

1.1 Well Data Summary

Well Name	Baleen - 4
Rig Name:	MODU Ocean Bounty
Rig Type:	Semi-submersible
Drilling Contractor:	Diamond Offshore General Company
Drilling Datum:	Rotary Table
Drill Floor Elevation:	25.0m
Water Depth:	53.1m
Surface Coordinates:	038° 00' 20.99" S Lat 5,792,541.3mN 148° 26' 34.42" E Long 626,675.9 mE
Block:	VIC / L21
Well Type:	Horizontal Gas Producer / Re-entry and abandonment of Baleen - 3
Kick off Date:	15:00hrs 27 th September 2004
Total Depth:	2290.00m
TVD Total Depth:	716.95m
TD Date:	22 nd October 2004
Well Status:	Put on line with gas pipeline
Baker Hughes INTEQ Crew:	
Data Engineers:	Duane Hatton Andrew MacQueen Tomasz Zelski David Walsh
Logging Geologists:	Ajitoro Andrew Hurley

1.2 Well Summary

All depths in this report unless otherwise stated refer to depths in metres below the rotary table – mRT.

After running the BOP's and Riser to the sub sea tree Baleen - 3 was re-entered and the well was killed using Brine and sea water. The completion tubing was then pulled and laid out. An EZSV cement retainer was run to 796m and set and cemented in place. The 9 5/8" casing was then cut at 399.11m and pulled out of hole before the kick-off cement was pumped to 254.5m(TOC).

Baleen – 4 was officially spudded at 15:00hrs on the 27th of September 2004. A 12 ¼" mill-tooth bit was then run in hole to dress the cement plug for kick-off (drilled to 320m). At this stage, the well was in the process of being displaced to synthetic oil based mud (SOBM) when there was a sudden increase in stand pipe pressure. The drill-string had packed off with no rotation, upwards and downwards movement and circulation possible.

Wire-line was then run in hole with a back off charge and 44.12m of fish was left in the hole. A jarring assembly was then made up and RIH. The well was then fully displaced to 9.3ppg SOBM. The jarring assembly then engaged the fish and jarring operations proceeded. This jarring was unsuccessful and a gyro survey was dropped but hung up at 199.7m. Wire-line ran a blind back-off tool with the run still leaving 125.44m of fish down hole. Open ended drill pipe was run in, with each joint being given extra torque. The fish was engaged and 5 left hand string turns applied, with no weight gain indicated. On pulling out with the string no fish was recovered. Another overshot assembly was run and once engaged to the fish was turned 8 times to the left hand side. A down hole shudder was experienced and 10klb increase in the string weight. On pulling out 7 joints of heavy weight drill-pipe and 6.07m of accelerator were recovered. The next stage of fishing operations required the overshot assembly to be run in to engage the fish at 196.83m with 10klb over-pull noted. A wireline back-off charge was then run in and set off with a torque drop in the string occurring. The down hole assembly was then rotated 5 times to the left and the string was free with a 25klb weight gain noted. On pulling out, the rest of the accelerator, 6 drill collars and jars were retrieved. A wash-over assembly was then required to be run to mill over the first of the 3 stabilizers still in hole. The milling proceeded to 295m and the assembly was then Pulled out. An overshot string was run in and engaged the top of the fish at 279.82m. Wire-line back-off charge was fired at 290m with a 9klb torque drop experienced. Problems on attempting to back out with the fish occurred and on pulling out, no additional fish was recovered. A back-off assembly was then run and tagged top of fish at 279.82m. Wireline again ran a back-off charge to 290m. On backing out of the fish no extra weight gain was noted but, once the assembly was pulled to surface a cross over joint, 8 ¼" drill collar and a stabilizer were brought to surface. Another wash-over string was run in and tagged the top of fish at 290.25m and milling commenced to 300.36m. On pulling out with the wash-over string, the wear bush was also retrieved due it being jammed on the 12" burn shoe on the trip out of hole. Another back-off assembly was run in, and the well was circulated out 3 times prior to tagging the top of the fish at 290.25m. The fish was engaged with 27klbs/ft torque applied to the string and the pipe worked (jarring up and down, 160klb over-pull) without success in freeing the fish. Wireline prepared and ran another back-off charge. 50klbs of torque was subjected onto the back-off assembly and 5 full turns of the string applied. On picking up the assembly 5klbs of extra weight was noted. When the assembly came to surface, fish recovered was one 8 ¼" drill collar and the second of the three stabilizers. The top of the fish was now 301.35m. The wearbushing was then run in hole and re-set. Another wash-over assembly was tripped in hole and washed down to 311m and the hole circulated out three times before POOH. An overshot and an 8 ¼" mill control grapple assembly was then run in and the fish engaged, 10klb over-pull was experienced. Circulation was then broken at 580gpm and the string worked and pulled out with the remaining fish.

The next stage of the operation was to pressure test the casing to 500psi for 10 minutes against the bottom shear rams, as there was some concern whether the 12 ¼" drilling assembly wore a hole in it. The pressure test was successful. A reverse circulating basket was then RIH and washed down from 100m to 320m at 1070gpm. The BOP's were then function tested to clear any possible metallic fragments/junk that may of become lodged in the cavities. The ball was then dropped to reverse circulate in the sub at 1030gpm and the assembly then POOH. A post jarring inspection was then conducted on the derrick and the top drive.

The first 12 ¼" bit was then made up and RIH to 160m where another casing pressure test was conducted this time against the MPR's at 500psi for 30 minutes. On running to bottom, drilling (dressing cement kick-off plug) proceeded to 336.7m at 900gpm (1320psi). The hole was then circulated out for 1 hour until the shakers were clean. A gyro survey was dropped and the drilling assembly POOH. A USIT wireline log was then run to check the 13 3/8" casing structural integrity.

A new 12 ¼" bit was made up to a kick-off drilling assembly (mud motor set to 1.5 degrees). Slide drilling commenced from 336.7m to 390m, it was then decided to pull the bit back to the shoe to conduct a FIT, results: 1.87sg (15.5ppg) EMW. The assembly was then tripped back in and slide drilling resumed to a depth of 733m. Gyro surveys on a slick line were run on almost every stand. The hole was then circulated out as per extended reach drilling (ERD) engineers instructions. Some over-pull was noticed on the trip out and was remedied by tripping back in and rotating and circulating at high rates or as per ERD engineers instructions. More gyro surveys were then dropped on the trip back to surface.

A new 12 ¼" bit was then made up to a rotary steerable assembly and RIH with some drag (10-20klb) noted at 580m. The hole was then washed down to bottom. Slide drilling continued to 1298m, it was then decided to circulate the hole at 950gpm (3200psi) for over an hour. Further drilling proceeded to 1582m and then bottoms up was circulated out four times at 950gpm (4100psi). Directional drilling recommenced to a section TD of 1890m (89degrees angle of hole). The hole was then circulated out for 3 hours and the drilling assembly pulled out of hole reaming and washing down tight spots.

Bit 2 was then rerun for a wash down to bottom trip. Certain tighter areas were reamed, washed down and the circulated out as per ERD engineers recommendations. The assembly was then tripped out to the casing shoe also washing and reaming and then back to bottom where a spacer and channel seal were pumped. The string was POOH and rigging up to run casing began

The 9 5/8" casing was to be "floated" in with the bottom half of the casing (972.5m, 40lb/ft) to be left empty and the top half (912.89m, 47lb/ft), separated by a float joint to be filled with KCL brine. A custom made push plate connected to the top drive was used to push the casing into the hole during tighter spots. The 9 5/8" casing was landed out at a total depth of 1885.39m.

New Bit number 4 was made up, run in hole and tagged top of cement at 1859m. Drilling cement and shoe track commenced with seawater and 30bbl guar gum sweeps. The hole was then displaced to KCL brine (9.1ppg) and the hole circulated and mud conditioned. The shoe was drilled out with rat hole to 1890m. Three meters of new formation were then drilled and a formation integrity test performed, results being 265psi = 1.34sg (11.1ppg). Drilling proceeded to 2010.5m, where sliding was found to be impossible with the current BHA configuration.

New Bit number 5 was made up as a rotary assembly and run in, but encountered difficulty proceeding beyond the casing shoe, with the string stalling out several times. The BHA was rotated and reamed down to tag bottom to drill ahead from 2010.5m at a steady 30-40m/hr down to 2290m where numerous circulations were performed, and a lengthy hole cleaning procedure commenced, including a wiper trip to the shoe and back to TD. After circulating again, 135bbls were spotted back to 2140m. The string was then pulled out of hole, with circulations carried out at 850m & 278m.

Bit 5 was then re-run on a clean-out assembly, which hung up at 915m, where the hole was circulated. The string was unable to proceed beyond 1400m without rotation and so the string was rotated to tag TD at 2290m. The string was then pumped out of hole using unfiltered brine & 'Baralift' sweeps at intervals, before running back in on elevators to 100m above the casing shoe. The hole was circulated before pumping and displacing a spacer-train & displacing the hole to weighted brine. The string was then pulled out of hole.

6.625" Liner with 'Excluder 2000' Sand Screens was then made up and run in on drillpipe to 2284m where the hanger was landed and a clean up enzyme was pumped. The Landing string was then pulled out of the hole & a set of casing scrapers were run to clean the casing prior to running production tubing & carrying out the completion program to bring the well online.