

MEXICO OIL CONSERVATION CO. JN  
 MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL  
 HUBBS OFFICE O. C. C.

Form C-122  
 Revised 9-1-65

|                                                                                                                           |                                   |                                             |                                       |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------|---------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |                                   | Test Date<br>JAN 19 11 44 AM '67<br>1-12-67 |                                       |
| Company<br>Sunray DX Oil Company                                                                                          |                                   | Connection<br>Valley Gas Corp.              |                                       |
| Pool<br>Undesignated                                                                                                      |                                   | Formation<br>Morrow                         |                                       |
| Completion Date<br>11-19-66                                                                                               | Total Depth<br>13,395             | Plug Back TD<br>12,180                      | Elevation<br>4319 DF                  |
| Farm or Lease Name<br>State Land "76"                                                                                     |                                   |                                             | Well No.<br>1                         |
| Cas. Size<br>5 1/2                                                                                                        | Wt.<br>20#                        | d<br>4.778                                  | Set At<br>13,395                      |
| Perforations:<br>From 12,160 To 12,170                                                                                    |                                   |                                             |                                       |
| Tub. Size<br>2 3/8                                                                                                        | Wt.<br>4.7#                       | d<br>1.995                                  | Set At<br>11,978                      |
| Perforations:<br>From Open To Ended                                                                                       |                                   |                                             |                                       |
| Type Well - Single - Brdenhead - G.O. or G.O. Multiple<br>Single                                                          |                                   | Packer Set At<br>11,975                     | County<br>Lea                         |
| Producing Thru<br>Tubing                                                                                                  | Reservoir Temp. °F<br>180# 12,160 | Mean Annual Temp. °F<br>60                  | Baro. Press. - P <sub>a</sub><br>13.2 |
| State<br>New Mexico                                                                                                       |                                   |                                             |                                       |
| L<br>11,978                                                                                                               | H<br>11,978                       | G <sub>g</sub><br>0.730                     | % CO <sub>2</sub><br>-                |
| % N <sub>2</sub><br>-                                                                                                     |                                   | % H <sub>2</sub> S<br>-                     | Prover<br>3'                          |
| 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 |
| SI        |                  |   |              |                 |                      |             | 3800            | 72          | Pkr             | -                | 78       |
| 1.        | 3 x 2.25         |   |              | 6.5             | 8                    | 60          | 3465            | 72          | -               | -                | 2        |
| 2.        | 3 x 2.25         |   |              | 9.0             | 27                   | 65          | 2845            | 72          | -               | -                | 2        |
| 3.        | 3 x 2.25         |   |              | 12.0            | 42                   | 60          | 2440            | 72          | -               | -                | 2        |
| 4.        | 3 x 2.25         |   |              | 17.0            | 58                   | 50          | 1761            | 72          | -               | -                | 2        |
| 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>pv</sub> | Rate of Flow Q, Mcfd |      |
| 1                         | 28.78                 | 157.6            | 12.55                   | 19.7                             | 1.000                         | 1.170                                  | 1.000                | 423  |
| 2                         | 28.78                 | 595.4            | 24.48                   | 22.2                             | .9952                         | 1.170                                  | 1.000                | 820  |
| 3                         | 28.78                 | 1058.4           | 32.53                   | 25.2                             | 1.000                         | 1.170                                  | 1.000                | 1095 |
| 4                         | 28.78                 | 1751.6           | 41.85                   | 30.2                             | 1.010                         | 1.170                                  | 1.000                | 1423 |
| 5                         |                       |                  |                         |                                  |                               |                                        |                      |      |

  

|     |       |          |                |       |                                       |       |              |
|-----|-------|----------|----------------|-------|---------------------------------------|-------|--------------|
| NO. | R     | Temp. °R | T <sub>r</sub> | Z     | Gas Liquid Hydrocarbon Ratio          | 6.5   | Mcf/bbl.     |
| 1   | .0295 | 520      | 1.30           | 1.000 | A.P.I. Gravity of Liquid Hydrocarbons | 52.2  | Deg.         |
| 2   | .0332 | 520      | 1.30           | 1.000 | Specific Gravity Separator Gas        | 0.730 | XXXXXXX      |
| 3   | .0377 | 520      | 1.30           | 1.000 | Specific Gravity Flowing Fluid        | XXXXX | 1.144        |
| 4   | .0452 | 520      | 1.30           | 1.000 | Critical Pressure                     | 668   | P.S.I.A. 650 |
| 5   |       |          |                |       | Critical Temperature                  | 401   | R 537        |

  

|                                                               |                                                                                                                                               |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| P <sub>c</sub> 3813.2    P <sub>c</sub> <sup>2</sup> 14,540.0 |                                                                                                                                               |
| NO.                                                           | P <sub>i</sub> <sup>2</sup> P <sub>w</sub> <sup>2</sup> R <sub>w</sub> <sup>2</sup> P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup> |
| 1                                                             | 12097.9    3481.3    12119.4    2420.6                                                                                                        |
| 2                                                             | 8169.3    2882.8    8310.5    6229.5                                                                                                          |
| 3                                                             | 6018.2    2471.9    6110.3    8429.7                                                                                                          |
| 4                                                             | 3147.8    1801.7    3246.1    11293.9                                                                                                         |
| 5                                                             |                                                                                                                                               |

  

$$(1) \frac{P_c^2}{P_c^2 - R_w^2} = 6.007$$

$$AOF = Q \left[ \frac{R_c^2}{P_c^2 - R_w^2} \right]^n = 1653.93$$

$$(2) \left[ \frac{R_c^2}{P_c^2 - R_w^2} \right]^n = 3.91$$

  

|                                |           |                                |                  |               |
|--------------------------------|-----------|--------------------------------|------------------|---------------|
| Absolute Open Flow             | 1654 1750 | Mcf/d @ 15.025                 | Angle of Slope @ | Slope, n .760 |
| Remarks:                       |           |                                |                  |               |
| Approved By Commission:        |           |                                |                  |               |
| Conducted By:<br>Manning Davis |           | Calculated By:<br>R. L. Maness |                  | Checked By:   |