

Attachment for USGS Form 9-330

Shell Oil Company
Antelope Ridge, Hall Federal #1
Section 9, T-24-S, R-34-E
Lea County, New Mexico

DST No. 1: 12,530'-12,733', (253' Pennsylvanian)

Used 3500' Nitrogen blanket with 1000 psi back pressure valve. Tool open 1 hour thru 5 5/8" BC, 1 3/8" TC, 4 1/2" DP with no blow throughout test (N₂ valve did not open) Recovered 475' (2.5 bbls.) slightly gas cut mud. 4.5 hr. ISIBHP 9135 psi. FBHP 2276-2374 psi. 1 hr. FSIBHP 5830 psi. HMP 9710 psi in and out. Recovered and pit mud titrated 10,000 ppm Cl⁻. BHT 175°F. Conclusive Test. (HOWCO)

DST No. 2: 12,753'-13,178' (425' Pennsylvanian)

Tool open 3 1/4 hrs. thru 3/4" BC, 5/8" TP, 4 1/2" DP. Opened with weak blow - increased to strong in 4 minutes. Shut in after 10 minutes with 500 psi FSP. GTS 90 minutes (30 minutes after shut in). Mud to surface 50 minutes (40 minutes after re-opening tool). Flowed gas at beginning and maximum rate 750 MCF/D decreasing to ending and final rate 200 MCF/D. In 2 1/2 hrs. flowed 67 BW. Maximum FSP 600 psi. Used 4000' N₂ blanket pressured to 1500 psi at surface with 1500 psi back pressure valve. Recovered 8237' (118 bbls.) gas cut salt water above pressure valve and 93' (1.5 bbls.) gas + 93' (1.5 bbls.) salt water cut oil + 3813' (55 bbls.) gas cut salt water below back pressure valve. Recovered total 240 BW on 3 1/4 hr. test. Recovered water titrated 11,600 ppm Cl⁻. Pit mud titrated 5500 ppm Cl⁻. Gas Gravity 0.645. 125 minutes ISIBHP 6254 psi. FBHP 3547-5309 psi. 120 minutes FSIBHP 6221 psi. HMP 9829-9813 psi. Conclusive Test. (HOWCO)

DST No. 3: 13,600'-13,937' (337' Atoka)

Tool open 3 hours thru 5/8" BC, 1" TC, 4 1/2" DP. Opened with no blow, strong blow at 20 minutes and continued strong throughout test. (Nitrogen valve opened after 20 minutes) NGTS. Used 5000' Nitrogen blanket, pressured to 1700 psi at surface (2500 psi at top of DST tool) with 2100 psi back pressure valve. Recovered 4500' gas + 1600' (21 bbls.) gas cut drilling mud. Recovered mud titrated 6400 ppm Cl⁻. Pit mud titrated 4100 ppm Cl⁻. 120 minutes ISIBHP 9104 psi. FBHP 2827-2975 psi. 120 minutes FSIBHP 8597 psi. HMP. In/out 10474/10474 psi. BHT 176°F. Conclusive Test. (Cook)

