



**Wellbore History**

**GENERAL**

Wildcat well 2/4-10 was drilled on an anticlinal structure, 4.8 km long and 2.4 km wide, lying approximately 8 km northwest of the centre of the Tor Field. The Danian limestone was the expected pay zone, and if porosity was present, the Late Cretaceous Limestone could also be hydrocarbon bearing. Prognosed top Danian was at 3139 m (10300 ft) with planned TD at 3414 m (11200 ft).

**OPERATIONS AND RESULTS**

Well 2/4-10 was spudded with the jack-up rig Zapata Explorer on 13 October 1973 and drilled to TD at 3418 m in the Late Cretaceous Tor Formation. The well was drilled and tested in 69 days, without significant technical problems. Deviation surveys were carried out down to 2451 m and the maximum deviation to this depth was 2 deg. The well was drilled with salt-water gel and Flosal down to 497 m, with Shale Trol from 497 to 2015 m, with Unical (chromium-lignosulphonate) from 2015 m to 2819 m, and with Unical and Ligcon (caustisized lignite) from 2819 m to TD.

Top Danian limestone was encountered at 3162 m and top Late Cretaceous limestone at 3293 m. The Danian Limestone tested only small amounts of water and no oil, after acidization, on two drill stem tests. The Late Cretaceous Chalk produced oil, but with a very low GOR, and with a high amount of water, which made its commerciality questionable. These fluid characteristics were furthermore very different from the 2/4-7 fluids (Tor discovery) and indicated 2/4-10 to be on a separate structure from the Tor Field.

No cores were cut and no wire line fluid samples taken.

The well was permanently abandoned on 20 December 1973 as an oil discovery

**TESTING**

Six DST's were conducted: DST 1 and DST 2 in the Late Cretaceous and DST 3 to DST 6 in the Danian limestone. The results given here are after acidization: DST 1 from 3304 - 3322 m flowed 583 Sm3 oil, 275 m3 water, and only 1150 Sm3 gas /day through a 24/64" choke. The oil gravity was 38.6 deg API and the GOR was as low as 2 Sm3/Sm3. DST 2 from 3304 - 3309 m flowed 122 sm3 oil, 285 m3 water, and 864 Sm3 gas /day. The oil gravity was 35.6 deg API and the GOR was reported to be 7 Sm3/Sm3. DST 3 from the interval 3255 - 3281 was aborted for technical reasons. DST 4 and 5 from the same interval failed to produce formation fluid to surface. DST 6 from 3182 - 3203 m flowed only water at a small and decreasing rate.

**LITHOSTRATIGRAPHY & HISTORY FOR WELL: 2/4-10**