10.3 Drilling fluids

10.3.1 Fluid system per section

SECTION:	FLUIDS SYSTEM:	PERFORMANCE DEVIATIONS:
16" Hole	ENVIROMUL	**no**
12 1/4" Hole	ENVIROMUL	**no**
8 1/2" Hole	ENVIROMUL	**no**
Milling	WBM/ENVIROMUL	**yes**

PERFORMANCE EVALUATION:

Milling: Mixing of the water based fluid was not done according to the written guidelines and the displacement was impaired by the incorporation of a circulation sub above the 7" liner. The resulting fluid was very difficult to control and severe well control problems were experienced before the fluid was eventually conditioned to specifications. When the fluid properties were stable the milling had to be abandoned due to excessive torque. The well was displaced back to OBM.

16" Hole: Mud properties were easily maintained within specification. Severe lost circulation meant that large amounts of new mud were built, and thus off-setting any adverse effects on fluid stability induced by cement and LCM contaminations. Hole cleaning was dependent on pipe rotation.

12 1/4" Hole: Maintained mud properties without difficulty. Observed good hole cleaning. High flowline temperatures (70 ^{o}C) caused water and base oil evaporation resulting in higher mud loss rate per meter drilled. Added CMO 568 OBM lubricant at 2 ppb and observed surface torque reduction of 3,000-5,000 ftlb. Observed tight hole at top HOD formation (5,858 m), increased mud weight from 1.52 SG to 1.54 SG. On POOH from 6,395 m the string got stuck at 5,310 m and parted. Reduced mud weight to 1.49 SG and retrieved the fish.

8 1/2" Hole: Displaced hole to 1.68 SG mud. Weighted up to 1.70 SG at 6,835 m after observing cavings on the shakers. Observed good hole cleaning.