DRILL STEM TESTS

STATE "K-33" No. 1

Section 30, T-16-S, R-36-E
Lea County, New Mexico

DST No. 1: Tested from 9190' to 9250', 5/8" x 1" chokes, 1 hour test. Tool opened with a bubble blow and died in 5 minutes. Recovered 8' of drilling mud with no shows. IFP 4#, 1 hour FSIP 35#, Hydro in and out 4174# and BHT 140° F.

DST No. 2: Tested from 10,340' to 10,426', 5/8" x 1" chokes, 3 hour test. Tool open for 20 minutes for pre-flow with good blow. Closed tool and took 30 minute ISIP. Tool open for 3 hour flow test with weak blow decreasing to bubbles at end of 3 hours. Took 1 hour FSIP.
Recovered 1642' of gas in drill pipe and 60' of very slightly gas cut drilling mud. 30 minute ISIP 136#, IFP 45#, FFP 45#, 1 hour FSIP 136#, Hydro in 4955#, Hydro out 4910# and BHT 156° F. Recovered 1700 cc of drilling mud in sample chamber with no shows.

DST No. 3: Tested from 10,490' to 10,530', 5/8" x 1" chokes, 4 hour test. Tool open with weak blow increasing to good blow in 1-1/2 hours, drcreased to very weak blow at end of 4 hour test. Took 1 hour FSIP.
Recovered 180' of salty sulphur water cut drilling mud and 3770' of salty sulphur water. 30 minute ISIP 3823#, IFP 408#, FFP 2031#, 1 hour FSIP 3823#, Hydro in 4937#, Hydro out 4910# and BHT 160° F.
Recovered 2100 cc of salty sulphur water in sample chamber.

DST No. 4: Tested from 11,460' to 11,810', 7/8" x 1" chokes, 4 hour test. Tool open for 10 minute pre-flow with fair blow. Closed tool and took 30 minute ISIP. Tool opened with good blow and had good blow for 4 hours flow test. Gas to surface in 2 hours and 45 minutes, TSTM. Closed tool and took 1 hour FSIP.
Recovered 500' of gas cut drilling mud. 30 minute ISIP 714#, IFP 142#, FFP 190#, 1 hour FSIP 1000#, Hydro in and out 6173#.

DST No. 5: Tested from 12,865' to 13,040', 5/8" x 1" chokes, 2000' of water cushion. 1 hour test. Tool opened with bubble blow and died in 40 minutes. Left tool open for 1 hour and then took 1 hour FSIP.
Recovered 2000' of water cushion and 115' of drilling mud with no shows. IFP 925#, FFP 925#, 1 hour FSIP 1041#, Hydro in and out 6603# and BHT 183°F.

DST No. 6: Attempted to test from 13,035' to 13,080'. Tool plugged, no test.

DST No. 7: Tested from 13,038' to 13,080', 7/8" bottom hole choke, 2000' of water cushion, 7-1/2 hour test. Tool open 20 minutes for pre-flow with good to strong blow. Took 1 hour ISIP. Tool opened for flow test with good blow increasing to strong blow in 30 mins. Gas to surface in 2 hours, water cushion to surface in 2 hours and 35 minutes. Flowed water cushion on 1/2" choke, 15# to 25#. Flowed well for 1-1/2 hours on 1" choke, surface pressure 10# to 20#, flowing 90% oil and 10% mud. Well flowed 23.36 bbls. for this flow test. Closed tool and tool 2 hour FSIP Reversed out fluid and recovered 57.96 bbls. of 58.1° API gravity oil and 84.43 bbls. of salty water. Chlorides on water was 17,500 ppm. Recovered 90' of muddy water below circulating sub.
1 hour ISIP 5017#, IFP 1258#, FFP 4673#, 2 hour FSIP 5017#, Hydro in and out 6578#, and BHT 198° F.
Recovered 100 cc of water, chlorides 19,000 ppm, 0.8 cu. ft. of gas and no oil in sample chamber.