


GEOLOGICAL DATA AND DRILLING AND COMPLETION PROCEDURE

FORMATION OR DATE	TOP-DEPTH INTERVAL	REMARKS OR DESCRIPTION AND RESULTS OF WORK
 00242347		<u>COMPLETION DATA</u>
		After production casing was run, the drilling rig was released, the Xmas tree installed, and a completion rig moved on the well.
		Ran 2-3/8" tubing with bit and displaced hole with diesel. Drilled and circulated to 2098'. Pulled tubing.
		Ran gamma ray correlation and collar log. Reran tubing with Baker Model "A" packer and set at 1995' KB. Pressure tested casing.
		Perforated 2091.5 - 2097.5 ft., gamma ray log depths, with 2 McCullough Mac Jets per foot. Swabbed dry. Acidized with 500 gal. MCA. Formation broke down from 5000 to 3000 psi. Took acid at 3-1/2 BPM and 2000 psi. Shut down at 2000 psi, bled to 1100 psi in 1 min and 1000 psi in 3 min. Swabbed 10 bbls. load oil and 47 bbls water. Pulled tubing and packer.
		Ran tubing with Baker wireline bridge plug and Halliburton "R-3" packer. Set BP at 2080 and packer at 1932' KB. Perforated 2035-50' KB with two Mac Jets per foot. Swabbed dry. Acidized zone 2035-50' with 500 gals. MCA acid. Broke down at 3200 psi, formation took acid at 3-1/4 BPM and 1900 psi in 1 min and to 400 psi in 2 min. Swabbed load oil and acid water. Ran McCullough cement bond log. Cement top at 1458' KB. No pressure buildup after 17 hrs. shut in. Well then swabbed dry in 4 runs.
		Ran Baker cast iron BP and set at 2016' KB. Ran tubing with Howco "R-3" packer, and set packer at 1919' KB. Perforated with two Mac Jets per foot at 1939-47' KB. Flowed at rate of 349 MCFD with 10 psi on tubing.
		Stage squeezed 500 gals. 15% HCl acid to zone 1939-47' KB. Broke down from 2000 psi to 1200 psi. Took acid at average rate of 4 BPM. Swabbed well. Well began flowing 1,259 MCFD with heavy mist of water. Shut well in and pressure built up to 500 psi in 5 min. Flowed well for 12 hours following day at 709 MCFD with 35 psi on tubing. Shut well in.

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		<p align="center"><u>DRILL STEM TEST RECORD</u></p> <p>DST # 1 Interval 1280 - 1482' KB Frontier</p> <p>IHMP 751 psig ICIP 260 - 30 Min. IFP 5 - 5 FFP 3 - 8 FCIP 50 - 31 Min. FHMP 743</p> <p>Tool opened with very weak blow for a 6 min. first flow. Closed tool for ICIP. Tool reopened with very weak blow, dead in 12 min. Took FCIP. No recovery of oil, gas, or water.</p> <p>DST # 2 Interval 1927 - 1983' KB Dakota</p> <p>IHMP 1122 psig ICIP 770 - 30 Min. IFP 285 FFP 183 FCIP 661 - 32 Min. FHMP 1112</p> <p>Opened tool for 2 min. first flow. Closed tool for ICIP. Reopened tool for 120 min. second flow with very strong blow; gas to surface in 1/2 min. Gas measured 1.540 MMCFD. Had a spray of mud for last 1-1/2 hour of flow test. No oil or water was recovered. Closed tool for FCIP.</p> <p align="center"><u>CASING RECORD</u></p> <p align="center"><u>Surface</u></p> <p>1' Howco Type M Casing Shoe 322' 8-5/8", 24#, 8Rt, J-55, R-2, ST&C Casing, 11 jts. 323' Total 15' KB Elevation, above ground 1' Below ground level 339' Setting Depth</p> <p>Cemented with 268 sacks bulk type cement with 2% CaCl₂. Cement circulated to surface. Cement set 12 hours, tested with 1250# for 30 min., bled down to 1170#. Cement top at 317' KB.</p> <p align="center"><u>Production</u></p> <p>1' Howco Type M Casing Shoe 28' 4-1/2", 9.5#, 8Rt, J-55, R-2, ST&C Casing, 1 jt. with Howco Insert Float Valve 2083' 4-1/2", 9.5#, 8Rt, J-55, R-2, ST&C Casing, 65 jts. 2,112' Total 15' KB to ground level 2,127' KB Setting Depth</p> <p>Cemented with 180 sacks bulk Monolith regular cement. Plug down 1:45 AM, November 5, 1961. Cement set 12 hours. Tested with 900 psi for 30 min. Held O.K. Cement top at 2098' KB.</p>

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