

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |                |                                 |                          |                                    |                           |                                     |
|---------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------|--------------------------|------------------------------------|---------------------------|-------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                |                                 |                          |                                    | Test Date<br>12/14/88     |                                     |
| Company<br>Texaco Producing Inc                                                                                           |                |                                 |                          | Connection<br>Enron Pipeline       |                           |                                     |
| Pool<br>Blinberry Oil & Gas                                                                                               |                |                                 |                          | Formation<br>Blinberry             |                           | Unit                                |
| Completion Date<br>2/3/87                                                                                                 |                | Total Depth<br>6520             |                          | Plug Back TD<br>6195               |                           | Elevation<br>DF 3411                |
| Farm or Lease Name<br>Baker B                                                                                             |                |                                 |                          |                                    |                           |                                     |
| Csq. Size<br>7"                                                                                                           | Wt. #<br>20.23 | d<br>6.456 IN                   | Set At<br>6520           | Perforations:<br>From 5454 To 5783 |                           | Well No.<br>8                       |
| Tbg. Size<br>7 3/8"                                                                                                       | Wt. #<br>4.7   | d<br>2.375 IN                   | Set At<br>5832           | Perforations:<br>From - To -       |                           | Unit Sec. Twp. Rge.<br>K 10 22S 37E |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single                                                         |                |                                 |                          | Packer Set At<br>-                 |                           | County<br>Lea                       |
| Producing Thru<br>255-TKS RUN                                                                                             |                | Reservoir Temp. °F<br>89 @ 5619 |                          | Mean Annual Temp. °F<br>60         |                           | State<br>New Mexico                 |
| L<br>5619                                                                                                                 | H<br>5619      | Gg<br>708                       | % CO <sub>2</sub><br>.17 | % N <sub>2</sub><br>1.91           | % H <sub>2</sub> S<br>0.0 | Prover<br>-                         |
| Meter Run<br>2"                                                                                                           |                | Taps<br>1.25, 1.50              |                          |                                    |                           |                                     |

| 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. |                  |
| SI        |                  |   |              |                 |                      |             |                 |             |                 |                  |
| 1.        | 2                |   | 1.25         | 42.5            | 12.6                 | 36          | -               | -           | 304             | 60               |
| 2.        | 2                |   | 1.25         | 44.0            | 25                   | 42          | -               | -           | 234             | 60               |
| 3.        | 2                |   | 1.50         | 45.0            | 32                   | 45          | -               | -           | 190             | 60               |
| 4.        | 2                |   | 1.50         | 45.0            | 29.5                 | 49          | -               | -           | 155             | 60               |
| 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 Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
| 1                         | 2.120                 | 26.49            | 55.7                    | 1.024                 | 1.188             | 1.004                       | 262                  |
| 2                         | 2.120                 | 56.09            | 57.2                    | 1.018                 | 1.188             | 1.004                       | 553                  |
| 3                         | 12.76                 | 43.16            | 58.2                    | 1.015                 | 1.188             | 1.005                       | 664                  |
| 4                         | 12.76                 | 41.44            | 58.2                    | 1.011                 | 1.188             | 1.005                       | 633                  |
| 5                         |                       |                  |                         |                       |                   |                             |                      |

| NO. | P <sub>r</sub> | Temp. °R | T <sub>r</sub> | Z    | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|----------------|------|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1   | .024           | 496      | 1.227          | .992 | no liquids produced          | -                                     | .708                           | X X X X X X X X                | 665               | 332.4                |
| 2   | .026           | 502      | 1.292          | .992 |                              |                                       |                                |                                |                   |                      |
| 3   | .038           | 505      | 1.30           | .991 |                              |                                       |                                |                                |                   |                      |
| 4   | .022           | 509      | 1.311          | .991 |                              |                                       |                                |                                |                   |                      |
| 5   |                |          |                |      |                              |                                       |                                |                                |                   |                      |

| NO. | P <sub>i</sub> <sup>2</sup> | P <sub>w</sub> | P <sub>w</sub> <sup>2</sup> | P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup> |
|-----|-----------------------------|----------------|-----------------------------|-----------------------------------------------------------|
| 1   | 100.6                       |                | 100.6                       | 31.3                                                      |
| 2   | 61.1                        |                | 61.1                        | 70.8                                                      |
| 3   | 41.3                        |                | 41.34                       | 90.56                                                     |
| 4   | 28.3                        |                | 28.3                        | 102.6                                                     |
| 5   |                             |                |                             |                                                           |

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 1.863$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 946$

(2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.711$

|                    |     |               |                |          |
|--------------------|-----|---------------|----------------|----------|
| Absolute Open Flow | 946 | Mcfd @ 15.025 | Angle of Slope | Slope, n |
| Remarks:           |     |               |                |          |

|                      |                          |                |             |
|----------------------|--------------------------|----------------|-------------|
| Approved By Division | Conducted By:            | Calculated By: | Checked By: |
| FFB 3 - 1388         | R. Hindi, m. m. m. m. m. | R. Hindi       |             |

# WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P<sub>w</sub>)

Form C-122D  
Adopted 9-1-65

COMPANY Texas Producing Inc LEASE Baker B WELL NO. 8 DATE 11/14/88

LOCATION: Unit K Section 10 Township 22S Range 37E

L S619 H S619 L/H 1 G 708 % CO<sub>2</sub> .17 % N<sub>2</sub> 1.91 % H<sub>2</sub>S 0.0

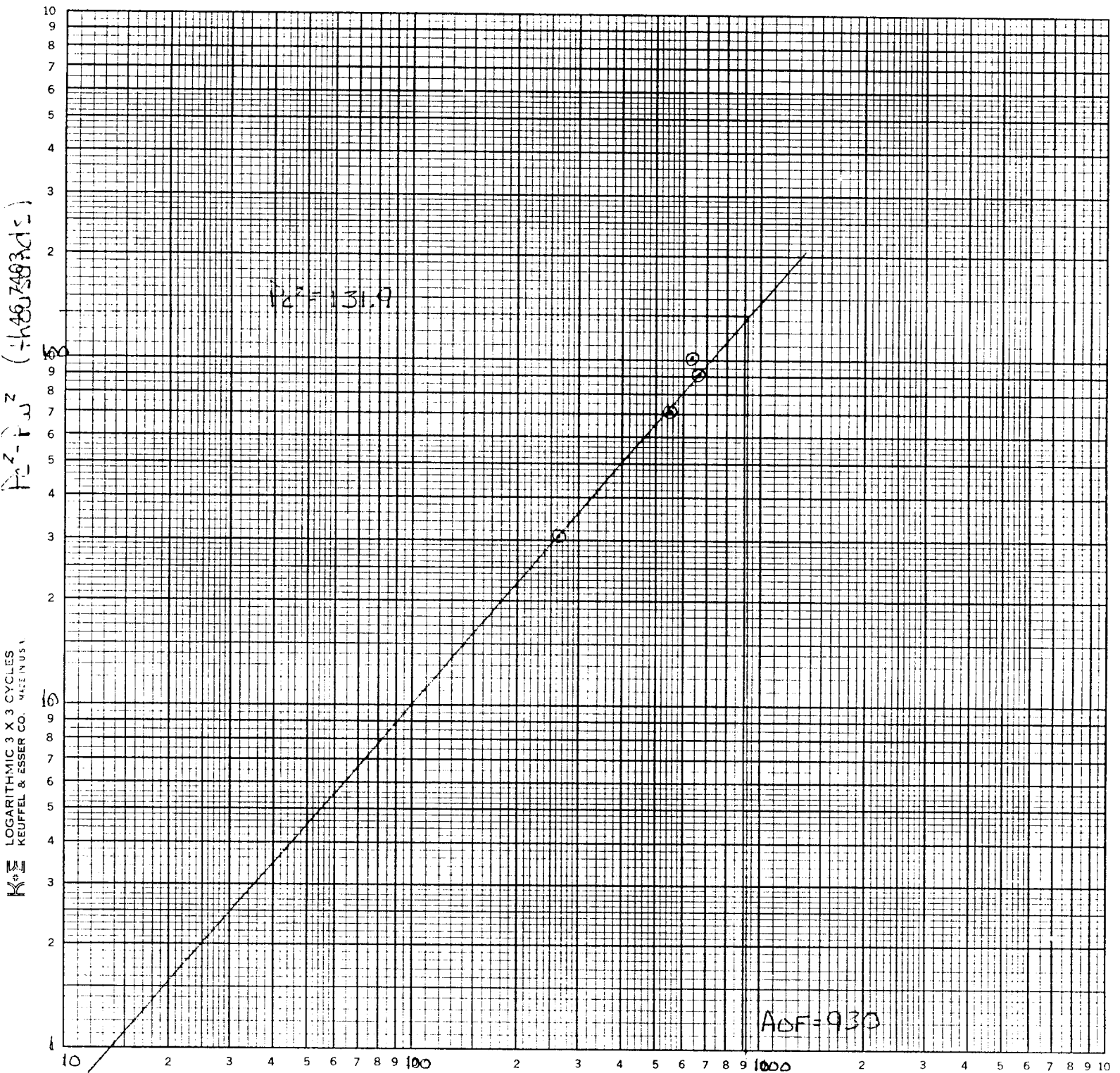
d 7"-2 3/8" F<sub>i</sub> .0021976 GH 3973.25 P<sub>ci</sub> 665 T<sub>ci</sub> 388.4

| LINE                                                                                      | 1st trial | 2nd trial | 1st trial | 2nd trial | 1st trial | 2nd trial | 1st trial | 2nd trial |  |  |
|-------------------------------------------------------------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|--|
| 1 Q <sub>m</sub>                                                                          | .262      | .262      | .553      | .664      | .664      | .635      | .635      |           |  |  |
| 2 T <sub>w</sub> (W.H. °R)                                                                | 520       | 520       | 520       | 520       | 520       | 520       | 520       |           |  |  |
| 3 T <sub>g</sub> (B.H. °R)                                                                | 549       | 549       | 549       | 549       | 549       | 549       | 549       |           |  |  |
| 4 T = ( $\frac{1+w}{2} + 1.5$ )                                                           | 534.5     | 534.5     | 534.5     | 534.5     | 534.5     | 534.5     | 534.5     |           |  |  |
| 5 Z (Est.)                                                                                | .992      | .966      | .966      | .972      | .972      | .980      |           |           |  |  |
| 6 T <sub>Z</sub>                                                                          | 530.22    | 516.37    | 516.37    | 519.53    | 519.53    | 523.76    |           |           |  |  |
| 7 GH/T <sub>Z</sub>                                                                       | 7.503     | 7.704     | 7.704     | 7.657     | 7.657     | 7.596     |           |           |  |  |
| 8 e <sup>s</sup> (Table XIV)                                                              | 1.325     | 1.335     | 1.335     | 1.333     | 1.333     | 1.330     |           |           |  |  |
| 9 1-e <sup>s</sup> (Table XIV)                                                            | .245      | .251      | .251      | .250      | .250      | .248      |           |           |  |  |
| 10 F <sub>i</sub>                                                                         | 317.2     | 317.2     | 247.2     | 203.2     | 203.2     | 168.2     |           |           |  |  |
| 11 P <sub>i</sub> <sup>2</sup> /1000                                                      | 100.616   | 100.616   | 61.11     | 41.29     | 41.29     | 28.29     |           |           |  |  |
| 12 F <sub>i</sub> (Table XV)                                                              | .0021976  | .0021976  | .0021976  | .0021976  | .0021976  | .0021976  |           |           |  |  |
| 13 F <sub>c</sub> = F <sub>i</sub> T <sub>Z</sub>                                         | .6880135  | .670      | .670      | .6741     | .6741     | .6796     |           |           |  |  |
| 14 F <sub>c</sub> Q <sub>m</sub>                                                          | .18026    | .176      | .3705     | .4449     | .4476     | .423      |           |           |  |  |
| 15 L/H (F <sub>c</sub> Q <sub>m</sub> ) <sup>2</sup>                                      | .03249    | .0305     | .1373     | .1979     | .2003     | .1832     |           |           |  |  |
| 16 F <sub>w</sub> = L/H (F <sub>c</sub> Q <sub>m</sub> ) <sup>2</sup> (1-e <sup>s</sup> ) | .00796    | .0077     | .0345     | .04968    | .050      | .0458     |           |           |  |  |
| 17 P <sub>w</sub> <sup>2</sup> = P <sub>i</sub> <sup>2</sup> + F <sub>w</sub>             | 100.6222  | 100.6237  | 61.144    | 41.34     | 41.34     | 28.336    |           |           |  |  |
| 18 P <sub>gs</sub> <sup>2</sup> = e <sup>s</sup> P <sub>w</sub> <sup>2</sup>              | 133.226   | 134.332   | 81.628    | 55.182    | 55.106    | 37.77     |           |           |  |  |
| 19 P <sub>gs</sub>                                                                        | 11.5467   | 11.59     | 9.03      | 7.428     | 7.423     | 6.139     |           |           |  |  |
| 20 P <sub>g</sub> = ( $\frac{F_i + P_{gs}}{2}$ )                                          | 164.37    | 164.305   | 123.12    | 105.21    | 105.21    | 87.169    |           |           |  |  |
| 21 P <sub>g</sub> = (F <sub>i</sub> ) P <sub>gs</sub>                                     | .247      | .2472     | .1927     | .1584     | .1584     | .131      |           |           |  |  |
| 22 T <sub>g</sub> = (T/T <sub>ci</sub> )                                                  | .975      | 1.376     | 1.376     | 1.376     | 1.376     | 1.376     |           |           |  |  |
| 23 P <sub>g</sub> (Table XI)                                                              | .966      | .966      | .966      | .972      | .972      | .980      |           |           |  |  |

1ST POINT 2ND POINT 3RD POINT 4TH POINT

TABLE IX & X

Tanco Producing Inc  
 Baker B No 8  
 K. 10-225-37E  
 Lea County, N. Mex.  
 1/14/88



Q, MICFPD  
 $\Delta P_1$   $P_2^2 - P_w^2 = 100$ ,  $Q_1 = 730$ ,  $\log Q_1 = 2.86332$   
 $\Delta P_2$   $P_2^2 - P_w^2 = 10$ ,  $Q_2 = 100$ ,  $\log Q_2 = 2.00000$   
 $n = .86332 = .863$

【ENRON】  
GAS PIPELINE GROUP  
(TRANSWESTERN)

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GAS QUALITY TEST REPORT  
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|              |           |                |        |
|--------------|-----------|----------------|--------|
| PRODUCER     | TEXACO    | STATION NO.    | 545057 |
| FIELD        | -         | EFFECTIVE DATE | 1-8-88 |
| RESERVOIR    | -         | LAB NUMBER     | HOBBS  |
| STATION NAME | BAKER B 8 |                |        |

| COMPONENTS                   | SPECIFIC GRAVITY | MOLE FRACTION | LIQUEFIABLE HYDROCARBONS        | COMPONENT GPM | GPM CONTENT |
|------------------------------|------------------|---------------|---------------------------------|---------------|-------------|
| NITROGEN                     | .9672            | .0191         | PROPANE                         | 27.514        | 1.2822      |
| CARBON DIOXIDE               | 1.5195           | .0017         | ISOBUTANE                       | 32.698        | .1668       |
| HELIUM                       | .1382            |               | N-BUTANE                        | 31.510        | .4191       |
| OXYGEN                       | 1.1048           | .0000         | LPG                             |               | 1.8680      |
| HYDROGEN SULFIDE             | 1.1766           | .0000         | ISOPENTANE                      | 36.582        | .1024       |
| WATER VAPOR                  | .6228            | .0000         | N-PENTANE                       | 36.213        | .1195       |
|                              |                  |               | HEXANES +                       | 43.619        | .1832       |
| METHANE                      | .5539            | .8049         | NATURAL GASOLINE                |               | .4051       |
| ETHANE                       | 1.0382           | .0990         |                                 |               |             |
| PROPANE                      | 1.5225           | .0466         | TOTAL LIQUEFIABLE GPM           |               | 2.2731      |
| ISOBUTANE                    | 2.0068           | .0051         |                                 |               |             |
| N-BUTANE                     | 2.0068           | .0133         | WATER VAPOR CONTENT:            |               |             |
| ISOPENTANE                   | 2.4911           | .0028         | GAS MIXTURE STATIC PSIG         |               | 42          |
| N-PENTANE                    | 2.4911           | .0033         | FLOWING GAS TEMP (F)            |               | 21          |
| HEXANES +                    | 3.1630           | .0042         | LBS WATER VAPOR / MMCF          |               | 74          |
| COMPOSITION                  |                  | 1.0000        | MOL FRACTION                    |               | .0016       |
| MIXTURE SPECIFIC GRAVITY     |                  |               | SULFUR CONTENT (GR. PER 100 CF) |               |             |
| CALC. FROM ANAL. (REAL)      |                  | 0.708         | HYDROGEN SULFIDE                |               | 0.00        |
| DETERMINED BY TEST INST.     |                  | .710          | MERCAPTANS                      |               | 0.00        |
|                              |                  |               | SULFIDES                        |               | 0.00        |
| MIXTURE HEATING VALUE (REAL) |                  |               | RESIDUALS                       |               | 0.00        |
| (BTU/CF @ 14.73 PSIA, 60F)   |                  |               | TOTAL SULFUR                    |               | 0.00        |
| SATURATED VALUE              |                  | 1197          | MOL FRACT H2S                   |               | .0000       |
| DRY VALUE                    |                  | 1218          |                                 |               |             |
| AS DELIVERED VALUE           |                  | 1216          | COMPRESSIBILITY (Z)             |               | .9967       |

SP. GR. DEVIATION ALLOWED FOR WATER VAPOR: .004  
PR: 11:54 JAN 8, 1988

ANALYST

*Mike Fowler*

【TW】

REMARKS: NEW STATION. FIRST SAMPLE.