## MULTI-POINT BACK PRESSURE TEST FOR GAS WELLS

Pool

|   |                             |  | _Formation                      |                     |                                       |                      |                                |                  |                               |
|---|-----------------------------|--|---------------------------------|---------------------|---------------------------------------|----------------------|--------------------------------|------------------|-------------------------------|
| nitial                                    |                             |  |                                 |                     |                                       |                      |                                |                  |                               |
| ompany Southern Union Gas C               |                             | Company Lease Quite                    |                                 |                     | <b>X</b>                              | Well No              |                                |                  |                               |
| nit                                       | Sec                         | Twp                                    | Rg                              | e                   | Purc                                  | haser                | outhern !                      | Indon-Ge         | us Compount                   |
| asingV                                    | vt15.                       | _I.D                                   |                                 | t at                | 930Pe                                 | rf.C.E.              | 70<br>70                       | To               | 900<br>365                    |
| ubing/                                    |                             |  |                                 |                     |                                       |                      |                                |                  |                               |
| as Pay: From_                             |                             |  |                                 |                     |                                       |                      |                                | _                |                               |
| roducing Thru:                            |                             |  |                                 |                     |                                       |                      |                                |                  |                               |
| ate of Complet                            | ion:                        | -12-58                                 | Packe                           | r                   | Sin                                   | gle-Brade<br>Reserve | enhead-G.<br>oir Temp.         | G. or            | G.O. Dual                     |
|   |                             |  |                                 |                     | ED DATA                               | _                    | •                              |                  |                               |
| ested Through                             | ( <del>Duesse</del> s       | (Choke                                 | ) (Motor)                       |                     |                                       |                      | Type Tar                       | 16               |                               |
|   |                             | w Data                                 |                                 |                     | Tubing                                | Data                 | Casing I                       |                  |                               |
| (Prover) (Line)                           | (Choke                      | Pres                                   | s. Diff.                        | Temp.               |                                       | Temp.                | Press.                         |                  |                               |
| Size                                      | (Onific<br>Size             |  | .g h <sub>w</sub>               | °F.                 | psig                                  | °F.                  | psig                           | o <sub>F</sub> . | of Flo<br>Hr.                 |
|   | 20.0                        |  |                                 | 73.0                | -1000                                 |                      | 1010                           |                  | ? days                        |
|   | 3/4                         | 271                                    |                                 | -10"                |                                       | 750                  | 789                            |                  | -3 boins                      |
|   | <u> </u>                    |  |                                 |                     |                                       |                      |                                |                  |                               |
|   | L                           |  |                                 |                     | ·····                                 | <u> </u>             | <u></u>                        | <u> </u>         | <u> </u>                      |
| Coeffici                                  | ent                         |  | Pressure                        |                     | CULATION:<br>Temp.                    |                      | Compre                         | ess.             | Rate of Flow                  |
| (24-Hour) $\sqrt{h_{w}}$                  |                             | hwpe                                   | psia                            | Factor<br>F+        |                                       | Factor<br>F-         | Factor<br>F <sub>pv</sub>      |                  | Q-MCFPD<br>@ 15.025 psi       |
| 12.3660                                   |                             |  | 290                             |                     | <b>3</b>                              | .91.63               | 1.01                           |                  | -3,440                        |
| 12.3660                                   |                             |  |                                 |                     |                                       |                      |                                |                  |                               |
|   |                             |  |                                 |                     |                                       |                      |                                |                  |                               |
|   |                             |  | PRE                             | SSURE CA            | ALCU ATI                              | ONS                  |                                |                  |                               |
| Liquid Hydro                              |                             |  |                                 | cf/bbl.             |                                       | Speci                | fic Gravi                      | ty Sepa          | rator Gas                     |
|   |                             | arbons<br>(1-e <sup>-s</sup>           | )                               | deg.                |                                       | Speci                |                                | ty_Flow          | ring Fluid                    |
| vity of Liquid                            |                             | ······································ |                                 |                     |                                       | 13                   | 761                            |                  | 579.1                         |
| vity of Liquid                            |                             |  |                                 |                     |                                       | -                    |                                | ·                | <i>7171</i>                   |
| vity of Liquid                            |                             | r C                                    | (F 0)2                          | (F                  | 0)2                                   | P 2                  |                                |                  |                               |
| P <sub>w</sub>                            | P <sub>t</sub> <sup>2</sup> | F <sub>c</sub> Q                       | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>0</sub>     | Q) <sup>2</sup><br>-e-s)              | P <sub>w</sub> 2     | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>w</sub> P <sub>c</sub> |
| P <sub>w</sub>                            |                             | F <sub>c</sub> Q                       | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> (1- | Q) <sup>2</sup><br>-e <sup>-s</sup> ) | P <sub>w</sub> 2     |                                | Ca               |                               |
| P <sub>w</sub> P <sub>t</sub> (psia)      |                             | F <sub>c</sub> Q                       | (F <sub>c</sub> Q) <sup>2</sup> | (F <sub>c</sub> (1- | Q) <sup>2</sup><br>-e-s)              |                      | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>w</sub> P <sub>c</sub> |
| P <sub>w</sub> Pt (psia)                  | Pt <sup>2</sup>             |  | (F <sub>c</sub> Q) <sup>2</sup> |                     |                                       | 579.1                | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>W</sub> P <sub>C</sub> |
| P <sub>w</sub> Pt (psia)  osolute Potent  | Pt                          | 611A                                   |                                 | MCFPD;              |                                       |                      | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>W</sub> P <sub>C</sub> |
| Pw Pt (psia)  Solute Potent OMPANY DDRESS | Pt ial:                     | 611A                                   | ten y                           | MCFPD;              |                                       | 579.1                | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>w</sub> P <sub>c</sub> |
| P <sub>w</sub> P <sub>t</sub> (psia)      | Pt ial:                     | 6314<br>n. See<br>Farming              | ten y                           | MCFPD;              |                                       | 579.1                | P <sub>c</sub> -P <sub>w</sub> | Ca               | P <sub>W</sub> P <sub>C</sub> |

## INSTRUCTIONS

This form is to be used for reporting multi-point back pressure tests on gas wells in the State, except those on which special orders are applicable. Three copies of this form and the back pressure curve shall be filed with the Commission at Box 871, Santa Fe.

The log log paper used for plotting the back pressure curve shall be of at least three inch cycles.

## NOMENCLATURE

- Q  $\equiv$  Actual rate of flow at end of flow period at W. H. working pressure (P<sub>W</sub>). MCF/da. @ 15.025 psia and 60° F.
- $P_c$ = 72 hour wellhead shut-in casing (or tubing) pressure whichever is greater. psia
- Pw Static wellhead working pressure as determined at the end of flow period. (Casing if flowing thru tubing, tubing if flowing thru casing.) psia
- Pt Flowing wellhead pressure (tubing if flowing through tubing, casing if flowing through casing.) psia
- Pf Meter pressure, psia.
- hw Differential meter pressure, inches water.
- Fg Gravity correction factor.
- Ft Flowing temperature correction factor.
- Fpv Supercompressability factor.
- n I Slope of back pressure curve.

Note: If  $P_{\mathbf{W}}$  cannot be taken because of manner of completion or condition of well, then  $P_{\mathbf{W}}$  must be calculated by adding the pressure drop due to friction within the flow string to  $P_{\mathbf{L}}$ .

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