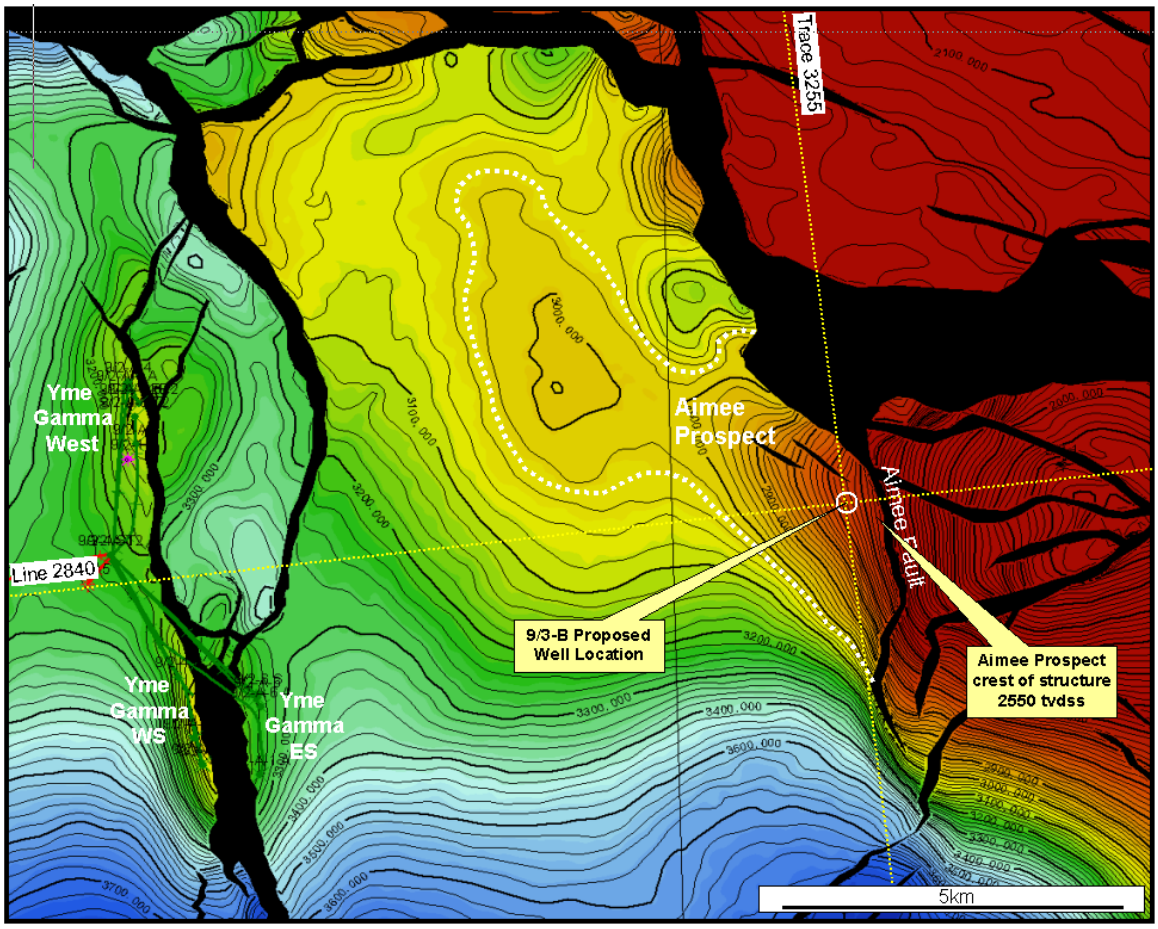

Final Well Report
9/3-2
"Aimee"

Operator:

Paladin Resources (Norway) Limited

Partners:

revus energy

TALISMAN ENERGY

Paladin Resources (Norway) Limited

Rev.	Date	Reason for Issue	Prep.	Checked	Accepted
01	29.03.06	Issued for Use	T. Helgøy/ S. Self	M. Florvaag	E. Framnes

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Final Well Report 9/3-2 Aimee

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WELL

9/3-2

Aimee

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ENCLOSURES

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Enclosure 2: Wellsite Lithlog

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1 EXECUTIVE SUMMARY

1.1 RESULTS OVERVIEW

Well 9/3-2 was the second exploration well to be drilled in Block 9/3 Figure 2-1. The well was drilled as part of the Production License 316, which is a stratigraphically restricted license to base Jurassic and 200m in the Triassic. The Licence was awarded during the 18th Round.

The main objective was to determine the presence of commercial volumes of hydrocarbons within the Sandnes formation of the Aimee prospect, which straddles Blocks 9/3 and 9/2. A secondary objective was to acquire reservoir pressure data and geological data, to improve reservoir understanding for any future field development.

The well was operated by Paladin Resources Norway Ltd, using the jack up rig Mærsk Giant, which left the Varg A 500m safety zone and sailed towards the Aimee 9 3/2 well location on October 16th at 00:00.

The well was spudded on October 23rd at 17:00 and permanently Plugged and Abandoned on December 9th at 05:30.

A Sandnes reservoir was penetrated at 2660 m MDRT (2612.6 m TVDSS), 29.4 m high from the prognosis, however no hydrocarbons were encountered. The Sandnes had a gross interval of 117.6 m and a net interval of 81.84 m, with a net/gross of 0.69.

The well reached a Total Depth of 3154 m MDRT (3106 m TVDSS) in the Triassic Skaggerak Formation.

2 LOCATION MAP

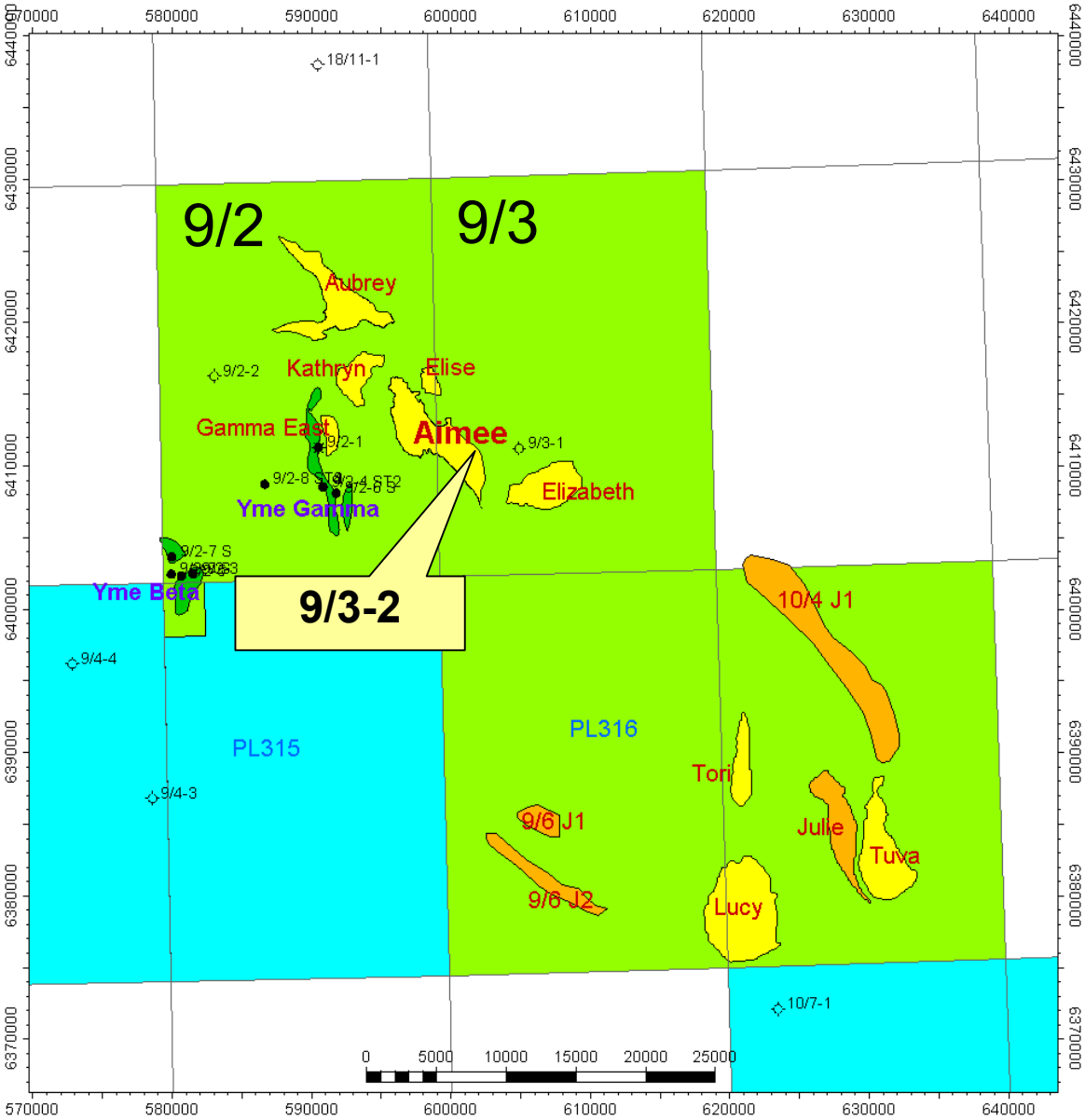


Figure 2- 1: Well Location

3 GENERAL WELL DATA

3.1 WELL DATA

Well	9/3-2	
Operator Name	Paladin Resources (Norway) Ltd	
Operator Address	Lokkevein 103, 4007 Stavanger	
Prospect Name	Aimee	
Licence	PL 316	
Block	9/3	
Partners	Talisman Energy Norge AS	
	Revus Energy	
	Petra	
Drilling Contractor	Maersk Contrators Norge	
Installation Name	Maersk Giant	
Type of Installation	Jack-Up	
Rotary Table Elevation	46 m MSL	
Water Depth	100.8 m MSL	
Surface Co-ordinates		
Geographic (ED50SOUTH62)	Lat:	57° 49’ 25.791”
	Long:	04° 42’ 39.638”
UTM (ED50SOUTH62)	Easting	601 631.20 mE
	Northing	6 410 526.85 mN
TD Co-ordinates		
Geographic (ED50SOUTH62)	Lat:	57° 49’ 27.027”
	Long:	04° 42’ 42.875”
UTM (ED50SOUTH62)	Easting	601 683.65 mE
	Northing	6 410 566.42 mN
Actual Target Co-ordinates		
Geographic (ED50SOUTH62)	Lat:	57° 49’ 26.283”
	Long:	04° 42’ 42.915”
UTM (ED50SOUTH62)	Easting	601 684.89 mE
	Northing	6 410 543.44 mN
Actual Target Depth	2616 m TVDSS (2663m MDRT)	
Target Depth Uncertainty	+/- 40m	
Target Horizon	Sandnes Fm, Vestland Gp, Middle Jurassic	
Total Depth	3106.0 m TVDSS (3154 m MDRT) Drillers	
	3107.5 m TVDSS (3156 m MDRT) Loggers	
Formation at TD	Skagerrak, Triassic	
Well Status	Permanent Plugged and Abandoned	
Spud Date	23rd October 1700 hrs	
TD reached	21st November 1530 hrs	
Rig off Location	9th December 0530hrs	

3.1.1 Hole Section and Casing Summary

Hole size	36”	9 7/8” / 24”	17 ½”	8 ½”
Depth Interval (MDRT)	147 – 219 m	210.7 – 507 m	501.4 – 1149 m	1144 – 3154 m
Mud Type	Seawater	Seawater/KCl	Seawater	Enviromul OBM
Mud weight	1.5 sg	1.13 sg	1.15	1.35 sg
Casing size	30”	20”	13 3/8”	
Casing shoe depth (MDRT)	210.7 m	501.4 m	1144.0 m	
FIT		1.30 sg		
LOT			1.68 sg	

4 WELL HISTORY, OBJECTIVES AND RESULTS

The 9/3-2 well was drilled to evaluate the prospect named Aimee, part of the Production license 316 (Figure 1). It was located on the north east flank of the Egersund Basin, ca 10km to the east of the abandoned Yme Gamma Field (Figure 4-1).

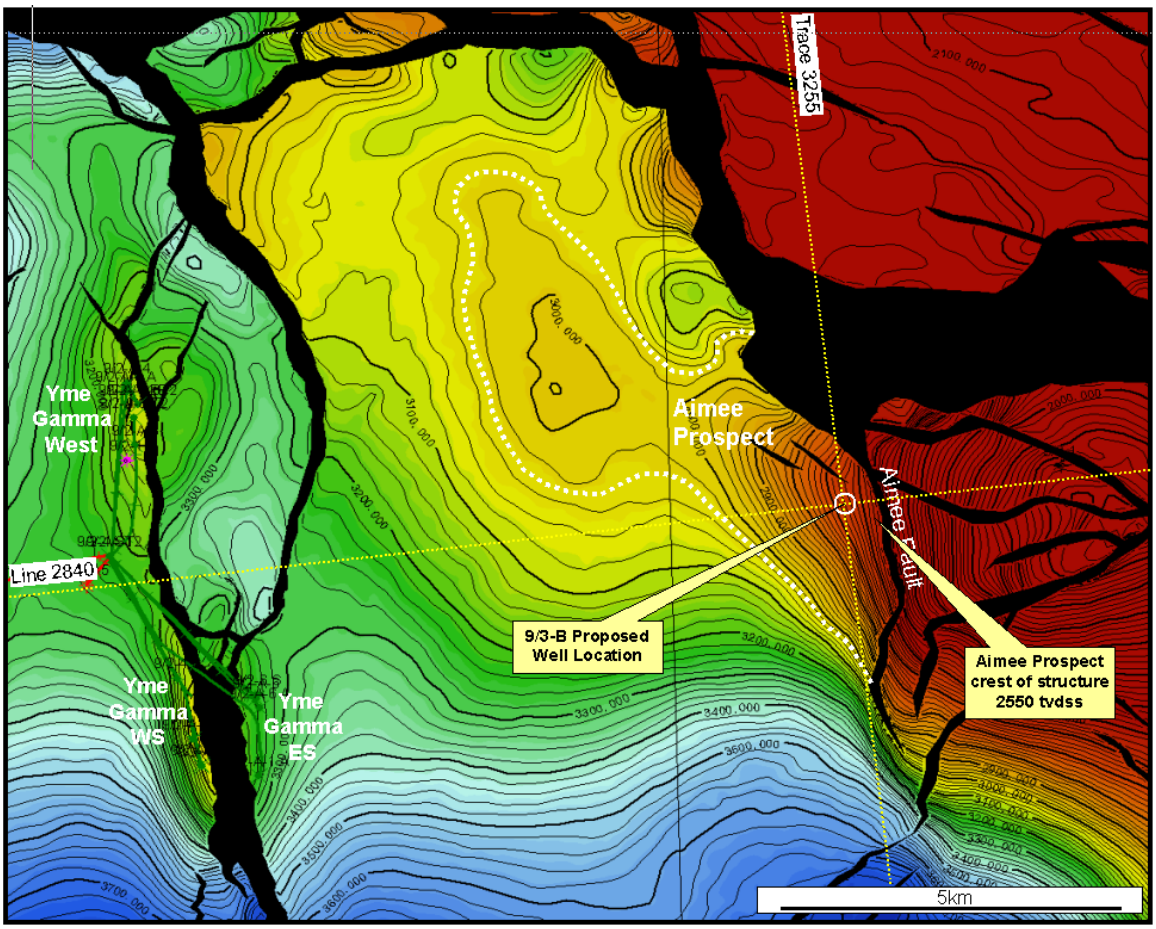


Figure 4-1: Aimee Well Location on top reservoir (Sandnes Fm) depth map, 20m contours

4.1 WELL OBJECTIVES

The well was drilled as a vertical borehole designed to prove the minimum economic volume of the potential Aimee prospect.

The main objectives of the well were:

To Determine the presence of commercial volumes of hydrocarbons within the Sandnes Fm of the Aimee.

Obtain sufficient data of good quality to quantify the volume of hydrocarbons present and to fully characterise the stratigraphy.

Obtain permeability and sedimentology information on any hydrocarbon bearing reservoir intervals.

Determine Formation pressures for any hydrocarbon column encountered.

Obtain hydrocarbon and water samples of any discovery.

4.2 RESULTS

The well encountered a Sandnes reservoir at 2660.0 m MDRT (2612.6 m TVDSS); however, no hydrocarbons were present. The Sandnes Formation had a gross interval of 117.96m MD with a net interval of 81.84 m MD, resulting in a net/gross of 0.69.

Water wet Bryne reservoir was also encountered, at 2777.9 m MDRT (2730.2 m TVDSS). The Bryne Formation had a gross interval of 290.02 m MD with a net interval of 71.93 m MD, giving a net/gross of 0.25.

The well reached a Total Depth of 3154 m MDRT (3106 m TVDSS) in the Triassic Skaggerak Formation.

5 FORMATION TOPS
5.1 LITHOSTRATIGRAPHIC TOPS

FORMATION	PROGNOSED		ACTUAL		DIFF	TVT
	m MDRT	m TVDSS	m MDRT	m TVDSS	m + /-	m
Balder	585	539	566	520	-19	58
Ekofisk	631	585	624	578	-7	41
Tor	673	627	665	619	-8	245
Hod	908	862	910	864	+2	159
Sola	1076	1030	1069	1023	-7	93
Åsgard (Valhall)	1176	1130	1162	1116	-14	808
Flekkefjord	1979	1933	1970	1924	-9	102
Sauda	2071	2025	2072	2026	+1	430
Tau	2510	2464	2503	2456	-8	102
Egersund	2624	2578	2607	2559.7	-21.7	57.9
Sandnes	2688	2642	2660	2612.6	-29.4	117.6
Bryne	2809	2763	2777.9	2730.2	-32.8	289.5
Fjerritslev	3044	2998	3068	3019.7	+21.7	49.9
Skaggerak	3068	3022	3118	3069.6	+47.6	39
TD	3118	3072	3154	3106	+34	

6 STRATIGRAPHIC EVALUATION
6.1 LITHOSTRATIGRAPHIC SUMMARY

NORDLAND GROUP: 237.0m MDRT (194.0m TVDSS)
This sequence consisted of Claystone, Sand and minor intervals of Limestone.

The Claystone was light greyish green, soft and very sticky. Commonly sandy, with pyrite nodules and glauconite, occasionally very glauconitic.

The Sand comprised of loose quartz grains which were clear and commonly translucent or transparent. Also present were grains of varied colours of white, red, brown and grey. The grain size varied from very fine to very coarse to granular but was predominantly medium. The grains were sub-angular to rounded and poorly to moderately sorted.

The limestones were white, hard, blocky and microcrystalline. Very rare traces of dolomite which was moderate yellowish brown, blocky and very hard, were also present.

Shell fragments, pyrite and mica occur throughout and in places the sediment was very glauconitic.

HORDALAND GROUP: 412.0 m MDRT (366.0 m TVDSS)

The Hordaland Group consisted mainly of Claystone with two intervals of Sandstone in the uppermost part of the sequence.

The claystone was light, greyish green to dark greenish grey or olive black and rarely moderate brown. It was generally soft and sticky but becoming firmer towards the base of the interval.

The Sandstones consisted of loose quartz grains which were clear and translucent to transparent. Also varied coloured quartz grains occurred, with orange, brownish, and reddish lustre. The grains were generally subangular to rounded, grain size is generally very fine to medium, however very fine to coarse and granular sizes do occur. The sorting was poor to moderate.

Limestone stringers were present throughout the claystone interval. They were generally light greenish grey to dark greenish grey, soft, argillaceous and glauconitic.

There were traces of pyrite, pyritised burrows, mica and glauconised pellets throughout the sequence.

ROGALAND GROUP: 566m MDRT (520 m TVDSS)

The Rogaland group consists of the Balder, Sele, Lista and Maureen Formations.

Balder Formation: 566.0 m MDRT (520 m TVDSS)

The Balder Formation consists of tuff and tuffaceous claystone. The tuff was very light grey to grey, soft to firm, subblocky to blocky and speckled with dark grains. The Tuffaceous claystone was medium grey to dark grey and dark greenish grey to greenish grey, soft to firm, subblocky to blocky and contained pyrite, glauconite and mica.

Sele Formation: 588.0 m MDRT (542.0 m TVDSS)

The Claystone was olive black, greenish black, dark greenish grey to olive grey, calcareous, with traces of Limestone. The Limestone was light greenish grey and soft.

Lista Formation 598.0 m MDRT (551.0 m TVDSS)

The Lista Fm has been picked on LWD readings, at the base of a gamma ray peak and a slight decrease in the resistivity.

Maureen Fm 619.0 m MDRT (573.0 m TVDSS)

The Maureen Fm has been picked on LWD readings, where the gamma ray cuts back and a corresponding increase in the resistivity.

SHETLAND GROUP: 624.0 m MDRT (578.0 m TVDSS)

The Shetland group consisted of The Ekofisk, Tor & Hod Formations.

Ekofisk Formation: 624.0 m MDRT (578.0 m TVDSS)

The Ekofisk formation consisted of limestone and chert.
Limestone: The limestone was white, occasionally translucent in parts, hard to very hard and micritic. There were numerous fossils (bryozoa) occasionally comprising the entire sediment.

The Chert was white to pale yellowish brown, translucent in parts, very hard and angular with a conchoidal break.

UPPER CRETACEOUS

Tor Formation: 665.0 m MDRT (619.0m TVDSS)

The Tor formation consisted of limestone and chert with some intercalations of claystone.
The limestone was white, hard to very hard, soft in parts and micritic, blocky to subblocky and contained traces of glauconite.

The chert is white to pale yellowish brown, translucent in parts, very hard, angular, and with conchoidal break.

The claystone was medium grey to medium dark grey, occasionally greenish grey, soft, subblocky and non calcareous.

Hod Formation: 910.0 m MDRT (864.0 m TVDSS)

The Hod Formation consisted of limestone and claystone with traces of Chert.
Limestone: The limestone was white to off white, locally light grey, soft to firm commonly very hard, blocky. It was micritic to cryptocrystalline, glauconitic and pyritic in parts with common fossil fragments.

The claystone was dark greenish grey, soft to firm, amorphous to subblocky, slightly silty and slightly calcareous.
Trace Chert which was white to pale yellowish brown, occasionally reddish to brownish and translucent in parts. It was very hard, angular, with a conchoidal break.

LOWER CRETACEOUS

CROMER KNOLL GROUP: 1069.0 m MDRT (1023.0 m TVDSS)

The Cromer Knoll group consisted of the Sola Formation and the Åsgard Formation.

Sola Formation: 1069.0 m MDRT (1023.0m TVDSS)

The Sola Formation consists of claystone with numerous stringers of limestone especially in the uppermost part. Towards the base of the formation the limestone stringers became less frequent and disappeared completely at the base.

The Claystone was dark greenish grey to grey, soft and platy in the uppermost part of the formation becoming firm to medium hard and sub-blocky towards the basal part of the formation. It was generally non-calacareous, very glauconitic and occasionally carbonaceous, becoming silty towards the lower part of the formation.

The limestone was white, sub platy to blocky and commonly very hard. It was generally homogeneous, micritic, and occasionally argillaceous. There were traces of mica, pyrite, and abundant glauconite throughout the formation

Åsgard (Valhall) Formation: 1162.0 m MDRT (1116.0 m TVDSS)

The Åsgard Formation consisted of Claystone with occasional Limestone stringers in the lowermost part of the formation.

The Claystone is dark grey to olive black, firm to medium hard, blocky to sub-blocky and slightly to very calcareous. It was generally amorphous and homogeneous but occasionally streaked with organic argillaceous material. In parts it was silty to very silty, occasionally carbonaceous, micropyritic and micromicaceous.

The Limestone is generally dolomitic, pale yellowish brown to dark yellowish brown. It was medium hard, blocky, commonly with dark to black streaks and occasionally silty or argillaceous. There were traces of pyrite, quartz grains, and siltstone throughout the formation.

UPPER JURASSIC
BOKNFJORD GROUP: 1970.0 m MDRT (1924.0m TVDSS)

The Bokfjord Group consists of the Flekkefjord Formation, Sauda Formation, Tau Formation and the Egersund Formation.

Flekkefjord Formation: 1970.0 m MDRT (1924.0m TVDSS)

The Flekkefjord Formation consisted of Claystone with occasional Limestone stringers.

The Claystone was dark grey to medium grey, firm to moderately hard, subblocky to blocky, non to slightly calcareous and slightly silty. There were traces of carbonaceous streaks and rare pyrite.

The Limestone was buff to yellowish brown, firm to moderately hard, angular to blocky, microcrystalline and slightly argillaceous.

Sauda Formation: 2072.0m MDRT (2026.4 m TVDSS)

The Sauda formation consists of claystone with occasional interbeds of Siltstones in the upper part of the sequence.

The Claystone was dark grey to dark olive black, hard to moderately hard and blocky. It was slightly calcareous, slightly silty in parts with traces of micropyrite and carbonaceous material.

The Siltstone was light to medium grey, firm, locally friable, blocky, micromicaceous and slightly calcareous with dark grey laminations

Tau Formation: 2503.0m MDRT (2456.0 m TVDSS)

The Tau Formation consisted of Claystone with a few stringers of Limestone.

The Claystone was dark grey to dark grey brown, firm to moderately hard, subblocky to subfissile with an occasional earthy texture. It was slightly calcareous with abundant carbonaceous material. In parts it graded to Siltstone and was micromicaceous with traces of pyrite.

The minor Limestone interbeds were medium brown, hard, angular, microcrystalline with occasional argillaceous laminations.

Egersund Formation: 2607.0 m MDRT (2559.7 m TVDSS)

The Egersund Formation was composed of interbedded Claystone and Siltstone with minor Sandstones. Minor interbeds of Limestones occurred towards the base of the formation.

The Claystone was dark grey to olive black, moderately hard to hard, sub-blocky blocky and occasionally subfissile. It was carbonaceous to occasionally very carbonaceous. It was slightly calcareous, silty with traces of micromica and micropyritic in parts. In parts it graded to a Siltstone.

The Siltstone was light to medium grey, friable to firm, amorphous to blocky. It was slightly calcareous with traces of glauconite and pyrite

The Limestone was medium brown to dusky brown, hard, angular to blocky, microcrystalline and occasionally with carbonaceous streaks and argillaceous laminations.

MIDDLE JURASSIC
VESTLAND GROUP: 2665.0 m MDRT (2617.6 m TVDSS)

The Vestland Group comprises of the Sandnes, Bryne and Fjerritslev Formations.

Sandnes Formation: 2660.0 m MDRT (2612.6 m TVDSS)

The Sandnes Formation consists of Siltstone and Sandstone, with stringers of coal. Towards the base of the unit there were also interbeds of Claystone.

The Siltstone was pale grey brown to pale grey, medium grey, soft to firm, friable in parts, amorphous to subblocky. It was slightly calcareous, glauconitic, pyritic with traces of mica and carbonaceous material.

The Sandstone was off white, pale grey brown. The quartz grains were translucent, commonly transparent, very fine to fine, occasionally medium, sub-angular to sub-rounded and poorly to moderately sorted. It was soft to firm, friable with a weak silica cement and is occasionally calcareous with carbonaceous laminations in parts. In parts it was very argillaceous grading to a Siltstone. It had a poor visible porosity and there were no shows.

The Coal was black, hard, brittle vitreous and nodular with traces of pyrite.

Bryne Formation: 2777.9m MDRT (2730.2 m TVDSS)

The Bryne Formation occurred as interbedded Sandstones, Siltstones and Claystone with Coal beds and a minor Limestone stringers towards the base.

The Sandstone is light grey to medium grey, dark grey, occasional olive grey to greenish grey. The quartz grains were clear, translucent and occasionally transparent. They were very fine to fine, occasionally medium, sub-rounded to rounded, occasionally sub angular, moderately spherical, moderately sorted with occasional Quartz overgrowths. The cement is generally argillaceous, with a calcareous / silica cement in parts. It was soft to friable, contained traces of pyrite, glauconite and carbonaceous material. Locally it graded to a Siltstone. There were no shows other than a very slow pale milky white cut, with a pale white residual between 2810 – 2830 m MDRT, thought to relate to carbonaceous material.

The Siltstone was medium to dark grey, becoming pale brownish grey towards the base of the formation. It was firm to friable, subblocky, slightly calcareous, with traces of glauconite, mica, pyrite and carbonaceous material.

The Claystone was medium grey, pale grey brown, firm to moderately hard, subblocky to blocky, non calcareous to moderately calcareous and commonly contained carbonaceous laminations. Locally very silty and pyritic in parts.

The Coal was black, hard, brittle and angular. It had a concoidal fracture and vitreous lustre.

The limestone was medium brown, moderately hard, blocky, microcrystalline and commonly argillaceous.

LOWER JURASSIC

Fjerritslev Formation: 3068.0 m MDRT (3019.7 m TVDSS)

The Fjerritslev Formation consisted of claystone with minor Limestone

.

Claystone: The claystone is dark grey, occasionally dusky brown. Towards the base of the unit it was grey green in parts It was firm to moderately hard, subblocky to subfissile, non calcareous to very slightly calcareous, micropyritic, micromicaceous, locally silty and carbonaceous.

The Limestone was off white to pale grey, buff, firm to crumbly and microcrystalline.

TRIASSIC

Skagerrak Formation: 3118 m MDRT (3069.6 m TVDSS)

The Skaggerak Formation consisted of Claystone, Sandstone, and siltstone with a few minor limestone stringers and Sandstones at the top. A characteristic moderate brown coating was present on the limestone and siltstone.

The colour of the Siltstone varied from medium to dark grey to red brown. It was firm to moderately hard, angular to blocky, slightly calcareous. In parts it graded to a Siltstone.

The Claystone was red brown to dark grey, moderately hard, blocky to angular, micromicaceous and slightly calcareous. In parts it was arenaceous and very silty, grading to a Siltstone in places.

The Limestone was light grey, firm to moderately hard, blocky and microcrystalline. In places it was arenceous and argillaceous.

The minor Sandstones were light grey to medium grey, very fine to fine grained, well to moderately sorted, sub rounded with a argillaceous matrix. It was friable with calcareous / silica cement in places. There was no visible porosity and no shows.

There are good traces of coal and abundant quartz grains occur in the lowermost part of the section. The grains are mainly fine, transparent and well rounded. Also coarse, angular quartz grains occur.

7 GEOLOGICAL DATA ACQUISTION

Wellsite geological supervision was provided by: Jay Patel, Rune Heggernes, Dave Tinsley and Kjetil Gran. Wellsite Geological services began at 240 m MDRT with first returns. The Mudlogging Contractor Halliburton, provided a full crew of 2 Data Engineers and 2 Mudloggers.

7.1 CUTTINGS SAMPLES

7.1.1 Sampling Programme

Type	Set	Company	Boxes	Depth	Sent to
Unwashed / wet	A and B*	Paladin	1 - 14	237 - 3154	Reslab
Unwashed / wet (BioStrat)	C**	Paladin	1 - 10	1190 - 3154	Reslab
Unwashed / wet	D*	NPD	1 - 14	237 - 3154	Reslab
Washed / dried	E and F*	Paladin	1. - 6	237 - 3154	Reslab
Washed / dried	G*	NPD	1 - 6	237 - 3154	Reslab

* missed samples 280, 340, 400, 590, 690, 780, 1000, 1320, 2340 m MDRT
** missed samples 1320 and 2340 m MDRT

7.1.2 Sample Intervals

Samples were caught from first returns and were caught at the following intervals:

Interval	Sample Type	Frequency (m)
240 to 2630 m MDRT	Unwashed Wet Cuttings	10
	Washed and Dried	10
2630 m MDRT to 3155	Unwashed Wet Cuttings	3
	Washed and Dried	3

7.2 LWD DATA

Halliburton provided the MWD / LWD services.

MWD/LWD Run	BHA No	Depth In	Depth Out	Max. Temp. Deg C	Formation Evaluation Data	Acquired Data Memory		Comments
						m	%	
1	1	211m	507m	22	DGR/EWR-P4/DIR/PWD	296	100	Good run. No problems.
2	2	507m	1144m	39	DGR/EWR-P4/DIR/PWD	637	100	Good run. No problems.
3	3	1144m	2065m	49	DGR/EWR-P4/DIR/PWD	921	100	Good run. No problems. POOH due to inclination build..
4	4	2065	3154m	80	DGR/EWR-P4/DIR/PWD	1089	100	Good run. No problems. TD

7.3 WIRELINE LOGGING

7.4 INTRODUCTION

Schlumberger were subcontracted by Halliburton to provide the wireline services. The job took place from the 22nd November to the 25th November, 2005.

The Schlumberger crew arrived on board on the 19th November to check the logging unit and perform the tool checks.

The logging unit and auxiliary equipment (including rig up and fishing equipment) looked in good condition, the crew performed an inventory prior to the start of the job and all required items were present.

The logging program was the dry hole case:

- AIT-DSI-PEX-NGT
- Checkshots

The checkshot survey was cancelled due to high winds. A MDT run had been planned but was also cancelled.

7.5 PREJOB CHECKS AND TOOL PREPARATION

The crew completed all the checks prior to the start of the job on November 22nd with three failures or deficiencies found and reported. These were:

1. The NGT had not been mobilized. Paladin cancelled this service when they were informed the tool was missing.

2. One of the Neutron tools well site calibration was out of tolerance with the shop master calibration. This probably was not a "hard" failure, but probably due to a faulty shop calibration performed before the tools left the base. There was no way to determine this prior to the job but could have been verified after the job. Therefore a backup HGNS (Neutron portion of the PEX) with sources was mobilized and arrived on the rig prior to the job to replace this Neutron tool.

3. Interact was not working. There was no line from the unit to the server for internet access.

7.6 LOGGING JOB

Total operating time was 35.75 hours with 0.75 hours downtime:

	AIT-DSI-PEX	AIT-DSI-PEX	AIT-DSI-PEX	Checkshots	Totals
Total time	12.75	8.75	14.25	0	35.75
Downtime	0	0	0.75	0	0.75
(%)	-	-	94.8%	-	97.9%

7.6.1 Depth Control

Schlumberger's depth control was adequate and comparison with the driller's casing shoe was right on depth (Driller's casing shoe = 1144 m, Logger's casing shoe = 1144 m).

7.6.2 Run 1A AIT-DSI-PEX 1st attempt

The Schlumberger T-bars, sheave wheels and 1st toolstring were rigged up. The head was connected to the toolstring and it was checked. After the tool check was completed and while picking up the toolstring to load sources it was discovered that oscillating unit for the cable drum could not rotate far enough right to allow free movement of the cable off the drum to the lower sheave. The unit had been installed several months previously and had performed several operations for the previous client without this problem. The drill floor position for this well was several meters to the right and several meters further back than had been used on the previous wells. In this new drill floor position the oscillating device did not have the range to allow the cable to clear the drum freely to the lower sheave. The position of the rig up equipment and lower sheave

was examined. There was no way to reposition the lower sheave wheel to allow free cable movement without the cable fouling somewhere else on the rig structure. The rig welder removed the welds from the cable drum unit; the cable drum unit was realigned with the lower sheave wheel and welded back down to the rig. This operation incurred 4.75 hours down time to complete.

The down log from the casing shoe was started. While RIH the toolstring began to hold up momentarily almost immediately outside the casing shoe. The toolstring held up firmly at 1255, 1375, 1425, 1500 m with 400 – 600 lb overpull when picked up to pass the holdup depth. These holdup depths were passed on the first attempt. The toolstring held up again at 1527 m. All attempts to pass this depth by varying speeds and other techniques (breaking suddenly while RIH to bump past the hold up depth, etc) were unsuccessful. After attempting to pass this depth for one hour the decision was made to POH for a conditioning trip. The toolstring was POH and the data acquisition was recorded for this section as per the program.

Logging intervals were as follows:

Details	nterval
AIT/PEX	N/A. No AIT/PEX data required over this interval
DSI	Hold up depth (1527 m) to casing shoe. P&S mode only.
Gamma ray	Hold up depth (1527 m) to surface.

7.6.3 Run 1A AIT-DSI-PEX 2nd attempt

After the conditioning trip the down log was started at the casing shoe. The toolstring held up at 1152 m (8 m below the casing shoe). This calliper on the previous run showed this is where the hole went from 18 inches to 8.5 inches. 1 hour was spent attempting to work past this depth with no success. The toolstring was POH and the bowspring and knuckle joint between the AIT and DSI was removed to ensure that the holdup was not due to any toolstring configuration issues. The 2nd attempt on this run held up at the same depth and could not be worked past either. 0.75 hours was spent trying to pass this depth on the second attempt. No data was recorded on this pass, all data for this interval had already been recorded on the previous attempt. The toolstring was POH and rigged down for another conditioning trip.

7.6.4 Run 1A AIT-DSI-PEX 3rd attempt

After the second conditioning trip the toolstring was rigged up and RIH. The down log was started at the casing shoe. The toolstring held up once at 2114 m but this was passed on the first attempt and there were no further hole problems on this run.

The DSI acquisition was intermittently freezing up on the first attempt to record the main log from 3156 m to 2470 m. The software was reloaded and the DSI acquisition parameters altered (the 2nd dipole firing was disallowed and the firing rate slowed to 3.75 htz). The DSI was relogged from TD (3156 m) to 2470 m to recover the missed data on the first attempt. This incurred 0.75 hours lost time.

The remainder of the data acquisition program was recorded without further incident.

Logging intervals were as follows:

Details	nterval
AIT/PEX	TD (3156 m) to 30 m above top Tau (2470 m) normal resolution. Hi-resolution from 2810 – 2660 m.
DSI	TD (3156 m) to casing shoe (1144 m), P&S and 1 dipole.
Gamma ray	TD (3156 m) to casing shoe (1144 m).

The bottom-hole temperatures from the maximum reading thermometers were: 92, 92, 92° C.

7.7 CORING

There were no cores taken on this well, coring was planned only to be carried out on encountering hydrocarbon bearing reservoir.

7.8 SIDEWALL CORES

There were no sidewall cores taken on this well.

8 CPI ANALYSIS

The CPI analysis was carried out by Logtek as.

8.1 CPI ANALYSIS, METHODOLOGY AND SUMMATIONS

The following methods were applied for the computer processed interpretation (CPI) Enclosure 1

1. Volume of Shale, VSH, estimated as the minimum of clay volume from GR and clay volume calculated from a combination of Density and Neutron logs
2. Coal flag has been determined from a cut-off on density log and manual editing
3. Porosity is estimated based on a density and neutron log combination (complex lithology module in 'Powerlog').
4. Water saturation is calculated based on Indonesia equation
5. Input parameters are partly based on book values, plots of well data and data provided by Paladin from correlation wells.

Input logs found in the file: **WL_PETRO_COMPUTED_INPUT.LAS**
Output logs are found in the file: **WL_PETRO_COMPUTED_OUTPUT.LAS**

PARAMETER VALUES:

Shale volume calculation:
Input logs: GR, DEN, NEU (TNPH)
GR-clean =20
GR-clay =105

Clean sand points have been picked from N-D crossplot:
Clean line point 1:
Neutron porosity 0.0
Density 2.65

Clean line point 2:
Neutron porosity 0.3
Density 2.15

Shale parameters have been picked from crossplot and visual inspection of the logs:

Shale Neutron porosity 0.35
Shale Density 2.60

Complex Litology/MultiMineral Analysis model for porosity and water saturation:
Input logs: DEN, NEU (TNPH), RDEP, VSH, FCOL
Model: Neutron-Density
Mud Filtrate Density =0.9
Type of mud: Oil Based Mud
T=94 deg C (201.1 deg F)
Shale Neutron porosity 0.35
Shale Density 2.60
Shale Resistivity 5
Coal flag (DEN<2.2): FCOL
Comment: porosity and cementation exponent was modified for low porosity (<0.12) values and high VSH (>0.4) values.

Electrical properties
Lithology factor (a) = 1.0
Cementation exponent (m) = 1.93
Saturation exponent (n) = 2.07

Formation water resistivity
- Rw = 0.070 Ohm-m @ 15 deg C (59 deg F)
- Formation T=94 deg C (201.1 deg F) at 3300

Output logs

Shale volume:	VSH
Coal flag:	FCOL
Effective porosity:	PORE
Water saturation:	SW

Summations

Curve Name	Cutoff
PORE	0.12
VSH	0.5

Zone Name	Top Depth	Bottom Depth	Gross Interval	Net Int	Net / Gross	Avg Net PORE	Avg Net VSH	Avg Net Sw
Sandnes	2660.000	2777.958	117.958	81.839	0.694	0.184	0.117	1.000
Bryne	2777.958	3067.975	290.017	71.932	0.248	0.156	0.163	1.000

9 FORMATION PRESSURE AND TEMPERATURE.

No indications of overpressure were observed while drilling the 17 ½" or the 12 ¼" sections. Background gas levels had remained low at a trace, and no trip gases had been seen.

At the start of the 8 ½" section the well was considered to be normally pressured at 1.03 sg EMW. A 12 ¼" bit was used to clean out the hole following the 13 3/8" casing job. The bit was drilled to 1152m MDRT, 1151.9m TVDRT prior to performing a LOT to 1.68 sg. The hole was then displaced to 1.30 sg oil based mud.

Gas levels remained low and stable during drilling of the Valhall formation. No tight hole was observed, with actual torque and hookload values remaining close to those predicted. By 2050m MD gas levels had continued to remain low and stable, while drilling the claystones of the Flekkefjord formation the D exponent showed a slight cutback, however, this was difficult to interpret due to the controlled drilling.

A slight decrease in the Deep Resistivity at 2065m MDRT, 2064.4m TVDRT possibly indicating the start of an increase in pore pressure. The mud weight was increased from 1.30 sg to 1.35 sg by 2265m MD, anticipating the expected rise in pore pressure for the Upper Jurassic, prognosed from offset well data.

The D exponent started to cut back from the normal compaction trendline in the claystones of the Sauda formation at 2325m MD, 2324.2m TVD. The Resistivity showed a cutback at the same depth, but due to formation change the trend line could not be used. Maximum gas for the hole of 0.7% was seen at 2507m MDRT, 2506.0m TVDRT in the top of the Tau formation (2502m MD, 2501mTVD). Gas levels then dropped off to a background of 0.2%.

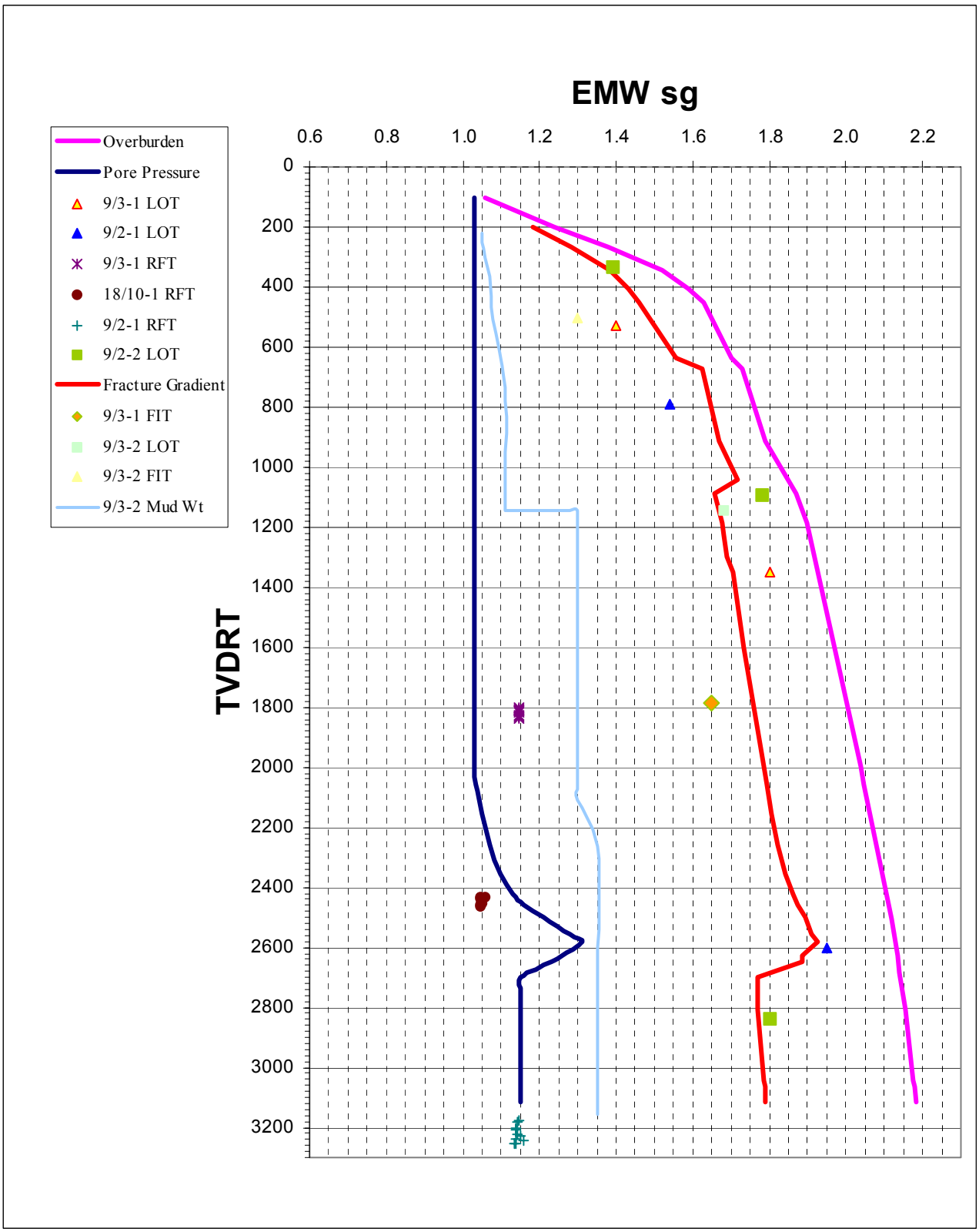
The estimated pore pressure from the D exponent continued to rise and reached a maximum of 1.31 sg at 2590m MDRT, 2588.8m TVDRT in the Tau formation. From here the D exponent gradually increased towards the trend line again, and the pore pressure dropped off as the Egersund formation (2605m MDRT, 2603.8m TVDRT) was drilled.

From the D exponent the pore pressure dropped to approximately 1.15 sg at 2700m in the Sandnes reservoir (top at 2663m MD, 2661.6m TVD). Background gas levels also

dropped to a trace as the reservoir was entered. Again, the hole was in good condition with no drag seen and hookload values following those predicted. The average ECD was 1.40 sg. Background gas levels increased very slightly to 0.1% at the base of the reservoir, although the estimated pore pressure remained at 1.15 sg. As the Fjerritslev formation was drilled (3066m MDRT, 3063.7m TVDRT) gas levels remained low with no increase in estimated pore pressure.

The Skaggerak formation of the Triassic was drilled at 3118m MDRT, 3113.6m TVDRT and saw a rise in gas to 0.5%, although the estimated pore pressure remained at 1.15 sg. Fill of 2.5m was seen following the first wiper trip, and a minor trip gas of 0.3% was seen.

There was only one wireline run to reach TD with thermometers. The bottom hole temperatures from the maximum reading thermometers were: 92, 92 and 92ºC.



Pore Pressure Graph

SECTION B

DRILLING

AND

WELL OPERATIONS

WELL

9/3-2

Aimee

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1 GENERAL INFORMATION

Well 9/3-2 was drilled as an exploration well, and the main objective was to determine the presence of commercial volumes of hydrocarbons within the Sandnes formation of the Aimee prospect

A secondary objective was to acquire reservoir pressure data and geological data, to improve reservoir understanding and future field development.

This report covers all operations from drilling to permanent P&A.

The operation was performed using the jack up rig Mærsk Giant, which left the Varg A 500m safety zone and sailed towards the Aimee 9 3/2 well location on October 16th at 00:00.

The well was spudded October 23rd at 08:30 and it was left after permanent Plug and Abandonment December 9th at 15:00.

2 GENERAL WELL DATA

WELL LOCATION

Area	Norwegian North Sea	**Well Classification:**	Appraisal
Field	Aimee	**Well design basis:**	Exploration
PL number	316	**Block**	9/3
H_2S, level of preparedness:		0	
Well Identification:	9/3-2		
Spud location	Lat : 57^0 49' 25.791" N Long : 04^0 42' 39.637" E	X= 601631.20 Y= 6410526.85	
TD		X= 601683.65 Y= 6410566.42	

DRILLING RIG

Name:	Mærsk Giant	**Rig heading:**	315°
Type:	Jack Up		
RKB-MSL:	46 m	**Water depth :**	100.8 m

3 BOP SKETCH

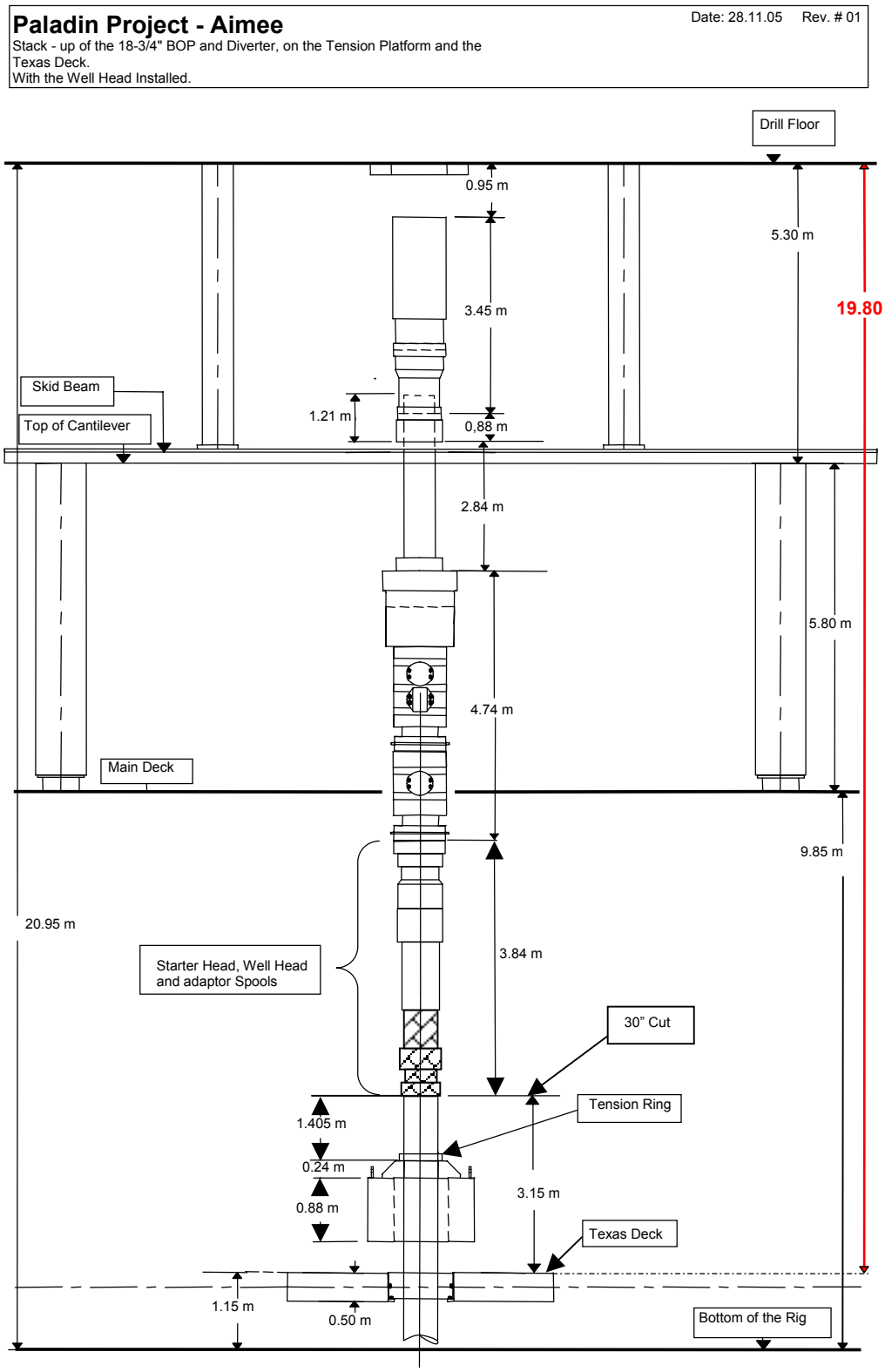


Figure 3-1 Mærsk Giant Pressure Control Equipment

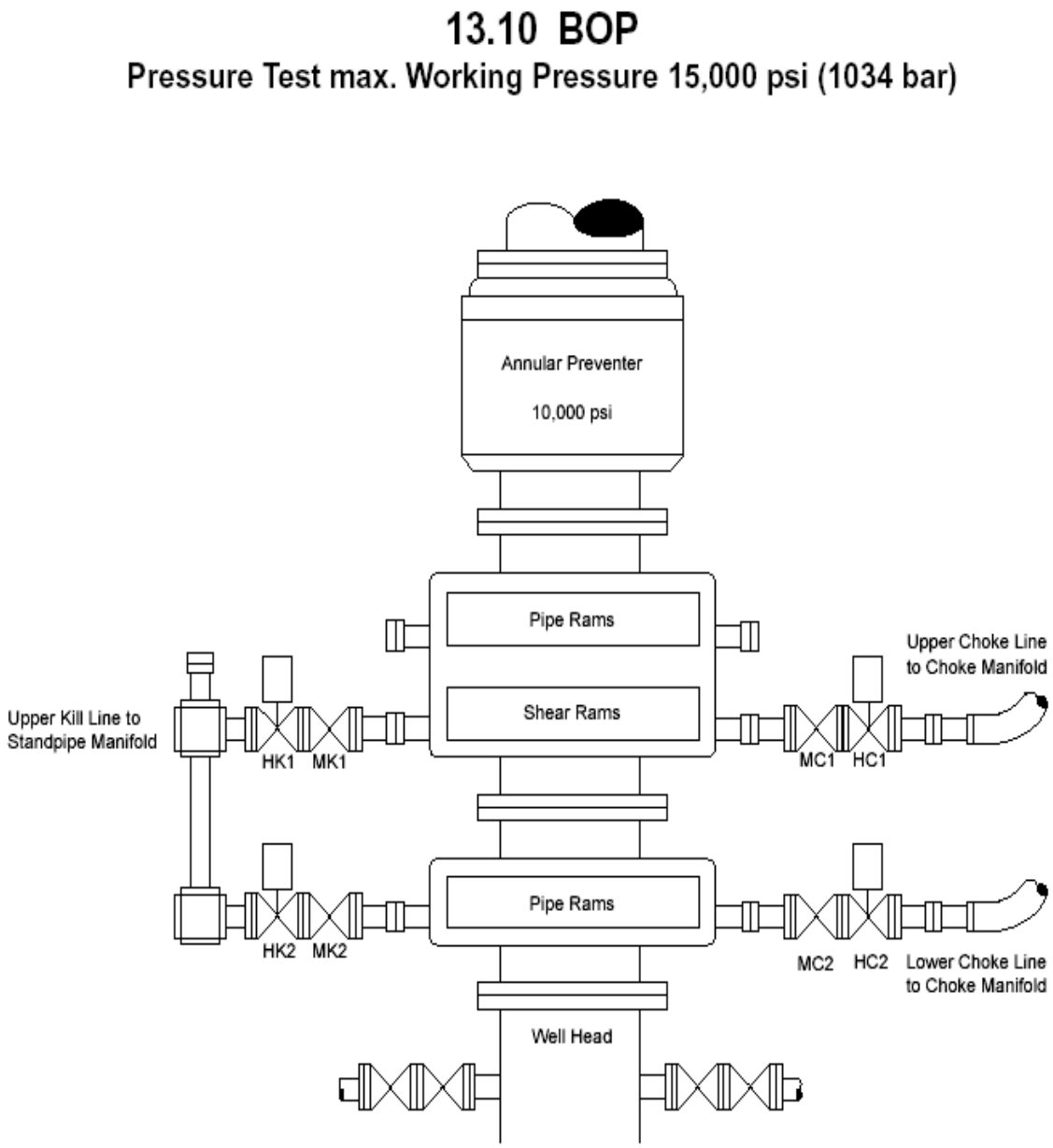


Figure 3-2 Mærsk Giant Pressure Control Equipment

4 LIST OF MAIN CONTRACTORS

Service	Company	Address	Contact	Phone	Fax
Rig*	Mærsk Contractors Norge	Christian August Thoringsv. 9, 4033 Stavanger	Jakop Odgaard	52017025	52017001
Multi-services**	Halliburton	Postboks 200, 4065 Stavanger	Jarl Hovden	51837000	51838383
Wireline	Schlumberger	Risabergveien 3 Tananger	David Cameron	51946654	51946001
ROV	Oceaneering	Jåttavågen , Hinna	Egil Egeland	51825127	51825290
Wellhead & Conductor	DrilQuip	Lagerveien 31 4033 Stavanger	Torstein Lunder	51443700 90185192	51443701
Tubular services	Vallourec & Mannesman	Nortsea Base	Fraser MacDonald Terje Gamborg	+44 1224 279352 90939899	+44 1224 279341
Casing running	Odfjell Well Services	P.O.Box 152 4098 Tananger	Vegard Nilsen	51648400	51648401
Base and supply boats	Asco BP	Asco Base	Geir Evertsen Tapio Knut Thomas Kusslid	51647557 52015360	51647550 52015505
Helicopter	Helicopter services		Personnel Duty	81033261	

*Includes rig positioning,anchoring, and communication
**Directional drilling, bits, MWD, mud, mudlogging, wireline logging, cement,casing cutting and overall service planning.

5 OPERATIONS ORGANISATION CHART

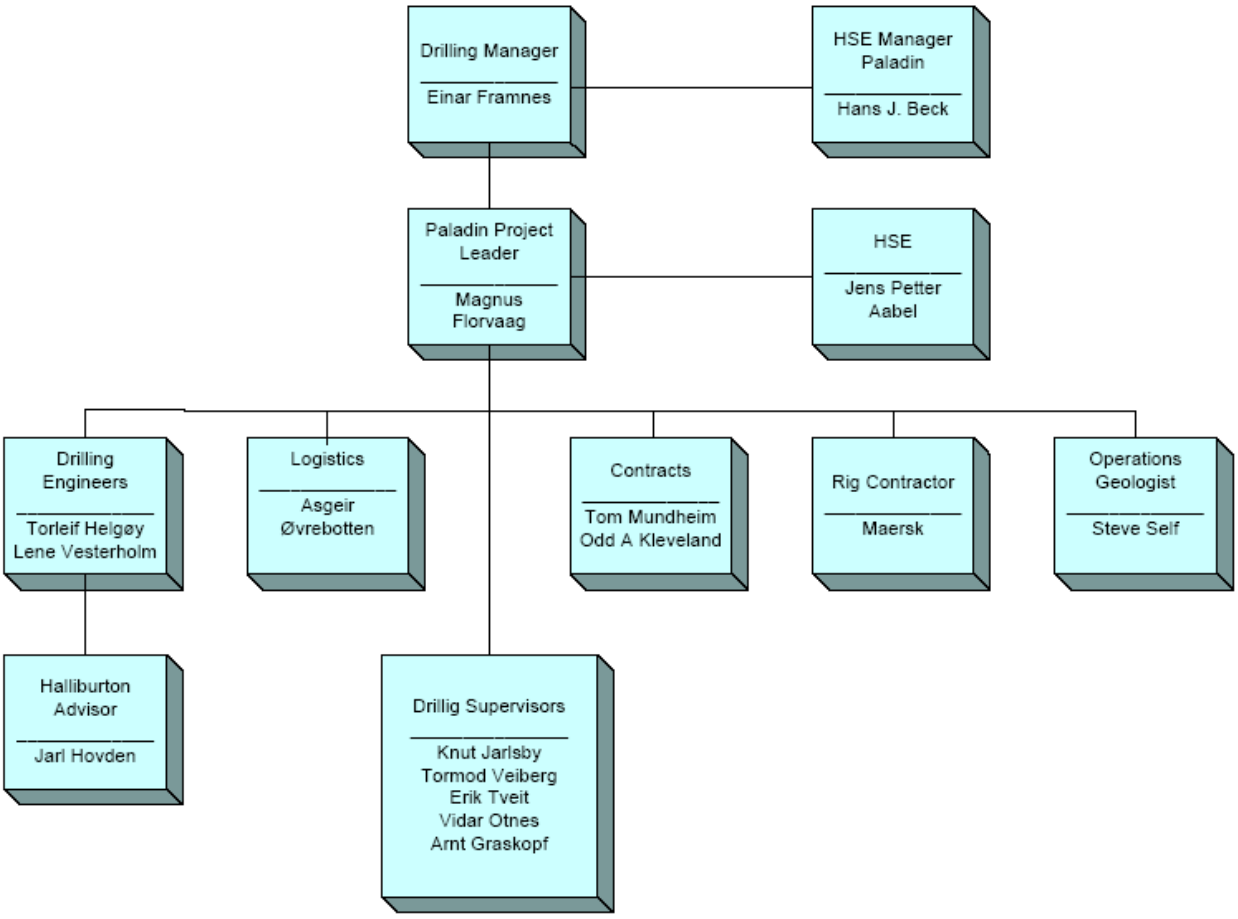


Figure 5-1 Project organization

6 LOCATION MAP

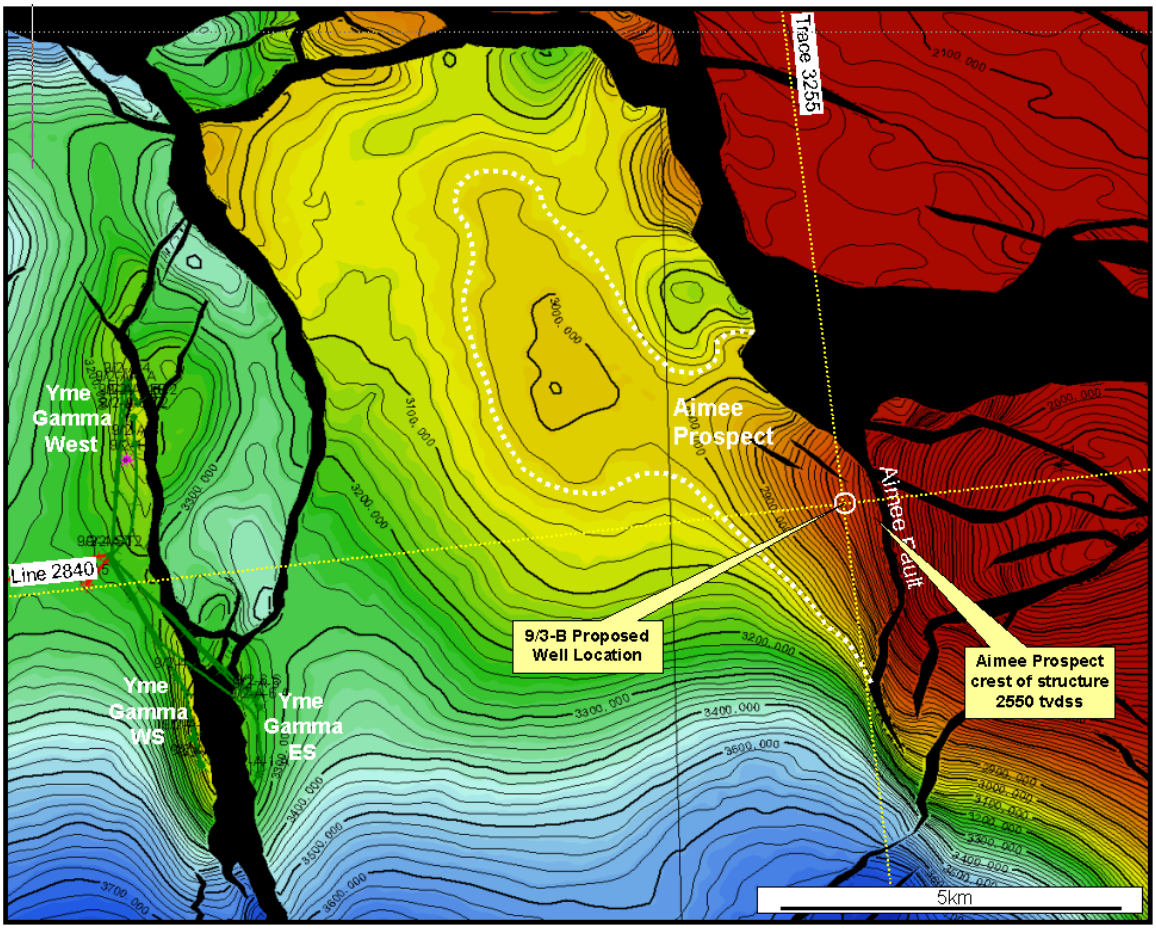


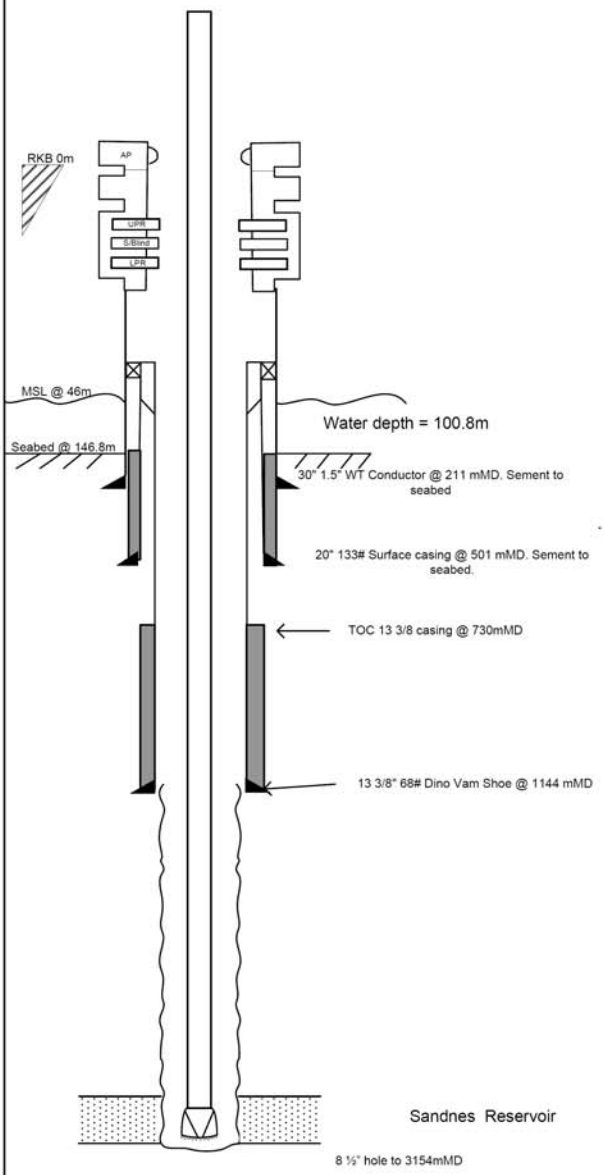
Figure 2: Aimee well location on top reservoir (Sandnes Formation sandstone) depth map (meters subsea). Contour interval is 20 m.

Figure 6-1 Well Location Map

7 FINAL WELL STATUS/WELL SKETCH

Paladin Resources (Norway) Limited

PL 316
Aimee



Section	Mud	MW
9 7/8" pilot	Seawater /Gel sweeps.	1.03
17 ½" x 36"	Sewater/ Gelsweeps 1.5 displacment for csg	1.03 -1.5
24"	Seawater/Gelsweeps 1.08 KCL for casing	1.03 -1.08
17 ½"	Seawater. 1.15 Bent mud for casing	1.03-1.15
8 ½"	EnvironmulOBM	1.2 -1.35

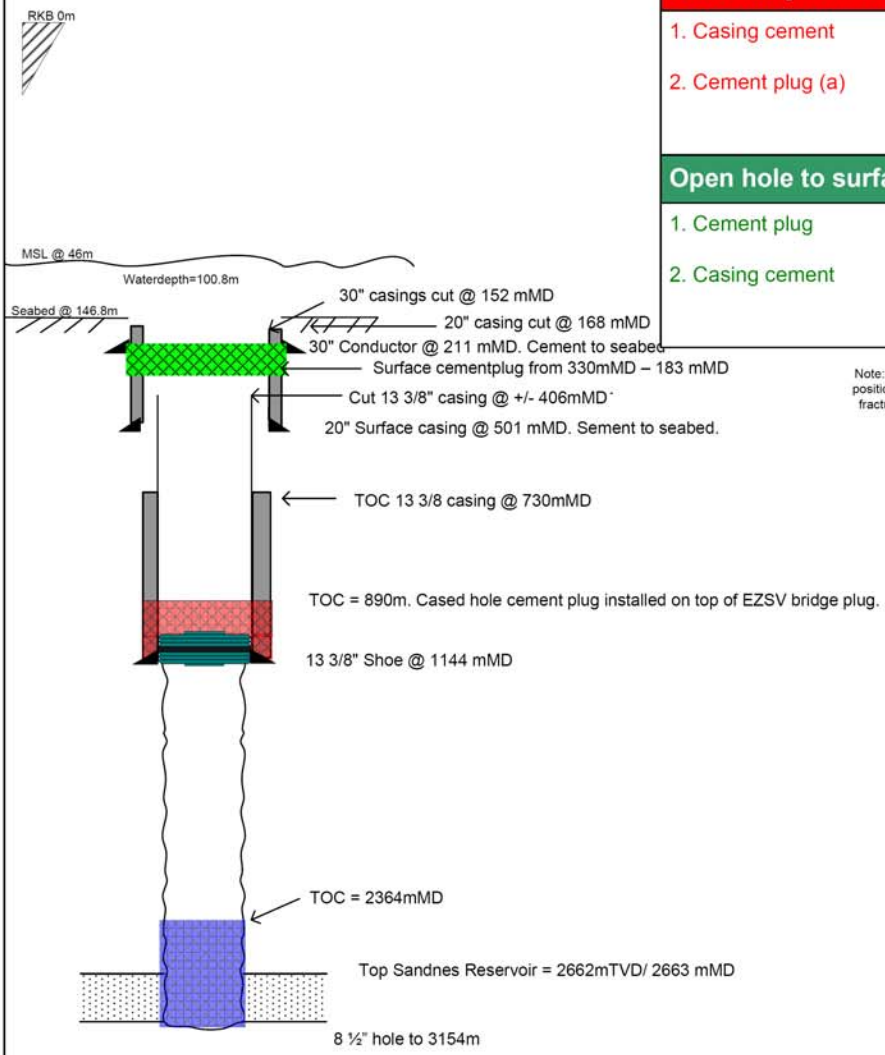
Formation Tops	Progn. Depth (TVD)	Actual Depth (TVD)
RKB	0	0
Balder	585 +/-20 m	566 m
Ekofisk	631 +/- 20m	624 m
Tor	673 +/-20m	665 m
Hod	908 +/- 20m	910 m
Sola	1076 +/- 20m	1069 m
Valhall	1176 +/- 20m	1162 m
Flekkefjord	1979 +/- 30m	1970 m
Sauda	2071 +/- 30m	2072 m
Tau	2510 +/- 30m	2501 m
Egersund	2624 +/- 40m	2604 m
Sandnes	2688 +/- 40m	2662 m
Bryne	2809 +/- 40m	2775 m
Fjerritslev	3044 +/- 100m	3064 m
Skagerrak	3068 +/- 100m	3113 m
TD	3118 +/- 100m	3154 m

Well Diagram Well 9/3-2	Figure : 7.1 Revision :2 Date : 14.12.05	Final Well Status prior to P&A	Paladin Resources (Norway) Limited

PL316
Aimee
Permanent P&A

Well barrier elements	Comments
Primary well barrier	
1. Cement plug	Open hole
Secondary well barrier	
1. Casing cement	
2. Cement plug (a)	Cased hole cement plug installed on top of a mechanical plug.
Open hole to surface well barrier	
1. Cement plug	Cased hole cement plug.
2. Casing cement	Surface casing.

Note: The secondary barrier shall as a minimum be positioned at a depth where the estimated formation fracture pressure exceeds the contained pressure below the well barrier.



Well 9/3-2	Figure : 7.2 Revision :2 Date : 14.12.05	Well status P&A

8 OPERATION SUMMARY

Operation commenced October 16th 2005 00:00 when the rig left the Varg A 500m safety zone and sailed towards the Aimee 9 3/2 well location and finished December 9th 05:30 when the rig left location.

8.1 RIG MOVE

Total time used:	168.0 hrs.
Operational time:	137.0 hrs.
Downtime:	31.0 hrs (WOW = 20 hrs)
Un-planned:	71.5 hrs

Arrived on location October 16th 2005 00:00 and positioned rig to final position. Pinned legs, jacked up to 2.5 m air gap and started preloading operation. Jacked rig up to 15 m air gap and started grouting of spud cans due to insufficient penetration. Rigged up the Texas deck. The rig was handed over from Towmaster October 22nd 03:00.

Note: The grouting of the spud cans was not a planned operation as it was stated by Maersk that it would not be required. Hence no grouting was included in the AFE nor the well programme and time planner.

8.2 36” SECTION

Total time used:	155.0 hrs.
Operational time:	67.5 hrs.
Downtime:	87.5 hrs. (WOW = 37.5 hrs, hole problems= 46.5 hrs)

Ran in hole with the drilling assembly. Confirmed assembly vertical with Anderdrift prior to spud-in. The 36” hole was drilled from 147 m MD to 219 m MD using a 17 ½” pilot bit, 36” hole opener and a mud motor.
The hole was displaced to 1.40sg bentonite mud at TD. Performed a wipertrip from 219m to 156m- no over pull was observed. Tagged fill at 217m, (no clean out performed due to 7m rathole). Pulled back to 156m and topped up the hole with 1.4sg mud.

Rigged up and ran 30" conductor down to 163 m - not able to pass this point. Ran cement stinger on 5" DP to break circulation and drop fluid level inside 30". Pulled cement stinger. Not able to pull 30" conductor out of hole due to wind (55 - 60 kt) and wave condition (max. 10 m) - risk of damage to Texas deck and 30" when pulling out of hole. WOW.

On October 26th the 30" conductor was pulled out of hole from 159 m and laid down. Picked up 36" BHA and ran in hole to ream hole down to 219 m. Reamed tight spots from 210m to 213 m. Displaced hole to 1.5 sg mud. Pulled up to 165 m and topped up with 1.5 sg mud. Topped up hole with max 500 lpm to avoid motor turning while pumping. Pulled out of hole and waited for two hours. Ran back to 219 m and verified hole open. Displaced hole to 1.5 sg mud again and pulled out of hole.

Ran in hole with 30" conductor to 210.7 m and installed it in tension frame system.

RIH with cement stinger and cemented 30”conductor successfully. Cemented conductor with 60m3 of 1.55sg tuned light XL cement. Pumped dye marker ahead of cement and used 300% excess. No returns observed on seabed with ROV during the cement job due to poor visibility.
Cut 30” conductor above the tension frame using the Norse cold cutter and installed overshot, low pressure riser and the diverter.

8.3 9 7/8” SECTION

Total time used:	60.0 hrs.
Operational time:	60.0 hrs.
Downtime:	0.0 hrs.
Un-planned:	9.5 hrs.(Install PLS system)

Prior to drilling the pilot hole, the shoetrack was drilled out with a 24” bit, from 207m and drilled new formation down to 237m. The well was circulated clean and displaced to 1,08sg mud.

Made up the 9 7/8” pilot hole BHA and drilled the pilot hole from 219-507m with seawater and high vis pills, no gas was detected. Displaced the hole to 1.08sg KCL mud prior to POOH.

8.4 24” SECTION

Total time used:	107.5 hrs.
Operational time:	97.5 hrs.
Downtime:	10.0 hrs.

Ran in hole and drilled 24" hole from 237 m to 507 m using seawater and high vis pills. Circulated hole clean and displaced to 1.08sg KCL mud. Minor losses (150l/hr) were observed when performing flow check. Started to pull out of hole from 507m to 422m, had indications of swabbing the hole when pulling out with BHA. Flow checked the well and ran back to TD. Pumped steel displacement while pulling out of hole from 507m to 205m. Found that foaming in triptank was reason for volume discrepancy while pulling out of hole.

Rigged and prepared to RIH with 20” casing. Observed damage on float joint and first casing joint, replaced joints with backup. Ran in hole with the 20” casing and landed out in the mud line hanger with the 20” shoe @ 501m. Had to work casing down from 491m to 501m with 10-15 T drag. Lost total of 9.5m3 of mud during casing running.

Mixed and pumped 53.5m3 of 1.56sg lead slurry and 11.1 m3 of 1.95sg tail slurry to cement the 20” casing to mudline. Dropped plug and displaced cement with seawater. Bumped the plug and pressure tested the casing to 90 bar. Opened the wash ports in the mudline and circulated to clean out cement from 30” x 20” annulus. Spotted 7m3 of sugar pill in annulus. Closed the washports again and pressure tested the casing to 35 bar to confirm washports closed. Laid down the casing landing string and rigged down the low pressure riser and the diverter.
Nippled up BOP and surface lines. Pressure tested BOP, but failed to get proper test. Found damaged shear seal, repaired same and managed to perform connection test and pressure test of casing to 90 bar.

8.5 17 ½" SECTION

Total time used: 160.0 hrs.
Operational time: 149.5 hrs.
Downtime: 10.5 hrs.

Ran in hole with a 17 ½" motor BHA. Drilled out float, shoetrack, shoe @ 501m , rathole and 3m new formation down to 510m MD, circulated clean. Performed FIT~1,30sg.

Drilled 17 ½" hole from 510 to 1149m to below chalksection and into the Sola formation, using seawater while pumping 10m³ Hi-Vis pill every stand. Hole was circulated clean and displaced to 1.15sg bentonite mud.
Pulled out of hole from 1149m to 1043m. Picked up 10 T drag over 1052m to 1043m. Ran back in hole to 1081m. Back reamed from 1081m to 1018m and circulated bottoms up with 1.15 sg bentonte mud. Continued to backream out of hole from 1018m to 993m. Pulled out of the hole from 993m and into the 20" casing shoe to 500m. Continued to pull out and laid down the drilling assembly.

The seawater and high vis pills used for drilling the section was chosen as from experiences from the YME field as this had proved to increase the ROP of the section.

Flushed/cleaned 13 3/8" mud line hang off profile and retrieved bore protector. Stripped back out with profile clean out tool to re-confirm length for MLH to casing head spaceout.
Ran in hole with 13 3/8" casing to 1144 m and landed 13 3/8" casing in mudline hanger, found that space out was 37cm too high. Pulled out of hole and replaced space out joint. Ran back in hole and re-landed 13 3/8" casing in mudline hanger. Drained riser and verified correct space out.

Circulated 13 3/8" casing volume with seawater (1.5 times) with 3000 lpm (100% returns). Pumped 10m3 of drill water and released bottom plug. Mixed and pumped 38.5m3 of 1.92 sg sement slurry. Dropped top plug , displaced cement , bumped plug and pressure tested the 13 3/8" casing to 200 bar.(Lost total 11m3 during displacement). Pulled landing string. And adjusted 13 3/8" casing, washed/flushed seal assembly area, sat and pressure tested seal assembly.
Pressure tested the 13 3/8" casing to200 bar/10 min.

Nippled down diverter and BOP systems. Hung BOP in BOP cranes on starboard. Nippled up the casing spool and Installed wellhead valves.
Nippled up BOP, diverter system and pressure tested BOP to 200bar.

8.6 8 ½" SECTION & WIRE LINE LOGGING

Total time used: 333.0 hrs.
Operational time: 254.5 hrs.
Downtime: 78.5 hrs.
Unplanned: 21.5 hrs.

8.6.1 Drilling

Drilled out shoetrack, rat hole and 3m of new formation with 12 ¼" clean out BHA from 1107m to 1149m. Circulated hole clean and performed LOT~1,68sg EMW with the water based mud system Displaced the hole to 1.30sg Oil Based Mud and pulled out of the hole with the clean out BHA.

Ran in hole with a 8 ½" rotary BHA. (Rotary BHA was primary BHA due to having MWD sensors as close to bit as possible to pick possible coring point when drilling into the reservoir).

Drilled 8 ½" hole from 1149-1240m. Had problems with cuttings conveyor system due to cuttings becoming dry , again creating unsufficient glide. Had to add base oil into conveyor screw to transport cuttings. At 1240m the hole was circulated while repairing a broke drive belt on the cutting conveyor. Continued drilling from 1240m, had to drill with reduced WOB and ROP due to avoid constant inclination build up and constant azimuth towards 90 deg and towards possible fault structure. (Target-tolerance top reservoir , radius = 100m). Reamed stands attempting to reduce inclination build up. Continued to drill down to 2065m with the rotary assembly where the hole was circulated clean.
The drillstring was retrieved due to having to make correction run to avoid missing the target.
Made up motor assembly and ran back in the hole.
Drilled and oriented the 8 ½" with the motor assy from 2065m to 2298m while increasing the mudweight from 1.30sg to 1.35sg according to instructions in the drilling programme. Continued to drill the 8 ½" section to TD of 3154m.

Higher than expected ECD readings were observed during drilling, this is believed to be caused by large cuttings generated by the 19mm cutters on the bit. Also the stabilizers in the BHA were found to have un-sufficient waterways causing the high ECD readings. The High ECD readings were supported by simulations with the observed size of cuttings and reduction in waterways past the stabilizers. The ECD values decreased with depth as formations changed to more competent shales and sandstone and cutting size generated from the PDC bit dercreased.

The FM3665ZR drillbit used in the section were designed to cope with the very abrasive sands of the Sandnes formation and to be able to drill the entire section in one bit run, hence the 19mm cutters.
The bit grading after drilling the Sandnes formation was 4,8,RO,S,X,1,WT,TD.

8.6.2 Logging

Rigged up the wireline equipment.
Ran in hole with the AIT/PEX/DSI (Run #1), observed obstruction at 1375m and were unable to pass 1527m (13 3/8" shoe @ 1144 mMD). Pulled out of the hole with the logging string.

Made up and ran in hole with the 8 ½" cleanout BHA and tagged bottom @ 3151.5m (2.5m of fill). Washed to bottom from 3151.5 to 3154m and circulated the hole clean. Pulled out of the hole with the clean out assembly.

Made up and ran in hole with the AIT/PEX/DSI (Run #2)on the wireline. Unable to RIH below 1152m with the wireline tools. (1152 = bottom of 12 ¼" cleanout , 1149m = bottom of 17 ½" hole). Pulled out of the hole and re-configured the wireline logging string, ran back in hole with wireline equipment(Run #3), but were unable to pass 1152m.

Made up and ran in hole with 8 ½" cleanout assembly. Took 2 ton weight at 1152m and 6-7 tonn @ 1163m. Pumped high vis sweeps and circulated the hole clean. Observed formation sand and cutting on the shakers. Pulled up to 1141m and wiped the hole – took 15 ton @ 1152m. Reamed interval 1144m to 1163m until clear. Ran back into bottom to 3154m with the BHA (no fill at bottom). Pulled out of the hole and laid down the clean out BHA.

Ran in hole with AIT/PEX/DSI (Run #4) and logged the well according to the programme.

The VSP-checkshots was cancelled due to strong winds.

8.7 P&A

Total time used: 270.0 hrs.
Operational time: 184.5 hrs.
Downtime: 85.5 hrs. (WOW= 64 hrs)

Ran in hole with cement stinger and sat a cement plug across the reservoir in two stages from 3154m to 2340m. (Primary barrier) Ran in hole with a 8 ½" cleanout assembly and tagged firm depth of plug with 10 tonnes @ 2364m.
Ran in hole with casing scraper and scraped the 13 3/8" casing in the plug setting area. Ran in hole with EZSV on drill pipe and sat same @ 1100m.
Sat 200m of cement on top of plug. The secondary barrier was tested to 70 bar above LOT @ 13 3/8"shoe.

Ran in hole and cut the 13 3/8" casing @ 406m. Retrieved the 13 3/8" casing to surface.

Sat cement plug from 330 to 180m, tagged the surface plug with 10 tonnes to confirm firm depth of plug. (Surface barrier)

The 30" and 20" casings were cut and retrieved 5m below seabed.
The retrieval of the 30" and 20" casing was delayed due to poor weather preventing pulling the casing strings through the splash zone.

8.8 RIG MOVE

Total time used: 57.5 hrs.
Operational time: 57.5 hrs.
Downtime: 0.0 hrs.

Put the Texas deck in vertical position, performed backload of equipment and sea fastening preparations. Moved the rig off 500m safety zone and continued transit to the Hummer location.

Mobilized equipment for first section of next well prior to rig move. (30" conductor, running equipment, drillpipe, 36" BHA)

9 DRILLING PROBLEMS AND RECOMMENDATIONS

SECTION	PHASE	EXPERIENCE/PROBLEM	RECOMMENDATION
Mobilization	Mob/ Demob	Lots of Varg equipment was onboard MGI wen arriving at Aimee. Both the bridge (3-4 items) and containers were left onboard. Cantlever deck was full. This did complicate the start-up on Aimee location: 1) Limited deck space 2) fully packed supply boat with lots of equipment for MGI, 3) no extra space for backload on the supply boat. This did not limit the number of lifts as equipment had to be moved several times before final position. The craneoperator also had crewchange on the same day we started to unload the boat " I should have been out during transit to prepare for this " he said. What solved a problem at Varg caused another at Aimee.	Unload all equipment not to be used on the new location before rig move. Load primary equipment for first section of new well prior to rigmove. Allow more time in time estimate for the demob and start up phase. A detailed material handling plan should be developed for the first 2-3 days. This should be handed over to the crane operator in charge.
Mobilization	Mob/ Demob	Penetration of all three spudcans were not sufficient according to DnV requirement. (4.7 m penetration required, 4.2 – 4,.7 m penetration measured). Supply boat Fernica was mobilized with a working ROV. The ROV was used to install a 2" hose from the rig and down to the spud cans. All 18 compartments were filled with 2.3sg barite mud until the escape hatch (vent line) overflowed. The total operation took approx 3 days. The operation was performed in October. Weaher conditions were above ROV working limits at times. An observation ROV (onboard MGI) was used to measure the spud can penetration. Penetration was measured using a pressure gauge converting to depth (+/- 0.2m accuracy). A more accurate sensor is available and should have been used. A poor contactor in the ROV surface unit caused several down time periods. The 2" hose twisted twice and was pulled to surface to be straightened. A 160m hse is difficult to handle manually on deck (easy to twist up). The brass connector to bee hook up to the spud can fill up line was damaged. A second connector was run as two set of 2" hoses were sent to the rig. Visability on the seafloor was poor due to no currents in the Yme area. Mud pumped on the seafllor gave zero ROV visibility for many hours.	Use more accurate depth sensor for spud can penetration measurements. The 2" hose should be delivered with a reeling device to prevent twisting the hose on deck and over the side of the rig.

30”	Casing	30” conductor was not able to pass 163m. (Sea floor 147 m). Ran cement stinger on 5” drillpipe and tried to circulate free without any effect. Waited on weather for 44 hours prior to start pulling. Wind speeds from 30-60 knots and max sea 5-10m. Risk of damage to texas deck when pulling the conductor.. Pulled the 30” conductor to surface.	Displace the surface hole to 1.5 sg mud prior to running the conductor. When filling up the hole just below seabed prior to pulling out to run the conductor. Evaluate to increase fill up depth to avoid disturbing formations just below seabed. Fill up the hole using flowrate less than rate for rotating motor to avoid rotating string in loose formations close to surface.
30"	Casing	The 30” conductor was set too low. The tensionframe should have been lifed up 43 cm before cementing. The 30” conductor was cut 43cm higher (compared to the land off ring) than planned (141cm compared to 98 cm). The distance from the drill floor down to the 30” was not measured prior to cementing the conductor. The tension frame should have been elevated to provide a 50cm swallow of the LP riser over the 30” conductor. The measured length from the land off ring and up to the cut was according to the drawings. However the Texas deck was further from the RKB than indicated on the drawings which were supplied from Maersk.	Accurate drawings with distances verified needs to be made available in the planning phase.
24"	Drilling	When racking back the 24” BHA the tp stabilizer came in conflict with the upper racking arm on the PRS. (Pipe racking system) This could very easily caused damage to the PRS.	BHA of this size must not have stabilizer above 15m on any stand which are going to be racked back.
24”	Drilling	After drilling to TD of the 24” section the well was circulated clean and displaced to 1.08 sg KCL mud. When starting to trip out of the hole, it was observed that the well did not take the right amount of fluid. After some investigating it was found that the mud were foaming in the trip tank.	Be aware of this phenomena ad have antifoam chemical at hand.
24”	Casing	When running 20” casing manual elevators were used. This caused a slow and more complex operation than if the remote operated elevator were used.	Provide a remote operated elevator for the 20” casing. - A remote operated elevator was supplied , however the remote operated elevator was too big and came in conflict with the casing tong. - The rig will have to be modified to run BX elevators to be able to run the 20” casing with a remote operated elevator.
24”	Casing	It took a long time to open the wash ports in the mudline hanger, circulate the annulus clean, close the washports in the mudline hanger and test the o-rings seals afterwards.	By use of a XO (swage) from 20” BTC to 4 1/2” IF connection all these operatons could have been done more effectievely.
17 ½”	Casing	During preparing running the 13 3/8” casing, the X-over from 13 3/8” 68# , L80 Dino Vam pin x 4 ½” IF (for connecting full open safey valve) was missing. Used a Halliburton circulation swage (with an installed low torque valve) instead.	Include X-over swages to 4 ½” IF in MEL during planning phase.
17 ½”	Casing	After installing the 13 3/8” wellhead , the wellhead running tool was not able to lift off. The ID of the BOP X-over (13.625”) was smaller than the wellhead running tool ID(13.812”). (The BOP x-over was installed on the wellhead when the wellhead running tool was inside the wellhead.) Had to disconnect BOP x-over to get out wellhead running tool, then re-install BOP X-over (3.5 hours lost)	General : Verify ID’s and OD’s prior to installing.

	Planning	Consider to plan for using slop as a spacer in front of cement jobs on stand alone wells. This will reduce volume of sops sent to shore for destruction.	Check if this can be done according to PSA legislation. If OK make this a standard in all future section recommendations.
8 ½"	Drilling	During drilling of 8 ½" section a Security FM 3665 ZR bit was used. The bit had a walk tendency to the right which is not normal. This resulted in extra hudging/ orienting of the string to prevent drilling out of the target. Furthermore much higher than expected ECD values were recorded during the top part of the 8 ½" section.	Evaluate to use a bit with 16mm cutters rather than this bit with 19mm cutters. However the bit was designed to cope with the long section and to be able to drill the very abrasive sands of the Sandnes formation. During drilling of the top part of the 8 ½" section the ECD values were substantially higher than anticipated and compared to what was calculated. This is believed to be caused by the large cutting generated by the bit and by the reduction In waterways across the stabilizers. The ECD values measured were support by the calculation when using the correct size of cuttings and using the reduction in waterways as input in the calculations. The ECD values decreased as drilling deeper as size of cuttings were reduced. Recommendation : Use bit with 16mm cutters to reduce size of cuttings if possible. The Halliburton stabilizers must be re-designed for sufficient waterways to prevent generating high ECD values across the BHA. The walk tendency is believed also to be caused by the drillstring tendency to be 90 deg on formation layers causing a constant walk to the east.
8 ½"	Drilling	During drilling of the 8 ½" section with a rotary assembly on Aimee the BHA built angle and it was difficult to prevent the building tendency. This again resulted in extra use of rig time to compensate for the drifting / building tendency.	For long 8 ½" sections always plan for use mud motors / steerable systems in order to optimize rig time, and to be able to do correcting actions. Remarks: The rotary assembly was used to minimize the distance from bit to MWD sensors to be able to pick top reservoir and coring point. The target tolerance was 100m radius tolerance and this should be a sufficient large target to be able to drill the section with a rotary pendulum assembly.
8 ½"	Logging	It was not possible to get the AIT/PEX/DSI wireline tool string below 1152m. <u>13 3/8" casing x 8 ½" open hole well design:</u> 13 3/8" casing shoe @ 1144m. 17 ½" rat hole @ 1149m. 12 ¼" BHA used to drill 13 3/8" shoe track and 3m new formation down to 1152m. 8 ½" hole drilled from 1152m and to TD. A wiper trip was run prior to next attempt to log the well. The 8 ½" rock bit BHA took 15 ton weight just below 1152m. Wiped and cleaned the area until no excess torque and drag. Pumped base oil and 7 m3 of hi-vis slug and got lots of sand and cutting over the shakers.	Unable to clean large 17 ½" rathole with 2000 lpm. The clean out string was run with no MWD to be able to increase the flowrate above the MWD limitations to sufficiently clean the rathole. → Reamed the rathole area below the shoe, then tripped to bottom and pulled back out of the hole without circulating prior to running the wireline logs successfully. Reduce the 17 ½" rathole to max 2m → Use up jet 13 3/8" shoe to be able to position the 13 3/8" shoe as close to bottom as possible. Suggest to use LWD tools instead of wireline tools if at all applicable as this would have saved days of rig time compared to the challenges with cleaning the rathole /well to be able to run the wireline tools. (No restrictions were observed at any stage while running the drillstring in or out of the hole)
8 ½"	Drilling	The 8 ½" section started with drilling out of the 13 3/8" casing and cleaning out the rat hole and 3m of new formation using a 12 ¼" rock bit. A rock bit will create a "flat" bottom of a borehole compared to a PDC bit which will create a cone shape. This	If it is planned to drill out of casing shoe and clean the rathole with a larger size bit than the bit used for the remaining section. Plan to use a PDC bit for the "clean out" to prevent sharp edges.

		might have been the reason for the wireline tools to hang up after the section had been drilled to TD.	
P&A	Cementing	Excess cement came to surface when cementing with 3 ½" cement stinger @ 3154/2844m (two stage cement plug) and EZSV @ 1149m. The cement to surface casused approximately20m3 of slops each time. All the cement plugs were underdiplaced with the steel displacement volume (top cement inside approx 100m higher than outside) This was not enough to provide the necessary U-tube effect. When cirulatig the hole clean above top cement , the cement inside the stinger came to surface.	Make sure cement underdisplaced sufficiently to allow cement to U-tube when pulling out with stinger.

10 HSE SUMMARY

	9/3-2
LTI	0
MTI	1
First aid	2
Accidental discharge	1
Dropped objects	0
H2 Value	

Totally 1 medical treatment incident (rust particles in eye) and 2 first aids were reported (muscle/skeletal discomfort and a burned finger during welding). These were all assessed as having a low potential. In additional one person got a twisted ankle after playing badminton. As this was not work related it is not included in the statistics.

11 SUMMARY OF INVESTIGATION REPORTS.

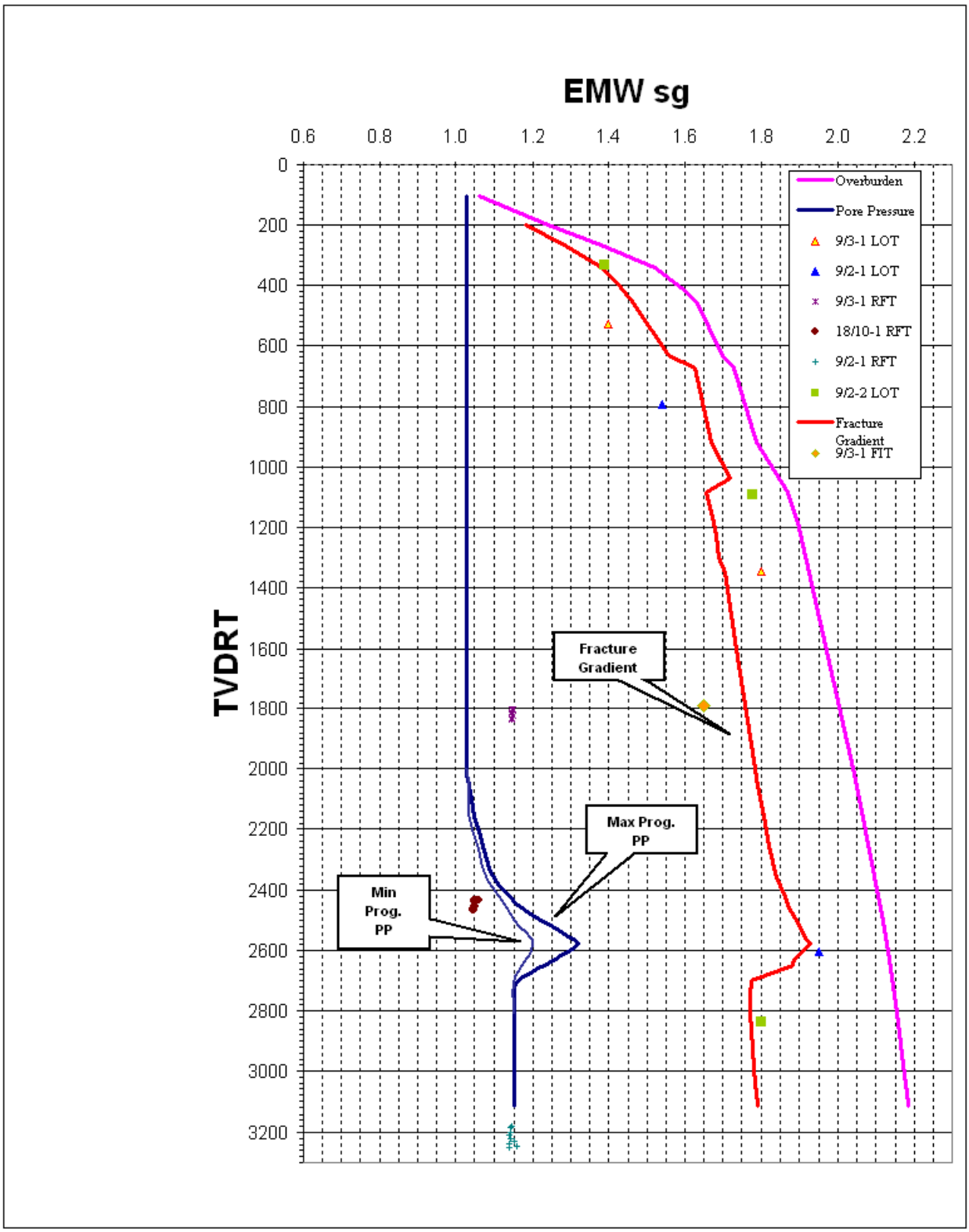
No investigations were conducted during the Aimee operations. A total of 436 RUH were reported. These were split into the following categories:

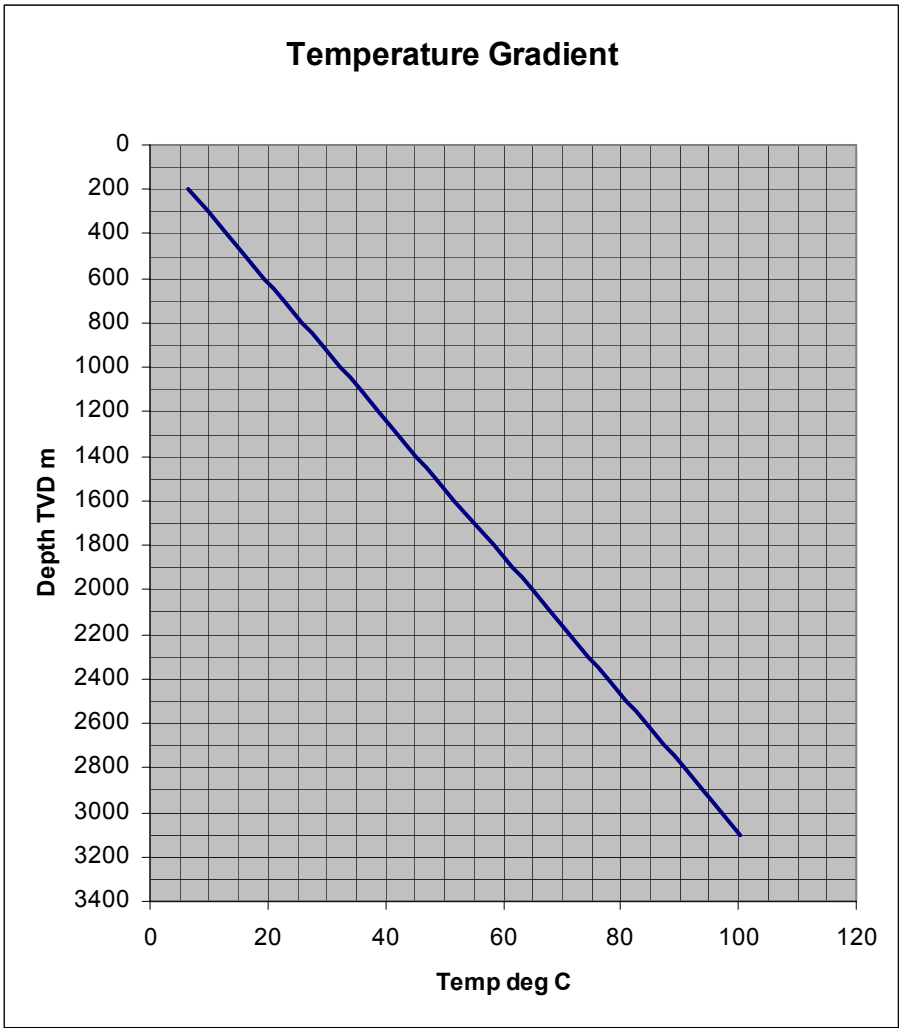
- 219 Conditions
- 2 Damage
- 4 Injury
- 110 Near miss
- 101 Quality

The two incidents reported as “Damage” were an accidental spill of 40 l OBM (RUH 59844) and a damaged sling (RUH 59105).

The four incidents reported as “Injuries” were a person feeling a pain in the lower back after lifting one end of a 3 1/2” DP (RUH 59981), a person got rust particles and dust into the left eye (RUH 60024), a person burned his left hand while welding (RUH 60055) and finally a person that twisted his left foot after playing badminton (RUH 60225). The two first incidents were reported as “First aid”, one (RUH 60024) was reported as “Medical treatment” while the last one was not work related and has not been included in the statistics. No LTIs were reported during operations.

12 PRESSURE AND TEMPERATURE GRADIENTS

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400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
2800
3000
3200
3400
0
20
40
60
80
100
120
Temp deg C

13 DAILY REPORTING

Activity Report For 9/3-2

Date : 16 Oct 2005 **Daily Cost : kr 14940464.00** **Report Number : 1**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	P	OTH		24	Left Varg A 500 m safety zone and sailed towards Aimee well location (24 nm off location)

Date : 17 Oct 2005 **Daily Cost : kr 3696676.00** **Report Number : 2**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	P	OTH		10	Sailed rig from 24 nm to 2 nm off Aimee location.
0	PM	TP	WAIT	WOW	5	Waited on weather for final positioning and installation of rig.
0	PM	P	OTH		6.5	Connected Northern Chaser to starboard aft (Vidar Viking connected to the front) and moved to final position.
0	PM	P	OTH		0.5	Pinned all three legs and jacked up to 0.5 m air gap. Final position 13.9 m off target. Rig heading 317.0 deg.
0	PM	TP	WAIT	RE	0.5	One main generator tripped due over heating and the remaining three generators tripped due to high load - black out. Fire alarm in logging unit activated due to loss of overpressure - all personnel mustered according to plan. Checked logging unit and called off alarm. Started up generators.
0	PM	P	OTH		1.5	Jacked up rig to 2.5 m air gap and started preloading.

Date : 18 Oct 2005 **Daily Cost : kr 3696676.00** **Report Number : 3**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	P	OTH		9	Compledted preloading. Installed diverter valve.
0	PM	P	OTH		1	Held preload for one hour - OK.
0	PM	P	OTH		3	Emptied preload tanks. Inspected derrick using climpers - OK.
0	PM	P	OTH		2	Jacked up rig from 2.5 m to 15 m air gap.
0	PM	P	OTH		4.5	Inspected spud cans with working ROV. Towmaster discussed results with town. It was decided to check all spud cans again using observation ROV depth measurement system for proper penetration.
0	PM	P	OTH		3	Checked spud cans with observation ROV. Found insufficinet spud can penetration. Prepared for skidding.
0	PM	P	OTH		1	Skid rig out for lifting of Texas deck (8 m). Compledted spud can inspection.
0	PM	P	OTH		0.5	Picked up 5" HWDP for lifting Texas deck.

Date : 19 Oct 2005 **Daily Cost : kr 2739676.00** **Report Number : 4**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	P	OTH		1.5	Completed picking up two stands of 5" HWDP.
0	PM	P	OTH		0.5	Performed safe job analysis prior to lifting Texas deck of the boat and installing same. Concluded weather condition not acceptable.
0	PM	U	OTH		1	Performed pre job meeting prior to starting spud can grouting operation. Continued work on top drive.
0	PM	U	OTH		3	Prepared installation of 2" hose for hook up to spud can. Launched working ROV (from Fennica) in the sea and hooked up 2" hose to spud can on leg 3.
0	PM	U	OTH		4	Pumped 15 m3 sea water from slug pit to test line up down to spud can 3 - OK. Mixed first batch of 2.35 sg barite pill for grouting.
0	PM	U	OTH		4	Pumped 8.5 m3 of 2.35 sg barite pill into leg 3 compartment S3 (observed returns through vent line). Stopped pumping and lined over to sea water to displace 2" line. Line plugged due to barite settling. Cleared line and hooked up same to compartment S2 and pumped 8.5 m3 of 2.35 sg barite.
0	PM	TU	WAIT	WOW	10	Not able to continue grouting operation due to weather condition above ROV working limits. Pulled working ROV out of water and waited on weather. Meanwhile installed pipehandler and started making up IBOP. Cleared deck. Completed installation of diverter ball valve (actuator to be installed). Cleaned pump room.

Date : 20 Oct 2005 **Daily Cost : kr 2739676.00** **Report Number : 5**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	TU	WAIT	WOW	5	Waited on weather (wind 30-40 kn, waves 4-7 m). Meanwhile performed maintenance work. Prepared safe job analysis for lifting Texas deck of Edda Frigg. Attempted to take in Edda Frigg without any success (heave approx. 4 m on boat).
0	PM	U	OTH		1	Launched ROV into sea and prepared to hook up 2" line to leg 3 spud can.
0	PM	TU	WAIT	VE	2	ROV not working - problem with connector in computer rack. Recified problem.
0	PM	U	OTH		2	Started grouting comparment S4 on leg 3.
0	PM	TU	WAIT	VE	0.5	ROV not working - problem with connector in computer rack. Recified problem. Stopped pumping 2.35 sg barite pill and swiched to pumping seawater.
0	PM	U	OTH		3.5	Switched to pumping 2.35 sg barite pill and filled S4 compartment (4 m3 pumped). Moved hose and filled S5 compartment (4 m3 pumped). Moved hose and filled S6 compartment (3.3 m3 pumped).
0	PM	P	OTH		1.5	Moved supply boat Edda Frigg in position and lifted of Texas deck with HWDP and sling hanging from top drive.
0	PM	TU	WAIT	VE	1.5	ROV not working - problem with connector in computer rack. Recified problem. Meanwhile skid rig inwards and installed Texas deck using climers.
0	PM	U	OTH		6.5	Disconnected 2" hose from S6 compartment and pulled hose to surface (hose bent close to connection - to be changed). Fennica moved position to leg 2. Installed hose on starboard side - problems with hose twisting. Hooked up 2" hose to leg 2 compartment S2. Filled S2 compartment with barite (5.8 m3 pumped). Disconnected hose with ROV. Meanwhile installed Texas deck clamps and support arms (completed 21:00). Prepared for skidding the all the way in prior to jacking operation. Performed skidding prejob meeting.
0	PM	TU	WAIT	VE	0.5	ROV not working - problem with connector in computer rack. Recified problem. Meanwhile skid rig inwards.

Date : 21 Oct 2005 **Daily Cost : kr 2762551.00** **Report Number : 6**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	TU	WAIT	VE	1	Problem with ROV connector in computer rack. Repaired failure. Meanwhile prepared for jacking operation.
0	PM	U	OTH		5	Hooked up 2" hose to leg 2 S3 compartmet and filled same with barite (5.5 m3 pumped). Moved hose to S1 compartment and filled same with barite (6 m3 pumped). Moved hose to S6 compartment and filled same (6 m3 pumped). Meanwhile jacked up rig from 15 m to 24.58 m air gap (02:00 - 03:00).
0	PM	U	OTH		8	Completed grouting of leg 2 spud cans (S3 = 2.4 m3, S4 = 3 m3). Closed escape valves on leg 2 and 3 (vent line for mud). Meanwhile continued installation of Texas deck.
0	PM	U	OTH		10	Positioned Fennica on leg 1 and hooked up 2" hose to spud can and filled same with barite (S2 = 4.4 m3 S1 = 4 m3, S6 = 9 m3, S5 = 2.5 m3, S4 = 2.5 m3). Meanwhile completed installation of Texas deck and prepared to skid outwards. Performed prejob meeting prior to skidding out.

Date : 22 Oct 2005 **Daily Cost : kr 2774245.00** **Report Number : 7**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PM	U	OTH		3	Completed grouting operation on leg 1 (S3 = pumped remaining 12 m3 in slug pit to empty same). Disconnected hose and pulled same. Closed all escape hatches. Handed over rig from Towmaster to OIM. Fennica left Aimee location. Meanwhile skid rig outwards.
0	PM	P	BOPW		3	Installed choke/kill hoses. Prepared tension wires for tension frame. Installed BOP on set back. Skid rig towards port side to final position (centered according to hole in Texas deck).
0	PM	P	RUP		9	Hooked up jumper hoses to centilever. Removed hatch coved and installed stairways and hand rails down to Texas deck. Prepared rig for operation.
0	PM	P	RUP		1.5	Laid out and measured drill collars.
0	PM	P	RUP		7.5	Picked up pipe and drill collars manually and racked in derrick according to programme.

Date : 23 Oct 2005 **Daily Cost : kr 2293245.00** **Report Number : 8**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	CH	P	RUP		2	Racked stands in derrick.
0	CH	P	RUP		0.5	Picked up and made up cement stand - racked same.
0	CH	P	RUP		1	Rigged up rig tongs and extensions for handling 11 1/4" motor. Launched observation ROV into sea due to upcoming weather.
30	CH	P	TRIP		2	Picked up hole opener/motor assembly and Anderdrift assembly and ran in hole to below Texas deck.
0	CH	P	TRIP		0.5	Performed prejob meeting prior to spud 36" hole.
144	CH	P	TRIP		1.5	Ran in hole with 36" BHA from 30 m to 144 m (3 m off bottom).
144	CH	P	OTH		0.5	Performed pre-spud meeting with day crew.
144	CH	P	OTH		0.5	Tested Anderdrift tool (0.5 deg) - OK.
219	CH	P	DRLL		8.5	Sat down 5 ton weight @ 147 m and started to drill 36" hole with no surface rotation (3000 lpm, RPM 90, WOB 1-2 ton, ROP 15 - 20 m/hr). Started surface rotation @ 167 m and drill down to 219 m (4000 lpm, RPM 30 - 50, WOB 2-10 ton, ROP 2-20 m/hr). Drilled hard formation from 202 - 211 m (ROP 2-5 m/hr). Pumped hi-vis sweeps every 10 m and backreamed every stand. Surveys (1 deg @ 153.6, 1 deg @ 167, 1 deg @ 179 m).
219	CH	P	CC		1	Pumped 2 x 10 m3 hi-vis sweep at TD and circulated hole clean. Displaced hole to 1.4 sg mud.
217	CH	P	TRIP		0.5	Performed wiper trip from 219 m to 156 m - no overpull observed. Ran back in hole (no restrictions) and tagged fill at 217 m (no clean out - 7 m rat hole).
0	CH	P	TRIP		4.5	Pulled out of hole to 156 m and topped up hole with 1.4 sg mud. Pulled out of hole. Racked back DC and HWDP and laid out stab/Anderdrift and 36" hole opener assembly.
0	CH	P	RUP		1	Cleared rigg floor and rigged up for running 30" conducator.

Date : 24 Oct 2005 **Daily Cost : kr 2293245.00** **Report Number : 9**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	CH	P	RUP		1	Rigged up 30" conductor handling equipment on drill floor.
0	CH	P	OTH		0.5	Performed prejob meeting prior to running 30" conductor. Performed safe job analysis for maual handling of rig tongs.
0	CH	TP	CSG	VE	1.5	Picked up 30" shoe joint and filled same with water to check float. Not able to flush water through - filled joint completely and landed elevator in rotary three times to shock float valve open. Not able to open valve. Laid out shoe joint.
0	CH	P	CSG		3	Picked up back up shoe joint and flushed through same without any problems. Continued to run in hole with 30" conductor from 10 m to 53 m.
163	CH	P	CSG		6	Ran in hole with 30" conductor from 53 m to 163 m. Entered hole @ 147 m without problem.
163	CH	TP	CSG	HPL	2	Took 20 ton weight @ 163 m - not able to pass this point. Filled 30" with seawater and work 30" in interval 150 - 163 m without any further progress. Not able to drop fluid level inside 30" (float valve closed). Laid out joint no. 15.
163	CH	TP	CSG	HPL	3	Ran cement stinger on 5" DP inside 30". Stung into float, broke circulation and dropped fluid level inside 30". Pulled out of hole with cement stinger on 5" DP.
159	CH	TP	CSG	HPL	1	Rigged up for pulling 30" conductor and pulled up one joint. Observed unacceptable movement on 30" through Texas deck and splash zone - risk of damage to Texas deck and 30" if 30" to be pulled to surface. Ran back down to 159 m - not able to pass this point (confirmed free up).
159	CH	TP	CSG	HPL	6	Waited on weather (wind 55 - 60 kt, max. sea 10 m). Meanwhile performed general maintenance/hook up work and prepared slurry unit for backload.

Date : 25 Oct 2005 **Daily Cost : kr 2293245.00** **Report Number : 10**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
159	CH	TP	CSG	WOW	24	Waited on weather. Meanwhile performed general maintenance work. (Limit for using the crane is 40 knots) Time Wind (kt) Wave max (m) Wave Sign (m) 00:00 58 04:00 55 08:00 45 12:00 38

Date : 25 Oct 2005 **Daily Cost : kr 2293245.00** **Report Number : 10**

16:00 38
18:00 38
22:00 45
24:00 35

Jumped ROV at 15:00 hrs.

Date : 26 Oct 2005 **Daily Cost : kr 2392245.00** **Report Number : 11**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
159	CH	TP	CSG	WOW	7.5	Waited on weather (not able to pull conductor due to high max. waves and possible damage to Texas deck and conductor when pulling through splash zone). ROV in the water during the hole operation. Meanwhile performed general maintenance work. Performed prejob meeting and safe job analysis prior to pull 30" conductor in rough weather. Time Wind (kt) Wave max (m) Wave Sign (m) 01:00 34----------6.1----------4.3 02:00 40----------5.5----------3.7 03:00 40----------6.8----------3.9 04:00 35----------7.1----------4.0 05:00 28----------6.3----------4.0 06:00 28----------5.0----------3.6 07:00 28----------6.0----------3.8 08:00 26----------5.1----------3.6
0	CH	TP	CSG	HPL	6	Pulled 30" conductor to surface and laid out same (80 ton overpull to pull conductor free). Rigged down 30" handling equipment and cleared drill floor. Rigged up 36" handling equipment.
115	CH	TP	CSG	HPL	5	Picked up 36" BHA and tested Anderdrift at surface - OK. Ran in hole to 115 m. Tested Anderdrift again - OK. Performed prejob meeting prior to enter hole.
219	CH	TP	CSG	HPL	2.5	Ran in hole to 156 m (9 m in) and reamed down to 219 m (reamed tight spots @ 160 - 166m , 196 - 198 m). Pumped hi-vis sweeps when required and 2 x 10 m3 at 219 m.
219	CH	TP	CSG	HPL	3	Wiped stand from 219 - 198 m. Took 10 ton weight going down @ 212 m. Reamed interval several times, pumped 15 m3 hi-vis @ 219 m and then wiped. No restrictions observed wiping up. Took weigth going down @ 210, 212, 213.4 m.

Date : 27 Oct 2005 **Daily Cost : kr 3099216.00** **Report Number : 12**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
219	CH	TP	CSG	HPL	2.5	Reamed interval 219 - 210 m x 4. Pumped 15 m3 hi-vis and wiped same interval. Took weight going down @ 210, 206 and 204 m. Reamed down from 204 m to 219 m and pumped 15 m3 hi-vis. Wiped interval 219 - 200 m. Took weight @ 216.5 m.
219	CH	TP	CSG	HPL	2	Wiped interval 219 m to 155 m prior to displace hole to 1.5 sg mud. Ran back down and took weight @ 196 - 200 and 204 m. Washed and reamed intervals until no excess torque and drag. Wiped down to 214.5 m without any restrictions. Reamed down to 219 m and pumped 15 m3 hi-vis.
219	CH	TP	CSG	HPL	0.5	Pumped 60 m3 1.5 sg mud and displaced hole (2000 lpm).
165	CH	TP	CSG	HPL	2	Pulled out of hole from 219 m to 165m and topped up hole with 15 m3 1.5 sg mud (500 lpm). Pulled up to 142 m (5 m above mudline).
142	CH	TP	CSG	HPL	2	Waited for two hours prior to run back in and verify hole open.
135	CH	TP	CSG	HPL	3	Ran in hole from 142 m to 216 m and took 3 ton weight. Washed down to 219 m with seawater, pumped 2 x 10 m3 hi-vis and circulated out. Displaced hole to 1.5 sg mud (60 m3) and pulled up to 165 m. Topped up hole with 15 m3 1.5 sg mud (500 lpm). Pulled out of hole to 135 m and displaced string and surface line to seawater.
0	CH	TP	CSG	HPL	3.5	Pulled out of hole with 36" BHA and laid down hole opener and Anderdrift assembly.
151	CH	TP	CSG	HPL	8.5	Rigged up 30" handling equipment and ran in hole to 151 m (joint no 13 of 18). Observed hole entry with 30" using ROV - poor visability. No problem to enter the hole.

Date : 28 Oct 2005 **Daily Cost : kr 5769762.00** **Report Number : 13**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
210	CH	P	CSG		3	Ran in hole with 30" conductor from 151 m to 211 m and landed 30" elevator on drill floor (space out

Date : 28 Oct 2005 **Daily Cost : kr 5769762.00** **Report Number : 13**

						according to plan). Took weight @ 184 - 187 m and 194 - 210.5 m. Worked 30" down slowly with 20 - 50 ton, picked up 1-2 m when required and continued to run in hole.
210	CH	P	CSG		1	Installed tension ring on top of tension fram and prepared to lift tension frame hanging from tension cylinders. Prepared to load shift over to 30" tension ring.
210	CH	TP	CSG	RE	0.5	Not able to lift tension frame using tension cylinders - leaking valve and low pressure in hydraulic system. Started to repair leaking valve.
210	CH	P	CSG		5	Performed prejob meeting prior to rig up 5" handling equipment and run cement stinger on drill pipe. Picked up cement stinger and ran in hole to 207 m on 5" drill pipe. Made up cement stand/hose and pressure tested same - OK.
210	CH	TP	CSG	OPS	1	Unable to sting in with cement stinger as side entry sub came to close to top of false rotary table. Racked back cement stand and installed 3 m pup. Installed cement stand/hose and pressure tested same.
210	CH	P	CSG		1.5	Ran in hole and stung in with cement stinger and sat down 3 ton. Tested kelly valves to 250 bar/5 min - OK. Displaced annlus to seawater (30 m3). Performed prejob meeting prior to cement job.
210	CH	P	CSG		1	Started cementing 30" conductor.
210	CH	TP	CSG	RE	0.5	Problems with rig air system. Rectified problem.
210	CH	P	CSG		2	Cemented 30" conductor (pumped 60 m3 1.55 sg tuned light XL cement). Pumped dye marker ahead of the cement and used 300% excess on cement job. Unable to observe retrns with the ROV due to poor visibility.
0	CH	P	CSG		1	Rigged down cement hose and racked cement stand. Pumped wiper ball to clean 5" drill pipe. Pulled out of hole with cement stinger and racked same.
0	CH	P	CSG		3.5	Performed prejob meeting prior to cut 30" conductor. Checked elevation of cut and found space out for LP riser unsufficient (limited swallow, need 0.5 m). Rigged down cold cutter and moved cut point up 43 cm to 16.65 m from RKB. Installed cold cutter.
0	CH	P	CSG		1.5	Cut conductor @ 16.65 m below RKB (1.41 cm above Tension Frame , 3.105m aove Texas Deck).
0	CH	P	CSG		1	Pulled cut 30" conductor and laid out same. Rigged down casing handling equipment. Measured distance from RKB to top of cut to be 16.65 m.
210	CH	P	CSG		1.5	Dressed cut and rigged up 5" handling equipment. Rigged down cold cutting equipment.

Date : 29 Oct 2005 **Daily Cost : kr 2329795.00** **Report Number : 14**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	CH	P	CSG		1	Picked up cold cutter from Texas deck and lowered down Texas deck guides. Broke and laid out cement stinger and centralizers.
0	CH	P	CSG		2.5	Measured 5" DP stands prior to run elephant foot. Picked up elefant foot and ran in hole and tagget But Weld Sub (BWS = 20" casing mudline hangoff point) @ 166.4 m (149.75 m from BWS to top of 30" conductor) . Pulled out of hole and laid out elephant foot. Broke of cementing pump in sub and laid out same. Meanwhile installed guides for 30" conductor on Texas deck.
0	CH	P	RUP		3.5	Performed prejob meeting prior to install diverter and low pressure riser. Picked up same and landed diverter.
0	CH	P	CSG		2.5	Picked up 5" drill pipe and ran same through rotary. Filled 30" and riser with seawater. Closed overboard valves/diverter bag and tested same - no leaks.
0	CH	P	CSG		1.5	Slipped and cut drill line.
0	IH1	P	RUP		3.5	Performed prejob meeting and picked up 5" drill pipe manually and racked 9 stands in derrick.
184	IH1	P	TRIP		7.5	Picked up 24" BHA and ran in hole to 184 m. Changed dies on pipe racking system (not able to hold 9 3/4" DC stand). Rigged up rig tongs and installed 24" stabilizer. Installed diverter bag.
184	IH1	P	OTH		0.5	Flushed through and function tested diverter system - OK.
184	IH1	U	OTH	WOP	1.5	Started to install pickup/laydown system (PLS) i V-door.

Date : 30 Oct 2005 **Daily Cost : kr 2269795.00** **Report Number : 15**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
184	IH1	U	OTH	WOP	3	Installed pickup/laydown system (PLS).

Date : 30 Oct 2005 **Daily Cost : kr 2269795.00** **Report Number : 15**

184	IH1	U	OTH	WOP	0.5	Completed installation of PLS. (Changed from summer time to winter time. Clock set back one hour).
219	IH1	P	DRLL		4	Performed prejob meeting prior to drilling out 30" shoe track and then drill new formetion from 219 m to 235 m. Reviewed shallow gas check list and lost circulation actions. Filled sand trap with water and established level in active pit(volume control). Ran in hole from 184 m and tagged top of cement @ 207.7 m. Drilled cement and shoe from 207.7 m to 210.7 m. Cleaned rat hole from 210.7 m to 219 m. Pumped hi-vis sweeps when required.
233	IH1	P	DRLL		1	Drilled 24" hole from 219 m to 233 m.
233	IH1	P	REAM		0.5	Reamed section back to the shoe (210.7 m) and pumped 7 m3 hi-vis. Cleaned shaker screens due to overflow. Washed down to 233 m.
237	IH1	P	DRLL		1	Drilled 24" hole from 233 m to 237 m.
0	IH1	P	TRIP		6	Circulated bottom up and pumped 38 m3 1.08 sg mud and 35 m3 1.08 sg hi-vis. Displaced surface lines. Pulled out of hole with 24" BHA. Pulled diverter bag. Flow checked well static (losses 300 l/hr). Racked 24" BHA.
237	IH1	P	DRLL		7	Picked up 9 7/8" pilot hole assembly and ran in hole to 200 m. Installed diverter bag when BHA through rotary. Washed down from 200 m to 237 m. Recorded drilling parameters.
266	IH1	P	DRLL		2	Drilled 9 7/8" pilot hole from 237 m to 266 m (ROP 10 - 70 m/hr, 3000 lpm, 2-5 k ft lbs, RPM surface 50, WOB 5-10 ton). Pumped 10 m3 hi-vis first single down on all stands. Dumped active pit and sand trap when required to maintain mud weight between 1.05 - 1.08 sg.

Date : 31 Oct 2005 **Daily Cost : kr 2212888.00** **Report Number : 16**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
507	IH1	P	DRLL		10.5	Drilled 9 7/8" pilot hole from 266 m to 507 m (ROP 10 - 70 m/hr, 3000 lpm, 2-5 k ft lbs, RPM surface 50 - 125, WOB 5-10 ton). Pumped 10 m3 hi-vis every stand. Dumped active pit and sand trap when required to maintain mud weight between 1.05 - 1.08 sg.
507	IH1	P	CC		1.5	Circulated hole clean from 507 m. Displaced hole to 1,08 Sg mud.
200	IH1	P	TRIP		1.5	Flowchecked well - ok, and pulled out of hole with 9 7/8" bottom hole assembly from 507 m to 200 m.
200	IH1	U	OTH		4.5	Hooked up and adjusted pipe laydown system.
0	IH1	P	TRIP		5	Continued pulling out of hole with 9 7/8" bottom hole assembly. Laid down MWD tools and motor. Changed dies on pipe racking system prior to handling 9 1/2" drill collars.
507	IH1	P	OTH		1	Held prejob meeting for picking up 24" bottom hole assembly. Picked up premade motor assembly.

Activity Report For 9/3-2

Date : 01 Nov 2005 **Daily Cost : kr 2285359.00** **Report Number : 17**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
220	IH1	P	TRIP		4	Made up and ran in hole with 24" bottom hole assembly to 220 m. Installed diverter element.
507	IH1	P	DRLL		11.5	Washed down with 1300 lpm from 220 m and tagged bottom at 237 m. Drilled 24" hole from 237 m to 507 m. (Flow: 3500 - 4150 lpm, SPP: 95 - 140 bar, WOB: 1 - 7 T, TQ: 2 - 4 kft.lb, RPM: 100 - 120)
507	IH1	P	CC		1.5	Circulated hole clean from 507 m.
507	IH1	P	CC		1	Displaced hole to 1,08 Sg KCl mud.
507	IH1	P	CC		0.5	Flowchecked well at 507 m. Slight losses (150 l/hr)
507	IH1	P	TRIP		1	Pulled out of hole with 24" bottom hole assembly from 507 m to 422 m. Had indications of hole not taking the correct volume when pulling out (swabbing). Flowchecked well - ok. Ran back to TD.
205	IH1	P	TRIP		3	Pumped out of hole from 507 m to 205 m (pumped steel displacement). Found that foaming KCl mud in the triptank was the reason for the volume discrepancy when pulling out.
205	IH1	P	OTH		1.5	Load tested the 30" conductor by slacking off the support from the tensioning frame. Observed conductor in 2 hrs - no movement. Meanwhile function tested and adjusted the pipe laydown system

Date : 02 Nov 2005 **Daily Cost : kr 2297053.00** **Report Number : 18**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
28	IH1	P	TRIP		3	Continued pulling out of hole with 24" bottom hole assembly and racked in derrick.
0	IH1	P	TRIP		2	Attempted to rack back lowermost part of bottom hole assembly (bit, motor, MWD and stabs). Not able to rack back using pipe racking system, due to top stabilizer came in conflict with upper racking arm. Laid down 23" stabilizer and racked back assembly.
0	IC1	P	RUP		3	Rigged up for running 20" casing.
0	IC1	P	CSG		0.5	Held pre-job meeting for running 20" casing.
25	IC1	P	CSG		1	Picked up and ran shoe joint and float joint.
25	IC1	TP	CSG	VE	1	Observed dammage on collar on float joint. Laid down joint and picked up backup float joint. Tested float - ok.
25	IC1	TP	CSG	VE	0.5	Picked up first casing joint. Found collar damaged on this also. Laid down joint.
61	IC1	P	CSG		0.5	Ran 20" casing from 25 m to 61 m.
61	IC1	P	CSG		1	Installed diverter element.
327	IC1	P	CSG		5	Continued running 20" casing from 61 m to 327 m. (Held pre-job meeting with new crew comming on shift at 16:00 hrs.)
327	IC1	P	CSG		0.5	Removed diverter element.
474	IC1	P	CSG		4	Picked up mudline hanger joint and continued running 20" casing to 474 m.
489	IC1	P	CSG		0.5	Picked up wellhead joint and made up to casing string. Checked running tool and ran in hole from 474 m to 489 m.
489	IC1	P	CSG		0.5	Picked up landing joint and made up to casing string. Installed diverter element.
501	IC1	P	CSG		1	Ran 20" casing from 489 m to 501 m. Worked casing down from 491 m to 501 m with 10 - 15 T drag. Lost 9,5 m3 of mud in total during casing running.

Date : 03 Nov 2005 **Daily Cost : kr 4266978.00** **Report Number : 19**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
501	IC1	P	CSG		1.5	Picked up cement head and made up to casing string. Rigged up hoses.
501	IC1	TP	CSG	VE	0.5	Attempted to flush through cement lines, but observed leak in top of the cement head. Opened top and found O-ring missing. Replaced O-ring and made up top again.
501	IC1	P	CSG		0.5	Flushed cement lines and pressure tested lines to 250 bar for 5 minutes - ok.
501	IC1	P	CSG		1	Broke circulation in steps to 2500 lpm and circulated 1 x annulus volume (62 m3). No losses observed.

Date : 03 Nov 2005 **Daily Cost : kr 4266978.00** **Report Number : 19**

501	IC1	P	CSG	2	Mixed and pumped 53,5 m3 of 1,56 sg lead slurry and 11,1 m3 of 1,95 sg tail slurry. Dropped plug and displaced with 1000 l of sea water using cement unit. Full return during cement job.
501	IC1	P	CSG	1	Lined over to rig pumps and displaced cement with sea water. Started up with 3000 lpm, but reduced to 1600 lpm due to heavy losses (lost app. 50% at 1600 lpm). Losses reduced after displacing app. 55 m3, increased flowrate in steps to 2900 lpm. Reduced flowrate just before bumping plug with 75 bars (97,5% efficiency on rig pumps).
501	IC1	P	CSG	0.5	Lined over to cement unit and pressure tested casing to 90 bar for 10 minutes - ok. Bled off pressure and checked for backflow - ok.
501	IC1	P	RUP	1	Rigged down cement head.
501	IC1	P	CSG	1	Rotated casing string to open circulating ports above mudline hanger.
501	IC1	P	RUP	0.5	Rigged up cement head and surface lines.
501	IC1	P	CSG	1.5	Circulated down casing and through circulation ports to clean out cement from 30" x 20" annulus. Spotted 7 m3 suger pill in annulus. Rigged down cement head. No cement in returns to surface observed.
501	IC1	P	CSG	1	Closed washports by rotating casing string. Torqued up to 15 kft.lbs.
501	IC1	P	CSG	1.5	Rigged up cement head and pressure tested casing to 35 bar to verify circulation port seals holding pressure after closing circulation ports. Rigged down cement head and lines.
501	IC1	P	CSG	2	Released casing head running tool. Pulled out and laid down landing string and running tool.
501	IC1	P	CSG	1	Rigged down casing running equipment.
501	IC1	P	BOPW	2.5	Nippled down diverter and low pressure riser, and laid down.
501	IC1	P	BOPW	3	Installed split ring and valves on 20" casing head. Ran in with casing head running tool on drill pipe and made up to casing head. Pulled 38 T overpull (casing weight above seabed + 10 T) and adjusted split ring down to 30" conductor top. Slacked off weight again and released running tool. Pulled out with and laid down running tool.
501	IC1	P	DRLL	2	Laid down 24" bottom hole assembly.

Date : 04 Nov 2005 **Daily Cost : kr 2285359.00** **Report Number : 20**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	IC1	P	BOPW		2	Cleaned and cleared rig floor. Meanwhile built scaffolding around casing head for installing BOP crossover.
0	IC1	P	BOPW		1	Ran and installed BOP crossover onto 20" casing head.
0	IC1	P	BOPW		16	Landed BOP on crossover spool. Nippled up BOP (installed kill and choke hoses and koomey hoses. Nippled up diverter). Meanwhile pressure tested kill and choke manifolds to 35/345 bar for 5/10 minutes.
0	IC1	P	BOPA		0.5	Function tested BOP from control unit. Cleaned and cleared rig floor.
0	IC1	P	BOPA		2	Made up BOP test tool to string. Removed plug on casing starter head (weephole).
0	IC1	P	BOPA		0.5	Filled and flushed BOP and lines.
0	IC1	P	BOPA		2	Pressure tested BOP and top drive to 35/130 bar for 5/10 minutes.

Date : 05 Nov 2005 **Daily Cost : kr 2285359.00** **Report Number : 21**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	IC1	P	BOPA		0.5	Continued pressure testing BOP and top drive to 35/130 bar for 5/10 minutes.
0	IC1	P	BOPA		0.5	Rigged down test stand and re-installed plug in casing starter head.
0	IC1	P	BOPA		1.5	Pulled out with and laid down BOP test tool. Experienced some problems pulling through annular. Operated annular and came through ok.
0	IC1	TP	BOPA	RE	2.5	Attempted to pressure test BOP shear seal against well. Not able to get good test. Operated shear ram several times, but no success. Confirmed that leak was through BOP and not down hole.
0	IC1	TP	BOPA	RE	1	Opened BOP and inspected shear rams and seals. No damage observed on the rams. Minor damage to lip seal on upper ram block. Removed some rubber pieces and greased seal elements (elements were dry).
0	IC1	TP	BOPA	RE	2	Closed BOP and attempted to test shear ram to 90 bar against well. Still not able to get good test.

Date : 05 Nov 2005 **Daily Cost : kr 2285359.00** **Report Number : 21**

0	IC1	TP	BOPA	RE	1.5	Ran in hole with 5" drill pipe and tested 20" casing to 90 bar for 10 minutes against closed pipe ram - good test.
0	IC1	TP	BOPA	RE	1	Opened BOP and inspected shear ram.
0	IH2	P	BOPW		1	Ran in hole with wear bushing on running tool and sat wear bushing. Pulled out with and laid down running tool.
0	IH2	P	TRIP		5.5	Picked up 5" drill pipe from deck and racked in derrick. Held safe job analyses prior to start. Meanwhile worked on BOP shear seals. Found damaged top seal. Changed same.
0	IH2	P	BOPA		0.5	Pressure tested shear ram to 35/90 bar for 5/10 minutes against 20" casing - ok.
0	IH2	P	TRIP		0.5	Continued picking up 5" drill pipe from deck, and rack in derrick. Picked up 72 joints in total.
0	IH2	P	TRIP		2.5	Laid down 9 1/2" drill collars and accelerator from derrick.
32	IH2	P	TRIP		2	Picked up motor, MWD and stabilizer assemblies and made up 17 1/2" bottom hole assembly to 32 m.
32	IH2	P	TRIP		1	Programmed MWD tool.
114	IH2	P	TRIP		0.5	Continued making up 17 1/2" bottom hole assembly to 114.

Date : 06 Nov 2005 **Daily Cost : kr 2285359.00** **Report Number : 22**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
228	IH2	P	TRIP		1.5	Continued making up 17 1/2" bottom hole assembly to 228 m.
426	IH2	P	TRIP		1	Ran in hole with 17 1/2" bottom hole assembly from 228 m to 426 m while picking up 5" drill pipe from deck. Picked up 21 joints.
426	IH2	P	OTH		1	Filled pipe and performed choke drill.
487	IH2	P	TRIP		0.5	Washed down from 426 m and tagged plug at 487 m.
501	IH2	P	DRLL		3	Drilled out float, and shoetrack and shoe at 501 m. (Flow: 3100 lpm, SPP: 80 - 90 bar, WOB: 2 - 4 T, RPM: 30, ECD: 1,04 Sg EMW)
510	IH2	P	DRLL		1.5	Cleaned out rat hole and drilled 17 1/2" hole from 507 m to 510 m.
510	IH2	P	CC		1	Circulated a 10 m3 hi-vis sweep around and prepared for formation integrity test.
510	IH2	P	OTH		1	Performed formation integrity test to 1,30 Sg EMW (pressured up well to 14 bar).
781	IH2	P	DRLL		13.5	Drilled 17 1/2" hole from 510 m to 781 m. Pumped a 10 m3 hi-vis sweep each stand. (Flow: 3600 - 4000 lpm, SPP: 108 - 171 bar, WOB: 3 - 8 T, RPM: 40 - 100, TQ: 2 - 4 kft.lb, ECD: 1,06 - 1,13 Sg. ECD increased when entering Ekofisk, due to MW out increased from 1,06 to 1,11 Sg)

Date : 07 Nov 2005 **Daily Cost : kr 2297053.00** **Report Number : 23**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1044	IH2	P	DRLL		24	Drilled 17 1/2" hole from 781 m to 1044 m. Pumped a 10 m3 hi-vis sweep each stand. (Flow: 4000 - 4350 lpm, ROP: 5-45 m/hrs, SPP: 171 - 214 bar, WOB: 4 - 22 T, surface RPM: 42 - 60, bit RPM: 137-163, Torqe: 3 - 8 kftlb's, ECD: 1,10 - 1,13 sg.)

Date : 08 Nov 2005 **Daily Cost : kr 2297053.00** **Report Number : 24**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1069	IH2	P	DRLL		3	Drilled 17 1/2" hole from 1044 m to 1069 m. (4300 lpm, 215 bar, WOB: 17 tons, ROP: 6-30 m/hrs, RPM surface: 51, RPM bit: 155, torque: 4 - 6 kftlb's, ECD: 1.12 sg)
1070	IH2	P	DRLL		0.5	Got drilling break at 1069 m, stopped drilling at 1070 m. Lined up and performed a flowcheck (15 min), ok static.
1149	IH2	P	DRLL		3.5	Drilled 17 1/2" hole from 1070 m to 1149 m. (Flow: 4280 lpm, 218 bar, WOB: 17 tons, ROP: 29 m/hrs, RPM surface: 50-57 , RPM bit: 163, torque: 6 kftlb's, ECD: 1,12 sg)
1135	IH2	P	CC		2.5	Pumped 2 x 20 m3 hi-vis pills, pulled back to 1135 m and circulated hole clean.

Date : 08 Nov 2005					Daily Cost : kr 2297053.00 Report Number : 24
1149	IH2	P	CC	1	Ran back to TD and displaced hole to 1.15 sg bentonite mud.
1149	IH2	P	CC	0.5	Performed flow check (15 min), ok static. Meanwhile cleaned flow line.
1081	IH2	P	TRIP	1	Pulled out of hole with 17 1/2" bottom hole assembly from 1149 m to 1043 m. Picked up 10T drag over 1052-1043. Ran in hole to 1081 m.
1018	IH2	P	REAM	1.5	Back reamed hole from 1081 m to 1018 m and circulated bottoms up with 1.15 sg bentonite mud. (4200 lpm, 225 bar, surface RPM: 105, torque: 3 kftlb's).
993	IH2	P	REAM	0.5	Continued backreaming out of hole (4200 lpm, 225 bar, 100 RPM) from 1018 m to 993 m.
500	IH2	P	TRIP	2	Pulled out of hole from 993 m to 500 m.
500	IH2	P	OTH	0.5	Performed flow check (15 min), ok static.
229	IH2	P	TRIP	1	Pulled out of hole with 17 1/2" bottom hole assembly from 500 m to 229 m. Rigged down PS21 slips and mud bucket.
32	IH2	P	TRIP	2.5	Pulled out of hole with 17 1/2" bottom hole assembly from 229 m to 32 m, racked back same.
32	IH2	P	OTH	0.5	Switched off and downloaded MWD.
0	IH2	P	TRIP	1	Pulled out of hole remaining 17 1/2" bottom hole assembly, laid down same. Stabilisers clogged with claystone/chalk.
0	IH2	P	RUP	0.5	Changed elevator and cleared rig floor.
60	IH2	P	OTH	2	Made up and ran in hole with clean out tool for 13 3/8" hang off profile. Flushed/cleaned 13 3/8" hang off profile (2400 lpm, 15 bar, 5 RPM) and engaged profile. Rotated in profile for cleaning profile. Pulled out of hole with clean out tool.

Date : 09 Nov 2005						Daily Cost : kr 2297053.00 Report Number : 25
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	IH2	P	OTH		0.5	Continued to pull out of hole with 13 3/8" hang off profile clean out tool, laid down same.
0	IH2	P	OTH		0.5	Measured distance (strapped pipe) from RKB to mud line hang off point: 166.88 m.
0	IH2	P	OTH		1	Retrieved bore protector (landed with combination tool into surface 13 3/8" hang off point, strapped pipe). Measured distance from RKB to surface 13 3/8" hang off point: 16.24 m.
0	IC2	P	CSG		2	Performed tool box meeting and rigged up 13 3/8" casing handling equipment and fill up tool.
0	IC2	P	CSG		0.5	Performed tool box meeting prior to running 13 3/8" casing.
0	IC2	P	RUP		1	Rigged up for running 13 3/8" casing.
0	IC2	TP	CSG	RE	0.5	Problems with pipe lifting machine, not able to centralize casing into well centre. (Pivot cylinder for fox hole not properly lined up).
34	IC2	P	CSG		1	Picked up and checked shoe joint (hosing water through shoe and observed that shoe was holding when lowering below flow lone). Picked up intermediate joint, bakerlocked same.
972	IC2	P	CSG		8	Performed tool box meeting (day crew), checked and made up float, bakerlocked same. Ran in hole with 13 3/8" casing from 34 m to 972 m. Checked and adjusted casing tally.
1144	IC2	P	CSG		3.5	Picked up mudline hanger and ran in hole with 13 3/8" casing from 972 m to 1123 m. Picked up surface hanger and ran in hole with 13 3/8" landing string. Landed 13 3/8" casing in mudline hanger, got 37 cm too high stick up.
1091	IC2	TP	CSG	OPS	2	Pulled out landing joint, strapped same. Laid out surface hanger and pulled out with 13 3/8" casing to 1091 m for new space out.
1105	IC2	TP	CSG	OPS	0.5	Ran in hole with new space out from 1091 m to 1105 m.
1105	IC2	TP	CSG	OPS	1	Laid down and replaced damaged casing joint.
1144	IC2	TP	CSG	OPS	1.5	Picked up space out joints and surface hanger. Ran in hole with 13 3/8" landing string. Recorded weights: up: 130 tons, down: 124 tons. Landed 13 3/8" casing softly in mud line hanger with full string weight. Drained riser and verified correct space out. Total losses during running 13 3/8" casing: 5.5 m3
1144	IC2	P	CSG		0.5	Installed cement head.

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1149	IC2	P	CSG		1	Continued installing cement head and lines. Pressure tested surface lines 250 bar/5 min, ok.
1149	IC2	P	CC		1	Circulated 13 3/8" casing volume with seawater 1,5 times (135 m3, 3000 lpm, 109 bar, 100% returns)
1149	IC2	TP	CSG	RE	1	Not able to get air from cement bulk tanks to cement unit, troubleshoot same.
1149	IC2	P	CSG		1.5	Pumped 10 m3 drill water and released bottom plug. Mixed and pumped 38.5 m3 1.92 sg cement slurry. Released top plug, displaced cement slurry with seawater (2000 - 3000 lpm, 40-150 bar,). Reduced flowrate to 800 lpm (110 bar), bumped blug (110 to 145 bar) at 5425 strokes (equivalent 97% pump efficiency). Lost 11m3 total during displacement.
1149	IC2	P	CSG		1.5	Lined up cement unit and pressure tested 13 3/8" casing to 200 bar/10 min, ok. Checked for backflow, ok. Rigged down cement head and cement hose.
0	IC2	P	CSG		1	Backed off 13 3/8" casing running tool, pulled and laid down landing string.
0	IC2	P	RUP		2.5	Performed tool box meeting, rigged down 13 3/8" casing handling equipment, stored same on rig floor due to no crane operations (wind > 40 knots).
0	IC2	P	RUP		2	Cleared rig floor (wind < 40 knots). Picked up 13 3/8" surface casing adjustment tool, mill/flush tool and seal asembly setting tool.
0	IC2	TP	CSG	RE	0.5	Pipe racking system failed. (Computer frosen, problems with network/communication)
16	IC2	P	CSG		2	Made up surface casing adjustment tool, ran in hole and adjusted 13 3/8" casing. Pulled 23 tons overpull during final adjustment. Pulled out of hole with surface casing adjustment tool.
16	IC2	P	CSG		1.5	Made up and ran in hole with the mill and flush assembly. Washed/flushed seal assembly area. Pull out of hole with the mill and flush assembly, laid down same.
16	IC2	P	CSG		3	Made up and ran in hole with seal assembly running tool. Slipped seal assembly's into the running tool, installed and sat seal assembly's. Pressure tested seal assembly, ok.
0	IC2	P	CSG		0.5	Cleared rig floor and picked up tools for diverter. Pressure tested 13 3/8" casing to 200 bar/10 min, ok.
0	IC2	P	RUP		4.5	Performed tool box meeting. Nippled down diverter, pulled and laid out diverter and low pressure riser. Nippled down slick joint and pulled same.
0	IC2	P	RUP		0.5	Performed tool box meeting and nippled down BOP connector.

Date : 11 Nov 2005					Daily Cost : kr 2273665.00	Report Number : 27
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	IC2	P	BOPA		1	Lifted and moved off BOP to starboard (had to remove kill line to get enough space).
0	IC2	P	BOPW		1	Prepared and removed x-over starter head from wellhead. Installed seal assembly lock down ring.
0	IC2	P	BOPW		4.5	Performed tool box meeting. Prepared and installed wellhead (including BOP x-over) and valves. Pulled with 20 tons overpull to confirm latched lock down ring, ok. Attempted to disengage running tool, pulled 15 tons overpull, no go.
0	IC2	TP	BOPW	PRC	3.5	Performed tool box meeting, disconnected BOP x-over (to free running tool), retrieved and laid out running tool. Installed BOP x-over.
0	IC2	P	BOPW		1.5	Performed tool box meeting, nippled up valves on wellhead.
0	IC2	P	BOPW		2	Tested wellhead wing valves (345 bar/10 min, ok), meanwhile performed tool box meeting prior to lifting BOP and diverter system.
0	IC2	P	BOPA		1.5	Lifted and soft landed BOP on BOP cross over and nippled up same.
0	IC2	P	BOPA		3	Nippled up slick joint and installed kill hoses.
0	IC2	P	BOPA		1	Nippled up diverter system, pressured up same.
13	IC2	P	BOPA		2	Performed tool box meeting. Made up, ran in hole and landed the BOP test plug .
0	IC2	P	BOPA		3	Pressure tested BOP to 20/200 bar for 5/10 min, ok. Rigged down test line and pulled out of hole with test plug.

Date : 12 Nov 2005					Daily Cost : kr 2273665.00	Report Number : 28
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	IC2	P	BOPA		2	Laid out space out joints. Dressed combination tool and RIH and set wear bushing. POOH. Laid out combination tool and racked back 3 stands of HWDP.

Date : 12 Nov 2005					Daily Cost : kr 2273665.00	Report Number : 28
0	IC2	P	BOPA		0.5	Pressure tested BOP shear rams (200 bar/10 min, ok)
197	PH	P	TRIP		1.5	Performed tool box meeting, made up and ran in hole with 12 1/4" clean out bottom hole assembly to 197 m.
197	PH	TP	TRIP	RE	0.5	Problems with pipe lifting system, troubleshoot same. (Pipe set down sensor not working).
1077	PH	P	TRIP		2	Ran in hole with 12 1/4" BHA with 5" drill pipe from 197 m to 1077 m.
1107	PH	P	CC		1	Washed down (4350 lpm, 200 bar) from 1077 m, tagged cement at 1107 m.
1107	PH	P	OTH		0.5	Performed choke drill.
1144	PH	P	DRLL		7.5	Drilled out (2000 lpm, 42 bar, 44 RPM, 18 tons, 1 ftklb's) shoe track from 1107 m to 1144 m.
1149	PH	P	DRLL		0.5	Drilled out rat hole from 1144 m to 1149 m (2100 lpm, 56 bar, 90 RPM, 8 tons, 4 ftklb's).
1152	PH	P	DRLL		0.5	Drilled 3 m new formation from 1149 m to 1152 m (2100 lpm, 56 bar, 90 RPM, 8 tons, 4 ftklb's).
1152	PH	P	CC		1.5	Pulled bit into 13 3/8" shoe. Pumped 2 x 10 m3 high-vis pills and circulated hole clean (even mud weight in/out: 1.05 sg)
1149	PH	P	OTH		0.5	Lined up from cement unit to string and annulus. Performed LOT: 1.68 sg EMW. Pumped 497 ltrs and returned 470 ltrs.
1149	PH	P	OTH		0.5	Lined up trip tank for observing well - static.
1152	PH	P	CC		2	Performed tool box meeting and displaced well to 1.30 sg OBM with 2400 LPM / 60 RPM
1144	PH	P	OTH		1.5	Pulled up bit from 1152 m to 1144 m. Installed blanks at cuttings shute (3 each) to secure potential OBM spillage.
1144	PH	P	OTH		0.5	Performed 15 min flow check, ok static.
765	PH	P	TRIP		1	Pulled out of hole with 12 1/4" clean out BHA from 1144 m to 765 m

Date : 13 Nov 2005					Daily Cost : kr 2273665.00	Report Number : 29
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
196	PH	P	TRIP		1.5	Pulled out of hole with 12 1/4" clean out BHA from 765 m to 196 m. Performed flow check (15 min), ok static.
0	PH	P	TRIP		1.5	Pulled out of hole with 12 1/4" clean out BHA, laid down same.
0	PH	P	OTH		0.5	Cleared rig floor.
0	PH	P	OTH		0.5	Performed tool box meeting prior to making up 8 1/2" BHA.
220	PH	P	OTH		3	Picked up 8 1/2" BHA to 220 m.
2920	PH	P	OTH		4.5	Perfomed tool box meeting. Picked up 90 joints of 5" drill pipe and ran in hole same (2920 m).
220	PH	TP	OTH	RE	1.5	Racked back 5" drill pipe stands in derrick. (Extra run due to previous PLS problems.)
531	PH	P	TRIP		1.5	Ran in hole with 8 1/2" bottom hole assemby from 220 m to 531 m while picking up pipe from deck.
531	PH	P	OTH		1.5	Broke down and laid out 8" jar stand (stand consisting of 1 x 8" Jar and 2 x 8" drill collars).
1128	PH	P	TRIP		2.5	Ran in hole with 8 1/2" bottom hole assembly from 531 m to 1128 m while picking up singles from deck. Total 180 joints of 5" drill pipe picked.
1152	PH	P	CC		1	Broke circulation, checked flow system and slowly increased pumps and RPM to drilling parametres. Washed down (122 bar, 2000 lpm, 133 RPM) from 1128 m to 1152 m.
1229	PH	P	DRLL		4.5	Drilled 8 1/2" hole (1980 lpm, 129 bar, 2-4 tons, ROP: 24-35 m/hrs, RPM: 133, torque: 1-2 ftklb's, ECD: 1.36-1.37) from 1152 m to 1229 m. Problems with conveyor system (crushed cuttings becomes dry, again creating insufficient glide).

Date : 14 Nov 2005					Daily Cost : kr 2250790.00	Report Number : 30
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1240	PH	P	DRLL		1	Drilled 8 1/2" hole from 1229 m to 1240 m (1980 lpm, SPP: 129 bar, WOB: 2-4 tons, ROP: 24-35 m/hrs, RPM: 133, torque: 1-2 ftklb's, ECD: 1.36-1.37 sg). Reamed back one single per stand drilled.
1240	PH	TP	CC	RE	1	Stopped drilling and circulated at reduced flowrate (400 lpm, 19 bar) due to broken drive belt on conveyor (shaker house). Repaired same.
1573	PH	P	DRLL		22	Drilled 8 1/2" hole from 1240 m to 1573 m (1980 lpm, SPP: 92-136 bar, WOB: 0-4 tons, ROP: 6-36

Date : 14 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 30**

m/hrs, RPM: 133-162, torque: 1.2-2.0 ftklb's, ECD: 1.37-1.39 sg) with restricted weight on bit (0-4 tons), this to avoid inclination build up. Reamed back one single per stand drilled.

Date : 15 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 31**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1951	PH	P	DRLL		24	Drilled 8 1/2" hole from 1573 m to 1951 m. (Flow: 1964-1984 lpm, SPP: 132-149 bar, WOB: 0.1-4.8 tons, ROP: 5-30 m/hrs, 137-148 RPM, torque: 1-2 ftklb's, ECD: 1.37-1.39 sg). Reamed back one single per stand drilled. Drilled with restricted weight on bit to reduce inclination build up.

Date : 16 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 32**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2065	PH	P	DRLL		8.5	Drilled 8 1/2" hole from 1951 m to 2065 m (Flow: 1981 - 1997 lpm, SPP: 135-150 bar, WOB: 0.2-3.1 tons, ROP: 6-30 m/hrs, RPM: 149, torque: 1.2 - 2.9 ftklb's, ECD: 1.37-1.38 sg) with restricted weight on bit, this to avoid building inclination. Reamed back one single per stand drilled. Not able to control inclination build up. Performed check survey at 2035 m: inclination: 3.37 deg, azimut: 98.68 deg. Not able to hit target with same or higher inclination. Evaluated situation, decided to pull out of hole for changing to mud motor.
2035	PH	U	CC		2.5	Circulated hole clean (165 RPM, 2000 lpm, 142 bar). Racked back one stand after 1 hour circulation.
217	PH	U	TRIP		5	Performed flowcheck (10 min), ok static. Pulled out of hole with 8 1/2" bottom hole assembly from 2035 m to 217 m. The open hole was in good condition.
0	PH	U	TRIP		1.5	Pulled out of hole with 8 1/2" bottom hole assembly, racked back heavy weight drill pipe and drill collars. Broke off bit.
2065	PH	TU	DRLL	VE	1	Communication problems with MWD tool, troubleshoot same.
0	PH	U	OTH		1	Downloaded MWD tool and switched off same. Laid out MWD and BHA components.
226	PH	U	OTH		0	Picked up mud motor, re-built and ran in hole with 8 1/2" bottom hole assembly.
450	PH	U	TRIP		4.5	Ran in hole with modified 8 1/2" bottom hole assembly from 226 m to 450 m.

Date : 17 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 33**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1145	PH	U	TRIP		1.5	Ran in hole with 8 1/2" bottom hole assembly from 450 m to 1145 m.
1145	PH	U	CC		0.5	Broke circulation. Performed puls and mud motor test, ok
2030	PH	U	TRIP		2.5	Ran in hole with 8 1/2" bottom hole assembly from 1145 m to 2030 m.
2063	PH	U	CC		1	Broke circulation, increased same in steps to 2000 lpm (170 bar). Meanwhile ran in hole to TD (2065 m) and back to 2063 m. (2 m fill).
2063	PH	U	OTH		0.5	Performed check survey and oriented tool face. Incleased flow to 2000 lpm (130 bar), pump pressure showed 40 bar less than prior to check survey, troubleshoot same. Found leakage under cantilever deck (400 ltr OBM spilled on deck, estimated 40 ltr OBM spill to sea), changed standpipe.
2145	PH	P	DRLL		4	Slided 8 1/2" hole from 2065 m to 2145 m (2000 lpm, 180- 184 bar, 1-3 tons, 15-20 m/hrs)
2298	PH	P	DRLL		8.5	Drilled 8 1/2" hole from 2145 m to 2268 m (flow: 1969 lpm, pressure: 172-207 bar, WOB: 0.3-7.4 tons, ROP: 6-66 m/hrs, RPM surface: 113-125, RPM downhole: 231-243, torque: 1.0-3.5 kflbs, ECD: 1.34-1.41 sg). Increased wud weight gradually while drilling from 1.30 sg to 1.35 sg. Reamed back one single per stand drilled.
2268	PH	TP	OTH	VE	2	Stopped drilling and racked back one stand due to computer problems. Mud logger computer was not able to communicate with MWD computer. Troubleshoot same, re-booted MWD computer and mud logger computer.
2366	PH	P	DRLL		2	Drilled/oriented 8 1/2" hole from 2298 m to 2366 m. (flow: 1961 lpm, SPP: 198 bar, WOB: 5 tons, ROP: 43 m/hrs, surface RPM: 120, bit RPM: 238, torque: 3 kftlbs, ECD: 1.41 sg). Reamed back one single per stand drilled.
2375	PH	P	DRLL		0.5	Slided 8 1/2" hole from 2366 m to 2375 m (2000 lpm, 199 bar, 15-20 m/hrs, 3 tons)
2385	PH	P	DRLL		0.5	Drilled/oriented 8 1/2" hole from 2375 m to 2385 m. (flow: 1948 lpm, SPP: 205 bar, WOB: 0.6-6.0 tons, ROP: 18-63 m/hrs, surface RPM: 99, bit RPM: 216, torque: 3 kftlbs, ECD: 1.40 sg). Reamed back one single per stand drilled.

Date : 18 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 34**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2412	PH	P	DRLL		1	Drilled 8 1/2" hole from 2385 m to 2412 m (1948 lpm, 168-206 bar, 1-6 tons, 18-63 m/hrs, surface: 99 RPM, bit: 216 RPM, 3-4 kftlbs, ECD: 1.40 sg). Reamed back one single per stand drilled. At 2385 m, gas increased from 0.1% to 0.2%.
2412	PH	TP	DRLL	RE	0.5	Power assignment to top drive did not apply power, changed assignment on top drive.
2442	PH	P	DRLL		1	Drilled 8 1/2" hole from 2412 m to 2442 m. (2000 lpm, 205 bar, 1-3 tons, 8-50 m/hrs, surface RPM: 99, bit RPM: 216, 3 kftlbs, gas: 0.1-0.2%, ECD: 1.40 sg) Reamed back one single per stand drilled.
2455	PH	P	DRLL		1.5	Slided 8 1/2" hole from 2442 m to 2455 m (2000 lpm, 199 bar, 18-20 m/hrs, 2-3 tons)
2530	PH	P	DRLL		3	Drilled 8 1/2" hole from 2455 m to 2530 m (2000 lpm, 184-218 bar, 1-3 tons, 8-50 m/hrs, surface RPM: 96, bit RPM: 216, 2-3 kftlbs, gas: 0.1-0.2%, ECD:1.41 sg). Reamed back one single per stand drilled.
2546	PH	P	DRLL		2	Slided 8 1/2" hole from 2530 m to 2546 m (1975 lpm, 192 bar, 10-20 m/hrs, 3 tons)
2718	PH	P	DRLL		15	Drilled 8 1/2" hole from 2546 m to 2718 m (1987-2053 lpm, 189-219 bar, 0.2-5.5 tons, 4-51 m/hrs, surface RPM: 116-120, bit RPM: 237-243, 1-5 kftlbs, gas: 0.0-0.7%, ECD: 1.40-1.41 sg). Drilled with restricted ROP from 2668 m to 2718 m (1987 lpm, 189 bar, 0.3-3.2 tons, 5 m/hrs, surface RPM: 117, bit RPM: 236, 1-2 kftlbs, max gas: 0.2%, ECD: 1.40 sg). Top Sandnes located at 2663 m (25 m shallower than estimated), no hydrcarbons shows.

Date : 19 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 35**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2725	PH	P	DRLL		1.5	Drilled with restricted ROP from 2718 m to 2725 m (1987 lpm, 189 bar, 0.3-3.2 tons, 5 m/hrs, surface RPM: 117, bit RPM: 236, 1-2 kftlbs, ECD: 1.41 sg)
2741	PH	P	DRLL		2.5	Slided 8 1/2" hole from 2725 m to 2741 m (2000 lpm, 210 bar, 3-4 tons, 8-12 m/hrs).
2755	PH	P	DRLL		0.5	Drilled 8 1/2" hole from 2741 m to 2755 m (2036 lpm, 205 bar, 2-4 tons, 7-13 m/hrs, surface RPM: 120, bit RPM: 242, 2 kftlbs, max gas: 0.2%, ECD: 1.40 sg).
2766	PH	P	DRLL		1	Slided 8 1/2" hole from 2755 m to 2766 m (2000 lpm, 210 bar, 3-4 tons, 13-15 m/hrs)
2781	PH	P	DRLL		2	Drilled 8 1/2" hole from 2766 m to 2781 m (2010 lpm, 210 bar, 4 tons, 14 m/hrs, surface RPM: 120, bit RPM: 242, 3 kftlbs, max gas: 0.2%, ECD: 1.41 sg) with restricted ROP (max 20 m/hrs).
2799	PH	P	DRLL		1.5	Slided 8 1/2" hole from 2781 m to 2799 m (2000 lpm, 212 bar, 2-3 tons, 6 m/hrs)
2811	PH	P	DRLL		1.5	Drilled 8 1/2" hole from 2799 m to 2811 m (2070 lpm, 214 bar, 2-3 tons, 5-24 m/hrs, surface RPM: 101-118, bit ROP: 225-243, 2-3 kftlbs, gas: 0.1%, ECD: 1.41 sg).
2832	PH	P	DRLL		4	Slided 8 1/2" hole from 2811 m to 2832 m (2000 lpm, 218 bar, 2-3 tons, 16 m/hrs). Stringer located at 2819 m.
2867	PH	P	DRLL		3	Drilled 8 1/2" hole from 2832 m to 2867 m (2080 lpm, 219 bar, 0.5-6 tons, surface RPM: 119, bit RPM: 244, 1-4 kftlbs, gas: 0.1%, ECD: 1.42 sg).
2872	PH	P	DRLL		1.5	Slided 8 1/2" hole from 2867 m to 2872 m (2050 lpm, 217 bar, 2-3 tons, 3 m/hrs)
2883	PH	P	DRLL		2	Drilled 8 1/2" hole from 2872 m to 2883 m (2080 lpm, 218 bar, 4-6 tons, 3-21 m/hrs, surface RPM: 118, bit RPM: 243, 1.5-3.5 kftlbs, gas:0.1%, ECD: 1.42 sg). Stringer located at 2872 m
2895	PH	P	DRLL		3	Slided 8 1/2" hole from 2883 m 2895 m (2100 lpm, 220 bar, 4-5 tons, 9 m/hrs). Stringer located at 2890 m.

Date : 20 Nov 2005 **Daily Cost : kr 2250790.00** **Report Number : 36**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2968	PH	P	DRLL		6	Drilled 8 1/2" hole from 2895 m to 2968 m (2053-2065 lpm, 212-230 bar, 2-5 tons, 3-26 m/hrs, surface RPM: 118, bit RPM: 241, 2-4 kftlbs, ECD: 1.42 sg). Back reamed back 1 joint per stand drilled.
2982	PH	P	DRLL		5	Slided 8 1/2" hole from 2968 m to 2982 m (2100 lpm, 212 bar, 3 ton, 4 m/hrs).
3001	PH	P	DRLL		2	Drilled 8 1/2" hole from 2982 m to 3001 m (2070 lpm, 219 bar, 2-10 tons, 3-17 m/hrs, surface RPM: 110, bit RPM: 234, 3-4 kftlbs, ECD: 1.41 sg)
3009	PH	P	DRLL		1.5	Slided 8 1/2" hole from 3001 m to 3009 m (2130 lpm, 220 bar, 3-6 tons, 5 m/hrs).
3025	PH	P	DRLL		2	Drilled 8 1/2" hole from 3009 m to 3025 m (2080 lpm, 222 bar, 5-9 tons, 5-9 m/hrs, surface RPM: 111, bit RPM: 236, 3-4 kftlbs, max gas: 1.0%, ECD: 1.41 sg)
3036	PH	P	DRLL		4.5	Slided 8 1/2" hole from 3025 m to 3036 m (2060 lpm, 215 bar, 3-4 tons, 3 m/hrs)

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3072	PH	P	DRLL		3	Drilled 8 1/2" hole from 3036 m to 3072 m (2050 lpm, 214-227 bar, 2-10 tons, 2-43 m/hrs, surface RPM: 118, bit RPM: 241, 3-6 kftlbs, ECD: 1.42 sg). Fjerritslev located at 3066 m MD (20 deeper than prognosed TVD).

Date : 21 Nov 2005 **Daily Cost : kr 4190100.00** **Report Number : 37**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3154	PH	P	DRLL		15.5	Drilled 8 1/2" hole from 3072 m to 3154 m (2050-2100 lpm, 212-237 bar, 2-10 tons, 3-43 m/hrs, surface RPM: 118-131, bit RPM: 241-257, 3-13 kftlbs, max gas: 0.1%, ECD: 1.42 sg). High torque values (13 k ft lbs) @ 3148 m. Reamed area.
3151	PH	P	CC		2	Pumped 5 m3 hi-vis and circulated hole clean. Racked back stand and continued to circulate until hole clean.
1137	PH	P	TRIP		6.5	Pulled out of hole at controlled speed from 3122 m to 1137 m (inside 13 3/8" casing). No excess drag observed while pulling out.

Date : 22 Nov 2005 **Daily Cost : kr 1473933.00** **Report Number : 38**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1137	PH	P	TRIP		0.5	Flow checked well static - OK.
1137	PH	P	TRIP		0.5	Service broke spare upper and lower IBOP prior to 15 000 psi testing
140	PH	P	TRIP		2	Pulled out of hole with 8 1/2" BHA from 1137 m to 140 m.
0	PH	P	TRIP		1.5	Racked 8 1/2" BHA in the derrick. Shut off MWD tool when at surface. Observed bit worn. Cleared drill floor.
0	PH	P	OTH		0.5	Performed pre job meeting prior rig up and run wireline logs.
0	PH	P	OTH		2	Rigged up wireline tool string on electric cable including AIT/DSI/PEX.
0	PH	TP	OTH	VE	4.5	Performed pre job meeting for day crew prior to rig up and run wireline. Attempted to move V-door sheave wheel to improove incorrect alignment of cable reel - not possible. Cut and re-aligned cable reel and rigged up sheave wheel in V-door.
1527	PH	P	OTH		3	Installed radio active sources and ran in hole with AIT/DSI/REX tool string. Not able to pass 1527 m (observed restrictions @ 1375 m and 1425 m). Attempted to run past 1527 m with different running speeds. Stood up at exactly same depth every time.
0	PH	TP	OTH	HPL	2.5	Pulled out of hole with tool string. Unloaded radiactive sources and rigged down wireline equipment. No damage observed on tool string.
0	PH	TP	OTH	HPL	3	Cleared rig floor and performed pre job meeting prior to running wiper trip to TD. Broke of 8 1/2" bit and made up new. Downloaded MWD data from memory
1100	PH	TP	OTH	HPL	3	Ran in hole with 8 1/2" BHA to 1100 m to wipe hole prior to wireline logging.
1100	PH	TP	OTH	HPL	1	Broke circulation and tested MWD tools - OK

Date : 23 Nov 2005 **Daily Cost : kr 1473933.00** **Report Number : 39**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3152	PH	TP	OTH	HPL	6.5	Ran in hole from 1100 m and tagget bottom @ 3151.5 m. Filled pipe @ 1900 m
3150	PH	TP	CC	HPL	2.5	Washed down from 3151.5 m to 3154 m and circulated hole clean (2100 lpm, 2 x bottom up). Racked one stand when circulated bottom up once.
140	PH	TP	TRIP	HPL	7.5	Flow checked well static - OK. Pulled out of hole to 140 m. Pumped slug @ 2753 m. Flow checked static @ 1133 m - OK.
0	PH	TP	TRIP	HPL	2.5	Flow check statick - OK. Racked BHA in derrick. Shut down MWD tool and cleared rig floor.
0	PH	TP	OTH	HPL	3	Performed pre job meeting prior to rig up and run wireline. Rigged up wireline equipment and made up tool string. Installed radioactive sources.
0	PH	TP	OTH	HPL	2	Ran in hole with AIT/DSI/PEX tool string. Stopped at 1152 m - not able to pass (1152 m = TD of 12 1/4" cleanout string, 1149 m = TD of 17 1/2" BHA) . Worked string up/down approx. 50 times without passing 1152 m. Pulled out of hole. Removed radiactive sources.

Date : 24 Nov 2005 **Daily Cost : kr 1384927.00** **Report Number : 40**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	PH	TP	OTH	HPL	1	Reconfigured tool string. Removed bow spring and knuckle joint above AIT for better centralization and reduced risk of hang up on shoulder at 1152 m. Loaded radiocative sources.
0	PH	TP	OTH	HPL	3.5	Ran in hole with reconfigured AIT/DSI/PEX tool string. Stopped at 1152 m - not able to pass this point. Worked string up/down approx. 50 times to pass 1152 m without any success. Pulled out of hole. Decided not to attempt further wireline runs based on results from last two runs.
0	PH	TP	OTH	HPL	4.5	Performed prejob meeting prior to run wiper trip on drill pipe. Laid down 8 1/2" BHA from derrick. Broke of bit and stab to be re-run. Made up 8 1/2" BHA and ran in hole to 200 m.
1050	PH	TP	TRIP	HPL	2.5	Ran in hole with 8 1/2" BHA from 200 m to 1050 m. Filled pipe and broke circulation. Function tested BOP and changed dice on pipe racking system (PRS).
1050	PH	P	TRIP		1	Slipped and cut drilling.
1167	PH	TP	TRIP	HPL	5	Wiped hole from 1050 and took 2 ton weight @ 1152 m . Continued down and took 6-7 ton @ 1163 m. Wiped area twice and passed unrestriced. Pumped 5 m3 base oil and 7.5 m3 hi-vis sweep (3200 lpm) @ 1152 m and circulated hole clean. Observed formation sand and cuttings over the shaker. Pulled up to 1141 m and wiped hole - took 15 ton @ 1152 m. Reamed interval 1144 m to 1163 m (140 rpm, 3200 lpm) until clear.
1619	PH	TP	TRIP	HPL	2	Wiped hole from 1167 m to 1619 m. Filled pipe
1619	PH	TP	OTH	VE	2	Observed leak in top drive rotating seal. Bypassed seals using hydraulic hoses. Circulated at 300 lpm during repair of topdrive.
2894	PH	TP	OTH	HPL	2.5	Wiped hole from 1619 m to 2894 m - no restrictions observed.

Date : 25 Nov 2005 **Daily Cost : kr 1398450.00** **Report Number : 41**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
3154	PH	TP	TRIP	HPL	1.5	Wiped hole from 2894 m and tagged bottom at 3154 m (no fill at bottom). Flow checked well static - OK. Pumped slug.
1140	PH	TP	TRIP	HPL	4	Pulled out of hole with 8 1/2" BHA from 3154 m to 1140 m
200	PH	TP	TRIP	HPL	2	Wiped hole down from 1140 m to 1167 m - no restriction observed. Pulled out of hole from 1167 m to 200 m
0	PH	TP	TRIP	HPL	1.5	Flow checked well static - OK. Pulled out and racked BHA in derrick.
0	PH	TP	OTH	HPL	2.5	Performed prejob meeting prior to rig up and run wireline. Rigged up wireline equipment and made up AIT/DSI/PEX tool string. Installed radioactive sources.
0	PH	P	OTH		9.5	Ran in hole with AIT/DSI/PEX tool string on wireline to 3154 m and logged well according to programme. Pulled out of hole.
0	PH	P	OTH		2.5	Removed radioactive sources and rigged down wireline equipment. Not able to continue with run#2 due to strong wind (44 - 50 kt). Crane not available for launching VSP guns into the sea.
0	ABN	P	RUP		0.5	Performed prejob meeting prior to run cement stinger on 5" drill pipe. Rigged up for same.

Date : 26 Nov 2005 **Daily Cost : kr 1380450.00** **Report Number : 42**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
16	ABN	P	RUP		0.5	Picked up and ran in hole with cement stinger and 3 1/2" drill pipe to 16 m.
16	ABN	TP	TRIP	RE	0.5	Adjusted pipe lay down system (PLS) switch - not able to pick up 3 1/2" pipe from conveyor.
295	ABN	P	TRIP		2.5	Picked up and ran in hole with 3 1/2" drill pipe from 16 m to 295 m. Changed slips and elevators to 5".
1431	ABN	P	TRIP		4.5	Ran in hole with cement stinger on 5" drill pipe from 295 m to 1431 m.
1431	ABN	TP	TRIP	RE	0.5	Cleaned elevator for oil residues and inspected same.
3100	ABN	P	TRIP		4.5	Ran in hole with cement stinger from 1431 m to 3100 m. Performed pre job meeting prior to cement job. Made up cement stand and racked in derrick.
3154	ABN	P	TRIP		3	Ran in hole and tagged bottom @ 3154 m. Circulated and conditioned mud.
3154	ABN	P	OTH		2	Picked up cement stand and made up cement hose to pump in sub. Leak tested rig up to 345 bar - OK. Pumped 5 m3 spaced with cement pump. Pumped 11 m3 1.9 sg cement and flushed cement line with 1.2 m3 1.5 sg spaced. Displaced cement with 1459 stokes of 1.38 sg mud.

Date : 26 Nov 2005 **Daily Cost : kr 1380450.00** **Report Number : 42**

2844	ABN	P	TRIP	2	Racked cement stand and pulled out of hole with cement stinger to 2844 m.
2844	ABN	P	CC	3	Performed prejob meeting prior to circulating hole clean. Circulated hole clean and diverted interface with spacer and cement into slop pit (26 m3). Circulated until equal mud weight in and out.
2844	ABN	P	OTH	1	Performed prejob meeting prior to pumping second stage of cement plug. Hooked up cement hose to pump in sub and leak tested same to 345 bar - OK. Pumped 6 m3 1.5 sg spacer with cement pump. Mixed and started to pump 13.6 m3 1.9 sg cement.

Date : 27 Nov 2005 **Daily Cost : kr 1398450.00** **Report Number : 43**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
2844	ABN	P	CC		1	Completed pumping 13.6 m3 1.9 sg cement. Flushed line with 200 l water to drill floor. Lined up mud pumps and pumped 1355 strokes to displace cement plug @ 2500 lpm. Broke of cement hose.
2340	ABN	P	TRIP		2	Pulled out of hole with cement stinger from 2844 m to 2340 m @ 2 min/stand
2340	ABN	P	CC		1.5	Circulated hole clean and diverted 21 m3 cement/spacer interface to slop pit. Pumped slug.
295	ABN	P	TRIP		3.5	Pulled out of hole with cement stinger from 2340 m to 295m.
295	ABN	P	TRIP		1.5	Changed to 3 1/2" handling equipment.
295	ABN	TP	TRIP	RE	0.5	Not able to get a grip on 3 1/2" stand with pipe racking system (PRS). Changed dies on PRS.
0	ABN	P	TRIP		3.5	Racked back 3 1/2" bottom hole assembly in derrick. Some cement on pipe connection - washed off with high pressure gun. Had some problems with finger board unlatch function. Changed to 5" handling equipment.
2364	ABN	P	TRIP		7	Ran in hole with 8 1/2" cement tag BHA and tagget cement @ 2364 m. Sat down 10 ton 3 times.
2364	ABN	P	TRIP		0.5	Pumped 40 m3 1.42 sg slop on top of the cement plug. Pumped slug.
1707	ABN	P	TRIP		1	Pulled out of hole with 8 1/2" cement tag bottom hole assembly from 2364 m to 1707 m.
1520	ABN	P	TRIP		2	Pulled out of hole from 1707 m to 1520 m and laid down drill pipe prior to rig move.

Date : 28 Nov 2005 **Daily Cost : kr 1444713.00** **Report Number : 44**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
389	ABN	P	TRIP		6	Pulled out of hole from 1520 m to 389 m and laid down 5" drill pipe prior to rig move.
389	ABN	TP	TRIP	RE	0.5	Changed front guide arm roller on PLS due to broken bushing.
200	ABN	P	TRIP		1.5	Pulled out of hole from 389 m to 200 m and laid down 5" drill pipe prior to rig move.
0	ABN	P	TRIP		1	Flow checked well static - OK. Pulled out of hole with BHA racked in derrick.
0	ABN	P	TRIP		0.5	Broke of bit and bit sub and made up 13 3/8" casing scraper BHA.
1100	ABN	P	TRIP		3.5	Ran in hole with 13 3/8" casing scraper BHA to 1100 m.
1100	ABN	P	TRIP		1.5	Filled pipe and scraped EZSV setting area (1090 - 1110 m) with 3000 lpm and 85 rpm.
0	ABN	P	TRIP		3	Pumped slug and pull out of hole. Racked BHA in derrick
0	ABN	P	TRIP		0.5	Performed prejob meeting prior to running EZSV. Changed dies on pipe racking system (PRS) and serviced slip.
1100	ABN	P	TRIP		4.5	Ran in hole with EZSV on 5" drill pipe to 1100 m.
1100	ABN	P	TRIP		0.5	Recoreded up/down (62/63 ton) weight and rotated pipe 35 right turns to engage upper slips. Picked up weight in stages (8, 16 ton) and broke weak point @ 20 ton overpull and sat EZSV. Sat down 5 ton to confirm plug set - OK.
1100	ABN	P	TRIP		1	Lined up to pressure test EZSV plug to 107 bar from above. Installed cementing stand and hooked up cement hose. Leak tested cement line to 345 bar - OK.

Date : 29 Nov 2005 **Daily Cost : kr 1444713.00** **Report Number : 45**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
1099	ABN	P	TRIP		0.5	Closed BOP annular and pressured up to 107 bar to test EZSV/10 min - OK. Bled back same volume as pumped in (612 l).

Date : 29 Nov 2005						Daily Cost : kr 1444713.00	Report Number : 45
1099	ABN	P	TRIP		0.5	Opened annular and tested circulation through cementing string to 2200 lpm/67 bar - OK.	
1099	ABN	P	TRIP		2	Performed pre job meeting prior to displacing well from 1.38 sg OBM to sea water. Lined up. Emptied trip tank and flushed 3 x mud pumps. Pumped down drill pipe and displaced well to sea water. Ruted interface to slop pit 5 (21 m3). Flushed BOP choke and kill lines. Flushed trip tank. Clean shaker and flow lines.	
1099	ABN	P	TRIP		1	Performed pre job meeting prior to cement job. Pumped 10 m3 spacer and 15.62 m3 1.95 sg cement. Flushed lines to drill floor with 1 m3 fresh water. Displaced cement down with 6.4 m3.	
890	ABN	P	TRIP		1	Broke of cement hose and racked cement stand. Pull out of cement to 890 m	
890	ABN	P	TRIP		0.5	Dropped wiper ball and circulated bottom up. Got some cement (1 m3) to surface. A total of 138 m3 slop created during cementing and circulation operation.	
328	ABN	P	TRIP		4	Pulled out of hole from 890 m to 328 m and laid down 5" drill pipe prior to rig move.	
328	ABN	TP	TRIP	RE	0.5	Rebooted PRS/PLS due to problems with zone management system (ZMS).	
1099	ABN	P	TRIP		1.5	Pulled out of hole from 328 m to surface. Racked 5" drill pipe in derrick and laid out EZSV running tool. Cleared rig floor.	
406	ABN	P	CSG		4	Performed prejob meeting prior to running 13 3/8" casing cutter. Picked up casing cutter and annulus swivel and ran in hole to 406 m. Cut 13 3/8" casing and monitored over trip tank 10 min - no gain.	
406	ABN	P	CC		1	Displaced 13 3/8" x 20" annulus to sea water - returns to choke manifold/degasser.	
0	ABN	P	TRIP		3.5	Pulled out of hole with cutter at reduced speed (swabbing). Laid out cutter and swivel.	
0	ABN	P	CC		1	Made up washing tool and ran in hole to jet BOP/diverter/wellhead area. Pulled out and laid down washing tool.	
0	ABN	P	TRIP		0.5	Picked up combination tool and pull wear bushing. Laid down same.	
0	ABN	P	BOPW		2.5	Cleared and cleaned drill floor. Nippled down diverter and slick joint.	

Date : 30 Nov 2005						Daily Cost : kr 1444713.00	Report Number : 46
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity	
0	ABN	P	BOPW		4.5	Prepared to lift BOP. Disconnect choke&kill hoses. Moved access scaffolding. Disconnected N2 connector. Load shifted to BOP cranes. Lifted BOP and skid to starboard.	
0	ABN	P	BOPW		4.5	Performed pre job meeting prior to removing wellhead spool. Disconnected all wellhead valves. Made up wellhead retrieve tool and pulled wellhead to drill floor.	
0	ABN	P	TRIP		2	Rigged up 13 3/8" spear. Ran in hole and attached spear to 13 3/8" casing hanger. Pulled 15 ton overpull to free casing.	
0	ABN	P	RUP		1.5	Prepared to rig up casing handling equipment. Pulled up and attempted to rack spear and hanger - assembly slipping in PRS.	
0	ABN	P	RUP		1	Changed dies on PRS.	
0	ABN	P	RUP		4	Rigged up remaining casing handling equipment. New pins on PLS difficult to remove.	
0	ABN	P	TRIP		3.5	Pulled out of hole with 13 3/8" casing from 406 m (cutting depth) to surface. Laid down 13 3/8" casing and prepared for backload.	
0	ABN	P	RUP		2.5	Rigged down casing handling equipment. Cleared rig floor. Handover for oncomming crew.	
0	ABN	P	RUP		0.5	Installed wear bushing using tugger from drill floor. Nippled down valves on 18 3/4" casing head.	

Activity Report For 9/3-2

Date : 01 Dec 2005 **Daily Cost : kr 1463513.00** **Report Number : 47**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	ABN	P	RUP		0.5	Performed prejob meeting with new crew prior to break of spear from 13 3/8" hanger.
0	ABN	P	RUP		1.5	Moved spear/hanger to rotary and landed same in bushing. Attempted to release spear from hanger by slack off and rotation. Not able to release spear when pulling up. Made up drill pipe to top drive to better rotate spear free from hanger. Slacked of to release spear and rotated top drive. Hanger rotating in bushing - not able to free spear. Racked back spear/hanger in derrick.
0	ABN	TP	RUP	RE	1	Resat PRS. Arms out of sync. Drive for motor tripped.
0	ABN	TP	RUP	RE	0.5	Not able to break pipe with iron rough neck. Trouble shoot zone management system to rectify problem.
400	ABN	P	TRIP		2	Ran in hole with 5" drill pipe to 400 m
400	ABN	P	CC		2.5	Spot 13 m3 hi-vis pill from 400 - 330 m. Pumped out of hi-vis to 335 m. Circulated hole clean (1.5 bottom up) and installed cement support tool (CST) and dart in string. Displaced CST down to 335 m and pulled up to 330 m. Performed prejob meeting prior to cementing operation. Installed cement stand and leak tested line from cement unit.
180	ABN	P	CC		3	Pumped 29 m3 1.92 sg cement slurry. Displaced cement with 1 m3 seawater. Pulled 5" drill pipe from 330 m to 180 m and circulated hole clean with returns to sea. Meanwhile changed PLS head arms for laying out drill pipe.
0	ABN	P	TRIP		1	Pulled out of hole with 5" drill pipe from 180 m to surcae and laid out singles
0	ABN	P	RUP		3.5	Laid down pipe from derrick.
0	ABN	P	RUP		2	Picked up spear/hanger to release spear. Not able to release spear. Broke of upper part of spear assembly (racked bumper sub) and laid down spear and hanger. Launched ROV and function tested same - OK. Surveyed mudline spud area - OK. Pulled out ROV.
0	ABN	P	RUP		6.5	Laid down pipe from derrick (9 x 5 HWDP, 11 x 8" DC, 48 x 5"). Cleared and cleaned drill floor. Installed power slips PS21.

Date : 02 Dec 2005 **Daily Cost : kr 1461863.00** **Report Number : 48**

Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	ABN	P	RUP		0.5	Laid down pipe from derrick.
0	ABN	P	RUP		1.5	Changed from 5" to 3 1/2" handling equipment prior to lay down 3 1/2" cement stinger. Redressed PRS/iron rough neck/PS21 and changed elevator.
0	ABN	P	RUP		3.5	Laid down 30 x 3 1/2" drill pipe.
0	ABN	P	RUP		1	Changed to 5" handling equipment prior to running 17 1/2" bit to tag top of cement.
183	ABN	P	TRIP		2	Picked up 17 1/2" bit and ran in hole and tagget top of cement @ 183 m - sat down 10 ton weight.
0	ABN	P	RUP		1	Pulled out of hole with 17 1/2" bit and broke off bit & bit sub.
168	ABN	P	RUP		1	Picked up 20" casing cutter assembly and ran in hole to 168 m.
0	ABN	P	RUP		0.5	Cut 20" casing @ 168 m (121 rpm, 815 ft lbs, 100 bar).
0	ABN	P	RUP		1	Pulled out of hole wit 20" casing cutter and racked same in derrick.
0	ABN	P	RUP		2.5	Made up 18 3/4" casing head running to pull 20" casing. Ran in hole and engaged same. Pulled up 58 ton and confirmed 20" casing free. Released running tool and racked same in derrick. Installed wear bushing. Laid out 2 stands of 8" DC. Cleared and cleaned drill floor.
0	ABN	TP	WAIT	WOW	9.5	Waited on weather. Not able to continue operation due to strong wind above maximum limit for crane operation. Crane required to lay down 20" casing on deck when pulled out of hole. Time Mean kt Gust kt 14:30 42 47 16:00 45 47 20:00 44 46 24:00 47 55

Date : 03 Dec 2005					Daily Cost : kr 1461863.00	Report Number : 49
0	ABN	TP	WAIT	WOW	24	Waited on weather. Not able to continue operation due to strong wind above maximum limit for crane operation. Crane required to lay down 20" casing on deck when pulled out of hole. Time Mean kt Gust kt 00:00 47 55 04:00 44 48 06:00 52 58 12:00 51 54 16:00 46 50 20:00 49 51 24:00 49 51 Meanwhile performed general maintenance and prepared for rig move. Tested choke/kill manifold to 15 000 psi, cleaned pits, disconnected 2 x choke hose from cantilever, cleared drain line from drill floor down to skimmer tank.

Date : 04 Dec 2005					Daily Cost : kr 1461863.00	Report Number : 50
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	ABN	TP	WAIT	WOW	19	Waited on weather. Not able to continue operation due to strong wind above maximum limit for crane operation. Crane required to lay down 20" casing when pulled out of hole. Time Mean Gust kt kt 00:00 49 51 04:00 50 51 08:00 47 50 12:00 44 46 16:00 41 47 18:00 38 40 Meanwhile performed general maintenance and prepared for rig move. Cleared drain line from drill floor down to skimmer tank.
0	ABN	P	BOPW		2	Picked up 20" running tool and made up same to 18 3/4" casing head. Performed prejob meeting prior to rigging up casing handling equipment. Pulled 18 3/4" casing head (20" hanger) to surface.
0	ABN	P	RUP		3	Installed casing tongs. Broke of running tool/hanger and laid down same on conveyor. Changed bails and elevator. Pulled one joint and sat 20" in slips. Installed power slips.

Date : 05 Dec 2005					Daily Cost : kr 1136863.00	Report Number : 51
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	ABN	TP	WAIT	WOW	11.5	Waited on weather. Not able to continue operation due to strong wind above maximum limit for crane operation. Crane required to lay down 20" casing on deck when pulled out of hole. Time Mean kt Gust kt 00:00 42 43 02:00 44 47 04:00 44 49 06:00 43 47 08:00 45 47 10:00 42 45 12:00 39 41 Meanwhile performed general maintenance and prepared for rig move. Checked hand rails on Texas deck prior to removal and performed general cleaning of the rig.
0	ABN	P	CSG		0.5	Held toolbox talk prior to lay out retrieved 20" casing.
0	ABN	TP	CSG	RE	12	Problems with Eaton brake on drawwork. Troubleshot on control system for drawwork break, and replaced 3 zener barriers on electrical side.

Date : 06 Dec 2005					Daily Cost : kr 1461863.00	Report Number : 52
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
168	ABN	TP	CSG	RE	0.5	Continued troubleshooting on control system for drawwork break. Replaced failed analog input card for PLT.
0	ABN	P	CSG		3.5	Retrieved and laid down cut 20" casing.

Date : 06 Dec 2005						Daily Cost : kr 1461863.00	Report Number : 52
						20" casing cut 1,31 m below mudline hanger.	
0	ABN	P	CSG		1	Rigged down 20" casing handling equipment.	
31	ABN	P	CSG		1	Made up 30" casing cutter assembly.	
152	ABN	P	CSG		1	Ran in hole with 30" casing cutter assembly on 5" drill pipe to 152 m. Took up and down weights and free rotating torque.	
152	ABN	P	CSG		3	Cut 30" conductor at 152 m with 100 - 150 RPM (3 - 6 kft.lb) and 100 - 120 bar (600 - 650 lpm). Held 35 T overpull in tension frame during cutting.	
152	ABN	P	CSG		1	Pulled out and changed knives on cutter. Ran back in to 152 m.	
152	ABN	P	CSG		0.5	Continued cutting 30" conductor at 152 m. (Confirmed cut depth by applying 2 - 3 T overpull with 20 bar pressure in string.) Confirmed conductor cut by pressure drop, loss of return up conductor, and movement of tension frame.	
0	ABN	P	CSG		1	Pulled out with cutting assembly. Laid down 2 ea 5" singles and cutter assembly.	
17	ABN	TP	CSG	VE	1	Picked up 30" spear assembly and attempted to enter 30" conductor. Not able to enter conductor with spear. Pulled out and laid down spear assembly.	
168	ABN	TP	CSG	VE	2	Laid down 2 ea 5" singles and pup joint. Picked up 2 ea 8" drill collars and spear assembly. Ran in and attempted to enter spear in 30" conductor again, but still not able to enter spear. Pulled out with spear assembly.	
17	ABN	TP	CSG	VE	2.5	Arranged a jacking device on rig floor between spear elements and stop ring. Managed to jack spear elements down and thus reduced the effective OD of the spear.	
17	ABN	P	CSG		0.5	Ran in and engaged spear in 30" conductor and pulled conductor free with 118 T.	
152	ABN	P	CSG		1	Removed tension ring on texas deck.	
152	ABN	P	CSG		1	Disengaged spear and racked in derrick. Changed bails and elevator.	
65	ABN	P	CSG		3.5	Pulled out with and laid down retrived 30" conductor from 152 m to 65 m.	

Date : 07 Dec 2005						Daily Cost : kr 1470750.00	Report Number : 53
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity	
0	ABN	P	CSG		3	Continued pulling out with cut 30" conductor from 65 m.	
0	ABN	P	CSG		1.5	Rigged down conductor handling equipment and cleared rig floor. Changed bails and elevator.	
0	ABN	P	CSG		1	Broke and laid down spear assembly.	
0	RMO	P			2	Laid down 5" drill pipe from derrick.	
0	RMO	P			6.5	Prepared to skid derrick. Lowered choke hoses, lifted tension wires and disconnected kill, cement and mud hoses.	
0	RMO	P			0.5	Held toolbox talk prior to skidding.	
0	RMO	P			1.5	Skidded derrick in.	
0	RMO	P			0.5	Held toolbox talk with new crew prior to continue skidding.	
0	RMO	P			1	Skidded derrick to starboard.	
0	RMO	P			4.5	Cleared texas deck. Meanwhile performed final seabed survey with ROV.	
0	RMO	P			2	Removed handrails on texas deck and lifted up tension frame.	

Date : 08 Dec 2005						Daily Cost : kr 1950100.00	Report Number : 54
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity	
0	RMO	P			3.5	Removed stairways to texas deck. Meanwhile backloaded to boat.	
0	RMO	P			3.5	Installed hull access cover and sealed. Prepared for skidding cantilever out. Meanwhile continued backloading to boat.	
0	RMO	P			1.5	Held pre-job meeting and skidded cantilever out.	
0	RMO	P			0.5	Held safe job analysis for rising and securing texas deck.	

Date : 08 Dec 2005					Daily Cost : kr 1950100.00	Report Number : 54
0	RMO	P			4	Prepared climber equipment chainslings on rig floor. Weather to rough for working over the side. Continued backloading and seafastening equipment while waiting for weather to improve.
0	RMO	P			2.5	Climbers attached topdrive to texas deck. Took weight of texas deck and removed support arms.
0	RMO	P			1.5	Held pre-job meeting and skidded cantilever in. Adjusted topdrive while skidding in and lifted texas deck into position. Secured texas deck.
0	RMO	P			0.5	Skidded cantilever in to sea fastening position and pinned.
0	RMO	P			0.5	Skidded derrick in to sea fastening position and pinned.
0	RMO	P			1	Rigged up sea fastening for BOP and softlanded BOP.
0	RMO	P			1	Secured derrick legs and pipe handling equipment on rig floor.
0	RMO	P			1.5	Held pre-job meeting and jacked rig down to 5 m airgap.
0	RMO	P			2.5	Continued sea fastening all equipment.

Date : 09 Dec 2005					Daily Cost : kr 3358432.00	Report Number : 55
Depth (m)	Phase	Cls	Op	R.C.	Hrs	Activity
0	RMO	P			8.5	Continued sea fastening all equipment.
0	RMO	P			0.5	Held pre-jacking meeting.
0	RMO	P			2	Performed final check on legs and jacked down to 3 m draft.
0	RMO	P			1.5	Connected Viking Troll to main bridle and Normand Trym to forward port tow wire. Checked rig for water tight integrity.
0	RMO	P			2	Continued jacking and freed all three legs.
0	RMO	P			0.5	Commenced sea voyage from Aimee to Hummer while continuing raising legs. Exited Aimee 500 m zone at 15:00 hrs.

14 CASING AND LINER DATA

Size	Shoe (m TVD RKB)	Shoe (m MD RKB)	Top (m TVD RKB)	Top (m MD RKB)	Weight (lb/ft)	Grade	Connection	Collapse rating (bar)	Burst rating (bar)	Tension minimum yield (kdaN)
30”	211	211	16.7	16.7	1.5” WT, 457 lb/ft	X-52	H90MT			
20”	501	501	16.7	16.7	133 lb/ft	X-65	E60/MT	103	211	945
13 3/8”	1144	1144	16.7	16.7	68 l/ft	L-80	Dino Vam	156	346	692

14.1 30” CONDUCTOR AS RUN

9/3-2 30" Conductor tally Rev 2 AS RUN

Shoe depth	**210,71**	m
Section TD (36")	**216,71**	m
Min Make up torque:	**25 000**	ftlb
OD	**30,00**	Inch
ID 30"	**27,00**	"
ID BWS	**24,75**	"
Weight	**686,00**	kg/m
Grade		
Connection		

Run nr:	S/N	Length (m)	Btm jnt. when RIH	Top jnt.when RIH	Depth btm. of Jt. (m)	Depth top of jt. (m)	Remarks
1	AW02450-01	12,880	12,880	0,000	210,71	197,83	30" x 1 1/2" Cement shoe joint
2	DK11302-22	3,025	15,905	12,880	197,83	194,80	30" x 1 1/2" Pup joint
3	AW73407-11	12,265	28,170	15,905	194,80	182,54	30" x 1 1/12" Intermediate joint
4	AW62394-02	12,050	40,220	28,170	182,54	170,49	30" x 1 1/12" Intermediate joint
5	AW61663-01	12,748	52,968	40,220	170,49	157,74	30" x 1 1/2" Landing joint (BWS)
6	AW73407-12	12,260	65,228	52,968	157,74	145,48	30" x 1/12" Intermediate joint
7	AW70197-13	12,265	77,493	65,228	145,48	133,21	30" x 1/12" Intermediate joint
8	AW73396-07	12,280	89,773	77,493	133,21	120,93	30" x 1/12" Intermediate joint
9	AW60407-05	12,303	102,076	89,773	120,93	108,63	30" x 1/12" Intermediate joint
10	AW73407-15	12,260	114,336	102,076	108,63	96,37	30" x 1/12" Intermediate joint
11	AW73407-04	12,030	126,366	114,336	96,37	84,34	30" x 1/12" Intermediate joint
12	AW73396-06	12,260	138,626	126,366	84,34	72,08	30" x 1/12" Intermediate joint
13	AW73407-09	12,280	150,906	138,626	72,08	59,80	30" x 1/12" Intermediate joint
14	AW73407-07	12,275	163,181	150,906	59,80	47,53	30" x 1/12" Intermediate joint
15	AW73407-08	12,090	175,271	163,181	47,53	35,44	30" x 1/12" Intermediate joint
16	AW70197-04	11,950	187,221	175,271	35,44	23,49	30" x 1/12" Intermediate joint
17	AW62394-03	12,055	199,276	187,221	23,49	11,43	30" x 1/12" Tension joint
18	AW62394-13	12,050	211,326	199,276	11,43	(0,62)	30" x 1/12" Intermediate joint
					(0,62)	(0,62)	
					(0,62)	(0,62)	

14.2 20" CASING AS RUN

WELL: 9/3-2	As Run	Revision Date:	27.01.2006 14:37
CSG. SIZE: 20"		Utarbeidet av:	T. Veiberg
GRADE: 133#, X-56, E60/MT		Sjekket av :	E. Tveit

Run no	Joint no	Joint length (m)	Total length (m)	Depth btm.item (mMD)	Depth top.item (mMD)	Comments
					24" hole to:	507,00
					501,35	20" shoe depth
1	Shoe A	12,512	12,51	501,35	488,83	2 x Centr + Bakerlock
2	Float B	12,600	25,11	488,83	476,23	2 x Centr + Bakerlock
3	33	12,080	37,19	476,23	464,15	1 x Centralizer
4	32	12,079	49,27	464,15	452,08	1 x Centralizer
5	31	12,080	61,35	452,08	440,00	
6	30	12,078	73,43	440,00	427,92	
7	29	12,022	85,45	427,92	415,90	
8	28	12,077	97,53	415,90	403,82	
9	27	12,080	109,61	403,82	391,74	
10	26	12,076	121,68	391,74	379,66	
11	25	12,083	133,77	379,66	367,58	
12	24	12,075	145,84	367,58	355,50	
13	23	12,080	157,92	355,50	343,42	
14	22	12,080	170,00	343,42	331,34	
15	21	12,080	182,08	331,34	319,26	
16	20	12,065	194,15	319,26	307,20	
17	18	12,075	206,22	307,20	295,12	
18	17	12,080	218,30	295,12	283,04	
19	16	12,075	230,38	283,04	270,97	Torque to max
20	15	12,015	242,39	270,97	258,95	Torque to max
21	14	12,080	254,47	258,95	246,87	Torque to max
22	13	12,080	266,55	246,87	234,79	Torque to max
23	12	12,080	278,63	234,79	222,71	Torque to max
24	11	12,080	290,71	222,71	210,63	Torque to max
25	10	12,075	302,79	210,63	198,56	Torque to max
26	9	12,075	314,86	198,56	186,48	Torque to max
27	8	12,075	326,94	186,48	174,41	Torque to max
28	ML hngr below HOP	8,010	334,95	174,41	166,40	Torque to max
	ML hngr above HOP	6,225	341,17	166,40	160,17	
29	45	12,078	353,25	160,17	148,10	Torque to max
30	44	12,080	365,33	148,10	136,02	Torque to max

31	43	12,075	377,41	136,02	123,94	Torque to max
32	42	12,075	389,48	123,94	111,87	Torque to max
33	41	12,075	401,56	111,87	99,79	Torque to max
34	40	12,072	413,63	99,79	87,72	Torque to max
35	39	12,075	425,70	87,72	75,64	Torque to max
36	38	12,076	437,78	75,64	63,57	Torque to max
37	37	12,079	449,86	63,57	51,49	Torque to max
38	36	12,079	461,94	51,49	39,41	Torque to max
39	XX	12,450	474,39	39,41	26,96	Torque to max
40	WH below HOP	10,310	484,70	26,96	16,65	Torque to max
	WH above HOP	4,590	489,29	16,65	12,06	16,65 = HOP
41	Landing joint	13,860	503,15	12,06	-1,80	

14.3 13 3/8" CASING AS RUN

WELL: 9/3-2	AS DONE			Date:	27.01.2006 14:40	
CSG. SIZE: 13 3/8"				Utarbeidet av:	E. Tveit	
GRADE: 68 #, L80, Dino VAM				Sjekket av :		
Run no	Joint no	Joint length (m)	Total length (m)	Depth btm.item (mMD)	Depth top.item (mMD)	Comments
				17 1/2" hole to:		1149,00
					1144,03	13 3/8" shoe depth
1	Shoe	13,423	13,42	1144,03	1130,61	Centralizer
2	Intermediate	12,450	25,87	1130,61	1118,16	Centralizer
3	Pup below FC	1,990	27,86	1118,16	1116,17	Centralizer
	Float Collar	0,715	28,58	1116,17	1115,45	
	Pup above FC	6,035	34,61	1115,45	1109,42	
4	110	13,821	48,43	1109,42	1095,60	Centralizer
5	109	13,693	62,13	1095,60	1081,90	Centralizer
6	108	13,820	75,95	1081,90	1068,08	Centralizer
7	107	13,789	89,74	1068,08	1054,30	Centralizer
8	106	13,858	103,59	1054,30	1040,44	Centralizer
9	105	12,987	116,58	1040,44	1027,45	Centralizer
10	104	13,840	130,42	1027,45	1013,61	Centralizer
11	103	13,208	143,63	1013,61	1000,40	Centralizer
12	102	13,396	157,03	1000,40	987,01	Centralizer
13	101	13,802	170,83	987,01	973,20	Centralizer
14	100	13,814	184,64	973,20	959,39	Centralizer
15	99	13,806	198,45	959,39	945,58	Centralizer
16	98	12,784	211,23	945,58	932,80	Centralizer
17	97	13,674	224,91	932,80	919,13	
18	96	13,809	238,71	919,13	905,32	
19	95	13,530	252,24	905,32	891,79	
20	94	13,663	265,91	891,79	878,12	
21	93	13,684	279,59	878,12	864,44	
22	92	13,392	292,98	864,44	851,05	
23	91	13,700	306,68	851,05	837,35	
24	90	13,623	320,31	837,35	823,73	
25	89	13,784	334,09	823,73	809,94	
26	88	13,163	347,25	809,94	796,78	
27	87	12,549	359,80	796,78	784,23	
28	86	13,820	373,62	784,23	770,41	
29	85	13,842	387,46	770,41	756,57	
30	84	12,958	400,42	756,57	743,61	
31	83	12,639	413,06	743,61	730,97	
32	82	13,796	426,86	730,97	717,17	
33	81	12,867	439,72	717,17	704,31	
34	80	13,388	453,11	704,31	690,92	
35	79	13,559	466,67	690,92	677,36	

36	78	10,766	477,44	677,36	666,59	
37	77	12,123	489,56	666,59	654,47	
38	76	12,414	501,97	654,47	642,06	
39	75	12,534	514,51	642,06	629,52	
40	74	12,701	527,21	629,52	616,82	
41	73	13,597	540,81	616,82	603,23	
42	72	13,812	554,62	603,23	589,41	
43	71	12,466	567,08	589,41	576,95	
44	70	13,854	580,94	576,95	563,09	
45	69	13,557	594,50	563,09	549,54	
46	68	13,456	607,95	549,54	536,08	
47	67	13,837	621,79	536,08	522,24	
48	66	13,804	635,59	522,24	508,44	
49	65	13,611	649,20	508,44	494,83	
50	64	13,569	662,77	494,83	481,26	
51	63	12,735	675,51	481,26	468,52	
52	61	13,539	689,05	468,52	454,99	NB - Skip joint# 62!
53	60	13,798	702,84	454,99	441,19	
54	59	13,838	716,68	441,19	427,35	
55	58	13,802	730,48	427,35	413,55	
56	57	13,783	744,27	413,55	399,76	
57	56	13,819	758,09	399,76	385,95	
58	55	13,831	771,92	385,95	372,11	
59	54	13,719	785,64	372,11	358,40	
60	53	13,805	799,44	358,40	344,59	
61	52	13,683	813,12	344,59	330,91	
62	51	13,886	827,01	330,91	317,02	
63	50	13,732	840,74	317,02	303,29	
64	49	13,776	854,52	303,29	289,51	
65	48	13,488	868,01	289,51	276,03	
66	47	13,380	881,39	276,03	262,65	
67	46	13,760	895,15	262,65	248,89	
68	45	12,622	907,77	248,89	236,26	
69	44	13,836	921,60	236,26	222,43	
70	43	13,487	935,09	222,43	208,94	

71	42	12,983	948,07	208,94	195,96	
72	41	11,258	959,33	195,96	184,70	
73	38	13,420	972,75	184,70	171,28	Skip joint # 40 & 39.
74	Below MLHP	4,396	977,15	171,28	166,88	HOP @ MLH
	Above MLHP	4,918	982,07	166,88	161,97	
75	36	13,729	995,80	161,97	148,24	
76	35	13,678	1009,47	148,24	134,56	
77	34	13,673	1023,15	134,56	120,89	
78	32	13,838	1036,98	120,89	107,05	
79	31	13,792	1050,78	107,05	93,26	
80	30	13,742	1064,52	93,26	79,51	
81	27	13,706	1078,22	79,51	65,81	
82	23	13,735	1091,96	65,81	52,07	
83	39	10,562	1102,52	52,07	41,51	
84	Pup B	2,728	1105,25	41,51	38,78	
85	5	13,883	1119,13	38,78	24,90	
86	Pup G	4,598	1123,73	24,90	20,30	
87	WH below HOP	4,250	1127,98	20,30	16,05	Final HOP = 16,24 m RKB.
	WH above HOP	8,017	1136,00	16,05	8,03	13 3/8" Casing hanger
88	62	10,380	1146,38	8,03	-2,35	land jnt prior to adjust

15 CEMENTING DATA

OPERATIONAL SUMMARY:

On the following pages there is a description of the cement jobs executed in this drilling operation. Each description will include a summary of events in addition to slurry and spacer recipes. In the table below all the jobs are listed in a chronological order:

Job description	Date
Cement 30" Conductor	28/10/2005
Cement 20" Casing	30/10/2005
Cement 13 3/8" Casing	10/11/2005
P&A Bottom Plug # 1	26/11/2005
P&A Bottom Plug # 2	27/11/2005
P&A Plug on Top of EZSV	29/11/2005
P&A Surface Plug	01/12/2005

30" Conductor:

Key Facts:

WELL DATA - 30" CONDUCTOR					
Casing Depth, MD	[m]	± 207	BHST	[°C]	7
Casing Depth, TVD	[m]	± 207	BHCT	[°C]	9
Casing Size	["]	30	WOC Time	[hrs]	± 6
Conductor Thickness	["]	1	Mud Type		WBM
Slurry Volume	[m^3]	± 50	Mud Weight	[SG]	1.40
Hole Size	["]	36	TOC, MD	[m]	Seabed @ 146.8
OH Excess	[%]	300			

Spacer Recipe:

The well was circulated to seawater in front of the cement job. A white Dye Marker E+ tracer pill was pumped in front to verified the hole volume.

5 M³ OF WHITE PILL USING DYE MARKER E+				
Description	Component	Amount per 1000 litre	Unit	Order of addition
	Seawater	904,8	litre	1
Viscosifier	Econolite Liquid	95,2	litre	2
Dye	Dye Marker E+	10	kg	3
Rheology at 15°C		16 11 7 5,5 4,5 2 1,5	300 200 100 60 30 6 3	

Summary of Events:

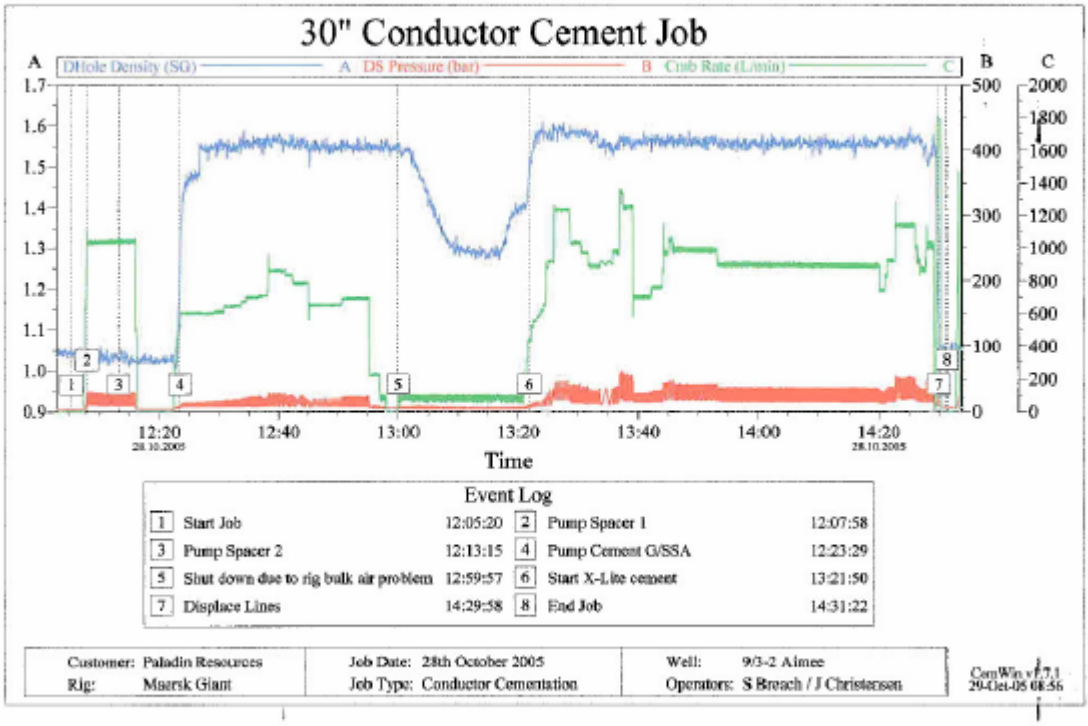
- Ran in hole with 30" conductor to 211.
- Performed tool box meeting prior to rig up and run cement stinger and 5.5" DP.
- RIH with cement sting and 5.5" DP.
- Stung into the float collar and sat down 3 ton. Tested Kelly valves to 250 bar/5 min-ok.
- Displaced mud out of hole by pumping 30 m3 seawater.
- Pressure tested lines and Kelly valve to 250 bar/10min– ok.
- Performed tool box meeting prior to cement job.
- Started cement job
- Problems with rig air. Rectified problem.
- Mixed and pumped 60 m^3 1,55 sg Tuned Light XL cement.

- Rigged down cement hose and cement stand.
- Pumped wiper balls to clean the pipe.

Slurry Recipe:

CEMENT SLURRY DESIGN & TEST RESULTS			
Slurry design:		**Amount**	**Units**
	Tuned Light XL blend	100	Kg*
	$CaCl_{2\ liquid}$	3,26	Lhk*
	NF-6	0,07	Lhk*
	Seawater	48,65	Lhk*
	Total Mix Fluid	51,98	Lhk*
	Surface Density	**1,55**	**SG**
	Downhole Density	1,56	SG
	Surface Yield (ADC Mixing)	99,5	Liter/100kg*
	Downhole Yield (volume calcs	98,9	Liter/100kg*
Lab reference Id:136	Thickening Time at 70°F:		
	Time to 30 BC	2:50	hr:min
	Time to 70 BC	**4:48**	**hr:min**
	Time to 100 BC	5:50	hr:min
	API Free Water	0	%
	Density top/bottom	1,55 / 1,55	SG
	Rheology at mix	160	300-rpm
		150	200-rpm
		123	100-rpm
		102	60-rpm
		80	30-rpm
		31	6-rpm
		25	3-rpm
	UCA compressive strength	9:00	50-psi
		18:00	360 - psi

Job Chart:


30" Conductor Cement Job
A DHole Density (SG)
A DS Pressure (bar)
B Cmb Rate (L/min)
C
Time
Event Log
1 Start Job 12:05:20
2 Pump Spacer 1 12:07:58
3 Pump Spacer 2 12:13:15
4 Pump Cement G/SSA 12:23:29
5 Shut down due to rig bulk air problem 12:59:57
6 Start X-Lite cement 13:21:50
7 Displace Lines 14:29:58
8 End Job 14:31:22
Customer: Paladin Resources
Rig: Maersk Giant
Job Date: 28th October 2005
Job Type: Conductor Cementation
Well: 9/3-2 Aimee
Operators: S Breach / J Christensen
CemWin v7.7.1
29-Oct-05 08:56

20" Surface Casing

Key facts:

WELL DATA - 20" CONDUCTOR					
Casing Depth, MD	[m]	± 500	BHST	[°C]	17
Casing Depth, TVD	[m]	± 500	BHCT	[°C]	15
Conductor Size	["]	20	WOC Time	[hrs]	± 24
Conductor Thickness	["]	0.625	Mud Type		WBM
Slurry Volume (lead/tail)	[m^3]	± 52/11	Mud Weight	[SG]	1.08
Hole Size	["]	24	TOC, MD	[m]	Seabed @ 147
OH Excess (lead/tail)	[%]	100/100	TOC, TAIL	[m]	450

Spacer Recipe:

The 1.08 sg water based mud was displaced out of the hole with sea water.

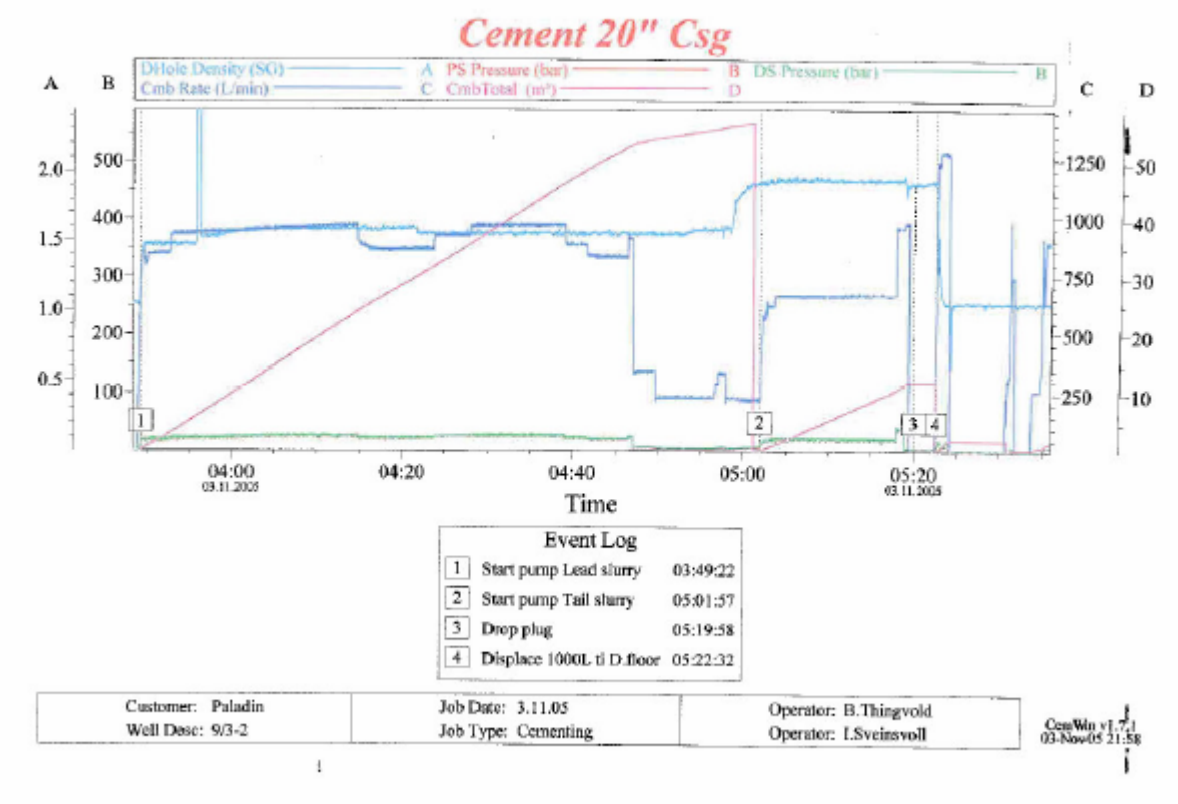
Summary of Events:

- Ran in hole and landed 20" casing at 501 m MD.
- Rigged up cement head and surface lines.
- Attempted to flush cement lines, but observed leak in top of cement head. Found O-ring missing. Replaced O-ring and made up top again.
- Pressure tested cement lines to250 bar/5 min-ok.
- Circulated 1x annulus volume (60m^3). No losses observed.
- Mixed and pumped 53,5 m3 1,56 sg lead slurry.
- Mixed and pumped 11,1 m3 1,95 sg tail slurry.
- Dropped plug and displaced with 1000 l sea water from cement unit to drill floor
- Lined over to rig pumps and displaced cement with sea water. Started up with 3000 lpm, but reduced to 1600 lpm due to losses (lost app. 50% at 1600 lpm). Losses reduced after displacing app. 55 m3, increased flowrate in steps to 2900 lpm. Reduced flowrate just before bumping plug.
- Bumped plug with 75 bars (97,5% efficiency on rig pumps).
- Lined over to cement unit and pressure tested casing to 90 bar for 10 minutes -ok. Bled off pressure and checked for backflow - ok.
- Rigged down cement head
- Rotated casing string to open circulating ports above mudline hanger.
- Rigged up cement head and surface lines.
- Circulated down casing and through circulation ports to clean out cement from 30" x 20" annulus. Spotted 7 m3 sugar pill in annulus.
- Rigged down cement head.

Slurry Recipe:

CEMENT SLURRY DESIGN & DATA				
Slurry design	Dyckerhoff class "G" Cement w/ 0.1% EZ-FLO	**Amount:**		**Units**
		Lead	Tail	
	Econolite	3.20	-	Liter/100kg
	Liquid $CaCl_2$	-	3.00	Liter/100kg
	NF-6	0.10	0.10	Liter/100kg
	Sea Water	94,78	40.28	Liter/100kg
	Density	**1.56**	**1.95**	**SG**
	Total Mix Fluid	98.08	43.38	Liter/100kg
	Yield	129.24	74.53	Liter/100kg
	Thickening Time at BHCT			Cement samples
Test results	Time to 30 BC	11:36	2:26	Hrs:Mins
Lab reference: 177	Time to 70 BC	**12:55**	**2:50**	Hrs:Mins
	Time to 100 BC	Ongoing	3:01	Hrs:Mins
	SG top/bottom	1.56/1.56	1.95/1.95	SG / SG
	Fann readings at BHCT	20	84	300 RPM
		18	67	200 RPM
		15	50	100 RPM
		14	42	60 RPM
		13	33	30 RPM
		12	20	6 RPM
		11	14	3 RPM
	UCA compressive strength	-	Ongoing	50 psi
		-		500 psi
		-		

Job Chart:


Cement 20" Csg
DiHole Density (SG)
Cmb Rate (L/min)
A PS Pressure (bar)
C CmbTotal (m³)
B DS Pressure (bar)
D
A
B
C
D
2.0
1.5
1.0
0.5
500
400
300
200
100
1250
1000
750
500
250
50
40
30
20
10
1
2
3
4
04:00
03.11.2005
04:20
04:40
05:00
05:20
03.11.2005
Time
Event Log
1 Start pump Lead slurry 03:49:22
2 Start pump Tail slurry 05:01:57
3 Drop plug 05:19:58
4 Displace 1000L ti D.floor 05:22:32
Customer: Paladin
Well Desc: 9/3-2
Job Date: 3.11.05
Job Type: Cementing
Operator: B.Thingvold
Operator: I.Sveinsvoll
CemWin v1.7.1
03-Nov-05 21:58

13 3/8" Intermediate Casing

Key Facts:

WELL DATA – 13 3/8" SURFACE CASING					
Casing Depth, MD	[m]	± 1150	BHST	[°C]	38
Casing Depth, TVD	[m]	± 1150	BHCT	[°C]	30
Casing Size	["]	13 3/8	WOC Time	[hrs]	± 24
Casing Weight	[lb/ft]	72	Mud Type		WBM
Slurry Volume	[m^3]	38	Mud Weight	[SG]	1,15
Hole Size	["]	17 ½	TOC	[m]	750
OH Excess	[%]	40			

Spacer Recipe:

The 1,15 sg mud was displaced with sea water.

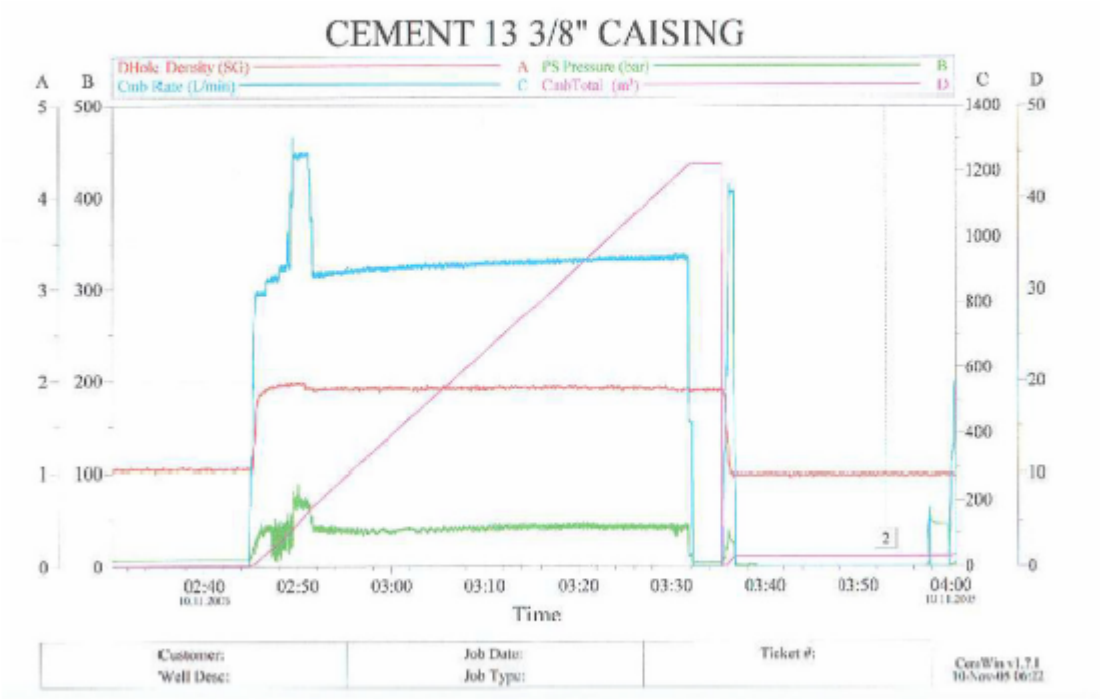
Summary of Events:

- Ran the 13 3/8" casing to 1144 mMD.
- Installed cement head
- Not able to get air from cement bulk tanks to cement unit, troubleshoot same.
- Pressure tested cement line to 345 bar/10 min -ok.
- Pumped 15 m3 1,62 s.g. Tuned Spacer E+.
- Released bottom plug.
- Mixed and pumped 33,8 m3 1,65 s.g. lead cement slurry.
- Pumped 10 m3 drill water and released bottom plug.
- Mixed and pumped 38.5 m3 1.92 sg cement slurry (15.5 m3 lost).
- Released top plug, displaced cement slurry with seawater (2000 - 3000 lpm, 40-150 bar, loss: 27 m3). Reduced flow rate to 800 lpm (110 bar).
- Bumped plug (110 to 145 bar) at 5425 strokes (equivalent 97% pump efficiency).
- Lined up cement unit and pressure tested 13 3/8" casing to 200 bar/10 min, ok.
- Checked for backflow, ok.
- Rigged down cement head and cement hose.

Slurry Recipe:

CEMENT SLURRY DESIGN & TEST RESULTS			
Slurry design:	Dyckerhoff "G" + 0,1% Ez-Flo	**Tail**	**Units**
	HR-4L	0,50	ltr/100 kg
	NF-6	0,10	ltr/100 kg
	Fresh water	43,17	ltr/100 kg
	Density	**1,92**	SG
	Total Mix Fluid	43,77	ltr/100 kg
	Yield	74,93	ltr/100 kg
	Thickening Time at BHCT		Cement samples
Test results	Time to 30 BC	05:12	Hrs:Mins
	Time to 70 BC	**05:47**	Hrs:Mins
Lab reference	Time to 100 BC	05:57	Hrs:Mins
	API Free Water, vertical	1,0	%
	SG top/bottom	1,92/1,92	SG / SG
	API fluid loss at BHCT	-	cc/30 min
	Fann readings at BHCT	84	300 RPM
		69	200 RPM
		54	100 RPM
		48	60 RPM
		41	30 RPM
		24	6 RPM
		18	3 RPM
	UCA compressive strength	8:42	50 psi
		12:12	500 psi
		22:46	2153 psi

Job Chart:


CEMENT 13 3/8" CAISING
DHole Density (SG)
Cmb Rate (L/min)
PS Pressure (bar)
CmbTotal (m³)
A
B
C
D
Time
02:40
02:50
03:00
03:10
03:20
03:30
03:40
03:50
04:00
Customer:
Well Desc:
Job Date:
Job Type:
Ticket #:

Abandonment plug#1

Key Facts:

WELL DATA					
Plug Depth, MD	(m)	± 2900	BHST	(°C)	100
Plug Depth, TVD	(m)	± 2900	BHCT (API)	(°C)	76
String Size	(")	5	Mud Type		OBM
String Weight	(lb/ft)	19,5	Mud Weight	(SG)	1,30
Hole Size	(")	8 1/2	TOC, MD	(m)	± 2600
Excess OH	(%)	20	Volume cement slurry	(m^3)	± 14
Spacer type		Tuned Spacer E+	Volume spacer ahead	(m^3)	8

Summary of Events First Stage:

- Ran in hole with cement stinger from 1431 m to 3100 m.
- Performed pre job meeting prior to cement job.
- Made up cement stand and racked in derrick
- Ran in hole and tagged bottom @ 3154 m. Circulated and conditioned mud.
- Picked up cement stand and made up cement hose to pump in sub. Leak tested rig up to 345 bar - OK. Pumped 5 m3 spaced with cement pump.
- Pumped 11 m3 1.9 sg cement and flushed cement line with 1.2 m3 1.5 sg spacer.
- Displaced cement with 1459 stokes of 1.38 sg mud.
- Racked cement stand and pulled out of hole with cement stinger to 2844 m.
- Performed prejob meeting prior to circulating hole clean. Circulated hole clean and diverted interface with spacer and cement into slop pit (26 m3).
- Circulated until equal mud weight in and out.

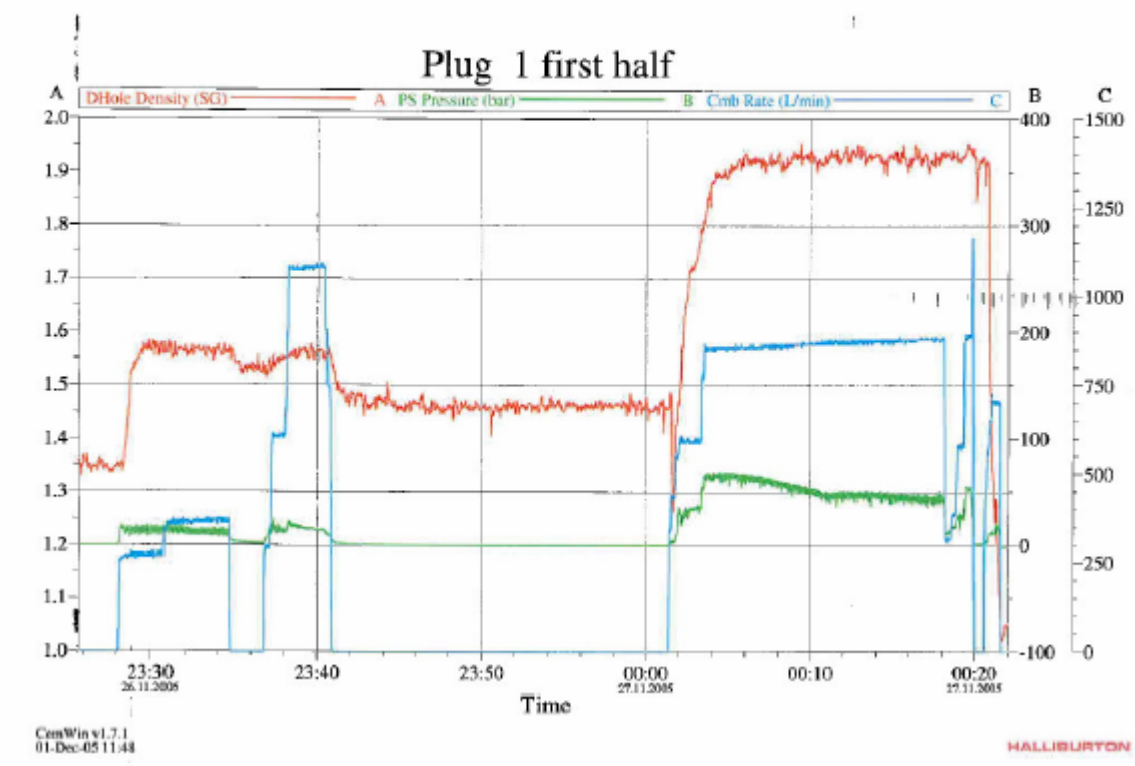
Summary of Events Second Stage:

- Performed prejob meeting prior to pumping second stage of cement plug.
- Hooked up cement hose to pump in sub and leak tested same to 345 bar - OK.
- Pumped 6 m3 1.5 sg spacer with cement pump.
- Mixed and pumped 13.6 m3 1.9 sg cement.
- Flushed line with 200 l water to drill floor.
- Lined up mud pumps and pumped 1355 strokes to displace cement plug @ 2500 lpm. Broke of cement hose.
- Pulled out of hole with cement stinger from 2844 m to 2340 m @ 2 min/stand
- Circulated hole clean and diverted 20 m3 cement/spacer interface to slop pit. Pumped slug.
- Pulled out of hole with cement stinger from 2340 m to 1573 m

Slurry Recipe:

CEMENT SLURRY DESIGN & TEST RESULTS			
Slurry design:	Dyckerhoff "G" + 0,1% Ez-Flo		**Units**
	Gascon	4,00	ltr/100 kg
	CFR-8L	1,50	ltr/100 kg
	Halad 413L	4,00	ltr/100 kg
	HR-5L	0,70	ltr/100 kg
	NF-6	0,10	ltr/100 kg
	Fresh water	36,17	ltr/100 kg
	Density	**1,90**	SG
	Total Mix Fluid	46,47	ltr/100 kg
	Yield	77,62	ltr/100 kg
	Thickening Time at BHCT		
Test results	Time to 30 BC	04:03	Hrs:Mins
	Time to 70 BC	**04:19**	Hrs:Mins
Lab reference	Time to 100 BC	04:25	Hrs:Mins
NS04-824-3			
	API Free Water, vertical	0	%
	SG top/bottom	1,901,90	SG / SG
	API fluid loss at BHCT	60	cc/30 min
	Fann readings at BHCT	107	300 RPM
		77	200 RPM
		46	100 RPM
		33	60 RPM
		22	30 RPM
		9	6 RPM
		7	3 RPM
	API gel strength, 10sec/min	3/38	CP
	UCA compressive strength	7:59	50 psi
		8:43	500 psi
		19:00	2529 psi

Job Chart:


Plug 1 first half
A DHole Density (SG)
A PS Pressure (bar)
B Cmb Rate (L/min)
C
B
C
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
400
300
200
100
0
-100
1500
1250
1000
750
500
250
0
23:30
26.11.2005
23:40
23:50
00:00
27.11.2005
00:10
00:20
27.11.2005
Time
CemWin v1.7.1
01-Dec-05 11:48
HALLIBURTON

Abandonment plug#2

Key Facts:

WELL DATA			
Depth to Plug Bottom MD:	1 100 m		
Depth to Plug Bottom TVD:	1 100 m	Excess:	20 %
Depth to Plug Top MD:	900 m	Casing I D:	12,347 inch
Length Cement Plug:	200 m	Drill Pipe Size:	5 inch
Drilling Mud Type:	SW	BHST Temperature:	38°C
Drilling Mud Weight:	1,03 S.G	BHCT Temperature:	30 °C
Spacer fluid:	FW	Spacer volume:	10 m^3

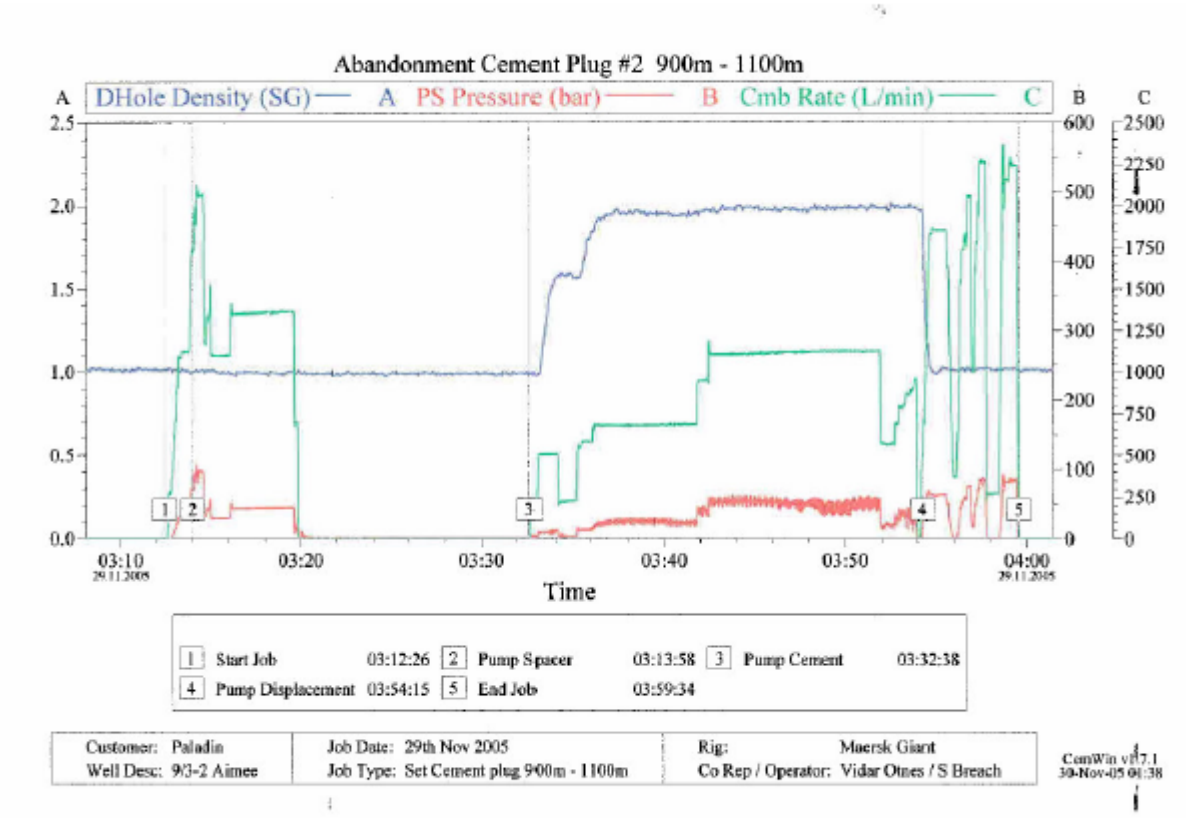
Summary of Events

- Ran in hole with EZSV on 5" drill pipe to 1100 m.
- Recorded up/down (62/63 ton) weight and rotated pipe 35 right turns to engage upper slips. Picked up weight in stages (8, 16 ton) and broke weak point @ 20 ton overpull and sat EZSV. Sat down 5 ton to confirm plug set -OK.
- Lined up to pressure test EZSV plug to 107 bar from above. Installed cementing stand and hooked up cement hose. Leak tested cement line to 345bar - OK.
- Closed BOP annular and pressure up to 107 bar to test EZSV/10 min - OK. Bled back same volume as pumped in (612 l).
- Opened annular and tested circulation through cementing string to 2200 lpm/67 bar - OK.
- Performed pre job meeting prior to displacing well from 1.38 sg mud to sea water.
- Displaced to sae water
- Performed pre job meeting prior to cement job.
- Pumped 10 m3 spacer (fresh water)
- Pumped 15.62 m3 1.95 sg cement.
- Flushed lines to drill floor with 1 m3 fresh water.
- Displaced cement down with 6.4 m3.
- Broke of cement hose and racked cement stand. Pull out of cement to 890 m
- Dropped wiper ball and circulated bottom up. Got some cement (1 m3) to surface. A total of 138 m3 slop created during cementing and circulation operation.
- Pulled out of hole from 890 m to 850 m and laid down 5" drill pipe prior to rig move

Slurry Recipe:

CEMENT SLURRY DESIGN & DATA			
Design:	Dyckerhoff "G" + 0,1% Ez-Flo		**Units**
	HR-4L	0,50	lbk
	NF-6	0,10	lbk
	Freshwater	40,81	lbk
	Density	**1,95**	**SG**
	Total Mix Fluid	41,41	lbk
	Yield	72,56	lbk
NS04-850	Thickening Time at BHCT		
	Time to 30 BC	3:40	hrs:min
	Time to 70 BC	3:51	hrs:min
	Time to 100 BC	4:03	hrs:min
	Fann rheology at BHCT	120	300 rpm
		106	200 rpm
		87	100 rpm
		79	60 rpm
		71	30 rpm
		35	6 rpm
		27	3 rpm
	Compressive strength	7:17	50 Psi
		10:37	500 Psi
		1769	18 Hrs

Job Chart:


Abandonment Cement Plug #2 900m - 1100m
A DHole Density (SG)
A PS Pressure (bar)
B Cmb Rate (L/min)
C
Time
1 Start Job 03:12:26
2 Pump Spacer 03:13:58
3 Pump Cement 03:32:38
4 Pump Displacement 03:54:15
5 End Job 03:59:34
Customer: Paladin
Well Desc: 9/3-2 Aimee
Job Date: 29th Nov 2005
Job Type: Set Cement plug 900m - 1100m
Rig: Maersk Giant
Co Rep / Operator: Vidar Otnes / S Breach
CemWin v17.1
30-Nov-05 01:38

Abandonment plug#3

Key Facts:

WELL DATA			
Depth to Plug Bottom MD:	300 m	Casing ID	18,73inch
Depth to Plug Bottom TVD:	300 m	Excess:	20 %
Depth to Plug Top MD:	150 m	Drill Pipe Size:	5 inch
Depth to Plug Top TVD:	150 m	BHST Temperature:	10 °C
Length Cement Plug:	150 m	BHCT Temperature:	8 °C
Drilling Mud Type:	Seawater	Drilling Mud Weight:	1,03 S.G
Spacer fluid:	Seawater	Spacer volume:	10 m^3

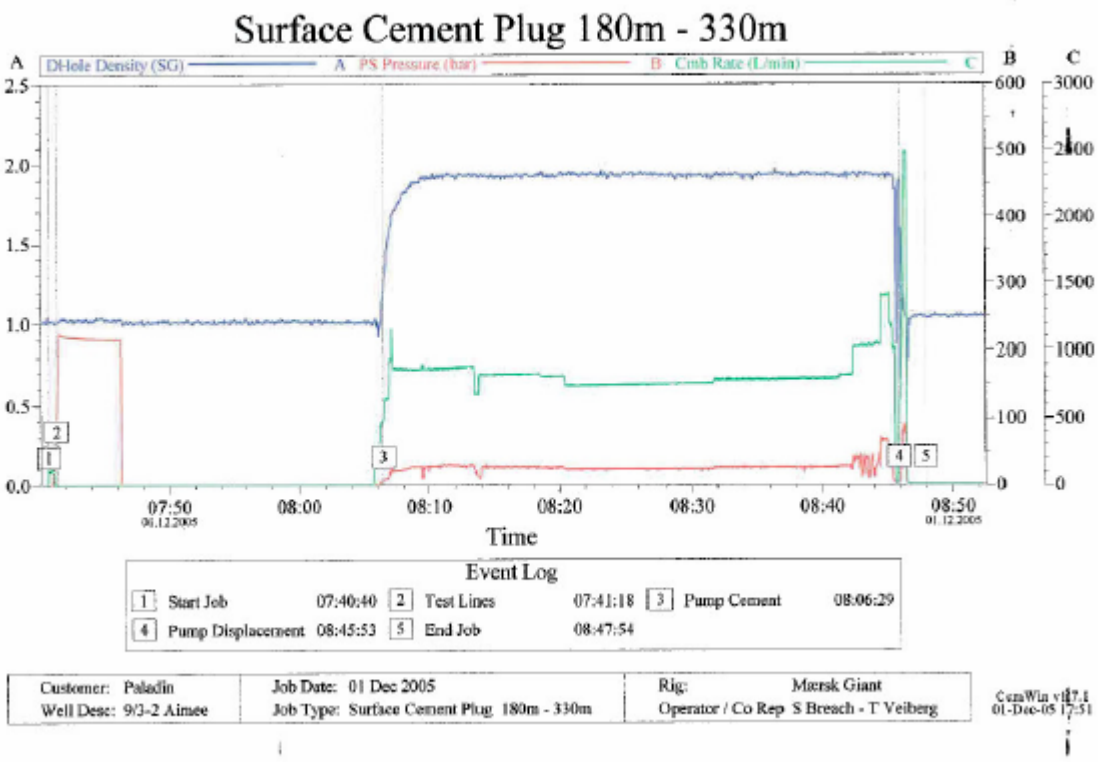
Summary of Events:

- Spot 13 m3 hi-vis pill from 400 - 330 m. Pumped out of hi-vis to 335 m.
- Circulated hole clean (1.5 bottom up) and installed cement support tool (CST) and dart in string.
- Displaced CST down to 335 m and pulled up to 330 m.
- Performed prejob meeting prior to cementing operation.
- Installed cement stand and leak tested line from cement unit.
- Pumped 29 m3 1.92 sg cement slurry.
- Displaced cement with 1 m3 seawater.
- Pulled 5" drill pipe from 330 m to 180 m and circulated hole clean with returns to sea.

Slurry Recipe:

CEMENT SLURRY DESIGN & DATA			
Design:	Dyckerhoff "G" + 0,1% Ez-Flo		**Units**
	Calcium chloride – liquid	2,50	lhk
	NF-6	0,10	lhk
	Sea Water	43,11	lhk
	Density	**1,92**	**SG**
	Total Mix Fluid	45,71	lhk
	Yield	76,86	lhk
Test id 232-1	Thickening Time at BHCT		
	Time to 30 BC	4:18	hrs:min
	Time to 70 BC	5:08	hrs:min
	Time to 100 BC	5:23	hrs:min
	Fann rheology at BHCT	63	300 rpm
		52	200 rpm
		41	100 rpm
		35	6 rpm
		31	3 rpm
		20	
		14	
	Plastic Viscosity	33	cP
	Yield point	30	lb/100 ft2
	Compressive strength at 10°C	8:36	50 Psi
			500 Psi
		322	17 Hrs

Job Chart:


Surface Cement Plug 180m - 330m
A DHole Density (SG)
A PS Pressure (bar)
B Cmb Rate (L/min)
C
Time
Event Log
1 Start Job 07:40:40
2 Test Lines 07:41:18
3 Pump Cement 08:06:29
4 Pump Displacement 08:45:53
5 End Job 08:47:54
Customer: Paladin
Well Desc: 9/3-2 Aimee
Job Date: 01 Dec 2005
Job Type: Surface Cement Plug 180m - 330m
Rig: Mærsk Giant
Operator / Co Rep S Breach - T Veiberg
CemWin v1.7.1
01-Dec-05 17:51

Material Usage and Discharge:

In the tables below the total usage and discharge are broken down into the belonging cement operations.

Total usage and discharge
Well 9/3-02 Aimee

Product	Usage	Unit	Destruction	Left in well	Reinjected	To Sea
Dyckerhoff G	158,5	MT	0	157,5	0	1
Tuned Lite XL	46	MT		45,5		0,5
EzFlo	158,5	kg	0	157,5	0	1
CaCl2 liquid	500	ltr	0	480	0	20
Econolite	1310	ltr	0	1300	0	10
HR-4L	509	ltr	0	480	0	29
NF-6	136	ltr	0	114	0	22
CFR-8L	570	ltr	0	570	0	0
HR-5L	420	ltr	0	420	0	0
Gascon	1340	ltr	0	1340	0	0
Halad-413L	1180	ltr	0	1180	0	0
Musol E	192	ltr	0	182	0	0
Sem-8	96	ltr	0	96	0	0
Tuned Spacer E+	644	kg	0	644	0	0
Dye Marker E+	50	kg				50

16 DRILLING FLUIDS

Baroid Fluid Services

Operator	Paladin
Well Name	9-3-2 Aimee
Contractor	Maersk
Rig No	Maersk Giant
Unit System	Paladin

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 50 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	Pa				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness	kg/m3 Eq.	% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	SG	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd in		Deg C		ml	ml	ml	mg/l	mg/l			Corr Solid	LGS	NAP Base	Water						
Interval # 01										From Date				10/16/2005						Top of Interval				0.0		m						
Max. Hole Size / Bit Size			36.000 / 36.000 in							To Date				10/28/2005						Bottom of Interval				219.0		m						
10/22/2005	0		1.050	100											9.20											99						
10/23/2005	0		1.050	100											9.30											99						
10/24/2005	0		1.050	100											9.30											99						
10/25/2005	0		1.050	100											9.30											99						
10/26/2005	0		1.050	100											9.30											99						
10/27/2005	0		1.050	100											9.30											99						
10/28/2005	219		1.050	100											9.30											99						
10/28/2005	219		1.500												9.20											99						
Interval # 02										From Date				10/29/2005						Top of Interval				219.0		m						
Max. Hole Size / Bit Size			36.000 / 36.000 in							To Date				11/03/2005						Bottom of Interval				507.0		m						
10/29/2005	219		1.050	100											9.30											99						
10/29/2005	219		1.200												9.20											99						
10/30/2005	250		1.050	100											9.30											99						
10/30/2005	250		1.200												9.20											99						
10/31/2005	365		1.070												9.00							0.25				99						
11/01/2005	507		1.080		9	2.9	2.0	3.0	4.0	2.2		1			9.80	0.30	0.20	0.45	65,000	180			2.61	5.19		92	24.0	15.0	12.0	7.0	3.0	2.0
11/02/2005	507		1.080		10	2.9	1.0	1.9	2.4	2.2		1			9.60	0.30	0.25	0.35	65,000	180		0.10	2.61	5.19		92	26.0	16.0	13.0	8.0	3.0	2.0
11/03/2005	507		1.030	27															20,000	400		0.10				100						
Interval # 03										From Date				11/04/2005						Top of Interval				507.0		m						
Max. Hole Size / Bit Size			24.000 / 24.000 in							To Date				11/09/2005						Bottom of Interval				1,149.0		m						
11/04/2005	0		1.030	30																		0.10				99						
11/05/2005	507		1.030	31																		0.10				99						
11/06/2005	735	16	1.110												8.60				19,000			0.10	2.92	0.18		96						
11/07/2005	1,130	14	1.100												8.70				20,000			0.10	4.89	4.8		94						
11/08/2005	1,049	12	1.150	80	7	11.0	12.5	16.6	18.2						9.50	0.30	0.20	0.25	20,000	320	45.0	0.10	4.89	1.67		94	37.0	30.0	26.0	23.0	18.0	16.0
11/08/2005	1,049		1.150	81	8	10.5	12.5	16.6	18.8						9.30	0.30	0.15	0.25	20,000	340	45.0	0.10	4.89	1.67		94	38.0	30.0	26.0	23.0	18.0	16.0

Baroid Fluid Services

Operator	Paladin
Well Name	9-3-2 Aimee
Contractor	Maersk
Rig No	Maersk Giant
Unit System	Paladin

Fluid Property Recap : Water-Based Fluid

Date	Depth	FL Temp	Density	Funn Visc	Rheology 50 Deg C					Filtration					Filtrate Analysis						MBT	Sand	Retort Analysis				Rheometer Dial Readings					
					PV	Pa				API	HTHP	Cake API	Cake HTHP	Temp	pH	Pm	Pf	Mf	Cl	Total Hardness	kg/m3 Eq.	% by vol	% by vol				600	300	200	100	6	3
	m	Deg C	SG	sec/qt	cP	YP	10S	10M	30M	ml/30 min	ml/30 min	32nd In		Deg C		ml	ml	ml	mg/l	mg/l			Corr Solid	LGS	NAP Base	Water						
Interval # 04										From Date				11/10/2005						Top of Interval				1,149.0	m							
Max. Hole Size / Bit Size			17.500 / 17.500 in							To Date				12/05/2005						Bottom of Interval				3,154.0	m							
11/11/2005	1,149		1.300		25	7.7	5.3	6.7	7.2		2.0		1			1.50				2		0.10	11.4	1.41	64	22	66.0	41.0	32.0	22.0	8.0	7.0
11/11/2005	1,149		1.305		27	8.6	5.3	7.2	7.7		2.0		1			0.35				2		0.10	11.3	1.03	64	22	72.0	45.0	35.0	24.0	10.0	9.0
11/29/2005	0		1.370	58	24	10.1	5.7	7.2	7.7		2.0		1	120		1.00						0.01	14.2	1.09	67	17	69.0	45.0	34.0	24.0	11.0	10.0
11/30/2005	0		1.370	60	24	10.1	5.7	7.2	7.7		2.0		1	120		1.00				3		0.01	14	2.09	67	17	69.0	45.0	34.0	24.0	11.0	
12/01/2005	0		1.370	60	24	10.1	5.7	7.2	7.7		2.0		1	120		1.00				3		0.01	14	2.09	67	17	69.0	45.0	34.0	24.0	11.0	10.0

Baroid Fluid Services

Operator	Paladin
Well Name	9-3-2 Aimee
Contractor	Maersk
Rig No	Maersk Giant
Unit System	Paladin

Fluid Property Recap : NAP-Based Fluid (API Titrations)

Date	Depth	FL Temp	Density	Funn Visc	Rheology 50 Deg C					Filtration			Elec. Stability	Excess Lime Content	Whole Fluid Alk	Whole Fluid Ca	Whole Fluid Cl	Sand	Retort Analysis					Rheometer Dial Readings					
					PV	YP	10S	10M	30M	HTHP	Cake	Temp							Corr Solid	LGS	NAP	Water	NAP/Water Ratio	600	300	200	100	6	3
	m	Deg C	SG	sec/qt	cP	Pa				ml/30 min	32nd in	Deg C	volt	kg/m3	ml	mg/l	mg/l	% by vol	% by vol										
Interval # 01										From Date				10/16/2005					Top of Interval					147.0	m				
Max. Hole Size / Bit Size			36.000 / 36.000 in							To Date				10/29/2005					Bottom of Interval					219.0	m				
Interval # 02										From Date				10/30/2005					Top of Interval					219.0	m				
Max. Hole Size / Bit Size			36.000 / 36.000 in							To Date				11/05/2005					Bottom of Interval					507.0	m				
Interval # 03										From Date				11/06/2005					Top of Interval					507.0	m				
Max. Hole Size / Bit Size			24.000 / 24.000 in							To Date				11/12/2005					Bottom of Interval					1,152.0	m				
11/12/2005	1,152.0		1.300		30	7.7	6.7	8.6	9.1	2.0		120	608	4.06	1.10			0.1	10.9	0.4	64.0	22.5	73.99/26.01	76.0	46.0	37.0	25.0	12.0	10.0
Interval # 04										From Date				11/13/2005					Top of Interval					1,152.0	m				
Max. Hole Size / Bit Size			17.500 / 17.500 in							To Date				11/25/2005					Bottom of Interval					3,154.0	m				
11/13/2005	1,225.0	24	1.300	117	27	8.6	6.2	8.2	8.6	2.4	1	120	604	0.37	0.10			0.2	11.3	1.3	64.0	22.0	74.42/25.58	72.0	45.0	36.0	25.0	11.0	10.0
11/14/2005	1,372.0	30	1.300		26	9.1	5.2	6.2	6.7	2.0	1	120	730	4.80	1.30			0.3	11.2	1.4	64.0	22.0	74.42/25.58	71.0	45.0	36.0	25.0	11.0	10.0
11/14/2005	1,470.0	31	1.300		28	9.6	4.8	6.2	6.7	2.0	1	120	740	6.28	1.70			0.3	11.0	1.5	63.0	23.0	73.26/26.74	76.0	48.0	37.0	26.0	11.0	10.0
11/14/2005	1,283.0	27	1.300	105	26	8.6	5.8	7.7	8.2	2.4	1	120	652	2.96	0.80			0.2	11.2	1.4	64.0	22.0	74.42/25.58	70.0	44.0	34.0	24.0	11.0	10.0
11/14/2005	1,560.0	30	1.300	83	24	9.1	6.2	7.2	7.7	2.0	1	120	753	7.02	1.90			0.2	10.9	1.4	64.0	22.0	74.42/25.58	67.0	43.0	33.0	24.0	12.0	11.0
11/15/2005	1,659.0	32	1.300	84	28	11.5	6.8	7.7	7.7	2.0	1	120	760	7.02	1.90			0.1	10.9	1.4	64.0	22.0	74.42/25.58	80.0	52.0	41.0	29.0	14.0	12.0
11/15/2005	1,772.0	31	1.290	84	25	10.1	6.2	7.7	7.7	2.2	1	120	702	7.02	1.90			0.1	10.5	1.0	65.0	21.5	75.14/24.86	71.0	46.0	37.0	27.0	13.0	12.0
11/15/2005	1,815.0	32	1.300	83	25	11.5	7.2	8.2	8.2	2.2	1	120	715	7.76	2.10			0.1	10.6	0.4	65.0	21.5	75.14/24.86	74.0	49.0	38.0	28.0	13.0	12.0
11/15/2005	1,920.0	33	1.300	83	25	11.5	7.2	8.2	8.2	2.0	1	120	700	7.76	2.10			0.1	10.6	0.4	65.0	21.5	75.14/24.86	74.0	49.0	38.0	28.0	13.0	12.0
11/16/2005	2,000.0	24	1.300	79	27	11.5	7.2	8.2	8.2	2.0	1	120	750	7.39	2.00			0.1	10.6	0.4	65.0	21.5	75.14/24.86	78.0	51.0	48.0	34.0	14.0	13.0
11/16/2005	2,065.0	33	1.300	73	24	9.1	5.7	6.7	7.2	2.0	1	120	729	7.46	2.02			0.2	10.7	0.3	65.5	21.0	75.72/24.28	67.0	43.0	34.0	24.0	12.0	11.0
11/16/2005	2,065.0		1.300	75	24	9.1	5.8	6.7	7.2	2.0	1	120	750	7.39	2.00			0.1	10.7	0.3	65.5	21.0	75.72/24.28	67.0	43.0	34.0	24.0	12.0	11.0
11/17/2005	2,065.0		1.300	76	24	9.1	5.8	6.7	7.2	2.0	1	120	760	7.39	2.00			0.1	10.7	0.3	65.5	21.0	75.72/24.28	67.0	43.0	34.0	24.0	12.0	11.0
11/17/2005	2,111.0	31	1.300	75	24	9.6	6.2	7.2	7.6	2.0	1	120	800	7.39	2.00			0.1	10.8	0.3	66.0	20.5	76.3/23.7	68.0	44.0	35.0	25.0	12.0	11.0
11/17/2005	2,265.0	34	1.350	74	28	11.5	6.2	7.2	7.6	2.2	1	120	825	5.76	1.56			0.1	12.3	0.3	65.0	20.0	76.47/23.53	80.0	52.0	40.0	28.0	13.0	12.0
11/17/2005	2,365.0	31	1.350	80	28	11.5	6.2	7.2	7.6	2.1	1	120	830	5.76	1.56			0.1	12.3	0.3	65.0	20.0	76.47/23.53	80.0	52.0	40.0	29.0	13.0	12.0
11/18/2005	2,453.0	35	1.350	78	27	9.6	5.8	6.7	7.2	2.1	1	120	800	1.11	0.30			0.1	12.3	0.3	65.0	20.0	76.47/23.53	74.0	47.0	36.0	25.0	11.0	10.0
11/18/2005	2,605.0	37	1.350	63	23	9.1	5.3	6.2	6.7	2.0	1	120	835	2.22	0.60			0.1	12.2	0.3	65.0	20.0	76.47/23.53	65.0	42.0	32.0	23.0	11.0	10.0
11/18/2005	2,676.0	38	1.350	62	23	9.1	5.3	6.2	6.7	2.0	1	120	843	1.85	0.50			0.1	12.2	0.3	65.0	20.0	76.47/23.53	65.0	42.0	32.0	23.0	11.0	10.0

Baroid Fluid Services

Operator	Paladin
Well Name	9-3-2 Aimee
Contractor	Maersk
Rig No	Maersk Giant
Unit System	Paladin

Fluid Property Recap : NAP-Based Fluid (API Titrations)

Date	Depth	FL Temp	Density	Funn Visc	Rheology 50 Deg C					Filtration			Elec. Stability	Excess Lime Content	Whole Fluid Alk	Whole Fluid Ca	Whole Fluid Cl	Sand	Retort Analysis					Rheometer Dial Readings					
					PV	YP	10S	10M	30M	HTHP	Cake	Temp							Corr Solid	LGS	NAP	Water	NAP/Water Ratio	600	300	200	100	6	3
	m	Deg C	SG	sec/qt	cP	Pa				ml/30 min	32nd in	Deg C	volt	kg/m3	ml	mg/l	mg/l	% by vol	% by vol										
11/18/2005	2,700.0	37	1.350	78	23	9.1	5.3	6.2	6.7	2.0	1	120	800	2.59	0.70			0.1	12.3	0.3	65.0	20.0	76.47/23.53	65.0	42.0	32.0	23.0	11.0	10.0
11/19/2005	2,745.0	41	1.350	85	26	9.6	5.3	6.2	6.7	2.0	1	120	830	2.59	0.70			0.1	12.3	0.3	65.0	20.0	76.47/23.53	72.0	46.0	37.0	25.0	11.0	10.0
11/19/2005	2,815.0	46	1.350	64	26	10.1	5.8	7.2	7.7	2.0	1	120	865	6.26	1.70			0.2	12.1	0.2	65.5	19.5	77.06/22.94	73.0	47.0	34.0	23.0	11.0	10.0
11/19/2005	2,866.0	48	1.350	62	27	9.6	5.8	7.2	7.7	2.0	1	120	868	5.91	1.60			0.2	12.2	0.3	65.5	19.5	77.06/22.94	74.0	47.0	34.0	23.0	11.0	10.0
11/19/2005	2,891.0	39	1.350	62	26	10.5	5.8	7.2	7.7	2.0	1	120	860	5.91	1.60			0.1	12.2	0.3	65.5	19.5	77.06/22.94	74.0	48.0	38.0	26.0	11.0	10.0
11/20/2005	2,949.0	43	1.350	62	26	10.5	5.7	6.2	7.7	2.1	1	120	850	5.91	1.60			0.1	12.2	0.3	65.5	19.5	77.06/22.94	74.0	48.0	38.0	26.0	11.0	10.0
11/20/2005	2,993.0	44	1.350	59	24	8.6	5.7	7.2	7.7	2.2	1	120	843	4.06	1.10			0.1	12.4	0.3	66.0	19.0	77.65/22.35	66.0	42.0	32.0	23.0	11.0	10.0
11/20/2005	3,035.0	45	1.350	57	24	9.1	5.7	7.2	7.7	2.5	1	120	860	2.88	0.78			0.1	12.4	0.2	67.0	18.0	78.82/21.18	67.0	43.0	34.0	24.0	11.0	10.0
11/21/2005	3,120.0	43	1.350	56	24	9.1	5.7	7.2	7.7	2.5	1	120	855	2.96	0.80			0.1	12.4	0.2	67.0	18.0	78.82/21.18	67.0	43.0	34.0	24.0	11.0	10.0
11/21/2005	3,129.0	44	1.350	60	24	9.1	5.7	7.2	7.7	2.2	1	120	865	3.88	1.05			0.1	12.4	0.2	67.5	17.5	79.41/20.59	67.0	43.0	33.0	23.0	11.0	10.0
11/21/2005	3,151.0	44	1.350	59	24	9.1	6.2	7.2	7.7	2.4	1	120	875	3.69	1.00			0.1	12.5	0.2	68.0	17.0	80/20	67.0	43.0	33.0	23.0	11.0	10.0
11/21/2005	3,154.0	44	1.350	60	24	9.1	5.2	7.2	7.7	2.0	1	120	860	3.69	1.00			0.1	12.5	0.2	68.0	17.0	80/20	67.0	43.0	33.0	23.0	11.0	10.0
11/22/2005	0.0		1.350	60	24	9.1	5.7	7.2	7.7	2.0	1	120	860	3.69	1.00			0.1	12.5	0.2	68.0	17.0	80/20	67.0	43.0	33.0	23.0	11.0	10.0
11/23/2005	3,154.0	34	1.355	62	24	9.1	5.7	7.2	7.7	2.1	1	120	850	3.69	1.00			0.1	13.5	2.0	67.0	17.0	79.76/20.24	67.0	43.0	33.0	23.0	11.0	10.0
11/23/2005	0.0		1.350	60	24	9.1	5.7	7.2	7.7	1.8	1	120	845	3.69	1.00			0.0	12.5	0.2	68.0	17.0	80/20	67.0	43.0	33.0	23.0	11.0	10.0
11/24/2005	1,141.0	40	1.350	62	24	9.1	5.7	7.2	7.7	2.0	1	120	850	3.69	1.00			0.1	13.5	2.3	67.0	17.0	79.76/20.24	67.0	43.0	33.0	23.0	11.0	10.0
11/24/2005	0.0		1.350	60	24	9.1	5.7	7.2	7.7	2.0	1	120	840					0.0	13.4	2.3	67.0	17.0	79.76/20.24	67.0	43.0	33.0	23.0	11.0	10.0
11/25/2005	0.0		1.350	60	24	9.1	5.7	7.2	7.7	2.0	1	120	850	3.69	1.00			0.0	13.5	2.3	67.0	17.0	79.76/20.24	67.0	43.0	33.0	23.0	11.0	10.0
Interval # 05										From Date				11/26/2005					Top of Interval					3,154.0 m					
Max. Hole Size / Bit Size 17.500 / 17.500 in										To Date				12/05/2005					Bottom of Interval					1,299.0 m					
11/26/2005	3,154.0	29	1.350	60	24	9.1	5.7	7.2	7.7	2.0	1	120		3.69	1.00			0.0	13.5	2.3	67.0	17.0	79.76/20.24	67.0	43.0	33.0	23.0	11.0	10.0
11/26/2005	2,850.0	27	1.370	58	24	10.1	5.7	7.2	7.7	2.0	1	120	855	3.69	1.00			0.0	14.0	2.1	66.5	17.0	79.64/20.36	69.0	45.0	34.0	24.0	11.0	10.0
11/27/2005	0.0		1.370	58	24	10.1	5.7	7.2	7.7	2.0	1	120	850	3.69	1.00			0.0	14.2	1.1	66.5	17.0	79.64/20.36	69.0	45.0	34.0	24.0	11.0	10.0
11/28/2005	0.0		1.370	58	24	10.1	5.7	7.2	7.7	2.0	1	120	850	3.69	1.00			0.0	14.0	2.1	66.5	17.0	79.64/20.36	69.0	45.0	34.0	24.0	11.0	10.0

HALLIBURTON

Fluid Systems

Paladin Resources (Norway) Limited

DISCHARGE FROM DRILLING

SHEET B1 DISCHARGE FROM DRILLING

Rig Maersk Giant Block no 9/3 Well no 9/3-2 Aimee

Reporting period From 16-Oct-05 To 05-Dec-05 Operation Total Well

Drilling mud (m3)

Section in

Mud type Density kg/l

Volume Built & Recd	Behind casing	Dumped	To sea Lost with cuttings	With Cuttings to shore	With slop to shore	Returned
4631 m3	138	847	2497	104	73	972

Cuttings

Length drilled	Theoretical hole vol.	Estimated hole vol.	Cuttings density	Cuttings amt.
3007 m	305 m3	352 m3	2.60 kg/l	914 tonn

Cuttings to sea (tonn)	Cuttings to land (tonn)	Cuttings reinjected (tonn)
694	220	

Mud chemicals

Trade name	Function group	Used tonn	Lost to form. tonn	Disch. to sea tonn	With Cuttings to shore tonn	Next Sect. tonn	Returned to land tonn
BARACARB	16	3.851	0.178		1.029	0.723	1.920
BARAKLEAN GOLD	27						
BARASCAV L	5						
DEXTRIDE E	18						
BARAZAN	18	0.548	0.259	0.290			
Barite	16	1,045.026	25.320	407.517	92.223	64.733	455.233
Calcium Chloride	16	13.157	0.609		3.517	2.469	6.561
Caustic Soda	11						
PERFORMATROL	21						
DURATONE E	21	8.587	0.397		2.296	1.611	4.282
EZ MUL NT	22	10.162	0.470		2.717	1.907	5.068
GELTONE II	18	2.228	0.103		0.596	0.418	1.111
GEM GP	21						
Lime	11	6.895	0.293	0.715	1.566	1.099	3.221
PAC R/L	18	1.702	0.028	1.674			
BARAZAN L	18						
OMC 3	18						
STEELSEAL	17	0.024	0.001		0.006	0.005	0.012
BAROFIBRE	17	1.060	0.049		0.283	0.199	0.529
Clairsol NS (baseoil)	17	211.606	9.792		56.573	39.710	105.531
Soda Ash	11	1.532	0.024	0.975			0.534
OCMA Bentonite	18	139.982	2.321	90.054			47.607
Wallnut	18						
Driltreat	18	0.229	0.011		0.061	0.043	0.114
SUSPENTONE	18						
KCl-powder	16	25.249	0.403	24.845			
Sugar	22	0.400		0.384			0.016
Barabuf	11						
NaCl powder	16						

17 BIT DATA

Customer: PALADIN | Well: 9/3-2

	Bit Dimension	Manufactor	Bit Type	Serial No	No Rr	Iadc Bitcode	Nozzles	Tfa	Depth Out	TVD In	TVD Out	Meters Drilled	Hours	Rop	Rpm Min	Rpm Max	Wob Min	Wob Max	Flow Min	Flow Max	Pressure Min	Pressure Max	Dull grad
1	17 1/2"	SDBS	EBXTD12DSCL	10406344		435W	1x16, 2x16, 1x20	1,0000	219,0	147	219,0	72,0	9,0	8,0	30	50	1,0	4,0	3000	4000	62	680	1 2 WT A FFF I NO TD
2	17 1/2"	SDBS	XTD12DSC	755358		435M	16, 2 x 18, 20	1,0000	219,0	219	219,0	,0	,0	,0									1 1 WT A E I NO TD
3	24"	SDBS	SS33SGJ4	725967		115M	18, 2 x 20, 22	1,2300	237,0	219	237,0	18,0	1,8	10,0	0	83	,0	6,2	0	3313	0	65	1 1 WT A E I ER TD
4	9 7/8"	SDBS	EBXS12DSC	10749342		437W	4 x 20	1,2300	507,0	237	507,0	270,0	5,1	52,9	85	130	2,0	5,0	3200	4050	54	128	1 1 WT A E I NO TD
5	24"	SDBS	XT02CL	10381562		415M	18, 2 x 20, 22	1,2300	507,0	237	507,0	270,0	7,1	38,0	0	229	,0	3,2	0	3820	0	117	1 1 WT A E I NO TD
6	17 1/2"	SDBS	EBXTD08DSLC	10727638		425W	18, 2 x 20, 22	1,2300	1149,0	507	1149,0	642,0	33,0	19,5	30	115	2,0	20,0	3600	4400	125	224	1 1 WT A E I NO TD
7	12 1/4"	SDBS	EBXSC1S	10682353		117W	2x22, 1x24	1,1840	1152,0	1149	1152,0	3,0	,5	6,0	50	50	18,0	18,0	4400	4400	224	224	1 1 WT A E I NO TD
8	8 1/2"	SDBS	FMH3665ZR	10753034			1x15, 4x16, 1x18	1,2060	2065,0	1152	2064,0	913,0	46,4	19,7	80	165	,5	9,0	1950	2506	66	150	BHA
9	8 1/2"	SDBS	FMH3665ZR	10753034			1x15, 4x16, 1x18	1,2060	3154,0	2064	3152,0	1089,0	75,6	14,4	110	120	2,0	8,0	1945	2130	180	230	2 8 RO G X 6 CT TD
10	8 1/2"	SDBS	EBXSC1S	10714922		117W	1x18, 2x22, 1x24	1,4330	3154,0	3152	3152,0	,0											1 1 WT A E I NO TD

Drill bits Performance summary

Well 9/3--2

Section 9 7/8" & 24"

System	Group	Formation	MD (M)	Bit run	Comments
Quarternary - Tertiary	Nordland - Hordaland		237	**9 7/8" EBXS12DSC** **sn: 10749342** **270 m** **5.1 hrs** **52.9 m/hr** **Bit run 1** **1-1-WT-A-E-I-NO-TD**	Washed down from shoe at 210m to bottom of the 24" hole at 237m and started drilling with focus of keeping the hole as close to verticalas possible. The BHA drilled from 237m to 507m. The overall ROP was 30-40 m/hr. Did not encounter any bolders on this run. The drilling went welland the trip out of hole was good.Maximum inclination measured on this run was 0.61 degrees at 235.6m
				24" XT02CL **sn: 10381562** **270 m** **7.1 hrs** **38 m/hr** **Bit run 1** **1-1-WT-A-E-I-NO-TD**	The pendulum assembly used in this holeopener run was configured with a 24" roller cone bit which was made up to a 11 1/4" SperryDrillmotor set with no bend. The MWD system was using standard PDC probe inside the hang off collar. The remainder of the BHA was madeup and we ran in hole without incident down to just above the casing shoe. Washed very carefully through the shoe and met noresistance at all down to tagging bottom at 237m. After picking up the string and established full flow of 4000 lpm and 90 RPM, we went on bottom and started opening up the hole to 24"with 1-4t WOB. Surveys were taken all the way down to TD of 507m to ensure that the wellbore did not drift away from the vertical. High viscous pills were pumped on every stand to ensure good hole cleaning. The well was displaced to 1.08 KCL mud at TD and we started to pull the string out of hole. After pulling about 55m, there was indicationof swabbing, so we tripped back to bottom and decided to lubricate out of hole. The string was successfully pulled out of hole while lubricating. The BHA was then racked back in the derrick in order to st
			507	**TD**	

SDBS recommendation: Recommendation is to run same BHA and bit.

Drill bits Performance summary
Well 9/3--2
Section 17 1/2"

System	Group	Formation	MD (M)	Bit run	Comments
Tertiary	Rogaland	Balder / Sele / Lista / Vale	507	**EBXTD08DSLC** **sn: 10727638** **642 m** **33 hrs** **19.5 m/hr** **Bit run 1** **1-1-WT-A-E-I-NO-TD**	Tagged the float at 487m and drilled float and cement down to the shoe at 501.3m.Cleaned the shoe and rat hole in stages and drilled 3m of new formation to 510m and circulated the hole clean and performed a FIT to 1.3SG. Drilling commenced with initial high ROP's of about 60-70 m/hr and gradually decreased to 7-8 m/hr in the bottom half of the Hodformation. A drilling break was experienced when entering the Sola formation at 1070m and the rate of penetration was kept to around 35m/hr to TD of the section at 1149m.High vibration peaks from the MWD tool dictated an adjustment in the topdrive RPM when drilling the chalk interval. After trying differentsurface RPM, a string RPM of 50 finally gave hardly any vibration and it was kept throughout the run to TD.The WOB was initially 2-3 t but was increased to 15-20 t in the Tor and Hod (chalk) formations to optimize drilling parameters and ROP.The flow rate ranged from 4000 - 4500 lpm to ensure good hole cleaning in addition to pumping Hi-Vis pills.The inclination was steady around 1 degree and the azimuth was around 80 degrees. We ended up 11m off the surface location andapprox. 25 m from the target centre. At TD, the hole was circulated bottom up and a lot of cuttings came over the shakers in addition to clogging up the shakers. Somecavings was also observed over the shakers. When the hole was assumed clean, the seawater was displaced with 1.15 SG bentonitemud prior to pulling out. When POOH, it was experienced some overpull at 1050 m (10-15 ton). Tried to rotate without pumps and see if we cleaned the spot out.That worked, but on the next stand we took 15-20 t overpull again and it was decided to trip in one stand and circulate and ream the samestand, then the same for the next two using 4400lpm/120RPM. A lot of cuttings was again coming over the shakers including pieces fromthe float indicating that weighted mud was required to clean the hole. After three stand of reaming, the hole was clean and tripping out, Resumed without problems.
		Ekofisk	590		
Cretaceous	Shetland	Tor	624		
		Hod	870		
	Cromer Knoll	Sola	1040		
			1149	**TD**	

SDBS

Drill bits Performance summary

Well 9/3--2
Section 8 1/2"

System	Group	Formation	MD (M)	Bit run	Comments
Cretaceous	Cromer Knoll	Valhall	1152	**FMH3665Z** **sn:10753034** **913 m** **46.4 hrs** **19.7 m/hr** **Bit Run 1** **1-1-WT-A-X-I-CT-TD**	The assembly used in this run was configured with a 8 1/2" PDC bit and pre-assembled in 2 pieces up to the Drill Collars. The MWD toolswas successfully tested electrically before the assembly was run in the hole. 1500m of drill pipe were picked up prior to commencedrilling. It quickly became apparent after the start of the run that the assembly would struggle to hold the wellpath vertical. The build tendancythroughout the entire run was on average +/- 0.1 deg/30m, however as the formation firmed and hole inclination increased with depth, thebuild rate produced became more than 0.2deg/30m. Despite efforts to arrest this tendancy - running very low WOB 0-1T, the angle continued to build away in an Easterly direction, away fromthe target. Projecting to Top Reservoir at this build rate would have resulted in missing the target completely. It was thus decided toPOOH and pick up a motor to perform a correction run.
			1952		
	Boknafjord	Flekkefjord			
			2011		
Jurassic		Sauda	2065	**FMH3665Z** **sn:10753034** **913 m** **46.4 hrs** **19.7 m/hr** **Bit Run 2** **1-1-WT-A-X-I-CT-TD**	The motor was picked up and made up to the re-run bit. No problems were experienced when running in to TD at 2065m MD. The assembly itself had no problems sliding, and best results were found when running light WOB 1-2 T. In rotary through the Sauda formation the assembly displayed a build rate on average of 0.15dgs/30m, and a right hand walk tendancy of8.5deg/30m, with an ROP of 60m/hr easily achievable running 3-6T WOB. This build rate increased to an average of 0.5deg/30m throughthe Tau and Egersund formation, the assembly still walked right but less so with the increase in inclination. The Sandnes Formation which was the top reservoir sand came in shallower than prognosed at 2661m TVD. Steering became more laborious with slow ROP of 3-5m/hr and the motor was seen to stall on several occasions. Once the wellpath was lined up to hit the target the last 4 stands were rotated down to TD, ROP dropped off significantly as the bit dulled and was down to 2-3 m/hr before TD was reached at 3154m MD/ 3151.m TVD. The hole was circulated clean and the assembly POOH.
		Tau	2459		
Triassic	Triassic	Skagerakk	3020		
			3154		

SDBS recommendation: Run more heavy set bit type to improve the dull.

Hydraulics Summary Report

Rpt No	Rpt Date	Hole MD	Max. Hole Size	ECD @ Csg Shoe	ECD @ Bit	Flow Rate	Btms Up Time	Total Circ Time	Press Drop DP	Press Drop @ Bit	Press Drop An	Total Press Drop	Hyd Meth	Circ Press	Ann Vel Riser	AV min DP	AV max DC	Bit HHSI	Bit Jet Vel	Bit Imp Force
		m	in	SG	SG	l/min	Min	Min	bar	bar	bar	bar		bar	m/min	m/min	m/min	hhp/in2	m/sec	N
	10/16/2005																			
	10/17/2005																			
	10/18/2005																			
	10/19/2005																			
	10/20/2005																			
	10/21/2005																			
	10/22/2005																			
	10/23/2005	219.0				3,980														
	10/24/2005	219.0																		
	10/25/2005	219.0																		
	10/26/2005	219.0				4,045														
	10/27/2005	219.0																		
	10/28/2005	219.0	36.000																	
	10/29/2005	219.0	36.000																	
	10/30/2005	270.0	9.875			3,107	29	57							7.5	7.6	182.9		65.2	
	10/31/2005	507.0	9.875																	
	11/01/2005	507.0	24.000			4,077		12												
	11/02/2005	507.0	24.000																	
	11/03/2005	507.0	24.000																	
	11/04/2005	507.0	24.000																	
	11/05/2005	507.0	24.000																	
	11/06/2005	783.0	17.500	1.110	1.110	4,191	30	48		47.1		47.1	HB	180.0	10.1	15.0	34.1	1.83	87.6	6,783.58
	11/07/2005	1,042.0	17.500	1.100	1.100	4,304	38	61		49.2		49.2	HB	214.0	10.4	15.4	35.1	1.97	89.9	7,090.75
	11/08/2005	1,149.0	19.000																	
	11/09/2005	1,149.0	19.000																	
	11/10/2005	1,149.0	17.500																	
	11/11/2005	1,149.0	18.750																	
	11/12/2005	1,152.0	12.250																	
	11/13/2005	1,229.0	8.500	1.318	2.472	2,039	38	76	42.8	13.6	141.5	234.6	HB	129.0	7.3	31.2	1,907.3	1.10	43.6	1,922.37

Hydraulics Summary Report

Rpt No	Rpt Date	Hole MD	Max. Hole Size	ECD @ Csg Shoe	ECD @ Bit	Flow Rate	Btms Up Time	Total Circ Time	Press Drop DP	Press Drop @ Bit	Press Drop An	Total Press Drop	Hyd Meth	Circ Press	Ann Vel Riser	AV min DP	AV max DC	Bit HHSI	Bit Jet Vel	Bit Imp Force
		m	in	SG	SG	l/min	Min	Min	bar	bar	bar	bar		bar	m/min	m/min	m/min	hhp/in2	m/sec	N
	11/14/2005	1,565.0	8.500	1.318	2.271	2,071	41	87	51.4	14.1	149.1	251.9	HB	132.0	7.4	14.5	1,937.6	1.15	44.2	1,983.88
	11/15/2005	1,920.0	8.500	1.321	1.970	1,958	48	57	51.1	12.6	126.3	224.9	HB	146.0	7.0	13.7	1,831.6	0.97	41.8	1,772.83
	11/16/2005	2,065.0	8.500			1,877		36			0.0	32.6	HB	145.0						
	11/17/2005	2,368.0	8.500	1.371	1.414	1,974	50	91	156.6	13.3	13.0	208.0	HB	203.0	7.1	13.9	146.0	1.03	42.2	1,871.57
	11/18/2005	2,718.0	8.500	1.367	1.405	2,071	54	101	211.4	14.6	14.5	266.8	HB	200.0	7.4	14.5	153.1	1.19	44.2	2,060.18
	11/19/2005	2,895.0	8.500	1.368	1.413	2,022	58	107	217.6	13.9	17.9	274.7	HB	224.0	7.2	14.2	149.6	1.11	43.2	1,964.74
	11/20/2005	3,072.0	8.500	1.368	1.415	2,103	58	102	245.9	15.1	19.6	306.8	HB	221.0	7.5	14.8	155.5	1.25	44.9	2,125.07
	11/21/2005	3,154.0	8.500	1.367	1.368	2,055	34	74	90.6	14.4	1.9	133.1	HB	222.0	7.4	31.4	37.4	1.16	43.9	2,028.12
	11/22/2005	3,154.0	8.500																	
	11/23/2005	3,154.0	8.500																	
	11/24/2005	3,154.0	8.500	1.369	1.438	2,912	30	33	237.8	28.9	14.1	310.4	HB	183.0	10.4	20.4	215.4	3.32	62.2	4,074.09
	11/25/2005	3,154.0	8.500																	
	11/26/2005	2,850.0	8.500	1.387	1.428	2,006	58	65	214.9	13.9	16.1	290.5	HB	180.0	7.2	14.1	148.4	1.10	42.9	1,962.08
	11/27/2005	2,364.0	8.500	1.387	1.426	2,006	52	98	180.5	13.9	12.9	252.9	HB	180.0	7.2	14.1	148.4	1.10	42.9	1,962.08
	11/28/2005	1,299.0	8.500																	
	11/29/2005	1,299.0	8.500																	
	11/30/2005	1,299.0	8.500																	
	12/01/2005	1,299.0	8.500																	
	12/02/2005	1,299.0	8.500																	
	12/03/2005	1,299.0	8.500																	
	12/04/2005	1,299.0	8.500																	
	12/05/2005	1,299.0	8.500																	

18 BOTTOM-HOLE ASSEMBLIES

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 1

36" Spud BHA

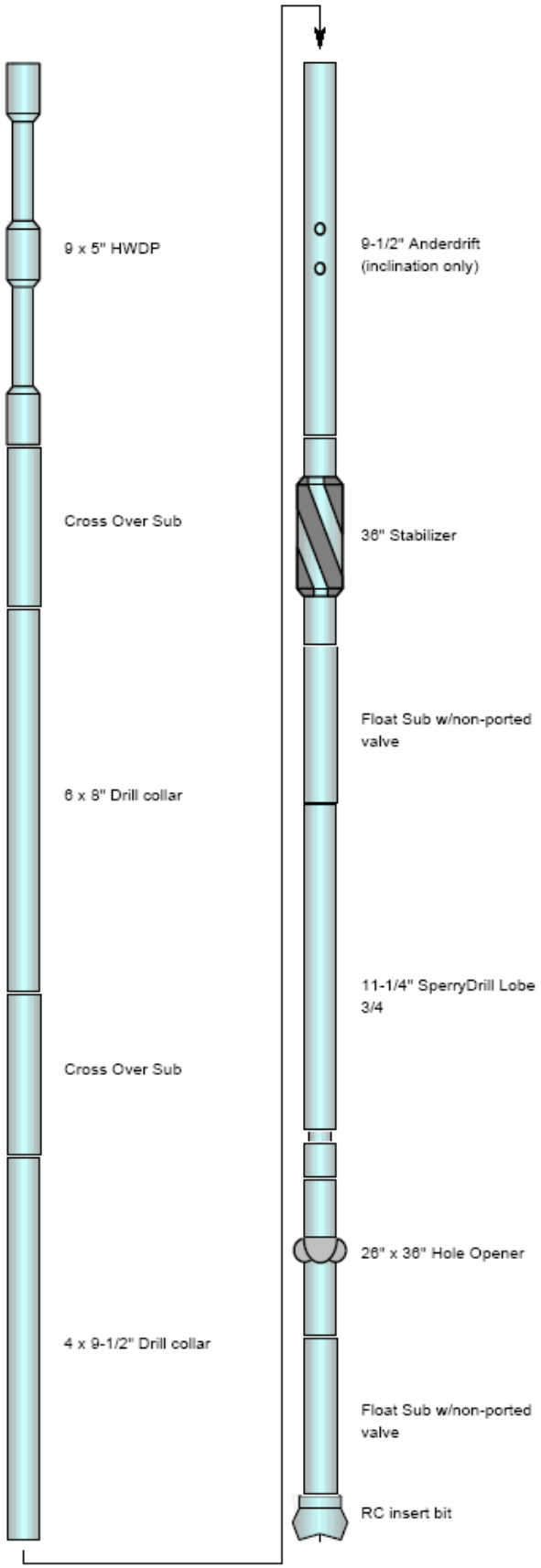
BHA Configuration

O.D.	Length	Description
17.5"	0.42m	RC insert bit
9.5"	0.73m	Float Sub w/non-ported valve
9.5"	3.94m	26" x 36" Hole Opener
11.25"	9.41m	11-1/4" SperryDrill Lobe 3/4
9.5"	1.11m	Float Sub w/non-ported valve
9.5"	2.58m	36" Stabilizer
9.5"	2.92m	9-1/2" Anderdrift (inclination only)
9.5"	37.72m	4 x 9-1/2" Drill collar
9.5"	1m	Cross Over Sub
8"	55.13m	6 x 8" Drill collar
7.75"	0.89m	Cross Over Sub
5"	85.04m	9 x 5" HWDP

BHA Discussion

Holeopener 3 x 18, 3 x 16.
Spud well at 147m. Drill to 219m

Total on bit = 8.5 hrs
Total on motor 1125024 = 10.0 hrs
Total on holeopener OWSHO3608 = 10.0 hrs



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 1

BHA# 1 : Date In 23-10-20(MD In (m) : 147 TVD In (m) : 147 Date Out 26-10-200 MD Out (m): 219 TVD Out (m): 219

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
1	17.500	Security DBS	EBXTD12DSC	10406344	1x16, 2x18, 1x20	1.000	0-2-CT-N -F-I-RG-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
1	11.250	SDS	SperryDrill	1125024	0.00°		56.4	10.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	RC insert bit	10406344	17.500	3.000	17.500	795.63	P 7-5/8" Reg	0.42	
2	Float Sub w/non-ported valve	OWSFS092	9.500	3.000		217.48	P 7-5/8" Reg	0.73	
3	26" x 36" Hole Opener	OWSHO3608	9.500	3.000	36.000	217.48	P 7-5/8" Reg	3.94	
4	11-1/4" SperryDrill Lobe 3/4	1125024	11.250	6.135		238.02	B 7-5/8" Reg	9.41	
5	Float Sub w/non-ported valve	OWSFS031	9.500	3.000		217.48	B 7-5/8" Reg	1.11	
6	36" Stabilizer	74467	9.500	3.000	36.000	217.48	B 7-5/8" Reg	2.58	16.78
7	9-1/2" Anderdrift (inclination only)	HBD-978	9.500	3.000		217.48	B 7-5/8" Reg	2.92	
8	4 x 9-1/2" Drill collar		9.500	3.250		213.00	B 7-5/8" Reg	37.72	
9	Cross Over Sub	OWS-XOS-31 930	9.500	3.000		217.48	B 6-5/8" Reg	1.00	
10	6 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	55.13	
11	Cross Over Sub	OWS-XOS-14 029	7.750	2.812		139.60	B N.C. 50	0.89	
12	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								200.89	

Parameter	Min	Max	Ave
WOB (t) :	1.00	4.00	1.49
RPM (rpm) :	30	50	42
Flow (L/min) :	3000	4000	3778
SPP (bar) :	62.0	680.0	135.9

Activity	Hrs
Drilling :	8.50
Reaming :	0.00
Circ-Other :	1.50
Total :	10.00

BHA Weight	(lb)
in Air (Total) :	84859
in Mud (Total) :	73860
in Air (Bel Jars) :	0
in Mud (Bel Jars :	0

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	18

PERFORMANCE

	In	Out
Inclination (deg)	0.00	0.62
Azimuth (deg)	0.00	194.03

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.20	0			
Rotated :	72.00	8			
Total :	72.20	8	0.26	0.00	0.26

COMMENTS

Holeopener 3 x 18, 3 x 16.
Spud well at 147m. Drill to 219m

Total on bit = 8.5 hrs
Total on motor 1125024 = 10.0 hrs
Total on holeopener OWSHO3608 = 10.0 hrs

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 1

OBJECTIVES:

To drill vertical surface hole from the mudline to approximately 216m RKB.

RESULTS:

After running in to 10m above the sea bed the Andergauge was tested. Following this the bit was run to the sea bed and observed with the ROV. After tagging bottom, the flow rate was brought up to 2000 lpm and the well spudded without surface rotation. No WOB was observed and after a single was drilled the flow rate was increased to 3500 lpm.
After the 36" stabiliser was in the hole, surface rotation was started and the remainder of the stand drilled down. The string was then pulled back for a survey. After the pumps were cycled to initiate a Anderdrift survey, the pressure climbed excessively indicating that the motor was in a stall position. The flow rate was reduced and the pipe moved in order to start the motor again. The hole was reamed several times before a successful survey was obtained. Surveys often had to be taken several times due to no pulses being sent or an unrealistic inclination being received. The best flow for transmission was 2000 lpm with the pumps needing to be off for 3 minutes to ensure an accurate survey.
The ROP was increased to 20 - 25 m/hr with little to no WOB being seen. Hi Vis sweeps of 10m3 were pumped every 10m to clean the hole.

Drilling continued using 0 -1tonnes WOB and a flow rate of 4100 lpm, which was the maximum recommended for the Anderdrift tool. Some vibration was encountered at 196m but did not last long.
At 202m which corresponded to an expected cobble or boulder bed the ROP slowed dramatically from 25 to 8 m/hr decreasing further to 3 m/hr when the holeopener reached this depth. After drilling 5m the string was picked up to ream the harder interval but was seen to take weight at 202m bit depth that required the string to be picked up several times before being able to proceed to bottom. This slower ROP persisted until TD was reached at 219m. The WOB was increased to 5 - 6 tonnes that resulted in an increase of the ROP to 8 m/hr. The maximum hole angle measured was 1 degree.

Several surveys were attempted at TD with no satisfactory results. At this point two 10 m3 hi vis pills were pumped before the well was displaced to 1.4 sg. mud and a wiper trip (3 stands) was performed. On getting back to bottom 2m of fill was seen but this was judged to be acceptable and the assembly was pulled out of hole.

On reaching surface the hole opener was observed to be in good condition. Although the bit only had chipping on two teeth and some striations present on the gauge sections the bearings were excessively loose given the short section. Play was present in the bearings and some heat checking was also seen on the small carbide buttons on the gauge row.
The holeopener and Anderdrift tool was laid out.

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

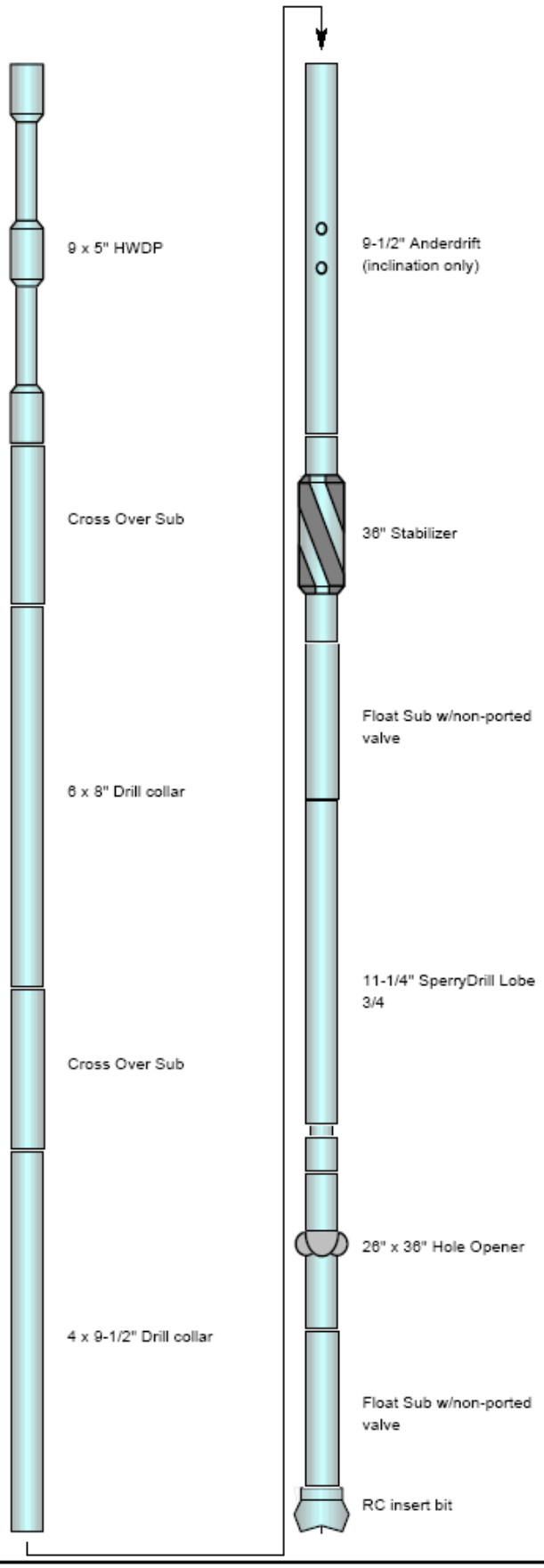
9/3-2

BHA ID #: 2

36" Clean Out Trip

BHA Configuration

O.D.	Length	Description
17.5"	0.42m	RC insert bit
9.5"	0.73m	Float Sub w/non-ported valve
9.5"	3.94m	26" x 36" Hole Opener
11.25"	9.41m	11-1/4" SperryDrill Lobe 3/4
9.5"	1.11m	Float Sub w/non-ported valve
9.5"	2.58m	36" Stabilizer
9.5"	2.92m	9-1/2" Anderdrift (inclination only)
9.5"	37.72m	4 x 9-1/2" Drill collar
9.5"	1m	Cross Over Sub
8"	55.13m	6 x 8" Drill collar
7.75"	0.89m	Cross Over Sub
5"	85.04m	9 x 5" HWDP



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sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 2

BHA# 2 : Date In :26-10-20(MD In (m) : 219 TVD In (m) : 219 Date Out 29-10-200 MD Out (m): 219 TVD Out (m): 219

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
2	17.500	Security DBS	EBXTD12DSC	755358	1x16, 2x18, 1x20	1.000	1-1-NO- A-E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
2	11.250	SDS	SperryDrill	1125024	0.00°			31.25

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	RC insert bit	755358	17.500	3.000	17.500	795.63	P 7-5/8" Reg	0.42	
2	Float Sub w/non-ported valve	OWSFS092	9.500	3.000		217.48	P 7-5/8" Reg	0.73	
3	26" x 36" Hole Opener	OWSHO3608	9.500	3.000	36.000	217.48	P 7-5/8" Reg	3.94	
4	11-1/4" SperryDrill Lobe 3/4	1125024	11.250	6.135		238.02	B 7-5/8" Reg	9.41	
5	Float Sub w/non-ported valve	OWSFS031	9.500	3.000		217.48	B 7-5/8" Reg	1.11	
6	36" Stabilizer	74467	9.500	3.000	36.000	217.48	B 7-5/8" Reg	2.58	16.78
7	9-1/2" Anderdrift (inclination only)	HBD-978	9.500	3.000		217.48	B 7-5/8" Reg	2.92	
8	4 x 9-1/2" Drill collar		9.500	3.250		213.00	B 7-5/8" Reg	37.72	
9	Cross Over Sub	OWS-XOS-31 930	9.500	3.000		217.48	B 6-5/8" Reg	1.00	
10	6 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	55.13	
11	Cross Over Sub	OWS-XOS-14 029	7.750	2.812		139.60	B N.C. 50	0.89	
12	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								200.89	

Parameter	Min	Max	Ave
WOB (t) :			
RPM (rpm) :			
Flow (L/min) :			
SPP (bar) :			

Activity	Hrs
Drilling :	0.00
Reaming :	10.00
Circ-Other :	1.25
Total :	11.25

BHA Weight	(lb)
in Air (Total) :	84859
in Mud (Total) :	73860
in Air (Bel Jars) :	0
in Mud (Bel Jars) :	0

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	18

PERFORMANCE

	In	Out
Inclination (deg)	0.62	0.62
Azimuth (deg)	194.03	194.03

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :					
Rotated :					
Total :					

COMMENTS

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 **BHA# 2**

OBJECTIVES:

The hole opener assembly had to be run again to ream tight spots.

RESULTS:

The same assembly from run 1 was picked up to this clean out the hole after the 30" conductor could not be run in to bottom and had to be pulled out. Only the bit was changed for a new one of the same make and type. (DBS type EBXTD12DSC). Check shots with the underdrift tool were taken at 163m, 179m and 198 meters. All shots showed the same readings as the previous run i.e. 1 degree inclination. The surveys were pumped up with 2000 lpm. At first the assembly was reamed to bottom from 147m to 219m with 3000 lpm and 30 rpm's rotary using seawater. When trying to pass tight spots without rotating or circulation at 172 - 175 meters and 210 - 219 meters the weight indicator went up to 8 to 10 tons. Both sections were reamed several times until managing to pass them without taking weight. Circulation and rotation were increased to 4000 lpm and 40 rpm's. High visc sweeps of 15 m3 were pumped almost continuously. Twice a 60 m3 sweep was pumped to clean the whole after the section between 210 - 219 m was reamed 4 times in a row. When the hole conditions were satisfactory and the tight spots had been cleared, the water was displaced with 60 m3 of 1.5s.g. mud at a depth of 217 m. The assembly was than POOH to 165 meter were the hole was topped up with another 15 m3 of 1.5s.g. mud. The assembly was than pulled out completely and kept stand-by above the seabed for 2 hrs before going in hole for a check trip. The check trip proved the hole to be in good condition. Only from 216 to 219 meter was reamed again. After the final reaming was finished a high visc pill was pumped to clean the hole before filling it up with 1.5 s.g. mud again and POOH the assembly completely.

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

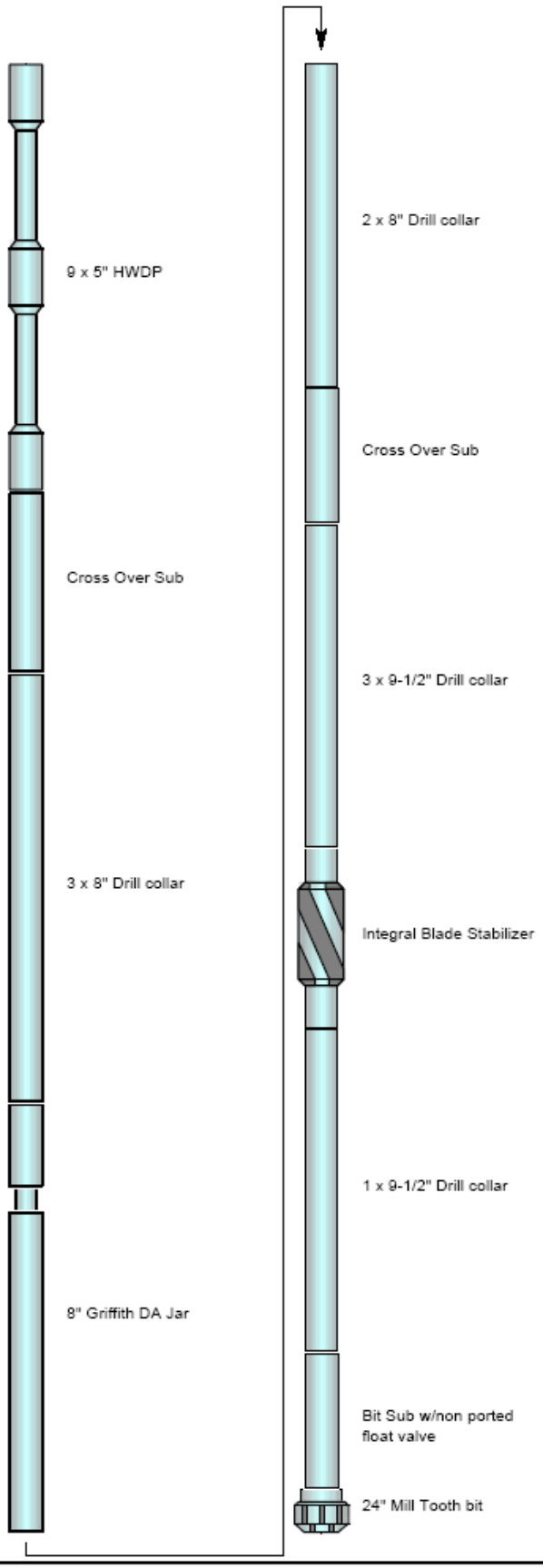
9/3-2

BHA ID #: 3

24" Drill Out Cement-Clean Out

BHA Configuration

O.D.	Length	Description
24"	0.56m	24" Mill Tooth bit
9.5"	0.91m	Bit Sub w/non ported float valve
9.5"	9.32m	1 x 9-1/2" Drill collar
9.5"	2.3m	Integral Blade Stabilizer
9.5"	28.39m	3 x 9-1/2" Drill collar
9.5"	0.94m	Cross Over Sub
8"	18.41m	2 x 8" Drill collar
8"	9.31m	8" Griffith DA Jar
8"	27.67m	3 x 8" Drill collar
7.75"	1.2m	Cross Over Sub
5"	85.04m	9 x 5" HWDP



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 3

BHA# 3 : Date In :29-10-20(MD In (m) : 219 TVD In (m) : 219 Date Out 30-10-200 MD Out (m): 237 TVD Out (m): 237

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
3	24.000	Security DBS	XT1	725987	1x18, 2x20, 1x22	1.233	1-1-NO-A -E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	24" Mill Tooth bit	725987	24.000	3.000	24.000		P 7-5/8" Reg	0.56	
2	Bit Sub w/non ported float valve	OWN-NS-2	9.500	3.000		217.48	B 7-5/8" Reg	0.91	
3	1 x 9-1/2" Drill collar		9.500	3.000		217.00	B 7-5/8" Reg	9.32	
4	Integral Blade Stabilizer	62991	9.500	3.000	24.000	217.48	B 7-5/8" Reg	2.30	11.72
5	3 x 9-1/2" Drill collar		9.500	3.000		217.00	B 7-5/8" Reg	28.39	
6	Cross Over Sub	OWS-XOS-13 61	9.500	3.000		217.48	B 6-5/8" Reg	0.94	
7	2 x 8" Drill collar		8.000	3.000		147.22	B 6-5/8" Reg	18.41	
8	8" Griffith DA Jar	3368062720	8.000	3.000		147.22	B 6-5/8" Reg	9.31	
9	3 x 8" Drill collar		8.000	3.000		147.00	B 6-5/8" Reg	27.67	
10	Cross Over Sub	OWS-XOS-19 328	7.750	3.000		136.68	B N.C. 50	1.20	
11	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								184.05	

Parameter	Min	Max	Ave
WOB (t) :	4.00	4.00	4.00
RPM (rpm) :	50	50	50
Flow (L/min) :	4000	4000	4000
SPP (bar) :	97.0	97.0	97.0

Activity	Hrs
Drilling :	2.50
Reaming :	2.00
Circ-Other :	0.50
Total :	5.00

BHA Weight	(lb)
in Air (Total) :	73623
in Mud (Total) :	64080
in Air (Bel Jars) :	41489
in Mud (Bel Jars) :	36111

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	53

PERFORMANCE

	In	Out
Inclination (deg)	0.62	0.77
Azimuth (deg)	194.03	194.03

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	18.00	7			
Total :	18.00	7	0.26	0.00	0.26

COMMENTS

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 3

OBJECTIVES:

To drill out cement /shoe and open up 17 1/2" hole to 24" from 217-237m.

RESULTS:

The top cement was tagged at 207 meters. From 207 to 210 meter the cement was drilled with 3000 lpm and 0.5 - 1.0 tons weight on the bit. While drilling the cement the ROP's were around 10m/hr. After the shoetrack was drilled trough (30" shoe was set at 210.7 meters), the assembly could be run in to 218 meters without much resistance. In the interval from 218 to 222 meters the ROP was 4 m/hr, corresponding with the low ROP experienced at the end of the 36" section. From 222m to 237m the weight on the bit was brought up to 6 tons and flowrate was increased to 3300 lpm. ROP picked-up to 20m/hr. High viscous seawater sweeps were pumped at the shoe and after 10 meters of new formation was drilled. This was required to ensure good hole cleaning. TD was called at 237 meters. After displacing the seawater to a 1.08 s.g. slurry mud, the 24" cleanout assembly was pulled out of hole to pick up the 9 7/8" pilot hole assembly. At surface both the bit and stabilizer proved to be in good condition. (1-1-NO-A-E-I-NO-TD)

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 4

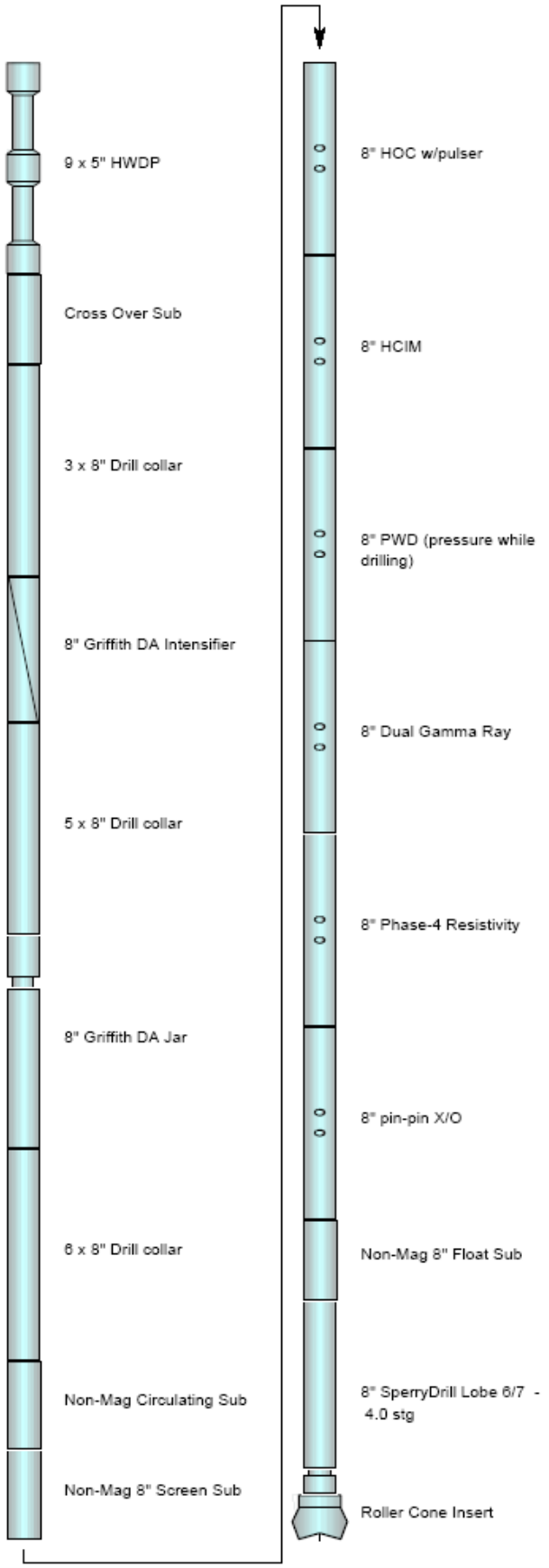
9 7/8" Pilot Hole BHA

BHA Configuration

O.D.	Length	Description
9.875"	0.26m	Roller Cone Insert
8"	8.2m	8" SperryDrill Lobe 6/7 - 4.0 stg
8"	1.1m	Non-Mag 8" Float Sub
8"	0.63m	8" pin-pin X/O
8"	3.72m	8" Phase-4 Resistivity
8"	1.54m	8" Dual Gamma Ray
8"	1.33m	8" PWD (pressure while drilling)
8"	1.62m	8" HCIM
8"	4.74m	8" HOC w/pulser
8"	2.15m	Non-Mag 8" Screen Sub
8"	0.66m	Non-Mag Circulating Sub
8"	54.58m	6 x 8" Drill collar
8"	9.31m	8" Griffith DA Jar
8"	45.7m	5 x 8" Drill collar
8"	8.62m	8" Griffith DA Intensifier
8"	27.68m	3 x 8" Drill collar
8"	1.2m	Cross Over Sub
5"	85.04m	9 x 5" HWDP

BHA Discussion

Meterage : 270m
Circulating hours: 14
Bit Hours: 5.1
Bit revs: 67.5Krevs
Avg ROP: 52.9
Bit Grade: 1-1-NO-A-E-I-NO-TD



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 4

BHA# 4 : Date In :30-10-20(MD In (m) : 237 TVD In (m) : 237 Date Out 31-10-200 MD Out (m): 507 TVD Out (m): 507

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
4	9.875	Security DBS	EBXS12DS	10749342	4x20	1.227	1-1-NO-A -E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
3	8.000	SDS	SperryDrill	800104	0.00°		4.6	14.00

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Roller Cone Insert	10749342	9.875	3.000	9.875	236.92	P 6-5/8" Reg	0.26	
2	8" SperryDrill Lobe 6/7 - 4.0 stg	800104	8.000	5.250		97.54	B 6-5/8" Reg	8.20	
3	Non-Mag 8" Float Sub	HFV 6038	8.000	2.810		150.17	B 6-5/8" Reg	1.10	
4	8" pin-pin X/O	198783	8.000	1.920		161.44	B 6-5/8" Reg	0.63	
5	8" Phase-4 Resistivity	191217	8.000	1.920		161.44	B 6-5/8" Reg	3.72	
6	8" Dual Gamma Ray	207574	8.000	1.920		161.44	B 6-5/8" Reg	1.54	
7	8" PWD (pressure while drilling)	10628293	8.000	1.920		161.44	B 6-5/8" Reg	1.33	
8	8" HCIM	170013	8.000	1.920		161.44	B 6-5/8" Reg	1.62	
9	8" HOC w/pulser	205314	8.000	1.920		161.44	B 6-5/8" Reg	4.74	
10	Non-Mag 8" Screen Sub	174916	8.000	2.875		149.18	B 6-5/8" Reg	2.15	
11	Non-Mag Circulating Sub	74459	8.000	2.250		157.75	B 6-5/8" Reg	0.66	
12	6 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	54.58	
13	8" Griffith DA Jar	3368062720	8.000	2.750		151.06	B 6-5/8" Reg	9.31	
14	5 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	45.70	
15	8" Griffith DA Intensifier	890019	8.000	2.750		151.06	B 6-5/8" Reg	8.62	
16	3 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	27.68	
17	Cross Over Sub		8.000	2.813		150.12	B N.C. 50	1.20	
18	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								258.08	

Parameter	Min	Max	Ave
WOB (t) :	2.00	5.00	2.84
RPM (rpm) :	85	130	116
Flow (L/min) :	3200	4050	3921
SPP (bar) :	54.0	128.0	117.8

Activity	Hrs
Drilling :	12.50
Reaming :	0.00
Circ-Other :	1.50
Total :	14.00

BHA Weight	(lb)
in Air (Total) :	98159
in Mud (Total) :	85437
in Air (Bel Jars) :	38815
in Mud (Bel Jars) :	33784

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	249

PERFORMANCE

	In	Out
Inclination (deg)	0.77	0.51
Azimuth (deg)	194.03	85.84

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	270.00	22			
Total :	270.00	22	-0.03	0.00	0.12

COMMENTS

Meterage : 270m
Circulating hours: 14
Bit Hours: 5.1
Bit revs: 67.5Krevs
Avg ROP: 52.9
Bit Grade: 1-1-NO-A-E-I-NO-TD

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 4

OBJECTIVES:

The objective of this assembly was to drill a 9 7/8" pilot hole to 507m in order to limit the impact of shallow gas if this was present. An 8" motor was utilized as boulders were expected and the use of a motor gives the advantage of drilling the boulders with almost no weight and low surface RPM, thus increasing the likelihood of keeping the hole vertical.

RESULTS:

Washed down from shoe at 210m to bottom of the 24" hole at 237m and started drilling with focus of keeping the hole as close to vertical as possible.

The BHA drilled from 237m to 507m. The overall ROP was 30-40 m/hr. Did not encounter any bolders on this run. The drilling went well and the trip out of hole was good.
Maximum inclination measured on this run was 0.61 degrees at 235.6m

Meterage : 270m
Circulating hours: 14
Bit Hours: 5.1
Bit revs: 67.5Krevs
Avg ROP: 52.9
Bit Grade: 1-1-NO-A-E-I-NO-TD

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 5

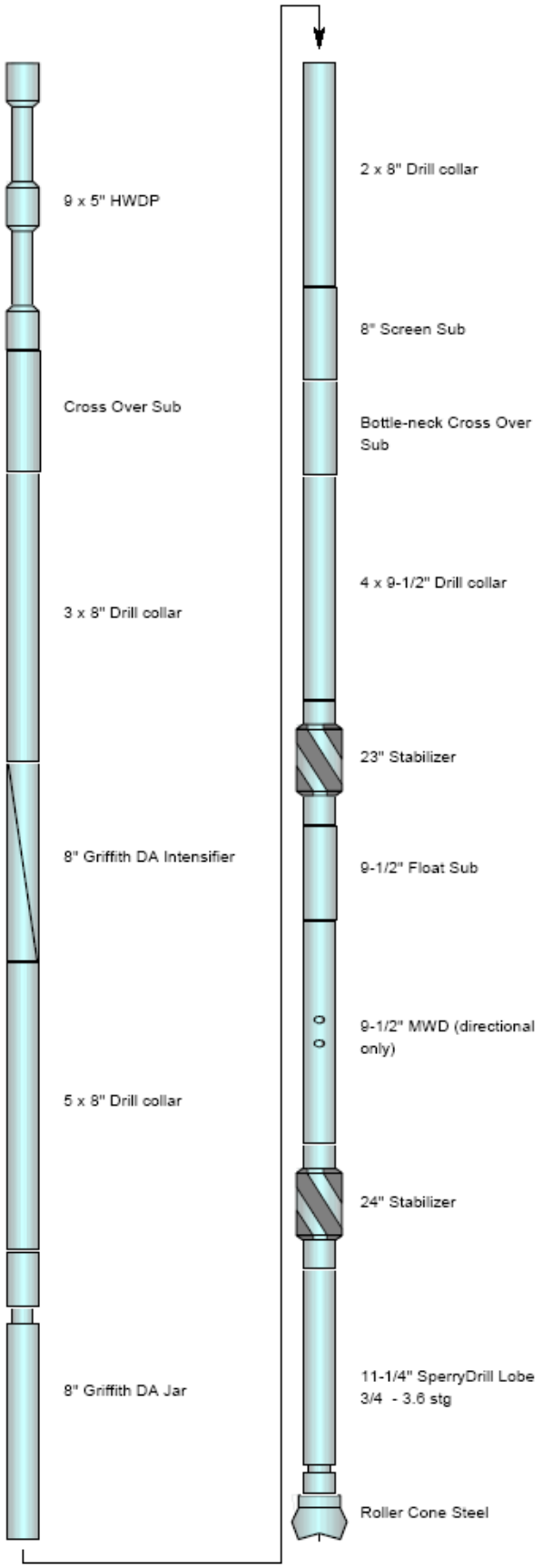
24" Hole Opener BHA

BHA Configuration

O.D.	Length	Description
24"	0.56m	Roller Cone Steel
11.25"	9.41m	11-1/4" SperryDrill Lobe 3/4 - 3.6 stg
9.5"	2.41m	24" Stabilizer
9.5"	4.74m	9-1/2" MWD (directional only)
9.5"	0.78m	9-1/2" Float Sub
9.5"	1.68m	23" Stabilizer
9.5"	37.71m	4 x 9-1/2" Drill collar
9.5"	0.8m	Bottle-neck Cross Over Sub
8"	2.03m	8" Screen Sub
8"	18.41m	2 x 8" Drill collar
8"	9.31m	8" Griffith DA Jar
8"	45.22m	5 x 8" Drill collar
8"	8.62m	8" Griffith DA Intensifier
8"	27.28m	3 x 8" Drill collar
8"	1.2m	Cross Over Sub
5"	85.04m	9 x 5" HWDP

BHA Discussion

Meterage: 270m
Drilling Hours:7.1
Circulating hours: 8.0
Avg ROP:38m/hr
Bit Grade: 1-1-WT-M-E-I-NO-TD
Bit revs:100.8k



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 5

BHA# 5 : Date In :01-11-20(MD In (m) : 237 TVD In (m) : 237 Date Out 02-11-200 MD Out (m): 507 TVD Out (m): 507

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
5	24.000	Security DBS	XT02DCL	10381562	1x18, 2x20, 1x22	1.233	1-1-WT-M -E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
4	11.250	SDS	SperryDrill	1125005	0.00°			

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Roller Cone Steel	10381562	24.000	3.000	24.000		P 7-5/8" Reg	0.56	
2	11-1/4" SperryDrill Lobe 3/4 - 3.6 stg	1125005	11.250	6.135		238.02	B 7-5/8" Reg	9.41	
3	24" Stabilizer	64752	9.500	3.000	24.000	217.48	B 7-5/8" Reg	2.41	11.07
4	9-1/2" MWD (directional only)	2358	9.500	2.380		226.40	B 7-5/8" Reg	4.74	
5	9-1/2" Float Sub	56512-1	9.500	3.000		217.48	B 7-5/8" Reg	0.78	
6	23" Stabilizer	55475	9.500	3.000	23.000	217.48	B 7-5/8" Reg	1.68	18.76
7	4 x 9-1/2" Drill collar		9.500	3.000		217.00	B 7-5/8" Reg	37.71	
8	Bottle-neck Cross Over Sub	71377	9.500	3.000		217.48	B 6-5/8" Reg	0.80	
9	8" Screen Sub	174912	8.000	3.000		147.22	B 6-5/8" Reg	2.03	
10	2 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	18.41	
11	8" Griffith DA Jar	3368062720	8.000	2.750		151.06	B 6-5/8" Reg	9.31	
12	5 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	45.22	
13	8" Griffith DA Intensifier	890019	8.000	2.750		151.06	B 6-5/8" Reg	8.62	
14	3 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	27.28	
15	Cross Over Sub		8.000	2.813		150.12	B N.C. 50	1.20	
16	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								255.20	

Parameter	Min	Max	Ave
WOB (t) :			3.20
RPM (rpm) :			115
Flow (L/min) :			3820
SPP (bar) :			117.0

Activity	Hrs
Drilling :	11.00
Reaming :	3.50
Circ-Other :	2.50
Total :	17.00

BHA Weight	(lb)
in Air (Total) :	113502
in Mud (Total) :	98791
in Air (Bel Jars) :	54591
in Mud (Bel Jars) :	47515

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	252

PERFORMANCE

	In	Out
Inclination (deg)	0.77	0.51
Azimuth (deg)	194.03	85.84

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :					
Rotated :					
Total :					

COMMENTS

Meterage: 270m
Drilling Hours:7.1
Circulating hours: 8.0
Avg ROP:38m/hr
Bit Grade: 1-1-WT-M-E-I-NO-TD
Bit revs:100.8k

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 5

OBJECTIVES:

To open the 9 7/8" Pilot Hole from 237m to 507 m.

RESULTS:

The pendulum assembly used in this holeopener run was configured with a 24" roller cone bit which was made up to a 11 1/4" SperryDrill motor set with no bend. The MWD system was using standard PDC probe inside the hang off collar. The remainder of the BHA was made up and we ran in hole without incident down to just above the casing shoe. Washed very carefully through the shoe and met no resistance at all down to tagging bottom at 237m.

After picking up the string and established full flow of 4000 lpm and 90 RPM, we went on bottom and started opening up the hole to 24" with 1-4t WOB. Surveys were taken all the way down to TD of 507m to ensure that the wellbore did not drift away from the vertical.

High viscous pills were pumped on every stand to ensure good hole cleaning.

The well was displaced to 1.08 KCL mud at TD and we started to pull the string out of hole. After pulling about 55m, there was indication of swabbing, so we tripped back to bottom and decided to lubricate out of hole.

The string was successfully pulled out of hole while lubricating.

The BHA was then racked back in the derrick in order to start running 20" casing as fast as possible.

Meterage: 270m
Drilling Hours:7.1
Circulating hours: 8.0
Avg ROP:38m/hr
Bit Grade: 1-1-WT-M-E-I-NO-TD
Bit revs:100.8k

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 6

17-1/2" Motor BHA

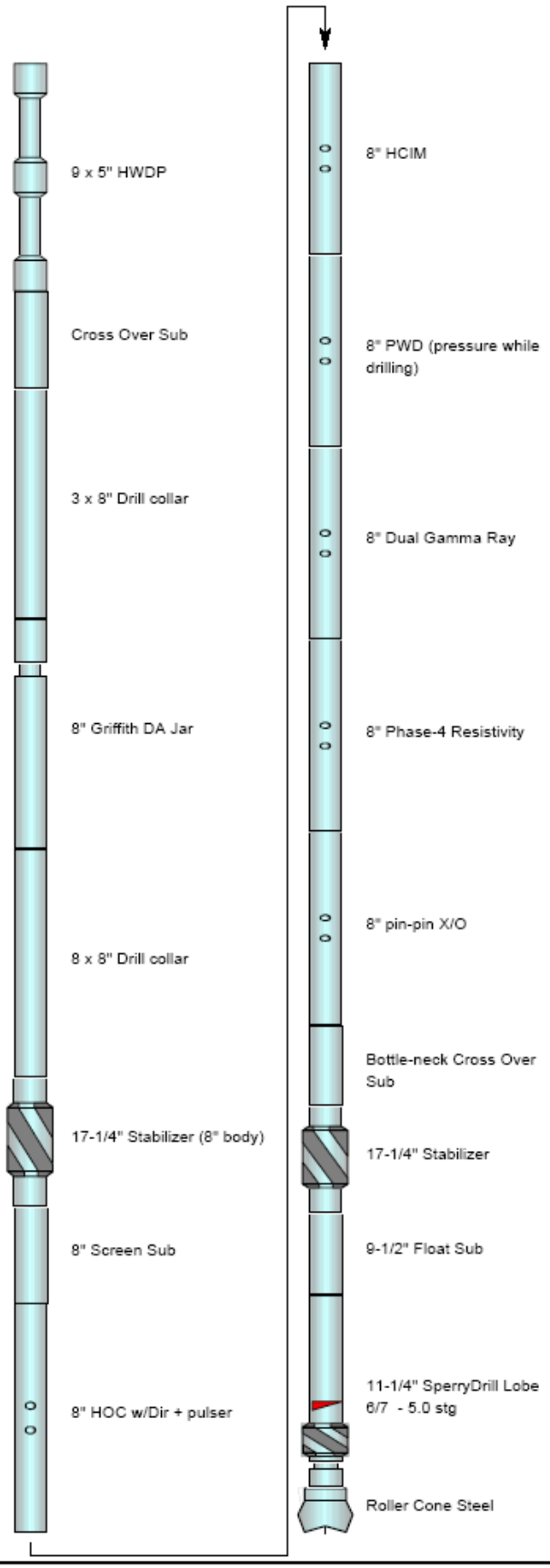
BHA Configuration

O.D.	Length	Description
17.5"	0.43m	Roller Cone Steel
11.25"	10.49m	11-1/4" SperryDrill Lobe 6/7 - 5.0 stg
9.5"	0.78m	9-1/2" Float Sub
9.5"	2.26m	17-1/4" Stabilizer
9.5"	0.95m	Bottle-neck Cross Over Sub
8"	0.63m	8" pin-pin X/O
8"	3.71m	8" Phase-4 Resistivity
8"	1.55m	8" Dual Gamma Ray
8"	1.33m	8" PWD (pressure while drilling)
8"	1.6m	8" HCIM
8"	4.77m	8" HOC w/Dir + pulser
8"	2.02m	8" Screen Sub
8"	2.31m	17-1/4" Stabilizer (8" body)
8"	72.57m	8 x 8" Drill collar
8"	9.31m	8" Griffith DA Jar
8"	27.68m	3 x 8" Drill collar
8"	1.2m	Cross Over Sub
5"	85.04m	9 x 5" HWDP

BHA Discussion

Motor highside to MWD toolface offset: 305 degrees.
Motor revs: 0.023 revs/l

Meterage: 642m
Drilling Hours: 33.0
Circulating Hours: 48.9
Avg ROP: 20.1 m/hr
Bit Grade: 1-2-WT-A-E-I-NO-TD
Bit revs:120k



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 6

BHA# 6 : Date In :05-11-20(MD In (m) : 507 TVD In (m) : 507 Date Out 09-11-200 MD Out (m): 1149 TVD Out (m): 1149

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
6	17.500	Security DBS	EBXTD08DSL	10727638	1x18, 2x20, 1x22	1.233	1-2-WT-A -E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
5	11.250	SDS	SperryDrill	1125013	1.00°		5.9	56.50

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Roller Cone Steel	10727638	17.500	3.000	17.500	795.63	P 7-5/8" Reg	0.43	
2	11-1/4" SperryDrill Lobe 6/7 - 5.0 stg	1125013	11.250	6.135	17.250	238.02	B 7-5/8" Reg	10.49	1.36
3	9-1/2" Float Sub	FS014	9.500	3.000		217.48	B 7-5/8" Reg	0.78	
4	17-1/4" Stabilizer	63000	9.500	3.000	17.250	217.48	B 7-5/8" Reg	2.26	12.70
5	Bottle-neck Cross Over Sub	400471	9.500	3.000		217.48	B 6-5/8" Reg	0.95	
6	8" pin-pin X/O	2341	8.000	3.000		147.22	P 6-5/8" Reg	0.63	
7	8" Phase-4 Resistivity	2341	8.000	2.375		156.21	B 6-5/8" Reg	3.71	
8	8" Dual Gamma Ray	2341	8.000	2.375		156.21	B 6-5/8" Reg	1.55	
9	8" PWD (pressure while drilling)	2341	8.000	2.375		156.21	B 6-5/8" Reg	1.33	
10	8" HCIM	2341	8.000	2.375		156.21	B 6-5/8" Reg	1.60	
11	8" HOC w/Dir + pulser	203362	8.000	3.000		147.22	B 6-5/8" Reg	4.77	
12	8" Screen Sub	10703990	8.000	2.875		149.18	B 6-5/8" Reg	2.02	
13	17-1/4" Stabilizer (8" body)	124979	8.000	3.000	17.250	147.22	B 6-5/8" Reg	2.31	31.55
14	8 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	72.57	
15	8" Griffith DA Jar	3368062720	8.000	2.750		151.06	B 6-5/8" Reg	9.31	
16	3 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	27.68	
17	Cross Over Sub		8.000	2.813		150.12	B N.C. 50	1.20	
18	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								228.63	

Parameter	Min	Max	Ave
WOB (t) :	2.00	20.00	11.62
RPM (rpm) :	30	115	67
Flow (L/min) :	3600	4400	4150
SPP (bar) :	125.0	224.0	182.9

Activity	Hrs
Drilling :	46.00
Reaming :	2.00
Circ-Other :	8.50
Total :	56.50

BHA Weight	(lb)
in Air (Total) :	89366
in Mud (Total) :	77102
in Air (Bel Jars) :	56784
in Mud (Bel Jars) :	48991

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	920

PERFORMANCE

	In	Out
Inclination (deg)	0.51	1.16
Azimuth (deg)	85.84	87.48

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			0.00
Rotated :	642.00	14	0.10	0.10	
Total :	642.00	14	0.03	0.00	0.03

COMMENTS

Motor highside to MWD toolface offset: 305 degrees.
Motor revs: 0.023 revs/l

Meterage: 642m
Drilling Hours: 33.0
Circulating Hours: 48.9
Avg ROP: 20.1 m/hr
Bit Grade: 1-2-WT-A-E-I-NO-TD

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 **BHA# 6**

OBJECTIVES:

The objective of this assembly was to drill 17 1/2" hole from 507m to 1165m and keep the hole as vertical as possible. The BHA was configured with a 11 1/4" SperryDrill motor set with a 1 degree bend. This in order to be able to correct the wellpath if the hole started to deviate considerably from vertical.

RESULTS:

Tagged the float at 487m and drilled float and cement down to the shoe at 501.3m.
Cleaned the shoe and rat hole in stages and drilled 3m of new formation to 510m and circulated the hole clean and performed a FIT to 1.3 SG.

Drilling commenced with initial high ROP's of about 60-70 m/hr and gradually decreased to 7-8 m/hr in the bottom half of the Hod formation. A drilling break was experienced when entering the Sola formation at 1070m and the rate of penetration was kept to around 35 m/hr to TD of the section at 1149m.
High vibration peaks from the MWD tool dictated an adjustment in the topdrive RPM when drilling the chalk interval. After trying different surface RPM, a string RPM of 50 finally gave hardly any vibration and it was kept throughout the run to TD.
The WOB was initially 2-3 t but was increased to 15-20 t in the Tor and Hod (chalk) formations to optimize drilling parameters and ROP.
The flow rate ranged from 4000 - 4500 lpm to ensure good hole cleaning in addition to pumping Hi-Vis pills.
The inclination was steady around 1 degree and the azimuth was around 80 degrees. We ended up 11m off the surface location and approx. 25 m from the target centre.

At TD, the hole was circulated bottom up and a lot of cuttings came over the shakers in addition to clogging up the shakers. Some cavings was also observed over the shakers. When the hole was assumed clean, the seawater was displaced with 1.15 SG bentonite mud prior to pulling out.

When POOH, it was experienced some overpull at 1050 m (10-15 ton). Tried to rotate without pumps and see if we cleaned the spot out. That worked, but on the next stand we took 15-20 t overpull again and it was decided to trip in one stand and circulate and ream the same stand, then the same for the next two using 4400lpm/120RPM. A lot of cuttings was again coming over the shakers including pieces from the float indicating that weighted mud was required to clean the hole. After three stand of reaming, the hole was clean and tripping out resumed without problems.

On surface it was observed that the stablizers on the BHA were balled up. The memory from the MWD tool was retrieved whilst connected on the rig floor. This was good as we were tripping wet and the connectors were filled with mud when breaking the connection between the HOC and the HCIM.

Meterage: 662m
Drilling Hours: 33.0
Circulating Hours: 48.9
Avg ROP: 20.1 m/hr
Bit Grade: 1-2-WT-A-E-I-NO-TD
Bit Revs: 120k

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 7

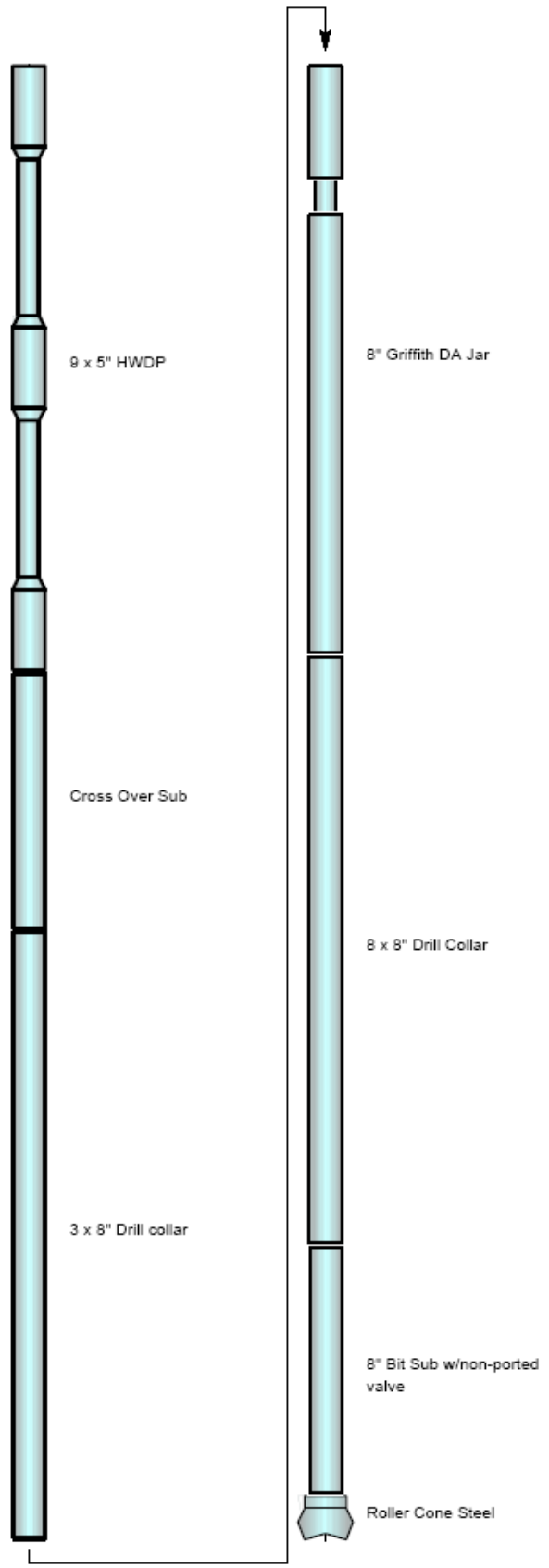
12-1/4" Clean Out BHA

BHA Configuration

O.D.	Length	Description
12.25"	0.31m	Roller Cone Steel
8"	0.97m	8" Bit Sub w/non-ported valve
8"	72m	8 x 8" Drill Collar
8"	9.31m	8" Griffith DA Jar
8"	27m	3 x 8" Drill collar
8"	1m	Cross Over Sub
5"	81m	9 x 5" HWDP

BHA Discussion

Bit revs: 2.4k
Bit grading out: 1-1-NO-A-E-I-NO-TD



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 7

BHA# 7 : Date In :12-11-20(MD In (m) : 1149 TVD In (m) : 1149 Date Out 13-11-200 MD Out (m): 1152 TVD Out (m): 1152

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
7	12.250	Security DBS	EBXSC1S	10682353	2x22, 1x24	1.184	1-1-NO-A -E-I-NO-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Roller Cone Steel	10682353	12.250	3.000	12.250	377.57	P 6-5/8" Reg	0.31	
2	8" Bit Sub w/non-ported valve	OWS BS 132	8.000	2.810		150.17	B 6-5/8" Reg	0.97	
3	8 x 8" Drill Collar		8.000	2.810		150.00	B 6-5/8" Reg	72.00	
4	8" Griffith DA Jar	3368062720	8.000	2.750		151.06	B 6-5/8" Reg	9.31	
5	3 x 8" Drill collar		8.000	2.810		150.00	B 6-5/8" Reg	27.00	
6	Cross Over Sub		8.000	2.813		150.12	B N.C. 50	1.00	
7	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	81.00	
								191.59	

Parameter	Min	Max	Ave
WOB (t) :	18.00	18.00	18.00
RPM (rpm) :	50	50	50
Flow (L/min) :	4400	4400	4400
SPP (bar) :	224.0	224.0	224.0

Activity	Hrs
Drilling :	8.50
Reaming :	1.00
Circ-Other :	3.50
Total :	13.00

BHA Weight	(lb)
in Air (Total) :	67790
in Mud (Total) :	58229
in Air (Bel Jars) :	36295
in Mud (Bel Jars) :	31176

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	960

PERFORMANCE

	In	Out
Inclination (deg)	1.16	1.16
Azimuth (deg)	87.48	88.03

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	3.00	0			
Total :	3.00	0	0.08	5.56	0.00

COMMENTS

Bit revs: 2.4k
Bit grading out: 1-1-NO-A-E-I-NO-TD

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 **BHA# 7**

OBJECTIVES:

Drill out 13 3/8" casing shoe and 3m shoe track to 1152m MD and perform LOT.
Displace the well to 1.3 SG Environmul OBM.

RESULTS:

This assembly was picked up and used as a clean out run. The BHA was fitted with a rock bit and was a purely rotary assembly with no MWD or directional equipment.

The float was tagged at 1107m and shoetrack drilled down to 1144m with 40 RPM on the string and 2-4 t weight on bit. ROP during drilling the shoe track averaged 8-12 m/hr indicating hard cement. The rathole was then drilled down to 1149m and 3m new formation before a leak off test was performed.
The well was displaced to 1.3 SG Environmul OBM before pulling out of hole.
The drill string was then pulled out and BHA components laid out.

No torque or drag problems were encounterd throughout the run.
On surface the bit was graded 1-1-NO-A-E-I-NO-TD.

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 8

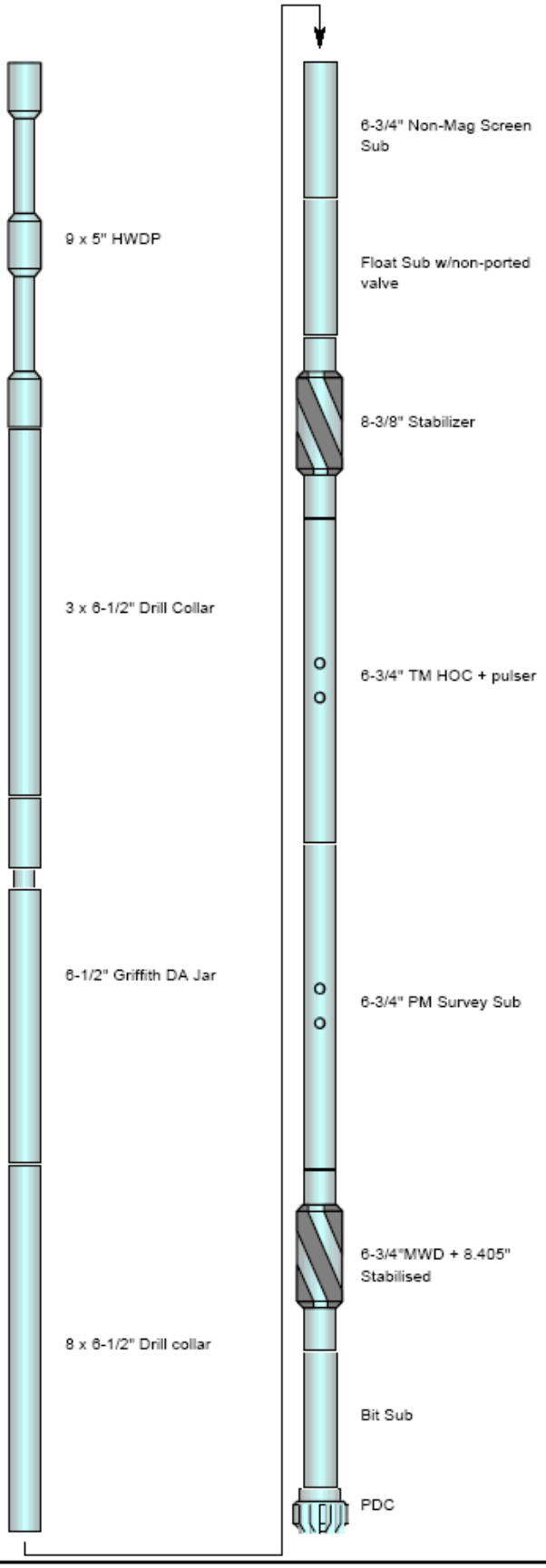
8-1/2" Pendulum BHA

BHA Configuration

O.D.	Length	Description
8.5"	0.33m	PDC
6.5"	0.89m	Bit Sub
6.75"	8.5m	6-3/4"MWD + 8.405" Stabilised
6.75"	2.74m	6-3/4" PM Survey Sub
6.75"	3.06m	6-3/4" TM HOC + pulser
6.75"	2.29m	8-3/8" Stabilizer
6.75"	0.52m	Float Sub w/non-ported valve
6.75"	2.49m	6-3/4" Non-Mag Screen Sub
6.75"	75.32m	8 x 6-1/2" Drill collar
6.5"	9.71m	6-1/2" Griffith DA Jar
6.5"	28.64m	3 x 6-1/2" Drill Collar
5"	85.04m	9 x 5" HWDP

BHA Discussion

Meterage: 913m
Drilling Hours: 46.4
Circulating Hours: 60
Avg ROP: 19.7m/hr
Bit Grade: 1-1-WT-A-X-I-CT-BHA
Bit Revs: 464k



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 8

BHA# 8 : Date In :13-11-20(MD In (m) : 1152 TVD In (m) : 1152 Date Out 16-11-200 MD Out (m): 2065 TVD Out (m): 2064

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
8	8.500	Security DBS	FMH3665ZR	10753034	1x15, 4x16, 1x18	1.206	

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	PDC	10753034	8.500	3.000	8.500	169.30	P 4-1/2" Reg	0.33	
2	Bit Sub	OWS BS 001	6.500	2.810		91.95	B N.C. 50	0.89	
3	6-3/4"MWD + 8.405" Stabilised	90089869	6.750	1.920	8.405	112.09	B N.C. 50	8.50	8.69
4	6-3/4" PM Survey Sub	145954	6.750	2.125		109.87	B N.C. 50	2.74	
5	6-3/4" TM HOC + pulser	10718061	6.750	2.125		109.87	B N.C. 50	3.06	
6	8-3/8" Stabilizer	OWS STAB 1 144	6.750	2.875	8.375	99.83	B N.C. 50	2.29	16.64
7	Float Sub w/non-ported valve	OWS FS 020	6.750	2.375		106.86	B N.C. 50	0.52	
8	6-3/4" Non-Mag Screen Sub	10704796	6.750	2.750		101.71	B N.C. 50	2.49	
9	8 x 6-1/2" Drill collar		6.750	3.000		98.00	B N.C. 50	75.32	
10	6-1/2" Griffith DA Jar	4286577660	6.500	2.750		92.85	B N.C. 50	9.71	
11	3 x 6-1/2" Drill Collar		6.500	3.000		88.00	B N.C. 50	28.64	
12	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								219.53	

Parameter	Min	Max	Ave
WOB (t) :	0.50	9.00	2.25
RPM (rpm) :	80	165	139
Flow (L/min) :	1950	2506	1988
SPP (bar) :	66.0	150.0	132.5

Activity	Hrs
Drilling :	59.00
Reaming :	0.00
Circ-Other :	4.00
Total :	63.00

BHA Weight	(lb)
in Air (Total) :	56630
in Mud (Total) :	47275
in Air (Bel Jars) :	31649
in Mud (Bel Jars) :	26420

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	1845

PERFORMANCE

	In	Out
Inclination (deg)	1.16	2.65
Azimuth (deg)	88.03	82.47

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	0.00	0			
Rotated :	913.00	15			
Total :	913.00	15	0.05	-0.18	0.05

COMMENTS

Meterage: 913m
Drilling Hours: 46.4
Circulating Hours: 60
Avg ROP: 19.7m/hr
Bit Grade: 1-1-WT-A-X-I-CT-BHA
Bit Revs: 464k

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 8

OBJECTIVES:

The objectives of this run are to;
a) Drill through the reservoir Sandnes formation, estimated at 2686m RKB.
b) Drill minimum 50m into Triassic-Skagerrak formation at 3116 +- 100m RKB.
c) Pick coring point in Sandnes formation based on indications of hydrocarbons.

RESULTS:

The assembly used in this run was configured with a 8 1/2" PDC bit and pre-assembled in 2 pieces up to the Drill Collars. The MWD tools was successfully tested electrically before the assembly was run in the hole. 1500m of drill pipe were picked up prior to commence drilling.

It quickly became apparent after the start of the run that the assembly would struggle to hold the wellpath vertical. The build tendancy throughout the entire run was on average +/- 0.1 deg/30m, however as the formation firmed and hole inclination increased with depth, the build rate produced became more than 0.2deg/30m.

Despite efforts to arrest this tendancy - running very low WOB 0-1T, the angle continued to build away in an Easterly direction, away from the target. Projecting to Top Reservoir at this build rate would have resulted in missing the target completely. It was thus decided to POOH and pick up a motor to perform a correction run.

Meterage: 913m
Drilling Hours: 46.4
Circulating Hours: 60
Avg ROP: 19.7m/hr
Bit Grade: 1-1-WT-A-X-I-CT-BHA
Bit Revs: 464k

RECOMMENDATIONS:

The use of a steerable system to drill this long section would have allowed full directional control to fan the angle down where necessary and to optimise drilling performance. The disadvantage of this hookup would of course place the LWD sensors approx. 7m further back from the bit making the pick for the core point at top reservoir more difficult.

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

9/3-2

BHA ID #: 9

8-1/2" Motor BHA

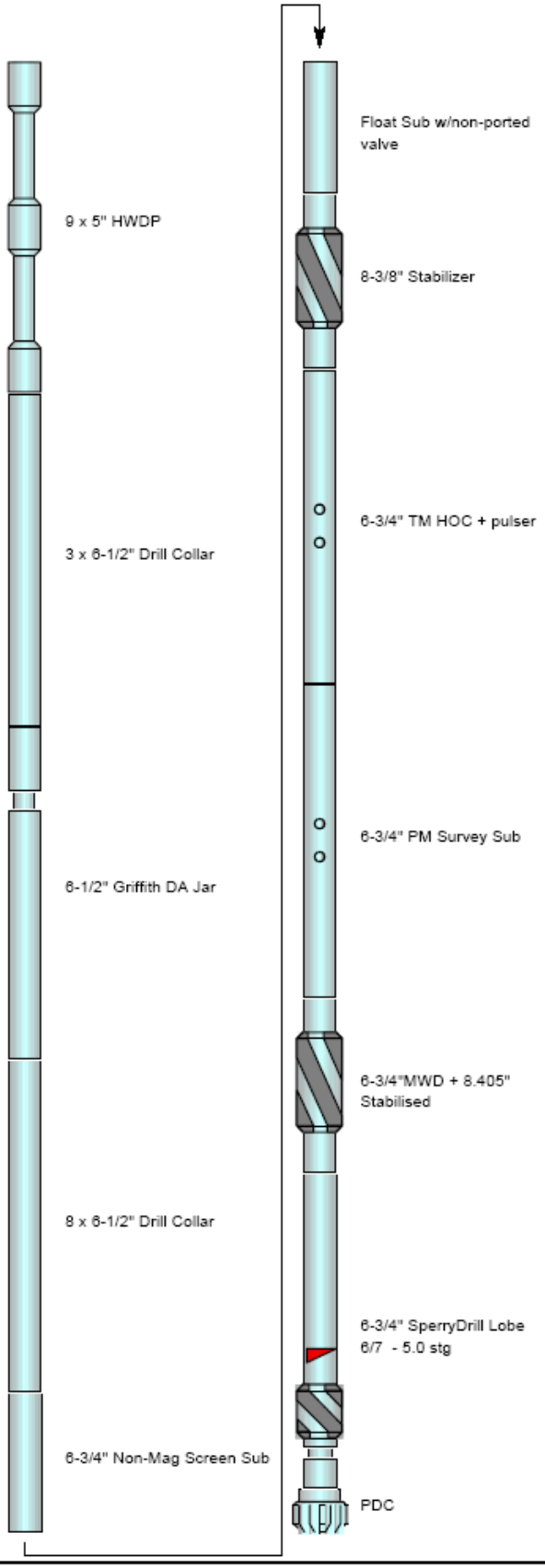
BHA Configuration

O.D.	Length	Description
8.5"	0.33m	PDC
6.75"	7.72m	6-3/4" SperryDrill Lobe 6/7 - 5.0 stg
6.75"	8.54m	6-3/4"MWD + 8.405" Stabilised
6.75"	2.74m	6-3/4" PM Survey Sub
6.75"	3.06m	6-3/4" TM HOC + pulser
6.75"	2.29m	8-3/8" Stabilizer
6.75"	0.52m	Float Sub w/non-ported valve
6.75"	2.49m	6-3/4" Non-Mag Screen Sub
6.75"	75.32m	8 x 6-1/2" Drill Collar
6.5"	9.71m	6-1/2" Griffith DA Jar
6.5"	28.64m	3 x 6-1/2" Drill Collar
5"	85.04m	9 x 5" HWDP

BHA Discussion

Motor highside to MWD toolface offset: 62 degrees.
Motor revs: 0.077 revs/l

Meterage: 1089m
Drilling Hours: 75.6
Circulating Hours: 102.8
Avg ROP: 14.4 m/hr
Bit Grade: 4-8-RO-SG-X-1-WT-TD
Bit Revs: 936K



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 9

BHA# 9 : Date In :16-11-20(**MD In (m) :** 2065 **TVD In (m) :** 2064 **Date Out** 22-11-200! **MD Out (m):** 3154 **TVD Out (m):** 3152

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
8rr1	8.500	Security DBS	FMH3665ZR	10753034	1x15, 4x16, 1x18	1.206	4-8-RO-SG-X-1-WT-TD

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
6	6.750	SDS	SperryDrill		1.15°		15.9	108.75

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	PDC	10753034	8.500	3.000	8.500	169.30	P 4-1/2" Reg	0.33	
2	6-3/4" SperryDrill Lobe 6/7 - 5.0 stg		6.750	4.498	8.250	67.81	B 4-1/2" IF	7.72	
3	6-3/4"MWD + 8.405" Stabilised	90089870	6.750	1.920	8.405	112.09	B N.C. 50	8.54	15.52
4	6-3/4" PM Survey Sub	145954	6.750	2.125		109.87	B N.C. 50	2.74	
5	6-3/4" TM HOC + pulser	10718061	6.750	2.125		109.87	B N.C. 50	3.06	
6	8-3/8" Stabilizer	OWS STAB 1 144	6.750	2.875	8.375	99.83	B N.C. 50	2.29	23.51
7	Float Sub w/non-ported valve	OWS FS 020	6.750	2.375		106.86	B N.C. 50	0.52	
8	6-3/4" Non-Mag Screen Sub	10704796	6.750	2.750		101.71	B N.C. 50	2.49	
9	8 x 6-1/2" Drill Collar		6.750	3.000		98.00	B N.C. 50	75.32	
10	6-1/2" Griffith DA Jar	4286541900	6.500	2.750		92.85	B N.C. 50	9.71	
11	3 x 6-1/2" Drill Collar		6.500	3.000		88.00	B N.C. 50	28.64	
12	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								226.40	

Parameter	Min	Max	Ave
WOB (t) :	2.00	8.00	4.56
RPM (rpm) :	110	120	110
Flow (L/min) :	1945	2130	2016
SPP (bar) :	180.0	230.0	208.1

Activity	Hrs
Drilling :	103.50
Reaming :	0.50
Circ-Other :	4.75
Total :	108.75

BHA Weight	(lb)
in Air (Total) :	58094
in Mud (Total) :	48128
in Air (Bel Jars) :	33112
in Mud (Bel Jars) :	27432

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2928

PERFORMANCE

	In	Out
Inclination (deg)	2.65	1.83
Azimuth (deg)	82.47	342.99

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :	202.00	4			
Rotated :	887.00	12			
Total :	1089.00	11	-0.02	-2.74	0.10

COMMENTS

Motor highside to MWD toolface offset: 62 degrees.
Motor revs: 0.077 revs/l

Meterage: 1089m
Drilling Hours: 75.6
Circulating Hours: 102.8
Avg ROP: 14.4 m/hr
Bit Grade: 4-8-RO-SG-X-1-WT-TD

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 **BHA# 9**

OBJECTIVES:

To perform a correction run by steering the inclination down while turning the well path to the West, maintain directional control to ensure hitting the target at top reservoir at 2686m TVD. If the rservoir sand is oil bearing then plans are to POOH and core, if the sand is found to be water wet, then the plan is to continue drilling ahead to TD which will be 50m TVD into the Triassic at +/-3116m TVD.

RESULTS:

The motor was picked up and made up to the re-run bit. No problems were experienced when running in to TD at 2065m MD. The assembly was oriented immediately when drilling commenced, toolface control proved to be difficult with the aggressive nature of the bit causing some problems.
The assembly itself had no problems sliding, and best results were found when running light WOB 1-2 T with subsequent low differential pressure of 70-100psi. The angle was knocked down to 1.5 degrees and the wellpath turned to an azimuth of 329 degrees, after discussion with the customer it was agreed to drill ahead in rotary and only slide where necessary to ensure hitting the target - top resevoir at 2686m TVD.

In rotary through the Sauda formation the assembly displayed a build rate on average of 0.15dgs/30m, and a right hand walk tendancy of 8.5deg/30m, with an ROP of 60m/hr easily achievable running 3-6T WOB. This build rate increased to an average of 0.5deg/30m through the Tau and Egersund formation, the assembly still walked right but less so with the increase in inclination. Some small steered intervals were used to break this right hand walk tendancy and prevent the wellpath drifting too much to the East.

The Sandnes Formation which was the top reservoir sand came in shallower than prognosed at 2661m TVD and the target was successfully penetrated within the 100m radius. Samples and MWD logs showed the sand to be bereft of hydocarbons and the bit run was continued to the prognosed TD at +/-3116m TVD. A new secondary target was presented at the prognosed TD to prevent the possibility of drilling through a fault zone, located to the East of the well path.

Drilling continued to the proposed TD with steered intervals required to fight the strong right hand walk and ensure hitting this new TD target. Steering became more laborious with slow ROP of 3-5m/hr and the motor was seen to stall on several occasions. Once the wellpath was lined up to hit the target the last 4 stands were rotated down to TD, ROP dropped off significantly as the bit dulled and was down to 2-3 m/hr before TD was reached at 3154m MD/ 3151.m TVD.

The hole was circulated clean and the assembly POOH. No problems were experienced on the trip out and the hole being in good shape for wireline logging to proceed without the need for a wiper trip. At surface the assembly was racked back to save time for logging.

Meterage: 1089m
Drilling Hours: 75.6
Circulating Hours: 102.8
Avg ROP: 14.4 m/hr
Bit Grade: 4-8-RO-SG-X-1-WT-TD
Bit Revs: 936K

sperry-sun DRILLING SERVICES

BHA Schematic

Paladin

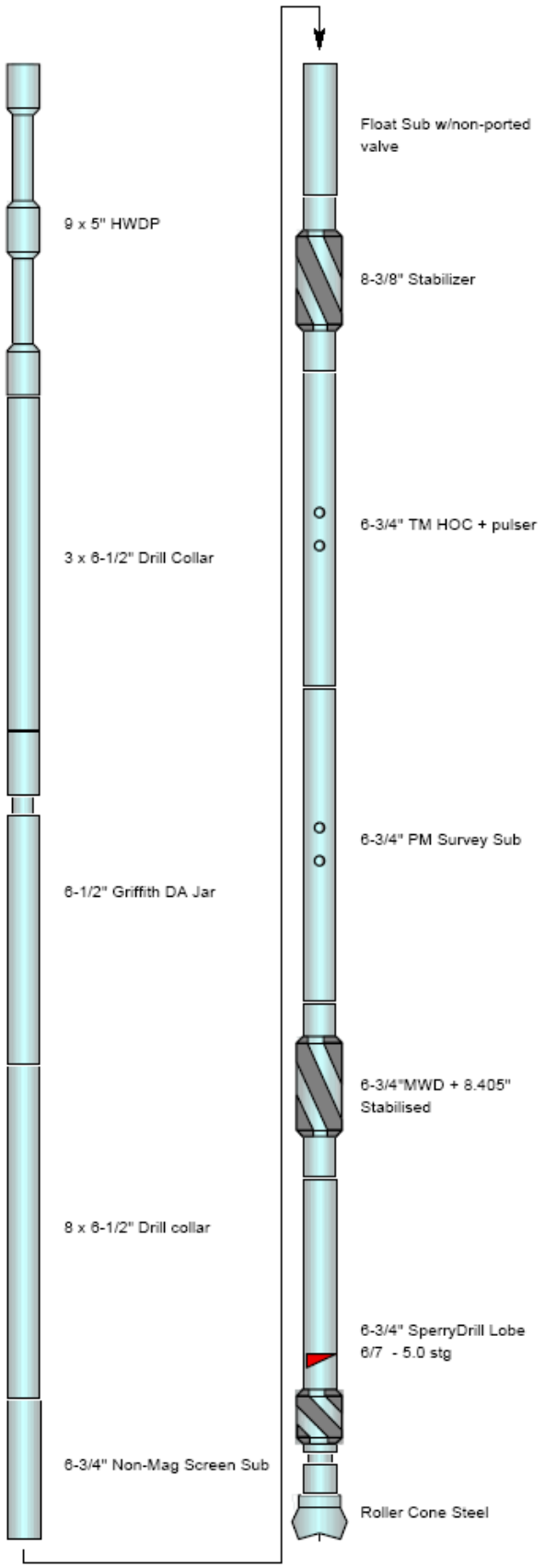
9/3-2

BHA ID #: 10

8-1/2" Clean Out Assy

BHA Configuration

O.D.	Length	Description
8.5"	0.24m	Roller Cone Steel
6.75"	7.72m	6-3/4" SperryDrill Lobe 6/7 - 5.0 stg
6.75"	8.54m	6-3/4"MWD + 8.405" Stabilised
6.75"	2.74m	6-3/4" PM Survey Sub
6.75"	3.06m	6-3/4" TM HOC + pulser
6.75"	2.29m	8-3/8" Stabilizer
6.75"	0.52m	Float Sub w/non-ported valve
6.75"	2.49m	6-3/4" Non-Mag Screen Sub
6.75"	75.32m	8 x 6-1/2" Drill collar
6.5"	9.71m	6-1/2" Griffith DA Jar
6.5"	28.64m	3 x 6-1/2" Drill Collar
5"	85.04m	9 x 5" HWDP



sperry-sun DRILLING SERVICES

BHA Report

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632

BHA# 10

BHA# 10 : Date In :22-11-20(MD In (m) : 3154 TVD In (m) : 3152 Date Cur: 23-11-200 MD Cur (m): 3154 TVD Cur (m): 3152

BIT DATA

Bit #	OD (in)	MFR	Style	Serial#	Nozzles (/32's)	TFA (in²)	Dull Condition
9	8.500	Security DBS	EBXSC1S	10714922	1x24, 2x22, 1x18	1.433	

MOTOR DATA

Run #	OD (in)	MFR	Model	Serial#	Bend	Nzl (/32's)	Avg Dif (bar)	Cum Circ Hrs
7	6.750	SDS	SperryDrill					2.50

COMPONENT DATA

Item #	Description	Serial #	OD (in)	ID (in)	Gauge (in)	Weight (lbs/ft)	Top Con	Length (m)	Bit - Center Blade (m)
1	Roller Cone Steel	10714922	8.500	3.000	8.500	169.30	P 4-1/2" Reg	0.24	
2	6-3/4" SperryDrill Lobe 6/7 - 5.0 stg		6.750	4.498	8.250	67.81	B 4-1/2" IF	7.72	
3	6-3/4"MWD + 8.405" Stabilised	90089870	6.750	1.920	8.405	112.09	B N.C. 50	8.54	15.43
4	6-3/4" PM Survey Sub	145954	6.750	2.125		109.87	B N.C. 50	2.74	
5	6-3/4" TM HOC + pulser	10718061	6.750	2.125		109.87	B N.C. 50	3.06	
6	8-3/8" Stabilizer	OWS STAB 1 144	6.750	2.875	8.375	99.83	B N.C. 50	2.29	23.42
7	Float Sub w/non-ported valve	OWS FS 020	6.750	2.375		106.86	B N.C. 50	0.52	
8	6-3/4" Non-Mag Screen Sub	10704796	6.750	2.750		101.71	B N.C. 50	2.49	
9	8 x 6-1/2" Drill collar		6.750	3.000		98.00	B N.C. 50	75.32	
10	6-1/2" Griffith DA Jar	4286541900	6.500	2.750		92.85	B N.C. 50	9.71	
11	3 x 6-1/2" Drill Collar		6.500	3.000		88.00	B N.C. 50	28.64	
12	9 x 5" HWDP		5.000	3.000		49.30	B N.C. 50	85.04	
								226.31	

Parameter	Min	Max	Ave
WOB (t) :			
RPM (rpm) :			
Flow (L/min) :			
SPP (bar) :			

Activity	Hrs
Drilling :	0.00
Reaming :	2.50
Circ-Other :	0.00
Total :	2.50

BHA Weight	(lb)
in Air (Total) :	58044
in Mud (Total) :	48086
in Air (Bel Jars) :	33062
in Mud (Bel Jars) :	27391

Drill String	OD(in)	Len (m)
DP(S)-NC50(XH)-19.50#	5.000	2928

PERFORMANCE

	In	Out
Inclination (deg)	1.83	1.83
Azimuth (deg)	342.99	342.99

	Distance (m)	ROP (m/hr)	Build (°/30m)	Turn (°/30m)	DLS (°/30m)
Oriented :					
Rotated :					
Total :					

COMMENTS

sperry-sun DRILLING SERVICES

BHA Report page 2

Customer : Paladin
Well : 9/3-2
Field : Aimee 9/3
Location : 9/3-2
Rig : Mærsk Giant
Job # : NR-DD-0003845632 BHA# 10

OBJECTIVES:

Previous BHA was made up again with a new bit and RIH as the wire-line logs did not pass an obstruction at 1527m MD.

RESULTS:

During the wiper trip the string took weight at 1152m (2-15t) and 1163m (6-7t). Reamed the area until clear. No obstructions observed on the rest of the wiper trip.

19 DIRECTIONAL DRILLING, DRILLING PARAMETERS AND DEVIATION DATA

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Paladin
Well : 9/3-2
Rig : Mærsk Giant

Field : Aimee 9/3
Location : 9/3-2
Job # : NR-DD-0003845632

North Ref : Mag **Declination** : -1.28° **VS Dir** : 90.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS								
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (t)	RPM	Flow Rate (L/min)	Stand Pipe (bar)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	BHA No. (#)	Comment
0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00									Tieon
146.80	0.00	0.00	146.8	0.0	0.0	0.0	0.00	0.00	0.00								1	
238.90	0.79	194.03	238.9	-0.2	-0.6	-0.2	0.26	0.26	0.00	5.00	85	3200	54.0				4	
323.50	0.22	124.67	323.5	-0.2	-1.3	-0.2	0.26	-0.20	0.00	3.00	120	4000	125.0				4	
352.00	0.74	210.21	352.0	-0.2	-1.5	-0.2	0.80	0.55	0.00	3.00	120	4000	125.0				4	
381.40	0.78	153.94	381.4	-0.2	-1.8	-0.2	0.73	0.04	0.00	2.00	130	4050	127.0				4	
409.90	0.22	205.27	409.9	-0.2	-2.0	-0.2	0.70	-0.59	0.00	3.00	130	4050	128.0				4	
439.00	0.12	190.91	439.0	-0.2	-2.1	-0.2	0.11	-0.10	0.00	3.00	130	4050	128.0				4	
467.20	0.66	165.18	467.2	-0.1	-2.3	-0.1	0.59	0.57	0.00	3.00	130	4050	128.0				4	
492.40	0.48	148.42	492.4	-0.1	-2.5	-0.1	0.29	-0.21	0.00	3.00	130	4050	128.0				4	
513.50	0.67	69.39	513.5	0.1	-2.6	0.1	1.06	0.27	0.00	3.00	115	3600	128.0				6	
542.00	0.75	53.20	542.0	0.4	-2.4	0.4	0.23	0.08	0.00	5.00	60	3600	125.0				6	
571.20	0.93	66.20	571.2	0.8	-2.2	0.8	0.27	0.18	0.00	10.00	110	3721	132.0				6	
599.90	1.11	63.54	599.9	1.2	-2.0	1.2	0.19	0.19	0.00	10.00	110	3721	132.0				6	
628.70	1.21	72.56	628.7	1.8	-1.7	1.8	0.22	0.10	9.40	10.00	110	3800	136.0				6	
657.50	1.21	72.36	657.5	2.4	-1.6	2.4	0.00	0.00	-0.21	10.00	110	4050	162.0				6	
685.80	0.88	77.53	685.8	2.9	-1.4	2.9	0.36	-0.35	0.00	10.00	110	4050	162.0				6	
714.30	1.22	82.20	714.3	3.4	-1.3	3.4	0.37	0.36	0.00	2.00	60	4000	165.0				6	
742.30	1.29	82.81	742.2	4.0	-1.3	4.0	0.08	0.08	0.65	3.00	30	4030	170.0				6	
771.00	1.02	83.10	770.9	4.6	-1.2	4.6	0.28	-0.28	0.30	3.00	30	4030	170.0				6	
799.30	0.99	83.08	799.2	5.0	-1.1	5.0	0.03	-0.03	0.00	8.00	60	4200	174.0				6	
827.50	0.99	82.04	827.4	5.5	-1.1	5.5	0.00	0.00	0.00	15.00	50	4300	190.0				6	
856.10	1.02	88.47	856.0	6.0	-1.0	6.0	0.12	0.03	0.00	15.00	50	4300	201.0				6	
884.40	1.00	83.17	884.3	6.5	-1.0	6.5	0.10	-0.02	0.00	15.00	50	4300	201.0				6	
912.60	1.15	88.16	912.5	7.1	-0.9	7.1	0.19	0.16	0.00	15.00	50	4400	213.0				6	
940.80	1.00	85.96	940.7	7.6	-0.9	7.6	0.17	-0.16	0.00	15.00	50	4400	213.0				6	
968.70	1.00	84.68	968.6	8.1	-0.9	8.1	0.00	0.00	0.00	15.00	50	4400	213.0				6	
997.50	0.99	81.97	997.4	8.6	-0.8	8.6	0.05	-0.01	0.00	18.00	50	4400	213.0				6	
1025.90	1.19	81.22	1025.8	9.1	-0.7	9.1	0.21	0.21	0.00	20.00	50	4400	216.0				6	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Customer : Paladin
Well : 9/3-2
Rig : Mærsk Giant

Field : Aimee 9/3
Location : 9/3-2
Job # : NR-DD-0003845632

North Ref : Mag **Declination :** -1.28° **VS Dir :** 90.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS								
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (t)	RPM	Flow Rate (L/min)	Stand Pipe (bar)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	BHA No. (#)	Comment
1054.30	1.12	89.78	1054.2	9.7	-0.7	9.7	0.20	-0.07	9.04	20.00	49	4400	218.0				6	
1082.70	1.05	87.08	1082.6	10.2	-0.7	10.2	0.09	-0.07	-2.85	13.00	50	4400	219.0				6	
1111.10	1.20	86.54	1111.0	10.8	-0.7	10.8	0.16	0.16	-0.57	18.00	50	4400	224.0				6	
1122.50	1.09	82.22	1122.4	11.0	-0.6	11.0	0.37	-0.29	-11.37	18.00	50	4400	224.0				6	
1171.50	1.22	91.46	1171.4	12.0	-0.6	12.0	0.14	0.08	5.66	1.00	130	1982	124.0				8	
1199.90	1.38	79.26	1199.8	12.6	-0.5	12.6	0.34	0.17	-12.89	1.00	130	1982	124.0				8	
1229.30	1.27	80.57	1229.2	13.3	-0.4	13.3	0.12	-0.11	1.34	2.00	130	2000	126.0				8	
1258.30	1.40	83.06	1258.1	13.9	-0.3	13.9	0.15	0.13	2.58	2.00	130	2000	126.0				8	
1286.60	1.37	85.50	1286.4	14.6	-0.2	14.6	0.07	-0.03	2.59	2.00	130	2000	126.0				8	
1314.80	1.30	89.73	1314.6	15.3	-0.2	15.3	0.13	-0.07	4.50	3.00	145	2000	126.0				8	
1342.90	1.49	90.23	1342.7	16.0	-0.2	16.0	0.20	0.20	0.53	3.00	145	2000	126.0				8	
1371.80	1.44	92.70	1371.6	16.7	-0.2	16.7	0.08	-0.05	2.56	1.50	143	2000	135.0				8	
1400.20	1.39	89.40	1400.0	17.4	-0.2	17.4	0.10	-0.05	-3.49	1.50	135	1990	97.0				8	
1428.40	1.34	100.24	1428.2	18.1	-0.3	18.1	0.28	-0.05	11.53	1.50	135	1990	97.0				8	
1456.90	1.53	102.16	1456.7	18.8	-0.4	18.8	0.21	0.20	2.02	3.50	135	1970	131.0				8	
1485.20	1.59	103.92	1485.0	19.5	-0.6	19.5	0.08	0.06	1.87	3.50	135	1970	131.0				8	
1513.80	1.41	106.09	1513.6	20.2	-0.8	20.2	0.20	-0.19	2.28	3.50	135	1970	131.0				8	
1542.00	1.53	106.50	1541.8	20.9	-1.0	20.9	0.13	0.13	0.44	3.00	135	1990	133.0				8	
1571.50	1.43	110.23	1571.3	21.7	-1.2	21.7	0.14	-0.10	3.79	3.00	135	1990	133.0				8	
1598.70	1.43	114.85	1598.4	22.3	-1.5	22.3	0.13	0.00	5.10	2.50	135	1985	136.0				8	
1627.10	1.55	107.87	1626.8	23.0	-1.8	23.0	0.23	0.13	-7.37	3.00	140	1982	137.0				8	
1655.60	1.58	110.31	1655.3	23.7	-2.0	23.7	0.08	0.03	2.57	3.00	140	1982	137.0				8	
1683.70	1.49	109.67	1683.4	24.4	-2.3	24.4	0.10	-0.10	-0.68	3.00	140	1982	137.0				8	
1711.70	1.71	105.66	1711.4	25.2	-2.5	25.2	0.26	0.24	-4.30	3.00	140	1980	140.0				8	
1740.00	1.79	105.29	1739.7	26.0	-2.8	26.0	0.09	0.08	-0.39	3.00	140	1980	140.0				8	
1769.40	1.93	100.34	1769.1	26.9	-3.0	26.9	0.22	0.14	-5.05	2.00	140	1965	140.0				8	
1797.90	1.87	103.62	1797.6	27.9	-3.2	27.9	0.13	-0.06	3.45	1.00	145	1970	140.0				8	
1826.10	1.98	99.88	1825.7	28.8	-3.4	28.8	0.18	0.12	-3.98	1.00	145	1970	140.0				8	
1854.50	2.19	101.71	1854.1	29.8	-3.5	29.8	0.23	0.22	1.93	1.50	135	1970	141.0				8	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Page : 3

Customer : Paladin **Field** : Aimee 9/3
Well : 9/3-2 **Location** : 9/3-2
Rig : Mærsk Giant **Job #** : NR-DD-0003845632

North Ref : Mag **Declination** : -1.28° **VS Dir** : 90.00° (from Wellhead)

WELLBORE SURVEY										DRILLING PARAMETERS								
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (t)	RPM	Flow Rate (L/min)	Stand Pipe (bar)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	BHA No. (#)	Comment
1883.00	2.35	99.26	1882.6	30.9	-3.8	30.9	0.20	0.17	-2.58	1.50	135	1970	141.0				8	
1911.60	2.52	101.11	1911.2	32.1	-4.0	32.1	0.20	0.18	1.94	2.40	147	1980	145.0				8	
1940.00	2.66	98.33	1939.5	33.4	-4.2	33.4	0.20	0.15	-2.94	2.40	147	1980	145.0				8	
1968.60	2.76	97.49	1968.1	34.7	-4.4	34.7	0.11	0.10	-0.88	1.40	148	1985	147.0				8	
1997.10	2.97	97.04	1996.6	36.1	-4.5	36.1	0.22	0.22	-0.47	1.25	150	2000	150.0				8	
2025.00	3.10	98.74	2024.4	37.6	-4.8	37.6	0.17	0.14	1.83	1.50	150	1980	147.0				8	
2053.50	3.37	98.68	2052.9	39.2	-5.0	39.2	0.28	0.28	-0.06	1.50	150	1980	147.0				8	
2096.90	2.80	13.82	2096.2	40.7	-4.2	40.7	2.89	-0.39	-58.66	2.00		2000	180.0	2065	2072	280m	9	
														2072	2097	300m	9	
2109.80	3.05	11.50	2109.1	40.8	-3.5	40.8	0.64	0.58	-5.40	3.00	120	2000	188.0	2097	2101	300m	9	
2138.40	2.04	351.84	2137.7	40.9	-2.3	40.9	1.39	-1.06	-20.62	2.00		2000	180.0	2129	2138	200m	9	
2166.90	1.53	329.38	2166.2	40.6	-1.4	40.6	0.90	-0.54	-23.64	4.00	110	1950	190.0	2138	2145	200m	9	
2195.30	1.62	336.34	2194.6	40.3	-0.7	40.3	0.22	0.10	7.35	5.50	110	1950	191.0				9	
2223.60	1.76	339.42	2222.9	40.0	0.0	40.0	0.18	0.15	3.27	6.50	110	1975	198.0				9	
2251.90	1.77	346.69	2251.2	39.7	0.9	39.7	0.24	0.01	7.71	6.50	110	1975	198.0				9	
2280.30	1.73	354.00	2279.5	39.6	1.7	39.6	0.24	-0.04	7.72	6.50	110	1975	198.0				9	
2308.77	2.04	9.44	2308.0	39.6	2.6	39.6	0.62	0.33	16.27	5.00	110	1945	190.0				9	
2336.77	2.23	17.06	2336.0	39.9	3.7	39.9	0.37	0.20	8.16	5.00	110	1945	190.0				9	
2365.49	2.60	27.97	2364.7	40.3	4.8	40.3	0.61	0.39	11.40	5.00	110	1945	190.0				9	
2393.89	2.82	19.98	2393.0	40.9	6.0	40.9	0.46	0.23	-8.44	5.00	110	1945	190.0	2366	2375	260m	9	
2422.12	3.21	31.72	2421.2	41.5	7.3	41.5	0.77	0.41	12.48	5.00	110	1945	190.0				9	
2450.94	3.24	41.20	2450.0	42.5	8.6	42.5	0.56	0.03	9.87	3.00		2000	195.0	2442	2451	225m	9	
2479.30	3.52	45.32	2478.3	43.6	9.8	43.6	0.39	0.30	4.36	3.00	110	2100	215.0	2451	2455	225m	9	
2507.40	4.23	51.90	2506.4	45.1	11.1	45.1	0.89	0.76	7.02	3.00	110	2100	215.0				9	
2535.90	3.75	55.10	2534.8	46.6	12.3	46.6	0.56	-0.51	3.37	3.00		1975	192.0	2530	2536	240m	9	
2564.90	2.76	53.03	2563.7	48.0	13.2	48.0	1.03	-1.02	-2.14	4.50	110	1970	212.0	2536	2546	240m	9	
2593.10	3.48	56.61	2591.9	49.2	14.1	49.2	0.79	0.77	3.81	4.50	110	1970	212.0				9	
2621.20	4.19	61.11	2619.9	50.9	15.1	50.9	0.82	0.76	4.80	4.50	110	1970	212.0				9	
2650.10	4.55	62.09	2648.7	52.8	16.1	52.8	0.38	0.37	1.02	4.50	110	1970	212.0				9	

sperry-sun DRILLING SERVICES

Survey and Drilling Parameters

Page : 4

Customer : Paladin **Field** : Aimee 9/3
Well : 9/3-2 **Location** : 9/3-2
Rig : Mærsk Giant **Job #** : NR-DD-0003845632

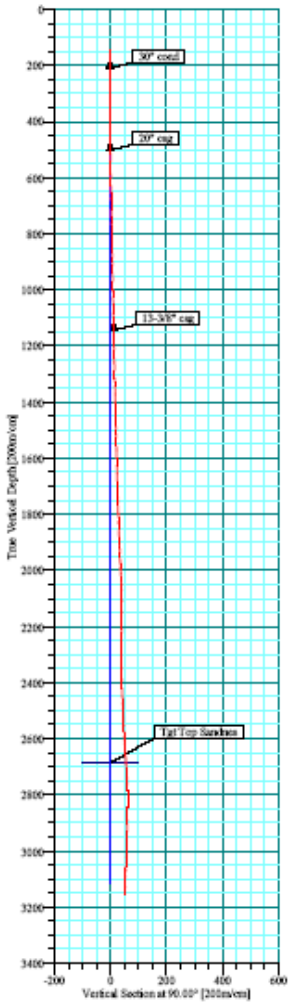
North Ref : Mag **Declination** : -1.28° **VS Dir** : 90.00° (from Wellhead)

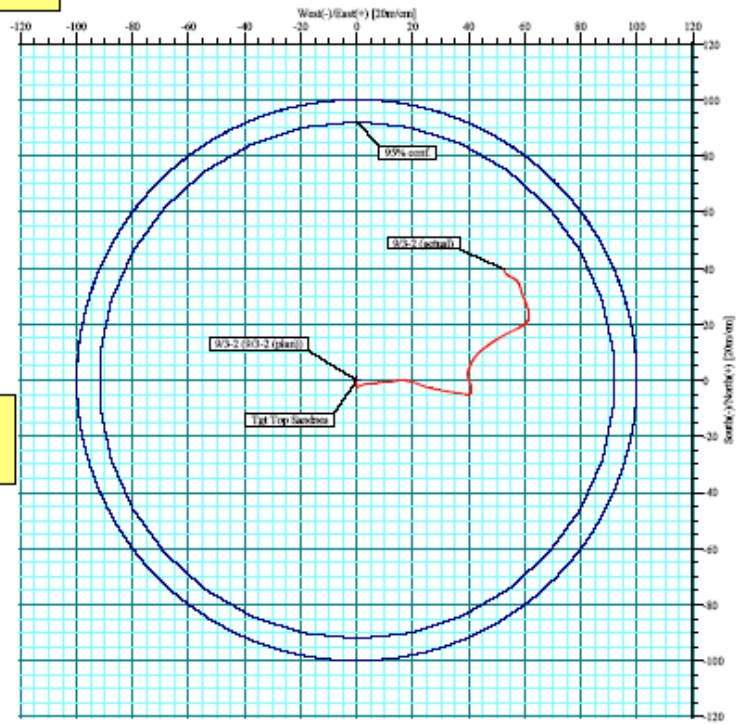
WELLBORE SURVEY										DRILLING PARAMETERS								
Measured Depth (m)	Incl Angle (deg)	Azi Dir (deg)	Vertical Depth (m)	Vertical Section (m)	Coordinates N/S (m)	Coordinates E/W (m)	DLS (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	WOB (t)	RPM	Flow Rate (L/min)	Stand Pipe (bar)	Orientation From (m)	Orientation To (m)	Tool Face (deg)	BHA No. (#)	Comment
2677.13	4.81	63.14	2675.7	54.7	17.1	54.7	0.30	0.29	1.17	4.50	110	1970	212.0				9	
2706.56	4.98	63.94	2705.0	57.0	18.2	57.0	0.19	0.17	0.82	4.50	110	1970	212.0				9	
2734.30	4.04	58.50	2732.7	58.9	19.3	58.9	1.12	-1.02	-5.88	3.00		2060	210.0	2725	2734	270m	9	
2762.90	3.34	45.28	2761.2	60.4	20.4	60.4	1.15	-0.73	-13.87	4.00		2030	212.0	2734	2741	270m	9	
														2755	2763	270m	9	
2791.40	3.46	21.81	2789.7	61.3	21.8	61.3	1.46	0.13	-24.71	3.00		2095	212.0	2763	2766	270m	9	
														2781	2791	280m	9	
2820.20	3.55	355.90	2818.4	61.5	23.5	61.5	1.64	0.09	-26.99	4.00	110	2075	220.0	2791	2799	280m	9	
														2811	2819	250m	9	
2849.00	3.69	339.79	2847.1	61.1	25.2	61.1	1.07	0.15	-16.78	4.00	110	2075	220.0	2821	2832	250m	9	
2876.89	3.43	344.39	2875.0	60.6	26.9	60.6	0.42	-0.28	4.95	4.00	110	2075	220.0	2867	2872	240m	9	
2905.37	3.78	333.14	2903.4	60.0	28.5	60.0	0.83	0.37	-11.85	4.00	110	2100	225.0	2883	2890	240m	9	
														2891	2895	250m	9	
2933.60	3.83	338.95	2931.6	59.2	30.2	59.2	0.41	0.05	6.17	4.00	110	2100	225.0				9	
2962.20	3.85	346.93	2960.1	58.6	32.1	58.6	0.56	0.02	8.37	4.00	110	2100	225.0				9	
2990.70	3.74	338.23	2988.5	58.1	33.9	58.1	0.62	-0.12	-9.16	7.00	110	2050	230.0	2968	2981	250m	9	
3019.02	3.23	318.63	3016.8	57.2	35.3	57.2	1.36	-0.54	-20.76	7.00	110	2050	230.0	3001	3009	230m	9	
3047.73	3.83	297.77	3045.5	55.8	36.4	55.8	1.47	0.63	-21.80	5.00	110	2050	230.0	3025	3036	230m	9	
3075.05	3.34	300.69	3072.7	54.3	37.2	54.3	0.57	-0.54	3.21	5.00	110	2050	230.0				9	
3104.50	2.31	316.58	3102.2	53.2	38.1	53.2	1.31	-1.05	16.19	5.00	110	2050	230.0				9	
3133.10	1.83	342.99	3130.7	52.7	38.9	52.7	1.11	-0.50	27.70	8.00	110	2100	230.0				9	
3154.00	1.83	342.99	3151.6	52.5	39.6	52.5	0.00	0.00	0.00								10	

Paladin Resources (Norway) Limited

Field: Exploration
Site: PL316 Aimee
Well: 9/3-2
Wellpath: 9/3-2 (actual)

HALLIBURTON
Sperry Drilling Services





SITE DETAILS

PL316 Aimee

Site Centre Northing: 6410526.85
Easting: 601631.20

Water Depth: 100.80
Positional Uncertainty: 0.00
Convergence: 1.45

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
9/3-2	0.00	0.00	6410526.85	601631.20	57°49'25.791N	004°42'39.637E	N/A

WELLPATH DETAILS

9/3-2 (actual)

Parent Wellpath: 9/3-2A
Tie on MD: 0.00

Rig:
Ref. Datum: SITE 46.00m

V.Section Angle	Origin +N/-S	Origin +E/-W	Starting From TVD
90.00°	0.00	0.00	146.80

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	565.98	566.00	Balder
2	623.97	624.00	Ekofisk
3	664.96	665.00	Tor
4	909.92	910.00	Hod
5	1068.89	1069.00	Sola
6	1161.88	1162.00	Valhall
7	1923.56	1924.00	Flekkefjord
8	2070.37	2071.00	Sauda
9	2508.94	2510.00	Tau
10	2622.72	2624.00	Egersund
11	2661.60	2663.00	Sandnes
12	2807.22	2809.00	Bryne
13	3063.71	3066.00	Fjerritslev
14	3118.64	3121.00	Skagerrak

CASING DETAILS

No.	TVD	MD	Name	Size
1	210.70	210.70	30" cond	30.000
2	501.36	501.37	20" csg	20.000
3	1144.18	1144.30	13-3/8" csg	13.375

LEGEND

9/3-2 (9/3-2 (plan))
9/3-2 (actual)

SURVEY PROGRAM

Date : 02-01-2006 Validated : No Version : 1

Depth Fm	Depth To	Survey/Plan	Tool
146.80	492.40	9/3-2 SDS 24" MWD	Magnetic, std, mag-corr
492.40	1122.50	9/3-2 SDS 17 1/2" MWD	Magnetic, std, mag-corr
1122.50	3133.10	9/3-2 SDS 8 1/2" MWD	Magnetic, std, mag-corr
3133.10	3154.00	9/3-2 Extrapolation to TD	Magnetic, std

Paladin Resources (Norwa) Limited

Halliburton Norway
Survey Report

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:21	**Page:**	1
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Field: Exploration

Norway

Map System:	Universal Transverse Mercator	**Map Zone:**	UTM Zone 31, North 0 to 6E
Geo Datum:	ED50 (International 1924)	**Coordinate System:**	Site Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	bggm2004

Site: PL316 Aimee

Site Position:			**Northing:**	6410526.85	m	**Latitude:**	57	49	25.791 N
From:	Map		**Easting:**	601631.20	m	**Longitude:**	4	42	39.637 E
Position Uncertainty:		0.00 m				**North Reference:**			Grid
Water Depth:		100.80 m				**Grid Convergence:**			1.45 deg

Well: 9/3-2 **Slot Name:**

Surface Position:	+N/-S	0.00 m	**Northing:**	6410526.85	m	**Latitude:**	57	49	25.791 N
	+E/-W	0.00 m	**Easting :**	601631.20	m	**Longitude:**	4	42	39.637 E
Position Uncertainty:		0.00 m							
Reference Point:	+N/-S	0.00 m	**Northing:**	6410526.85	m	**Latitude:**	57	49	25.791 N
	+E/-W	0.00 m	**Easting :**	601631.20	m	**Longitude:**	4	42	39.637 E
			Measured Depth:	146.80	m	**Inclination:**			0.00 deg
			Vertical Depth:	146.80	m	**Azimuth :**			0.00 deg

Wellpath:	9/3-2 (actual)			**Drilled From:**	9/3-2A
				Tie-on Depth:	0.00 m
Current Datum:	SITE	**Height**	46.00 m	**Above System Datum:**	Mean Sea Level
Magnetic Data:	02-01-2006			**Declination:**	0.00 deg
Field Strength:	0 nT			**Mag Dip Angle:**	0.00 deg

Vertical Section:	**Depth From (TVD)** m	**+N/-S** m	**+E/-W** m	**Direction** deg
	146.80	0.00	0.00	90.00

Survey Program for Definitive Wellpath

Date: 02-01-2006 **Validated:** No **Version:** 1

Actual From m	**To** m	**Survey**	**Toolcode**	**Tool Name**
146.80	492.40	9/3-2 SDS 24" MWD (146.80-492.	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
492.40	1122.50	9/3-2 SDS 17 1/2" MWD (492.40-	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
1122.50	3133.10	9/3-2 SDS 8 1/2" MWD (1122.50-	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
3133.10	3154.00	9/3-2 Extrapolation to TD (313	Magnetic, old	Magnetic Tools (MWD, EMS)

Survey

MD m	**Incl** deg	**Azim** deg	**TVD** m	**+N/-S** m	**+E/-W** m	**VS** m	**DLS** deg/30m	**Build** deg/30m	**Turn** deg/30m	**Tool/Comment**
146.80	0.00	0.00	146.80	0.00	0.00	0.00	0.00	0.00	0.00	TIE LINE
210.70	0.55	194.03	210.70	-0.30	-0.07	-0.07	0.26	0.26	0.00	30" cond
238.90	0.79	194.03	238.90	-0.62	-0.15	-0.15	0.26	0.26	0.00	Magnetic, std, mag-corr
323.50	0.22	124.67	323.49	-1.27	-0.16	-0.16	0.26	-0.20	-24.60	Magnetic, std, mag-corr
352.00	0.74	210.21	351.99	-1.46	-0.21	-0.21	0.80	0.55	90.04	Magnetic, std, mag-corr
381.40	0.78	153.94	381.39	-1.81	-0.22	-0.22	0.73	0.04	-57.42	Magnetic, std, mag-corr
409.90	0.22	205.27	409.89	-2.03	-0.16	-0.16	0.70	-0.59	54.03	Magnetic, std, mag-corr
439.00	0.12	190.91	438.99	-2.11	-0.18	-0.18	0.11	-0.10	-14.80	Magnetic, std, mag-corr
467.20	0.66	165.18	467.19	-2.30	-0.15	-0.15	0.59	0.57	-27.37	Magnetic, std, mag-corr
492.40	0.48	148.42	492.39	-2.53	-0.06	-0.06	0.29	-0.21	-19.95	Magnetic, std, mag-corr
501.37	0.43	108.16	501.36	-2.57	0.00	0.00	1.06	-0.16	-134.66	20" csg
513.50	0.67	69.39	513.49	-2.56	0.11	0.11	1.06	0.59	-95.88	Magnetic, std, mag-corr
542.00	0.75	53.20	541.99	-2.39	0.41	0.41	0.23	0.08	-17.04	Magnetic, std, mag-corr
566.00	0.90	64.28	565.98	-2.21	0.71	0.71	0.27	0.18	13.85	Balder
571.20	0.93	66.20	571.18	-2.18	0.78	0.78	0.27	0.20	11.10	Magnetic, std, mag-corr
599.90	1.11	63.54	599.88	-1.96	1.24	1.24	0.19	0.19	-2.78	Magnetic, std, mag-corr
624.00	1.19	71.19	623.97	-1.78	1.69	1.69	0.22	0.10	9.53	Ekofisk

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:**	02-01-2006	**Time:** 12:45:21	**Page:** 2
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD m	Incl deg	Azim deg	TVD m	+N/-S m	+E/-W m	VS m	DLS deg/30m	Build deg/30m	Turn deg/30m	Tool/Comment
628.70	1.21	72.56	628.67	-1.75	1.78	1.78	0.22	0.12	8.72	Magnetic, std, mag-corr
657.50	1.21	72.36	657.46	-1.56	2.36	2.36	0.00	0.00	-0.21	Magnetic, std, mag-corr
665.00	1.12	73.43	664.96	-1.52	2.51	2.51	0.36	-0.35	4.29	Tor
685.80	0.88	77.53	685.76	-1.43	2.86	2.86	0.36	-0.35	5.91	Magnetic, std, mag-corr
714.30	1.22	82.20	714.25	-1.34	3.37	3.37	0.37	0.36	4.92	Magnetic, std, mag-corr
742.30	1.29	82.81	742.25	-1.26	3.98	3.98	0.08	0.07	0.65	Magnetic, std, mag-corr
771.00	1.02	82.81	770.94	-1.19	4.56	4.56	0.28	-0.28	0.00	Magnetic, std, mag-corr
799.30	0.99	83.08	799.24	-1.12	5.05	5.05	0.03	-0.03	0.29	Magnetic, std, mag-corr
827.50	0.99	82.04	827.44	-1.06	5.53	5.53	0.02	0.00	-1.11	Magnetic, std, mag-corr
856.10	1.02	88.47	856.03	-1.02	6.03	6.03	0.12	0.03	6.75	Magnetic, std, mag-corr
884.40	1.00	83.17	884.33	-0.98	6.53	6.53	0.10	-0.02	-5.62	Magnetic, std, mag-corr
910.00	1.14	87.76	909.92	-0.95	7.00	7.00	0.19	0.16	5.37	Hod
912.60	1.15	88.16	912.52	-0.95	7.05	7.05	0.19	0.16	4.67	Magnetic, std, mag-corr
940.80	1.00	85.96	940.72	-0.92	7.58	7.58	0.17	-0.16	-2.34	Magnetic, std, mag-corr
968.70	1.00	84.68	968.61	-0.88	8.07	8.07	0.02	0.00	-1.38	Magnetic, std, mag-corr
997.50	0.99	81.97	997.41	-0.82	8.56	8.56	0.05	-0.01	-2.82	Magnetic, std, mag-corr
1025.90	1.19	81.22	1025.80	-0.74	9.10	9.10	0.21	0.21	-0.79	Magnetic, std, mag-corr
1054.30	1.12	89.78	1054.20	-0.70	9.67	9.67	0.20	-0.07	9.04	Magnetic, std, mag-corr
1069.00	1.08	88.43	1068.89	-0.69	9.95	9.95	0.09	-0.07	-2.76	Sola
1082.70	1.05	87.08	1082.59	-0.68	10.21	10.21	0.09	-0.07	-2.95	Magnetic, std, mag-corr
1111.10	1.20	86.54	1110.99	-0.65	10.76	10.76	0.16	0.16	-0.57	Magnetic, std, mag-corr
1122.50	1.09	82.22	1122.38	-0.63	10.99	10.99	0.37	-0.29	-11.37	Magnetic, std, mag-corr
1144.30	1.14	86.59	1144.18	-0.59	11.41	11.41	0.14	0.07	6.01	13-3/8" csg
1162.00	1.19	89.83	1161.88	-0.58	11.77	11.77	0.14	0.08	5.49	Valhall
1171.50	1.22	91.46	1171.37	-0.58	11.97	11.97	0.14	0.09	5.15	Magnetic, std, mag-corr
1199.90	1.38	79.26	1199.77	-0.52	12.61	12.61	0.34	0.17	-12.89	Magnetic, std, mag-corr
1229.30	1.27	80.57	1229.16	-0.40	13.28	13.28	0.12	-0.11	1.34	Magnetic, std, mag-corr
1258.30	1.40	83.06	1258.15	-0.31	13.95	13.95	0.15	0.13	2.58	Magnetic, std, mag-corr
1286.50	1.37	85.50	1286.34	-0.24	14.63	14.63	0.07	-0.03	2.60	Magnetic, std, mag-corr
1314.80	1.30	89.72	1314.63	-0.21	15.28	15.28	0.13	-0.07	4.47	Magnetic, std, mag-corr
1342.90	1.49	90.23	1342.73	-0.21	15.97	15.97	0.20	0.20	0.54	Magnetic, std, mag-corr
1371.80	1.44	92.70	1371.62	-0.23	16.71	16.71	0.08	-0.05	2.56	Magnetic, std, mag-corr
1400.20	1.39	89.40	1400.01	-0.24	17.41	17.41	0.10	-0.05	-3.49	Magnetic, std, mag-corr
1428.40	1.34	100.24	1428.20	-0.30	18.07	18.07	0.28	-0.05	11.53	Magnetic, std, mag-corr
1456.90	1.53	102.16	1456.69	-0.44	18.77	18.77	0.21	0.20	2.02	Magnetic, std, mag-corr
1485.20	1.59	103.92	1484.98	-0.61	19.52	19.52	0.08	0.06	1.87	Magnetic, std, mag-corr
1513.80	1.41	106.09	1513.57	-0.81	20.25	20.25	0.20	-0.19	2.28	Magnetic, std, mag-corr
1542.00	1.53	106.50	1541.76	-1.01	20.94	20.94	0.13	0.13	0.44	Magnetic, std, mag-corr
1571.50	1.43	110.23	1571.25	-1.25	21.67	21.67	0.14	-0.10	3.79	Magnetic, std, mag-corr
1598.70	1.43	114.85	1598.44	-1.51	22.29	22.29	0.13	0.00	5.10	Magnetic, std, mag-corr
1627.10	1.55	107.87	1626.83	-1.77	22.98	22.98	0.23	0.13	-7.37	Magnetic, std, mag-corr
1655.60	1.58	110.31	1655.32	-2.03	23.71	23.71	0.08	0.03	2.57	Magnetic, std, mag-corr
1683.70	1.49	109.67	1683.41	-2.29	24.42	24.42	0.10	-0.10	-0.68	Magnetic, std, mag-corr
1711.70	1.71	105.66	1711.40	-2.52	25.17	25.17	0.26	0.24	-4.30	Magnetic, std, mag-corr
1740.00	1.79	105.29	1739.69	-2.75	26.00	26.00	0.09	0.08	-0.39	Magnetic, std, mag-corr
1769.40	1.93	100.34	1769.07	-2.96	26.93	26.93	0.22	0.14	-5.05	Magnetic, std, mag-corr
1797.90	1.87	103.62	1797.56	-3.16	27.85	27.85	0.13	-0.06	3.45	Magnetic, std, mag-corr
1826.10	1.98	99.88	1825.74	-3.35	28.78	28.78	0.18	0.12	-3.98	Magnetic, std, mag-corr
1854.50	2.19	101.71	1854.12	-3.54	29.80	29.80	0.23	0.22	1.93	Magnetic, std, mag-corr
1883.00	2.35	99.26	1882.60	-3.75	30.91	30.91	0.20	0.17	-2.58	Magnetic, std, mag-corr
1911.60	2.52	101.11	1911.17	-3.96	32.10	32.10	0.20	0.18	1.94	Magnetic, std, mag-corr
1924.00	2.58	99.86	1923.56	-4.06	32.64	32.64	0.20	0.15	-3.03	Flekkefjord
1940.00	2.66	98.33	1939.55	-4.18	33.37	33.37	0.20	0.15	-2.87	Magnetic, std, mag-corr

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:21	**Page:**	3
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD m	Incl deg	Azim deg	TVD m	+N/-S m	+E/-W m	VS m	DLS deg/30m	Build deg/30m	Turn deg/30m	Tool/Comment
1968.60	2.76	97.49	1968.11	-4.37	34.71	34.71	0.11	0.10	-0.88	Magnetic, std, mag-corr
1997.10	2.97	97.04	1996.58	-4.55	36.12	36.12	0.22	0.22	-0.47	Magnetic, std, mag-corr
2025.60	3.10	98.74	2025.04	-4.75	37.61	37.61	0.17	0.14	1.79	Magnetic, std, mag-corr
2053.50	3.37	98.68	2052.89	-4.99	39.17	39.17	0.29	0.29	-0.06	Magnetic, std, mag-corr
2071.00	2.39	70.64	2070.37	-4.95	40.02	40.02	2.89	-1.67	-48.06	Sauda
2096.90	2.80	13.82	2096.25	-4.15	40.68	40.68	2.89	0.47	-65.82	Magnetic, std, mag-corr
2109.80	3.05	11.50	2109.13	-3.51	40.83	40.83	0.64	0.58	-5.40	Magnetic, std, mag-corr
2138.40	2.04	351.84	2137.70	-2.26	40.91	40.91	1.39	-1.06	-20.62	Magnetic, std, mag-corr
2166.90	1.53	329.38	2166.19	-1.43	40.64	40.64	0.90	-0.54	-23.64	Magnetic, std, mag-corr
2195.30	1.62	336.34	2194.58	-0.74	40.29	40.29	0.22	0.10	7.35	Magnetic, std, mag-corr
2223.60	1.76	339.42	2222.87	0.03	39.97	39.97	0.18	0.15	3.27	Magnetic, std, mag-corr
2251.90	1.77	346.69	2251.15	0.87	39.72	39.72	0.24	0.01	7.71	Magnetic, std, mag-corr
2280.30	1.73	354.00	2279.54	1.72	39.57	39.57	0.24	-0.04	7.72	Magnetic, std, mag-corr
2308.77	2.04	9.44	2308.00	2.65	39.61	39.61	0.62	0.33	16.27	Magnetic, std, mag-corr
2336.77	2.23	17.06	2335.98	3.66	39.85	39.85	0.37	0.20	8.16	Magnetic, std, mag-corr
2365.49	2.60	27.97	2364.67	4.77	40.32	40.32	0.61	0.39	11.40	Magnetic, std, mag-corr
2393.89	2.82	19.98	2393.04	5.99	40.86	40.86	0.46	0.23	-8.44	Magnetic, std, mag-corr
2422.12	3.21	31.72	2421.23	7.32	41.52	41.52	0.77	0.41	12.48	Magnetic, std, mag-corr
2450.94	3.24	41.20	2450.01	8.62	42.48	42.48	0.56	0.03	9.87	Magnetic, std, mag-corr
2479.30	3.52	45.32	2478.32	9.83	43.62	43.62	0.39	0.30	4.36	Magnetic, std, mag-corr
2507.40	4.23	51.90	2506.35	11.08	45.05	45.05	0.89	0.76	7.02	Magnetic, std, mag-corr
2510.00	4.19	52.16	2508.94	11.20	45.20	45.20	0.56	-0.51	3.02	Tau
2535.90	3.75	55.10	2534.78	12.26	46.65	46.65	0.56	-0.50	3.40	Magnetic, std, mag-corr
2564.90	2.76	53.03	2563.74	13.22	47.98	47.98	1.03	-1.02	-2.14	Magnetic, std, mag-corr
2593.10	3.48	56.61	2591.89	14.10	49.24	49.24	0.79	0.77	3.81	Magnetic, std, mag-corr
2621.20	4.19	61.11	2619.93	15.07	50.85	50.85	0.82	0.76	4.80	Magnetic, std, mag-corr
2624.00	4.22	61.21	2622.72	15.17	51.03	51.03	0.38	0.37	1.10	Egersund
2650.10	4.55	62.09	2648.75	16.12	52.79	52.79	0.38	0.37	1.01	Magnetic, std, mag-corr
2663.00	4.67	62.61	2661.60	16.60	53.71	53.71	0.30	0.29	1.20	Sandnes
2677.13	4.81	63.14	2675.69	17.13	54.74	54.74	0.30	0.29	1.13	Magnetic, std, mag-corr
2706.53	4.98	63.94	2704.98	18.25	56.99	56.99	0.19	0.17	0.82	Magnetic, std, mag-corr
2734.30	4.04	58.50	2732.66	19.29	58.91	58.91	1.11	-1.02	-5.88	Magnetic, std, mag-corr
2762.90	3.34	45.28	2761.20	20.40	60.36	60.36	1.15	-0.73	-13.87	Magnetic, std, mag-corr
2791.40	3.46	21.81	2789.65	21.78	61.27	61.27	1.46	0.13	-24.71	Magnetic, std, mag-corr
2809.00	3.43	5.77	2807.22	22.80	61.52	61.52	1.64	-0.05	-27.34	Bryne
2820.20	3.55	355.90	2818.40	23.48	61.53	61.53	1.64	0.32	-26.43	Magnetic, std, mag-corr
2849.00	3.69	339.79	2847.15	25.24	61.14	61.14	1.07	0.15	-16.78	Magnetic, std, mag-corr
2876.89	3.43	344.39	2874.98	26.88	60.61	60.61	0.42	-0.28	4.95	Magnetic, std, mag-corr
2905.37	3.78	333.14	2903.41	28.54	59.96	59.96	0.83	0.37	-11.85	Magnetic, std, mag-corr
2933.60	3.83	338.95	2931.57	30.25	59.20	59.20	0.41	0.05	6.17	Magnetic, std, mag-corr
2962.20	3.85	346.93	2960.11	32.08	58.64	58.64	0.56	0.02	8.37	Magnetic, std, mag-corr
2990.70	3.74	338.23	2988.55	33.87	58.08	58.08	0.62	-0.12	-9.16	Magnetic, std, mag-corr
3019.02	3.23	318.63	3016.82	35.33	57.21	57.21	1.36	-0.54	-20.76	Magnetic, std, mag-corr
3047.73	3.83	297.77	3045.47	36.38	55.82	55.82	1.47	0.63	-21.80	Magnetic, std, mag-corr
3066.00	3.50	299.63	3063.71	36.94	54.80	54.80	0.57	-0.54	3.06	Fjerritslev
3075.05	3.34	300.69	3072.74	37.22	54.33	54.33	0.57	-0.53	3.51	Magnetic, std, mag-corr
3104.50	2.31	316.58	3102.15	38.08	53.18	53.18	1.31	-1.05	16.19	Magnetic, std, mag-corr
3121.00	1.98	330.30	3118.64	38.57	52.81	52.81	1.11	-0.60	24.95	Skagerak
3133.10	1.83	342.99	3130.74	38.94	52.65	52.65	1.11	-0.37	31.45	Magnetic, old
3154.00	1.83	342.99	3151.62	39.58	52.46	52.46	0.00	0.00	0.00	Magnetic, old

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:21	**Page:**	4
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Casing Points

MD m	TVD m	Diameter in	Hole Size in	Name
210.70	210.70	30.000	36.000	30" cond
501.37	501.36	20.000	26.000	20" csg
1144.30	1144.18	13.375	17.500	13-3/8" csg

Formations

MD m	TVD m	Formations	Lithology	Dip Angle deg	Dip Direction deg
566.00	565.98	Balder	CLAY	0.00	0.00
624.00	623.97	Ekofisk	LIMESTONE	0.00	0.00
665.00	664.96	Tor	CHALK	0.00	0.00
910.00	909.92	Hod	LIMESTONE	0.00	0.00
1069.00	1068.89	Sola	LIMESTONE	0.00	0.00
1162.00	1161.88	Valhall	SILTSTONE	0.00	0.00
1924.00	1923.56	Flekkefjord	CLAY	0.00	0.00
2071.00	2070.37	Sauda	CLAY	0.00	0.00
2510.00	2508.94	Tau	CLAY	0.00	0.00
2624.00	2622.72	Egersund	CLAY	0.00	0.00
2663.00	2661.60	Sandnes	SANDSTONE	0.00	0.00
2809.00	2807.22	Bryne	SANDSTONE	0.00	0.00
3066.00	3063.71	Fjerritslev	DOLOMITIC LIMESTONE	0.00	0.00
3121.00	3118.64	Skagerak	SILTSTONE	0.00	0.00

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report - Geographic

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:**	02-01-2006	**Time:** 12:45:00	**Page:** 1
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Field: Exploration

Norway

Map System:	Universal Transverse Mercator	**Map Zone:**	UTM Zone 31, North 0 to 6E
Geo Datum:	ED50 (International 1924)	**Coordinate System:**	Site Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	bggm2004

Site: PL316 Aimee

Site Position:			**Northing:**	6410526.85 m	**Latitude:**	57	49	25.791	N
From:	Map		**Easting:**	601631.20 m	**Longitude:**	4	42	39.637	E
Position Uncertainty:		0.00 m			**North Reference:**			Grid	
Water Depth:		100.80 m			**Grid Convergence:**			1.45	deg

Well: 9/3-2 **Slot Name:**

Surface Position:	+N/-S	0.00 m	**Northing:**	6410526.85 m	**Latitude:**	57	49	25.791	N	
	+E/-W	0.00 m	**Easting :**	601631.20 m	**Longitude:**	4	42	39.637	E	
Position Uncertainty:		0.00 m								
Reference Point:	+N/-S	0.00 m	**Northing:**	6410526.85 m	**Latitude:**	57	49	25.791	N	
	+E/-W	0.00 m	**Easting :**	601631.20 m	**Longitude:**	4	42	39.637	E	
			Measured Depth:	146.80 m	**Inclination:**			0.00	deg	
			Vertical Depth:	146.80 m	**Azimuth :**			0.00	deg	

Wellpath:	9/3-2 (actual)			**Drilled From:**	9/3-2A
				Tie-on Depth:	0.00 m
Current Datum:	SITE	**Height**	46.00 m	**Above System Datum:**	Mean Sea Level
Magnetic Data:	02-01-2006			**Declination:**	0.00 deg
Field Strength:	0 nT			**Mag Dip Angle:**	0.00 deg

Vertical Section: Depth From (TVD) m	+N/-S m	+E/-W m	Direction deg
146.80	0.00	0.00	90.00

Survey Program for Definitive Wellpath

Date: 02-01-2006 **Validated:** No **Version:** 1

Actual From m	To m	Survey	Toolcode	Tool Name
146.80	492.40	9/3-2 SDS 24" MWD (146.80-492.	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
492.40	1122.50	9/3-2 SDS 17 1/2" MWD (492.40-	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
1122.50	3133.10	9/3-2 SDS 8 1/2" MWD (1122.50-	Magnetic, std, mag-corr	Magnetic Tools (MWD, EMS)
3133.10	3154.00	9/3-2 Extrapolation to TD (313	Magnetic, old	Magnetic Tools (MWD, EMS)

Survey

MD m	Incl deg	Azim deg	TVD m	+N/-S m	+E/-W m	Map Northing m	Map Easting m	<---- Latitude ----> Deg Min Sec	<--- Longitude ---> Deg Min Sec
146.80	0.00	0.00	146.80	0.00	0.00	6410526.85	601631.20	57 49 25.791 N	4 42 39.637 E
210.70	0.55	194.03	210.70	-0.30	-0.07	6410526.55	601631.13	57 49 25.781 N	4 42 39.632 E
238.90	0.79	194.03	238.90	-0.62	-0.15	6410526.23	601631.05	57 49 25.771 N	4 42 39.627 E
323.50	0.22	124.67	323.49	-1.27	-0.16	6410525.58	601631.04	57 49 25.750 N	4 42 39.626 E
352.00	0.74	210.21	351.99	-1.46	-0.21	6410525.39	601630.99	57 49 25.744 N	4 42 39.622 E
381.40	0.78	153.94	381.39	-1.81	-0.22	6410525.04	601630.98	57 49 25.733 N	4 42 39.621 E
409.90	0.22	205.27	409.89	-2.03	-0.16	6410524.82	601631.04	57 49 25.725 N	4 42 39.625 E
439.00	0.12	190.91	438.99	-2.11	-0.18	6410524.74	601631.02	57 49 25.723 N	4 42 39.623 E
467.20	0.66	165.18	467.19	-2.30	-0.15	6410524.55	601631.05	57 49 25.717 N	4 42 39.625 E
492.40	0.48	148.42	492.39	-2.53	-0.06	6410524.32	601631.14	57 49 25.709 N	4 42 39.630 E
501.37	0.43	108.16	501.36	-2.57	0.00	6410524.28	601631.20	57 49 25.708 N	4 42 39.633 E
513.50	0.67	69.39	513.49	-2.56	0.11	6410524.29	601631.31	57 49 25.708 N	4 42 39.640 E
542.00	0.75	53.20	541.99	-2.39	0.41	6410524.46	601631.61	57 49 25.713 N	4 42 39.659 E
566.00	0.90	64.28	565.98	-2.21	0.71	6410524.64	601631.91	57 49 25.719 N	4 42 39.677 E
571.20	0.93	66.20	571.18	-2.18	0.78	6410524.67	601631.98	57 49 25.720 N	4 42 39.681 E
599.90	1.11	63.54	599.88	-1.96	1.24	6410524.89	601632.44	57 49 25.726 N	4 42 39.710 E

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report - Geographic

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:00	**Page:**	2
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD m	Incl deg	Azim deg	TVD m	+N/-S m	+E/-W m	Map Northing m	Map Easting m	<--- Latitude ---> Deg Min Sec	<--- Longitude ---> Deg Min Sec
624.00	1.19	71.19	623.97	-1.78	1.69	6410525.07	601632.89	57 49 25.732 N	4 42 39.737 E
628.70	1.21	72.56	628.67	-1.75	1.78	6410525.10	601632.98	57 49 25.733 N	4 42 39.743 E
657.50	1.21	72.36	657.46	-1.56	2.36	6410525.29	601633.56	57 49 25.738 N	4 42 39.778 E
665.00	1.12	73.43	664.96	-1.52	2.51	6410525.33	601633.71	57 49 25.740 N	4 42 39.787 E
685.80	0.88	77.53	685.76	-1.43	2.86	6410525.42	601634.06	57 49 25.742 N	4 42 39.808 E
714.30	1.22	82.20	714.25	-1.34	3.37	6410525.51	601634.57	57 49 25.745 N	4 42 39.840 E
742.30	1.29	82.81	742.25	-1.26	3.98	6410525.59	601635.18	57 49 25.747 N	4 42 39.877 E
771.00	1.02	82.81	770.94	-1.19	4.56	6410525.67	601635.75	57 49 25.749 N	4 42 39.911 E
799.30	0.99	83.08	799.24	-1.12	5.05	6410525.73	601636.25	57 49 25.750 N	4 42 39.941 E
827.50	0.99	82.04	827.44	-1.06	5.53	6410525.79	601636.73	57 49 25.752 N	4 42 39.971 E
856.10	1.02	88.47	856.03	-1.02	6.03	6410525.83	601637.23	57 49 25.753 N	4 42 40.001 E
884.40	1.00	83.17	884.33	-0.98	6.53	6410525.87	601637.73	57 49 25.754 N	4 42 40.031 E
910.00	1.14	87.76	909.92	-0.95	7.00	6410525.90	601638.20	57 49 25.754 N	4 42 40.060 E
912.60	1.15	88.16	912.52	-0.95	7.05	6410525.90	601638.25	57 49 25.755 N	4 42 40.063 E
940.80	1.00	85.96	940.72	-0.92	7.58	6410525.93	601638.78	57 49 25.755 N	4 42 40.095 E
968.70	1.00	84.68	968.61	-0.88	8.07	6410525.97	601639.27	57 49 25.756 N	4 42 40.125 E
997.50	0.99	81.97	997.41	-0.82	8.56	6410526.03	601639.76	57 49 25.757 N	4 42 40.155 E
1025.90	1.19	81.22	1025.80	-0.74	9.10	6410526.11	601640.30	57 49 25.759 N	4 42 40.187 E
1054.30	1.12	89.78	1054.20	-0.70	9.67	6410526.15	601640.87	57 49 25.760 N	4 42 40.222 E
1069.00	1.08	88.43	1068.89	-0.69	9.95	6410526.16	601641.15	57 49 25.760 N	4 42 40.239 E
1082.70	1.05	87.08	1082.59	-0.68	10.21	6410526.17	601641.40	57 49 25.760 N	4 42 40.254 E
1111.10	1.20	86.54	1110.99	-0.65	10.76	6410526.20	601641.96	57 49 25.761 N	4 42 40.288 E
1122.50	1.09	82.22	1122.38	-0.63	10.99	6410526.22	601642.19	57 49 25.762 N	4 42 40.302 E
1144.30	1.14	86.59	1144.18	-0.59	11.41	6410526.26	601642.61	57 49 25.763 N	4 42 40.328 E
1162.00	1.19	89.83	1161.88	-0.58	11.77	6410526.27	601642.97	57 49 25.763 N	4 42 40.349 E
1171.50	1.22	91.46	1171.37	-0.58	11.97	6410526.27	601643.17	57 49 25.762 N	4 42 40.362 E
1199.90	1.38	79.26	1199.77	-0.52	12.61	6410526.33	601643.81	57 49 25.764 N	4 42 40.400 E
1229.30	1.27	80.57	1229.16	-0.40	13.28	6410526.45	601644.48	57 49 25.767 N	4 42 40.441 E
1258.30	1.40	83.06	1258.15	-0.31	13.95	6410526.54	601645.14	57 49 25.769 N	4 42 40.482 E
1286.50	1.37	85.50	1286.34	-0.24	14.63	6410526.61	601645.82	57 49 25.771 N	4 42 40.523 E
1314.80	1.30	89.72	1314.63	-0.21	15.28	6410526.64	601646.48	57 49 25.771 N	4 42 40.563 E
1342.90	1.49	90.23	1342.73	-0.21	15.97	6410526.64	601647.16	57 49 25.771 N	4 42 40.604 E
1371.80	1.44	92.70	1371.62	-0.23	16.71	6410526.62	601647.90	57 49 25.770 N	4 42 40.649 E
1400.20	1.39	89.40	1400.01	-0.24	17.41	6410526.61	601648.60	57 49 25.769 N	4 42 40.691 E
1428.40	1.34	100.24	1428.20	-0.30	18.07	6410526.55	601649.27	57 49 25.766 N	4 42 40.732 E
1456.90	1.53	102.16	1456.69	-0.44	18.77	6410526.41	601649.97	57 49 25.761 N	4 42 40.774 E
1485.20	1.59	103.92	1484.98	-0.61	19.52	6410526.24	601650.72	57 49 25.755 N	4 42 40.819 E
1513.80	1.41	106.09	1513.57	-0.81	20.25	6410526.05	601651.44	57 49 25.748 N	4 42 40.862 E
1542.00	1.53	106.50	1541.76	-1.01	20.94	6410525.84	601652.14	57 49 25.741 N	4 42 40.904 E
1571.50	1.43	110.23	1571.25	-1.25	21.67	6410525.60	601652.86	57 49 25.733 N	4 42 40.948 E
1598.70	1.43	114.85	1598.44	-1.51	22.29	6410525.34	601653.49	57 49 25.724 N	4 42 40.985 E
1627.10	1.55	107.87	1626.83	-1.77	22.98	6410525.08	601654.17	57 49 25.715 N	4 42 41.026 E
1655.60	1.58	110.31	1655.32	-2.03	23.71	6410524.82	601654.91	57 49 25.706 N	4 42 41.070 E
1683.70	1.49	109.67	1683.41	-2.29	24.42	6410524.56	601655.61	57 49 25.697 N	4 42 41.113 E
1711.70	1.71	105.66	1711.40	-2.52	25.17	6410524.33	601656.36	57 49 25.689 N	4 42 41.158 E
1740.00	1.79	105.29	1739.69	-2.75	26.00	6410524.10	601657.19	57 49 25.681 N	4 42 41.208 E
1769.40	1.93	100.34	1769.07	-2.96	26.93	6410523.89	601658.12	57 49 25.673 N	4 42 41.264 E
1797.90	1.87	103.62	1797.56	-3.16	27.85	6410523.69	601659.05	57 49 25.666 N	4 42 41.319 E
1826.10	1.98	99.88	1825.74	-3.35	28.78	6410523.50	601659.97	57 49 25.659 N	4 42 41.375 E
1854.50	2.19	101.71	1854.12	-3.54	29.80	6410523.31	601660.99	57 49 25.652 N	4 42 41.436 E
1883.00	2.35	99.26	1882.60	-3.75	30.91	6410523.10	601662.10	57 49 25.644 N	4 42 41.503 E
1911.60	2.52	101.11	1911.17	-3.96	32.10	6410522.89	601663.29	57 49 25.637 N	4 42 41.575 E
1924.00	2.58	99.86	1923.56	-4.06	32.64	6410522.79	601663.83	57 49 25.633 N	4 42 41.608 E

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report - Geographic

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:00	**Page:**	3
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD m	Incl deg	Azim deg	TVD m	+N/-S m	+E/-W m	Map Northing m	Map Easting m	<--- Latitude ---> Deg Min Sec	<--- Longitude ---> Deg Min Sec
1940.00	2.66	98.33	1939.55	-4.18	33.37	6410522.67	601664.56	57 49 25.629 N	4 42 41.652 E
1968.60	2.76	97.49	1968.11	-4.37	34.71	6410522.49	601665.90	57 49 25.621 N	4 42 41.732 E
1997.10	2.97	97.04	1996.58	-4.55	36.12	6410522.31	601667.31	57 49 25.614 N	4 42 41.818 E
2025.60	3.10	98.74	2025.04	-4.75	37.61	6410522.10	601668.80	57 49 25.607 N	4 42 41.908 E
2053.50	3.37	98.68	2052.89	-4.99	39.17	6410521.86	601670.36	57 49 25.598 N	4 42 42.002 E
2071.00	2.39	70.64	2070.37	-4.95	40.02	6410521.90	601671.21	57 49 25.598 N	4 42 42.054 E
2096.90	2.80	13.82	2096.25	-4.15	40.68	6410522.70	601671.87	57 49 25.623 N	4 42 42.095 E
2109.80	3.05	11.50	2109.13	-3.51	40.83	6410523.34	601672.02	57 49 25.644 N	4 42 42.105 E
2138.40	2.04	351.84	2137.70	-2.26	40.91	6410524.59	601672.10	57 49 25.684 N	4 42 42.111 E
2166.90	1.53	329.38	2166.19	-1.43	40.64	6410525.42	601671.83	57 49 25.711 N	4 42 42.096 E
2195.30	1.62	336.34	2194.58	-0.74	40.29	6410526.11	601671.48	57 49 25.734 N	4 42 42.076 E
2223.60	1.76	339.42	2222.87	0.03	39.97	6410526.88	601671.16	57 49 25.759 N	4 42 42.058 E
2251.90	1.77	346.69	2251.15	0.87	39.72	6410527.72	601670.91	57 49 25.786 N	4 42 42.044 E
2280.30	1.73	354.00	2279.54	1.72	39.57	6410528.57	601670.76	57 49 25.814 N	4 42 42.037 E
2308.77	2.04	9.44	2308.00	2.65	39.61	6410529.50	601670.80	57 49 25.844 N	4 42 42.040 E
2336.77	2.23	17.06	2335.98	3.66	39.85	6410530.51	601671.04	57 49 25.876 N	4 42 42.057 E
2365.49	2.60	27.97	2364.67	4.77	40.32	6410531.62	601671.51	57 49 25.912 N	4 42 42.087 E
2393.89	2.82	19.98	2393.04	5.99	40.86	6410532.84	601672.05	57 49 25.951 N	4 42 42.121 E
2422.12	3.21	31.72	2421.23	7.32	41.52	6410534.17	601672.71	57 49 25.993 N	4 42 42.163 E
2450.94	3.24	41.20	2450.01	8.62	42.48	6410535.47	601673.67	57 49 26.035 N	4 42 42.223 E
2479.30	3.52	45.32	2478.32	9.83	43.62	6410536.68	601674.81	57 49 26.073 N	4 42 42.294 E
2507.40	4.23	51.90	2506.35	11.08	45.05	6410537.93	601676.24	57 49 26.112 N	4 42 42.383 E
2510.00	4.19	52.16	2508.94	11.20	45.20	6410538.04	601676.39	57 49 26.116 N	4 42 42.392 E
2535.90	3.75	55.10	2534.78	12.26	46.65	6410539.11	601677.83	57 49 26.149 N	4 42 42.481 E
2564.90	2.76	53.03	2563.74	13.22	47.98	6410540.07	601679.17	57 49 26.179 N	4 42 42.563 E
2593.10	3.48	56.61	2591.89	14.10	49.24	6410540.95	601680.42	57 49 26.206 N	4 42 42.641 E
2621.20	4.19	61.11	2619.93	15.07	50.85	6410541.91	601682.04	57 49 26.236 N	4 42 42.740 E
2624.00	4.22	61.21	2622.72	15.17	51.03	6410542.01	601682.21	57 49 26.239 N	4 42 42.751 E
2650.10	4.55	62.09	2648.75	16.12	52.79	6410542.96	601683.97	57 49 26.268 N	4 42 42.859 E
2663.00	4.67	62.61	2661.60	16.60	53.71	6410543.44	601684.89	57 49 26.283 N	4 42 42.915 E
2677.13	4.81	63.14	2675.69	17.13	54.74	6410543.97	601685.93	57 49 26.300 N	4 42 42.979 E
2706.53	4.98	63.94	2704.98	18.25	56.99	6410545.09	601688.18	57 49 26.334 N	4 42 43.117 E
2734.30	4.04	58.50	2732.66	19.29	58.91	6410546.13	601690.09	57 49 26.366 N	4 42 43.234 E
2762.90	3.34	45.28	2761.20	20.40	60.36	6410547.24	601691.54	57 49 26.401 N	4 42 43.324 E
2791.40	3.46	21.81	2789.65	21.78	61.27	6410548.63	601692.45	57 49 26.445 N	4 42 43.381 E
2809.00	3.43	5.77	2807.22	22.80	61.52	6410549.64	601692.70	57 49 26.477 N	4 42 43.398 E
2820.20	3.55	355.90	2818.40	23.48	61.53	6410550.32	601692.71	57 49 26.499 N	4 42 43.399 E
2849.00	3.69	339.79	2847.15	25.24	61.14	6410552.08	601692.33	57 49 26.556 N	4 42 43.379 E
2876.89	3.43	344.39	2874.98	26.88	60.61	6410553.73	601691.79	57 49 26.610 N	4 42 43.349 E
2905.37	3.78	333.14	2903.41	28.54	59.96	6410555.38	601691.14	57 49 26.664 N	4 42 43.312 E
2933.60	3.83	338.95	2931.57	30.25	59.20	6410557.09	601690.38	57 49 26.720 N	4 42 43.269 E
2962.20	3.85	346.93	2960.11	32.08	58.64	6410558.92	601689.82	57 49 26.779 N	4 42 43.238 E
2990.70	3.74	338.23	2988.55	33.87	58.08	6410560.71	601689.26	57 49 26.838 N	4 42 43.206 E
3019.02	3.23	318.63	3016.82	35.33	57.21	6410562.17	601688.39	57 49 26.886 N	4 42 43.156 E
3047.73	3.83	297.77	3045.47	36.38	55.82	6410563.22	601687.01	57 49 26.921 N	4 42 43.074 E
3066.00	3.50	299.63	3063.71	36.94	54.80	6410563.78	601685.98	57 49 26.940 N	4 42 43.013 E
3075.05	3.34	300.69	3072.74	37.22	54.33	6410564.06	601685.52	57 49 26.949 N	4 42 42.985 E
3104.50	2.31	316.58	3102.15	38.08	53.18	6410564.92	601684.37	57 49 26.978 N	4 42 42.917 E
3121.00	1.98	330.30	3118.64	38.57	52.81	6410565.41	601684.00	57 49 26.994 N	4 42 42.895 E
3133.10	1.83	342.99	3130.74	38.94	52.65	6410565.78	601683.84	57 49 27.006 N	4 42 42.886 E
3154.00	1.83	342.99	3151.62	39.58	52.46	6410566.42	601683.65	57 49 27.027 N	4 42 42.875 E

Paladin Resources (Norway) Limited

Halliburton Norway
Survey Report - Geographic

HALLIBURTON
Sperry Drilling Services

Company:	PALADIN - Norway	**Date:** 02-01-2006	**Time:** 12:45:00	**Page:**	4
Field:	Exploration	**Co-ordinate(NE) Reference:**	Site: PL316 Aimee, Grid North		
Site:	PL316 Aimee	**Vertical (TVD) Reference:**	SITE 46.0		
Well:	9/3-2	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	9/3-2 (actual)	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

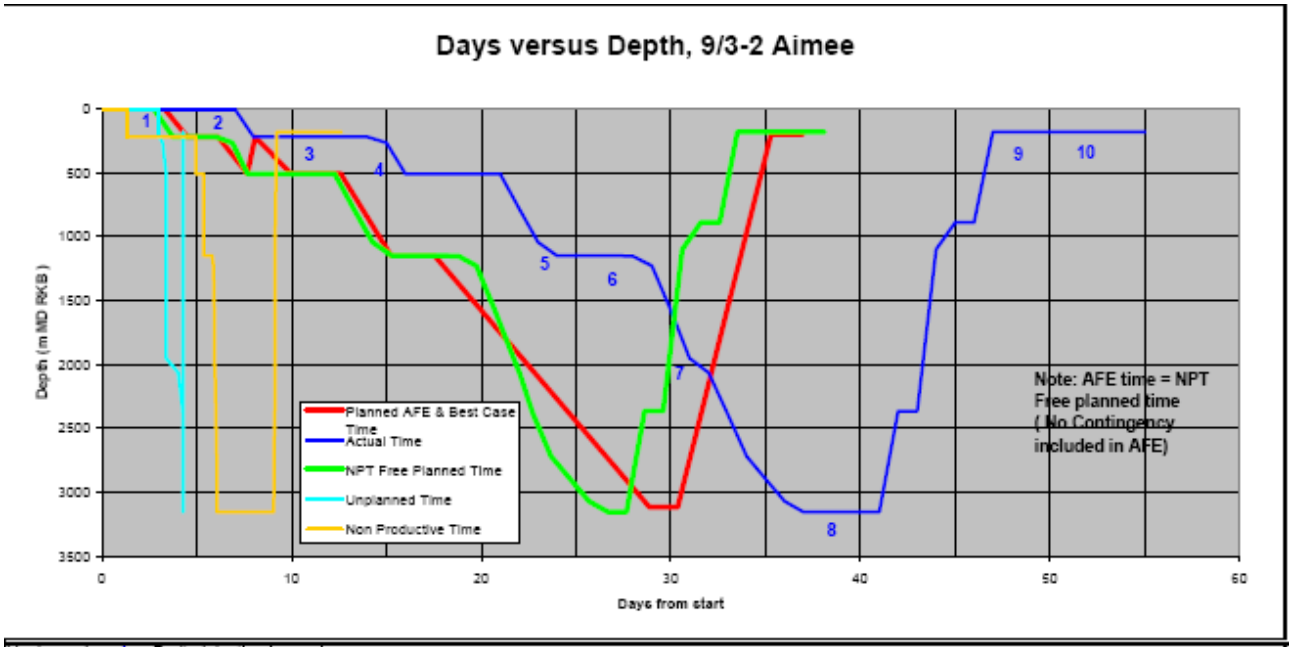
Casing Points

MD m	TVD m	Diameter in	Hole Size in	Name
210.70	210.70	30.000	36.000	30" cond
501.37	501.36	20.000	26.000	20" csg
1144.30	1144.18	13.375	17.500	13-3/8" csg

Formations

MD m	TVD m	Formations	Lithology	Dip Angle deg	Dip Direction deg
566.00	565.98	Balder	CLAY	0.00	0.00
624.00	623.97	Ekofisk	LIMESTONE	0.00	0.00
665.00	664.96	Tor	CHALK	0.00	0.00
910.00	909.92	Hod	LIMESTONE	0.00	0.00
1069.00	1068.89	Sola	LIMESTONE	0.00	0.00
1162.00	1161.88	Valhall	SILTSTONE	0.00	0.00
1924.00	1923.56	Flekkefjord	CLAY	0.00	0.00
2071.00	2070.37	Sauda	CLAY	0.00	0.00
2510.00	2508.94	Tau	CLAY	0.00	0.00
2624.00	2622.72	Egersund	CLAY	0.00	0.00
2663.00	2661.60	Sandnes	SANDSTONE	0.00	0.00
2809.00	2807.22	Bryne	SANDSTONE	0.00	0.00
3066.00	3063.71	Fjerritslev	DOLOMITIC LIMESTONE	0.00	0.00
3121.00	3118.64	Skagerak	SILTSTONE	0.00	0.00

20 DRILLING CURVE

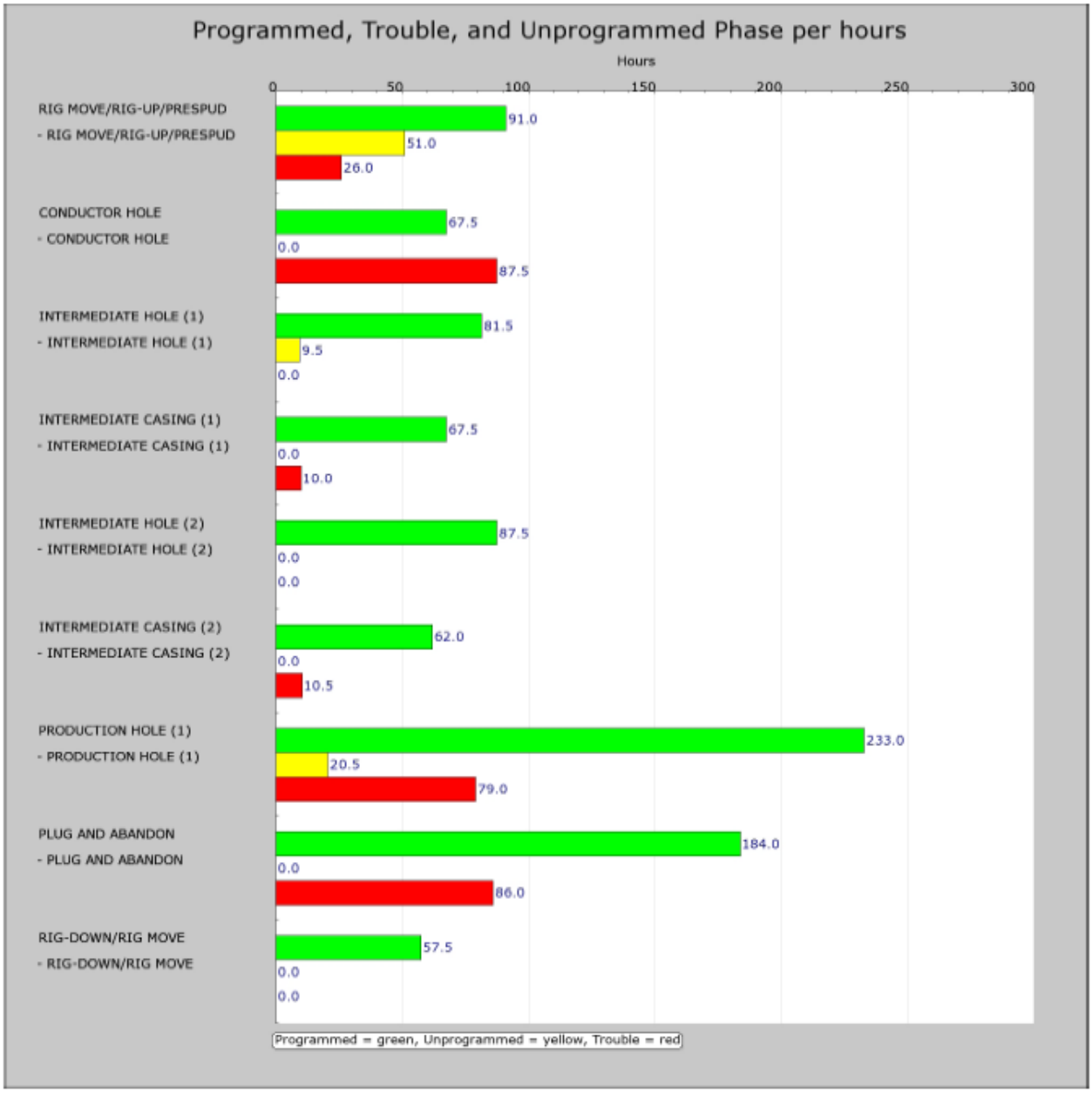


Unplanned:	1	Barite injection in spud cans
	4	Installation of PLS system
	7	POOH and change to motor assembly due to missing target
NPT	2	ROV problems and WOW
	3	Hole problems running conductor and WOW
	5	Incorrect space out for 13-3/8" casing
	6	Unable to pull wellhead running tool through cross-over above wellhead
	8	Unable to RIH below 13 3/8" shoe with Wireline equipment. Run wiper trips with cleanout BHA's
	9	WOW to pull the 20" and 30" conductor.
	10	Problems with Eton Brake on drawwork. Problems engaging 30" spear onto conductor.

Figure 20-1 Drilling Curve

21 TIME SUMMARY

Time Breakdown by Phase



Total Time on Operations : 1311.5 hrs

Total Productive Time : 931.5 hrs

Total Lost Time : 299 hrs

Total Unprogrammed Time : 81 hrs

Figure 21-1 Time Breakdown by Phase

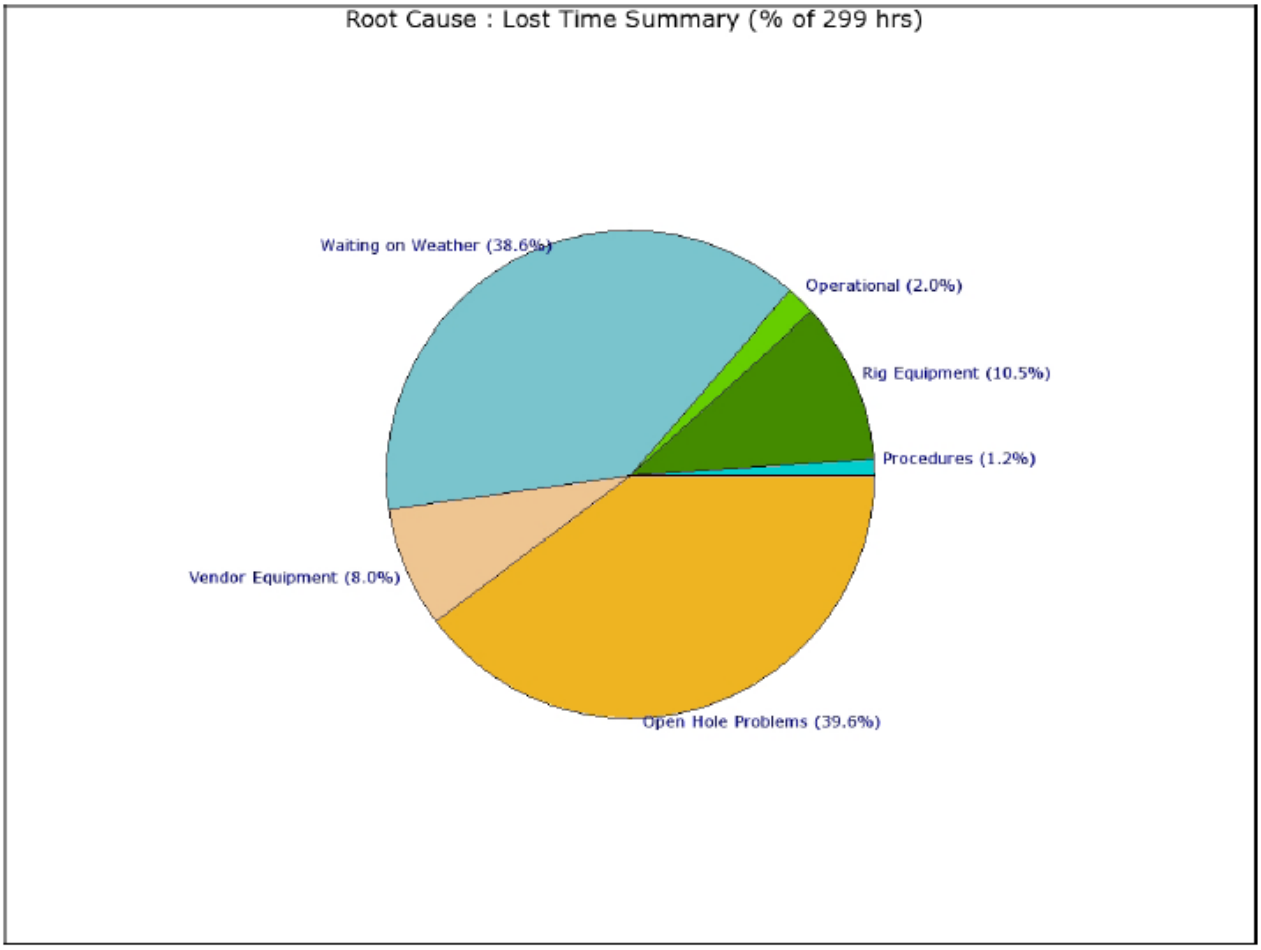


Figure 211-2 Root Cause Lost Time Summary Pie Chart

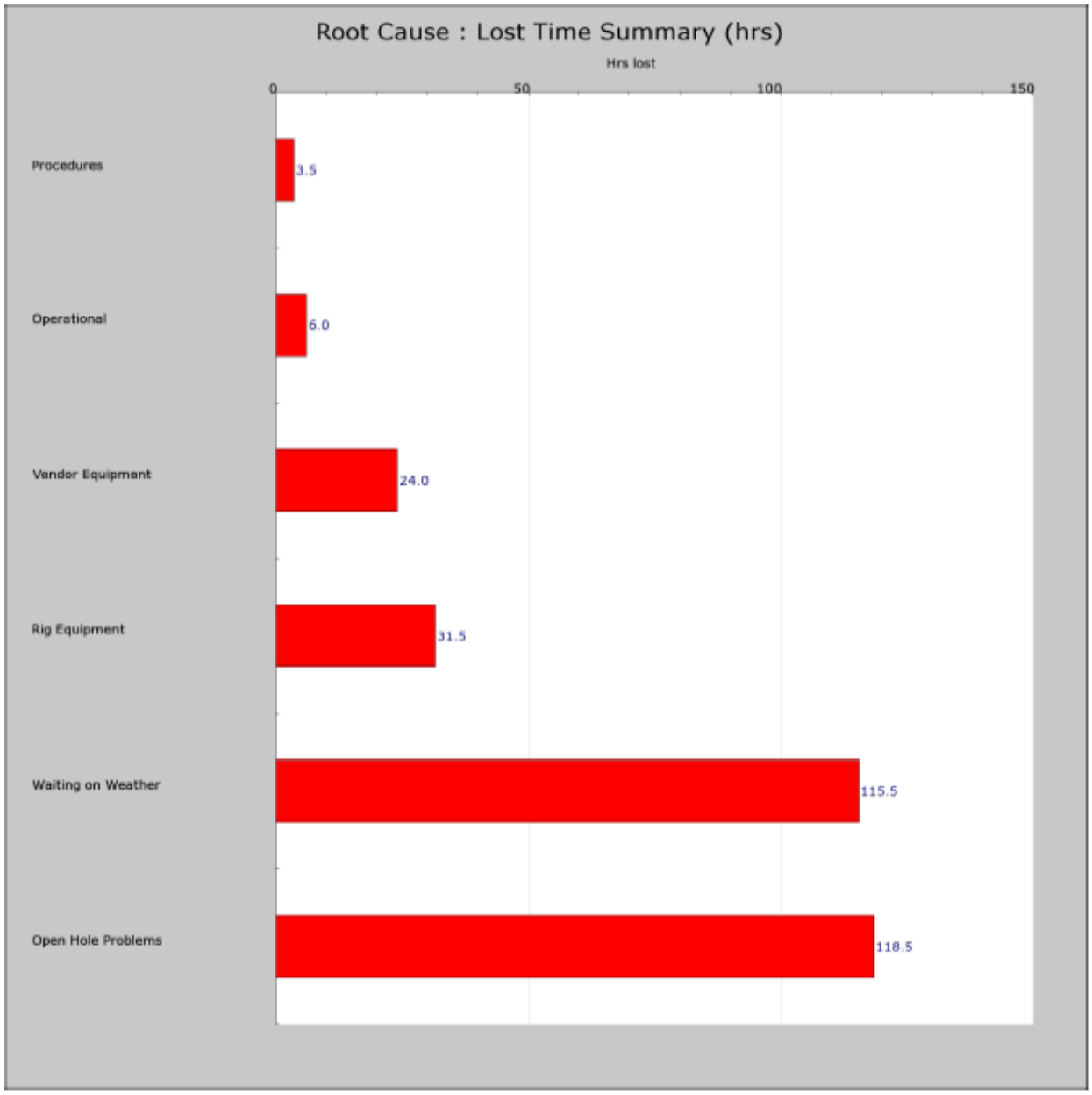


Figure 21-3 Root Cause Lost Time Summary

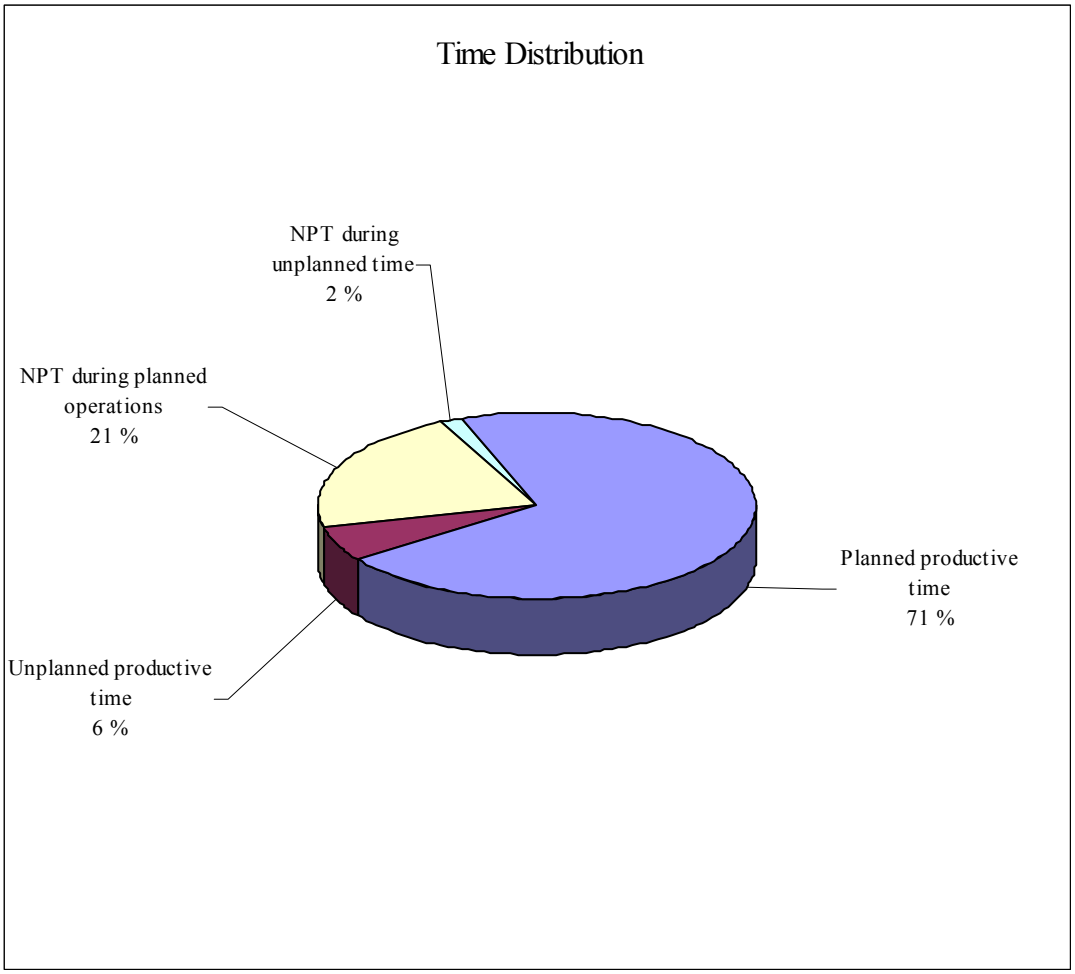


Figure 21-4 Time Distribution

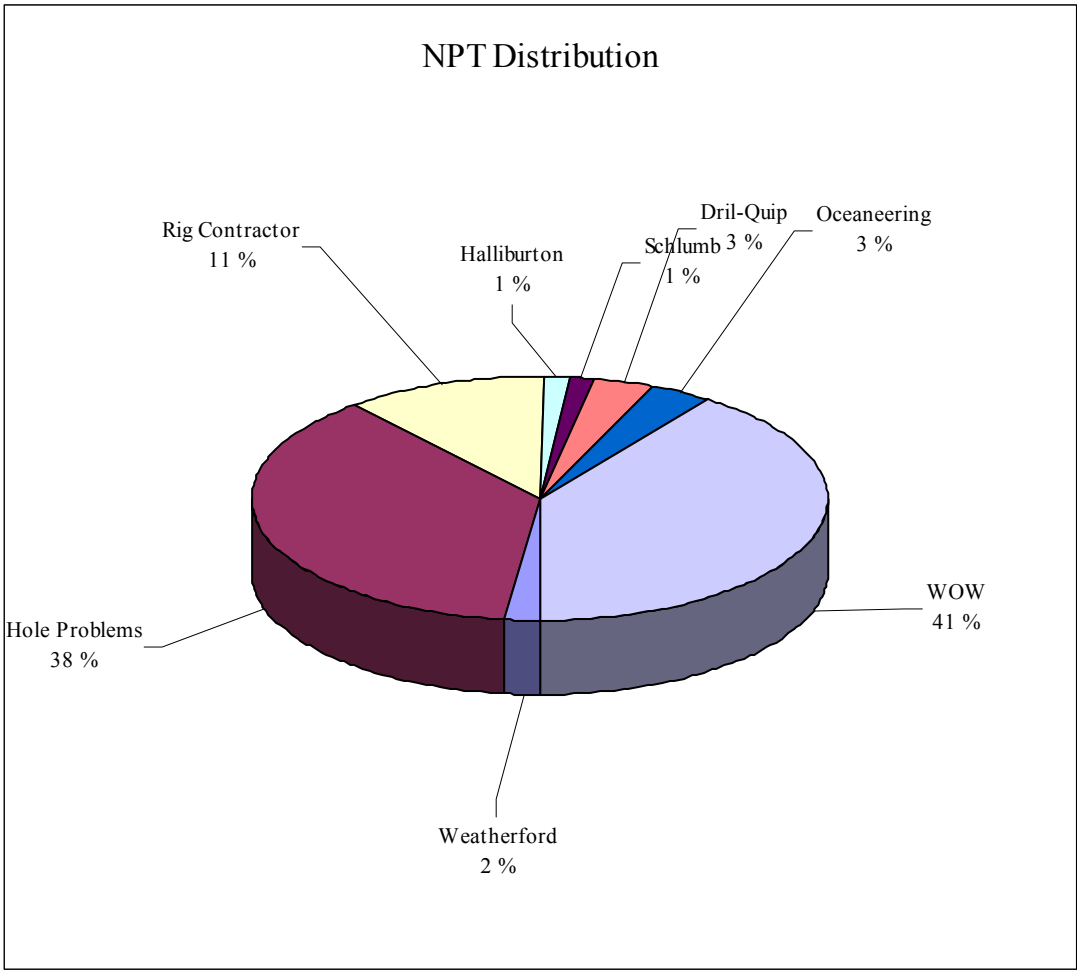


Figure 21-5 NPT Distribution