

DRILL STEM TESTS

| NO.                                                                                                                                                                                                                                               | DATE    | FROM  | TO    | OPEN HOLE | TOOL  | CHOKES |        | WATER   | TIME TESTED |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|-------|-----------|-------|--------|--------|---------|-------------|
|                                                                                                                                                                                                                                                   |         |       |       |           | SET @ | TOP    | BOTTOM | CUSHION |             |
| 1                                                                                                                                                                                                                                                 | 6-25-54 | 8931  | 8996  | Open Hole | 8931  | 1"     | 5/8"   | None    | 2 Hours     |
| (Abo). Used 2 packers. Nothing to surface. Rec. 30' saltwater. SFP: 0#. BHFP: 0 - 400#. Closed 15 min. SIP: 2775#. HH: 5025# in & out.                                                                                                            |         |       |       |           |       |        |        |         |             |
| 2                                                                                                                                                                                                                                                 | 7-5-54  | 9593  | 9630  | Open Hole | 9593  | 1"     | 5/8"   | None    | 1 Hour      |
| (Bough "B"). Used 2 packers. Nothing to surface. Rev. cut 250' mud out saltwater and 950' saltwater. SFP: 0#. BHFP: 3375#. Closed 15 min. SIP: 3600#. HH: 5100# in & out.                                                                         |         |       |       |           |       |        |        |         |             |
| 3                                                                                                                                                                                                                                                 | 7-7-54  | 9667  | 9708  | Open Hole | 9667  | 1"     | 5/8"   | None    | 1 Hour      |
| (Lower Penn.). Used 2 packers. Nothing to surface. Rec. 30' drlg. mud. No shows. SFP: 0#. BHFP: 0#. Closed 15 min. SIP: 1475#. HH: 5125# in & out. Charts indicated Tool Plugged.                                                                 |         |       |       |           |       |        |        |         |             |
| 4                                                                                                                                                                                                                                                 | 7-8-54  | 9667  | 9708  | Open Hole | 9667  | 1"     | 5/8"   | None    | 1 Hour      |
| (Lower Penn.). Used 2 packers. Nothing to surface. Rec. 50' drlg. mud. No shows. SFP: 9#. BHFP: 175#. Closed 15 min. SIP: Not recorded. HH: 5125# in & out.                                                                                       |         |       |       |           |       |        |        |         |             |
| 5                                                                                                                                                                                                                                                 | 8-20-54 | 12115 | 12132 | Open Hole | 12115 | 1"     | 5/8"   | 2000'   | 1 Hour      |
| (Devonian). Used 2 packers. Nothing to surface. Rec. 2000' water cushion + 20' drlg. mud. SFP: 0#. BHFP: 910#. Closed 15 min. SIP: 2500#. HH: 6260# in 6190# out.                                                                                 |         |       |       |           |       |        |        |         |             |
| 6                                                                                                                                                                                                                                                 | 8-23-54 | 12127 | 12172 | Open Hole | 12127 | 1"     | 5/8"   | 2000'   | 1 1/2 Hours |
| (Devonian). Used 2 packers. Nothing to surface. Rec. 2000' WB + 60' drlg. mud. No shows. SFP: 0#. BHFP: 910#. Closed 15 min. SIP: 2530#. HH: 6120# in & 6080# out.                                                                                |         |       |       |           |       |        |        |         |             |
| 7                                                                                                                                                                                                                                                 | 8-26-54 | 12167 | 12183 | Open Hole | 12167 | 1"     | 5/8"   | 2000'   | 2 Hours     |
| (Devonian). Used 2 packers. Nothing to surface. Rec. 2000' WB + 460' gas out drlg. mud + 740' oil & gas out mud + 100' free oil, grav. 46.4 deg. @ 60 deg. SFP: 0#. BHFP: 805 - 1400#. Closed 15 min. SIP: Not recorded. HH: 5950 in & 5880# out. |         |       |       |           |       |        |        |         |             |

DEVIATION SURVEY

| DEPTH | DEGREES OFF VERTICAL | DEPTH | DEGREES OFF VERTICAL | DEPTH | DEGREES OFF VERTICAL |
|-------|----------------------|-------|----------------------|-------|----------------------|
| 205   | 1/4                  | 9147  | 1/4                  | 11243 | 1-3/4                |
| 925   | 1-1/2                | 9369  | 3/4                  | 11380 | 1                    |
| 1485  | 3/4                  | 9805  | 1                    | 11463 | 3/4                  |
| 2411  | 1/2                  | 10195 | 1-1/4                | 11711 | 1/4                  |
| 4935  | 1/4                  | 10386 | 3/4                  | 11763 | 1                    |
| 5798  | 3/4                  | 10906 | 1                    | 11813 | 1-1/2                |
| 6847  | 1/2                  | 11031 | 2                    | 11891 | 2                    |
|       |                      |       |                      | 12052 | 1-3/4                |

