

# DRILL STEM TESTS

| NO.                                                                                                                                                        | DATE     | FROM | TO   | OPEN HOLE | TOOL SET @ | CHOKES |        | WATER CUSHION | TIME TESTED  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------|------|-----------|------------|--------|--------|---------------|--------------|
|                                                                                                                                                            |          |      |      |           |            | TOP    | BOTTOM |               |              |
| 1                                                                                                                                                          | 12-29-53 | 8340 | 8390 | Open Hole | 8340       | 1"     | 5/8"   | none          | 2 hours      |
| (Penn) Used 2 packers, gas to surface 2 hrs, too small to measure, rec 275' gas cut mud, SFP-0#, BHP-100-130#, closed 15 min, SIP-330#, HH 4300# in & out. |          |      |      |           |            |        |        |               |              |
| 2                                                                                                                                                          | 12-30-53 | 8390 | 8440 | Open Hole | 8390       | 1"     | 5/8"   | none          | 2 hrs 55 min |
| (Penn) Used 2 packers, gas to surface in 15 min, TSTM, rec 870' free oil, SFP-0#, BHFP-80-375#, closed 15 min, SIP-2000#, HH 4400-4350#.                   |          |      |      |           |            |        |        |               |              |
| 3                                                                                                                                                          | 1-1-54   | 8470 | 8520 | Open Hole | 8470       | 1"     | 5/8"   | none          | 1 hour       |
| (Penn) Used 2 packers, nothing to surface, rec 160' slightly gas cut drlg. mud, SFP-0#, BHFP-130#, Closed 15 min, SIP-130#, HH-4300# in & out.             |          |      |      |           |            |        |        |               |              |
| 4                                                                                                                                                          | 1-2-54   | 8520 | 8580 | Open Hole | 8520       | 1"     | 5/8"   | none          | 1 hour       |
| (Penn) Used 2 packers, nothing to surface, rec 30' slightly gas cut drlg. mud, SFP-0#, BHFP-0-25#, closed 15 min, SIP-48#, HH-4425# in & out.              |          |      |      |           |            |        |        |               |              |
| 5                                                                                                                                                          | 1-10-54  | 9070 | 9093 | Open Hole | 9070       | 1"     | 5/8"   | none          | 1 hr 15 min  |
| (Lower Penn) Used 2 packers, nothing to surface, rec 90' drlg. mud, no show, SFP-0#, BHFP-80-80#, closed 15 min, SIP-130#, HH-4570# in & out.              |          |      |      |           |            |        |        |               |              |
| 6                                                                                                                                                          | 1-19-54  | 9345 | 9385 | Open Hole | 9345       | 1"     | 5/8"   | none          | 1 hour       |
| (Penn) Used 2 packers, gas to surface in 55 min, TSTM, rec 60' slightly gas cut mud, SFP-0#, BHFP-70#, closed 15 min, SIP-405#, HH-4573# in & out.         |          |      |      |           |            |        |        |               |              |

## DEVIATION SURVEY

| DEPTH | DEGREES OFF VERTICAL | DEPTH | DEGREES OFF VERTICAL | DEPTH | DEGREES OFF VERTICAL |
|-------|----------------------|-------|----------------------|-------|----------------------|
| 3220  | 3-1/4                | 7184  | 1-3/4                | 9093  | 4-3/4                |
| 3425  | 3                    | 7329  | 1-1/4                | 9228  | 4-1/2                |
| 3530  | 2-1/2                | 7448  | 2-3/4                | 9304  | 4-3/4                |
| 3629  | 3                    | 7526  | 2-1/4                | 9348  | 4                    |
| 3879  | 2                    | 7711  | 1-3/4                | 9385  | 4-1/4                |
| 4039  | 1                    | 7758  | 2-1/4                | 9469  | 4-3/4                |
| 4177  | 1/2                  | 7870  | 1-3/4                | 9502  | 4-1/2                |
| 4297  | 1                    | 7916  | 2                    | 9560  | 4                    |
| 4480  | 3/4                  | 7985  | 2-1/2                | 9668  | 4-3/4                |
| 4662  | 1/2                  | 8091  | 2-1/4                | 9770  | 4-1/2                |
| 4810  | 3/4                  | 8162  | 2-3/4                | 9890  | 4-1/4                |
| 5940  | 1                    | 8766  | 3                    | 9939  | 4                    |
| 5980  | 1-1/2                | 8965  | 4-1/4                | 10016 | 4-1/2                |
| 6090  | 1                    | 9019  | 4-1/2                | 10075 | 4-3/4                |
| 6360  | 3/4                  | 9031  | 4-1/4                |       |                      |

