: 03/28/84  
DATE SECURED: 03/28/84

SAMPLE IDENT: PS FEDERAL #1 ABO GAS  
SAMPLING PRESS: SAMPLING TEMP:

### \*\*\*\*\* GAS ANALYSIS \*\*\*\*\*

| MOLE<br>PERCENT | GAL/<br>MCF |
|-----------------|-------------|
|-----------------|-------------|

|                |         |       |
|----------------|---------|-------|
| NITROGEN       | 4.162   |       |
| CARBON DIOXIDE | 12.430  |       |
| METHANE        | 76.951  |       |
| ETHANE         | 3.922   | 1.046 |
| PROPANE        | 1.488   | 0.408 |
| ISO-BUTANE     | 0.259   | 0.085 |
| NORMAL BUTANE  | 0.447   | 0.141 |
| ISO-PENTANE    | 0.127   | 0.046 |
| NORMAL PENTANE | 0.128   | 0.046 |
| HEXANES        | 0.086   | 0.035 |
| HEPTANES PLUS  | 0.000   | 0.000 |
| TOTAL          | 100.000 | 1.807 |

|              |      |                    |      |
|--------------|------|--------------------|------|
| PROPANE GPM: | 0.41 | BUTANES GPM:       | 0.23 |
| ETHANE GPM:  | 1.05 | PENTANES PLUS GPM: | 0.13 |

SPECIFIC GRAV (CALC): 0.7420  
MOLE WEIGHT: 21.49

| HHV-BTU/CU FT | PRESSURE (PSIA) | WET | DRY |
|---------------|-----------------|-----|-----|
| 14.696        |                 | 905 | 921 |
| 14.650        |                 | 903 | 919 |
| 14.730        |                 | 907 | 924 |
| 14.735        |                 | 908 | 924 |

DEANE SIMPSON

