

Several fishing runs were made using an 8-1/8" overshot and grapple, a spear with a 3" grapple, a die collar, and a taper tap in succession, with no success the riser was then displaced with seawater to view the fish using a subsea TV. A 10' drill pipe pup joint was bent, and a spear and grapple run. The die collar which had been modified was then run to retrieve the fish. All DST tools were subsequently retrieved and laid down and new tools picked up. Both hydraulic by-pass cases were split and all clocks and gauges were damaged.

A scraper trip and then a dummy run with the SSTT were made. The first string of HOWCO tools were broken down for parts, and a new string of tools dressed for DST No 1A.

The tool string was run in the hole, and surface equipment rigged up. After pressure testing, a cushion of 149 bbls of diesel was pumped, yielding an 1050 psi underbalance. The lubricator and SRO gauges were rigged up. DST No. 1A established that test interval #1, 9222'-9267' would flow a maximum of 15.1 MMCFD gas with a minimum of 11% CO₂ and 580 BCPD (50.3° API) through a 30/64" choke.

After pulling the test string, a gauge ring and junk basket were run prior to setting an EZSV at 9206'. An injection rate was established, and 100 sxs of cement with 25 gal/10 bbl CFR-2L, 0.8% Halad - 22A, and 7.5 gal / 10 bbl HR-13L were mixed and pumped to squeeze the perforations.

A 4" casing gun set at 4 spf and 360° phasing was run and shot, 6054' - 6056', followed by an EZSV set at 6037'. A block squeeze of 100 sxs of cement, blended as before, was performed. After WOC, the cement and EZSV were drilled out. A gauge ring and junk basket were run to ensure that the hole was prepared for the next DST.

The DST # 2 test string was run, and a 91 bbl diesel cushion placed in the string for an underbalance condition of 725 psi. This test indicated maximum flowrates of 2.42 MMCFD and 1565 BWPD through a 32/64" choke.

A CBL was run, and two dry tests of the squeeze perfs were attempted. The isolated perforations were observed to flow. An EZSV was set at 5965', and 100 sx of cement, blended as before was mixed and squeezed into the perfs. After drilling cement and the EZSV, a dry test using 800 psi drawdown was performed. The cement held for 15 minutes before flow commenced. An EZSV was set at 6334', and a balanced plug of 215 sx of cement, blended as before was set above the packer, and a bradenhead squeeze performed. After drilling cement to 6223', an injection rate was again established. A balanced plug of 200 sx of cement with 1% CFR-2, 20 gal FDP-C351, and 8.5 gal/10 bbl HR-13L was set above the previous cement plug, and a bradenhead squeeze performed. The cement was the drilled to 6192' and a dry test successfully performed.