

RECORD OF DRILL STEM TESTS

DRILL STEM TEST NO. 1:

Drilled to 5118', pulled drill pipe and ran drill stem test w/ Halliburton packer set 5085' - 33' anchor. Top opening and bottom hole choke 5/8". Tool opened and first 3 min. had light blow air, then went on light blow gas. In 81 min. oil and gas-cut mud appeared at surface and in 20 min. flowed 4 bbl. head of oil - then went on light blow of gas for next 75 min. Next 30 min. flowed 6½ bbl. head of oil, then went back on gas for next 20 min. Shut tool in for bottom hole pressure - 15 min. build up 500#. Total time tool open 3 hrs. 50 min. While flowing heads of oil gas est. at rate of 70 to 80 MCF per day. Gravity of oil 38.3. Pulled drill pipe and recovered 1100' oil w/ 15 gals. muddy water in bottom - tasted slightly briney. Chlorides content 11,200 parts per mil. Resumed drilling.

DRILL STEM TEST NO. 2:

Drilled to 5187', pulled drill pipe and ran drill stem test w/ Halliburton packer set 5166' and 21' anchor. 5/8" bottom hole choke and top opening. Tool open 3 hrs. Sweet gas to surface in 8 min. which was light blow throughout test. Gas est. 10 to 12 MCF per day. Pulled drill pipe and recovered 115' of drilling mud, which was slightly gas-cut w/ no oil. 15 min. shut in BHP 1500# - flowing pressure 0 and Hydrostatic pressure 3000#. Resumed drilling.

DRILL STEM TEST NO. 3:

Drilled to 6445', pulled drill pipe and ran drill stem test w/ Halliburton Packer 6384' - 61' anchor. 5/8" bottom hole choke and top opening. Tool open 3 hrs., gas to surface in 4 min., in 30 min. volume measured 408 MCF and 1 hr. 740 MCF, 1½ hr. 571 MCF, 2 hrs. 515 MCF, 2½ hrs. 463 MCF and 3 hrs. 440 MCF. pulled drill pipe, recovered 315' mud out w/ oil, distillate and gas w/ small amount of distillate on top. Flowing pressure 250#. 15 min. shut in pressure 2400#. Resumed drilling.

DRILL STEM TEST NO. 4:

Drilled to 6520', pulled drill pipe and ran drill stem test w/ Halliburton packer set 6440' - 80' anchor. 5/8" bottom hole choke and top opening. Tool open 4 hrs. 40 min. Gas to surface in 4 min., mud in 28 min., and mud which was very slightly oil cut in 53 min. Next 167 min. very light spray mud and oil, next 60 min. sprayed 126 gals. oil. After first 30 min. gas est. at 1500 MCF per day, which remained steady during test. Flowing pressure 650# - 15 min. shut in pressure 2600#. Gravity of oil 40.7. Pulled drill pipe and recovered 200' oil w/ 2 gals. drilling water - 3½" drill pipe. Resumed drilling.

RECORD OF DRILL STEAM LINES

DRILL STEAM LINE NO. 1:

Drilled to 5113', pulled drill pipe and ran drill pipe lead
 Halliburton packer set 5085' - 521' anchor. Top opening and
 bottom hole choke 2 1/8". Tool opened and flow 5 min. had 11 min
 flow air, then went on light blow gas. In 81 min. oil and gas
 out and appeared at surface and in 10 min. flowed 4 bbl. gas
 of oil - then went on light blow of gas for next 75 min. gas
 30 min. flowed 5 bbl. head of oil, then went back on gas for
 next 30 min. Shut tool in for bottom hole pressure - 13 min.
 build up 3000 psi. Total time tool open 3 hrs. 30 min. While in w
 well, oil gas out at rate of 70 to 80 gal per day.
 Drilling at 5113'. During drill pipe and recovered 1100 gal
 of oil gas. Heavy water in bottom - tested slightly stringy.
 Oil gas recovered 11,300 gal. (approx.) (measured by meter)

DRILL STEAM LINE NO. 2:

Drilled to 5187', pulled drill pipe and ran drill pipe lead w
 Halliburton packer set 5160' and 511' anchor. Bottom hole
 choke and top opening. Tool open 3 hrs. gas to surface
 in 10 min. which was light blow about 100 gal. gas out. In 10
 to 15 min. pulled drill pipe and recovered 1100 gal of drill
 gas. In 15 min. pulled drill pipe and ran drill pipe lead in
 and, which was slightly gas-out w/ no oil. In 15 min. gas in
 the 5000' - flowing pressure 0 and atmospheric pressure 3000 psi.
 Resumed drilling.

DRILL STEAM LINE NO. 3:

Drilled to 5245', pulled drill pipe and ran drill pipe lead w
 Halliburton packer set 5245' - 51' anchor. 2 1/8" bottom hole choke
 and top opening. Tool open 3 hrs. gas to surface in 5 min.
 In 30 min. volume measured 405 gal. and 1 hr. 740 gal. 1 1/2 hr.
 511 gal. 2 hrs. 515 gal. 2 1/2 hrs. 438 gal. and 3 hrs. 430 gal.
 pulled drill pipe, removed 415' and out w/ oil, distillate
 and gas w/ small amount of distillate on top. Bottom pressure
 5500 psi. 15 min. flow in pressure 5400 psi. Resumed drilling.

DRILL STEAM LINE NO. 4:

Drilled to 5280', pulled drill pipe and ran drill pipe lead w
 Halliburton packer set 5440' - 50' anchor. 2 1/8" bottom hole
 choke and top opening. Tool open 4 hrs. 44 min. Gas to surface
 in 4 min. and in 20 min. and gas was very slightly oil
 out in 25 min. very light spray and oil. After 30 min. gas
 next 30 min. sprayed 186 gal. oil. After 1 hr. 30 min. gas
 out at 1300 psi. day, which remained steady during next
 flowing pressure 5000 psi - 15 min. shut in pressure 5000 psi. Drilling
 at 5280'. Pulled drill pipe and recovered 200 gal oil w/ 2
 gal. drilling water - 2 1/2" drill pipe. Resumed drilling.