

OFFSHORE NORWAY

PL 256 - BLOCK 6406/1

Report title:

WELL 6406/1-4

FINAL WELL REPORT

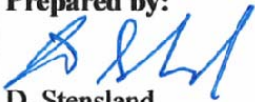
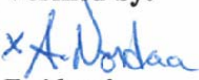
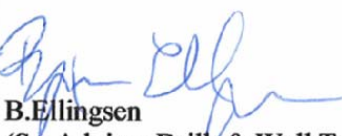
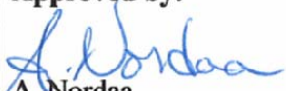
Abstract:

This report deals with the geological and drilling results of the well.

In section "1" general information is reported. Section "2" comprises a geological summary and a description of the acquisition of data with their interpretation. Section "3", the drilling report, details all drilling operations and results.

Enclosed are the composite log and the computer processing interpretation of the reservoir section.

Note:

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1. GENERAL

1.1 Introduction

Well 6406/1-4 is an appraisal well on the Sklinna South Prospect situated on the Sklinna High in Block 6406 /1. This block together with the adjacent block 6506/10 constitutes PL256. The license was awarded in the 16th round, 12.05.2000

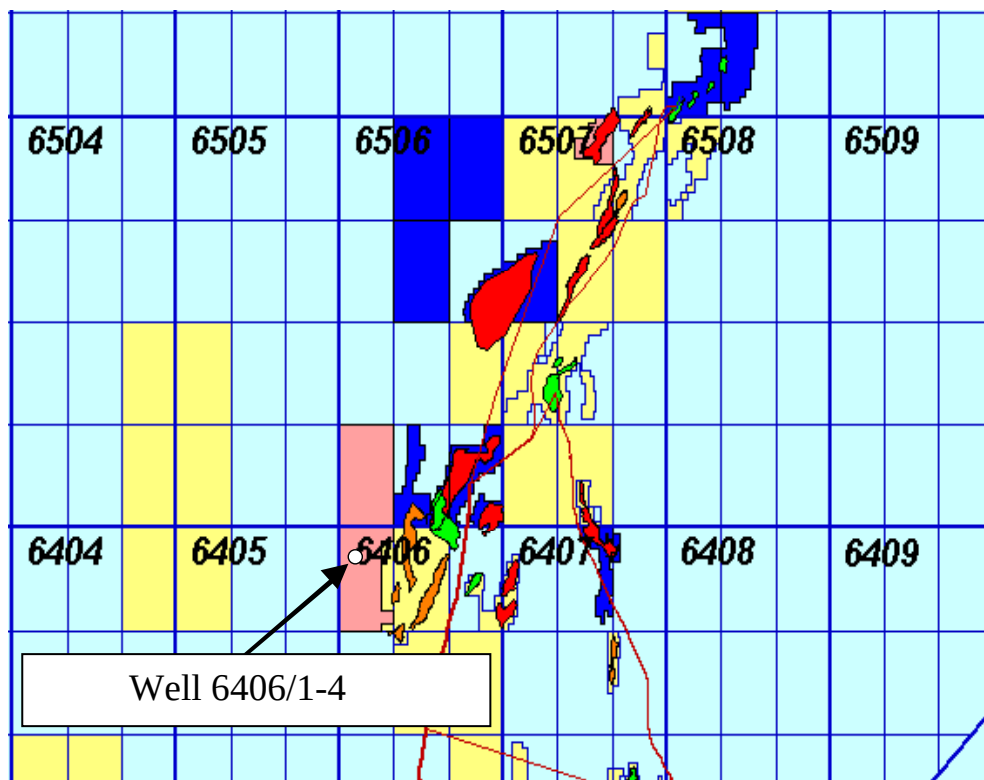
The purpose of drilling the well 6406/1-4 was to prove economical hydrocarbon reserves in the Lower Cretaceous Lange Unit 3 sandstones of the Cromer Knoll Group. Hydrocarbon potential of the Cretaceous Lange Sequence 1 and 2 sandstones (Cromer Knoll Group) was a secondary target in the Sklinna South prospect.

Costs of this well were shared in the following percentages:

Eni Norge A/S	55%
Petoro	20%
RWE-Dea	15%
DONG	10%

The well 6406/1-4 was drilled to a total depth of 4596m RT. Hydrocarbon shows was discovered in Lange 3 unit sandstone, Cromer Knoll Group. The top of the reservoir was found at 4311m RT (4287m TVD MSL)

1.2 Map Location



1.3 Basic Well Data

COUNTRY	:	Norway	
AREA	:	Halten, Norwegian Sea	
PRODUCTION LICENCE No.	:	PL 256	
BLOCK	:	6406/1	
WELL NAME	:	6406/1-4	
PROSPECT	:	Sklinna South	
SEISMIC REFERENCE	:	Seismic Survey EN03M1 – 3D	
COORDINATES	:	N 64 deg 54 min 34,04 sec	
	:	E 06 deg 08 min 30,38 sec	
	:	UTM X 364 788.5 m E	
		Y 7 201 598,49 m N	
DISTANCE	:	220 km from Kristiansund shore base with helicopter	
SPUDDING CLASSIFICATION	:	Appraisal	
WATER DEPTH	:	363 m	
RT ELEVATION	:	22m	
RT-SEA FLOOR	:	385m	
TOTAL DEPTH	:	4601 m RT	
PRIMARY TARGET	:	Cromer Knoll Group, Intra Lange Sandstone	
DEPTH TO TARGET	:	4309 m TVD RT	
TARGET TOLERANCE	:	Radius of 50 m	
DRILLING RIG	:	Ocean Vanguard	
OPERATOR	:	Eni Norge	55 %
PARTNERS	:	Petoro	20 %
		RWE-Dea	15 %
		DONG	10 %

2. GEOLOGY AND GEOPHYSICS

2.1 Geological Summary

The purpose of drilling the well 6406/1-4 was to prove economical hydrocarbon reserves in the Lower Cretaceous Lange Unit 3 sandstones of the Cromer Knoll Group. Hydrocarbon potential of the Cretaceous Lange Sequence 1 and 2 sandstones (Cromer Knoll Group) was also planned to be tested in the Sklinna South prospect.

The well 6406/1-4 is an appraisal well of the gas condensate discovery 6406/1-2 and a continuation of the interrupted 6406/1-3.

The top of Lower Cretaceous Lange Unit 3 was found at 4311m RT (4287 mMSL), 27 m deeper than prognosis. The top of Cretaceous Lange 1 + 2 Unit was found at 4379 mRT (4355 mMSL), 2 meter deeper than prognosis, with only a few thin sandstone layers.

6406/1-4 Prognosis vs. Actual				
Top Group /Formation	Prog. m MSL	Actual m MSL	High / Low m	TWT (ms)
Top Kai Fm	1563	1573	+10	1635
Top Brygge Fm	2059	2055	-4	2074
Top Tare Fm	2465	2456	-9	2465
Top Springar Fm	2585	2578	-7	2577
Top Lysing Fm	3385	3406	+21	3234
Top Lange 3 Fm	4260	4287	+27	3804
Top BCU	4520	4534	+14	3955

2.2 Main Results

The well was drilled to a depth of 4596m RT (4571m TDV MSL), loggers depth 4601 m RT (4577m TVD MSL) and terminated in silty to sandy calcareous claystone of Triassic age. The main target Lange 3 unit in Cromer Knoll Group, was encountered at 4311m RT (4287m MSL), 27m deeper than prognosis (figure 2.2.1). The reservoir was water wet.

The shows on cuttings from the reservoir is evaluated to be residual and described as even, dull to very dull yellowish to dull golden direct fluorescence with slow to very slow weak dull yellowish/golden cut fluorescence. The largest gas peaks was 12.7 over a background of 1.9 %, mainly C1.

One sampling was attempted at 4316.8m MD using Dual packer. Fluid analyser showed water at this depth. 7 water samples were taken using 4 SPMC, 2 MPSR and 1 Gallon MRSC.

Sample taken from 4316.8m RT / m TVD MSL,

- Formation pressure 762.21 bar
- Hydrostatic pressure 807.28 bar
- Formation temperature 146° C
- Mobility 1.4 md/cp

Main reservoir parameters in Lange 3 unit.

Top:	4311m RT (4287m TVD MSL)
Base:	4379m RT (4355 TVD MSL)
Gross:	68m
Net:	7 m
Average porosity:	0.10
Average Sw:	0.55

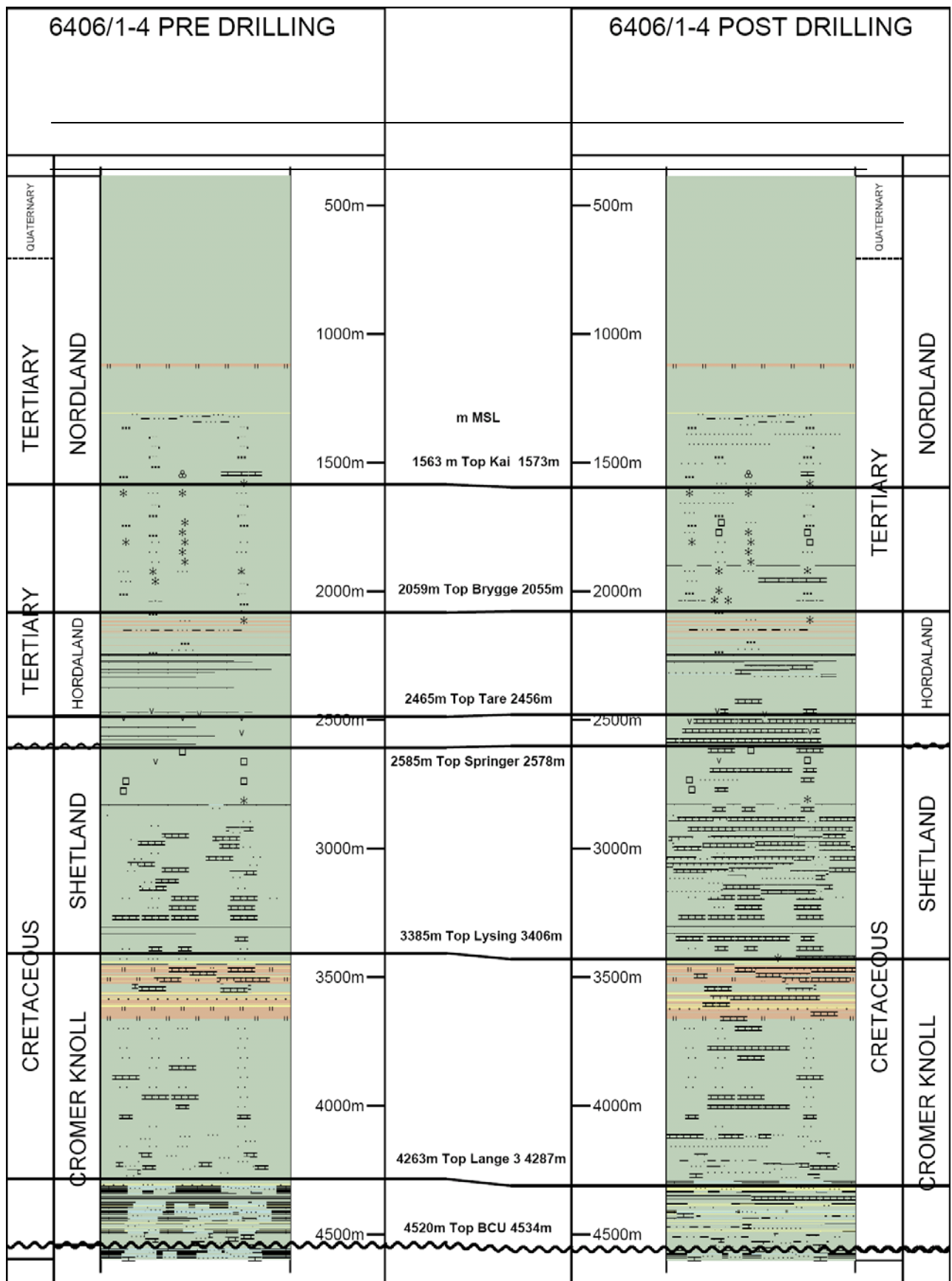


Fig. 2.2.1 Correlation pre vs. post drilled

2.3 Data Acquisition

2.3.1 Routine Sampling

Cuttings were collected and described offshore by Geoservices personnel (see Mudlogging Final Well Report) and revised by the Eni Norge's wellsite geologists.

Sampling in the 17 ½" section; 1310m - 2315mMD:

One bulk set of 5kg unwashed wet sample, one rig unwashed wet sample, one rig washed and dried samples were collected every 10m; one geo-chemical sample every 100m, and one geo-mechanical sample every 100m from 1310 – 2082m and one every 50m from 2082 – 2300m. Gas samples were collected at gas peaks.

Sampling in the 12¼" section; 2315m - 4113mMD:

One bulk set of 5kg unwashed wet sample, one rig unwashed wet sample, one rig washed and dried samples were collected every 10m; one geo-chemical sample every 50m, and one geo-mechanical sample every 50m from 2315 – 2487, three samples at top, middle and bottom Rogaland Group (2487 – 2607m), and one every 30m from 2607 – 4113m. Mud samples were taken in 200m intervals. Gas samples were collected at gas peaks.

Sampling in the 8½" section; 4113 – 4596mD:

One bulk set of 5kg unwashed wet sample, one rig unwashed wet sample, one rig washed and dried samples were collected every 3m; one geo-chemical sample every 30m, and one geo-mechanical sample every 30m. Mud sample in 20 meters interval. Gas samples were collected at gas peaks.

2.3.2 Shows

The 9 7/8" pilot hole was drilled to section TD at 1310m TVD RT. The pilot hole was drilled as a precaution against the presence of shallow gas. Drilling was suspended on several occasions, and the well observed by the ROV, when bubbles were observed in the water. The volume of bubbles was not large and the persistence was weak. It is thought that they emanated from air trapped possibly during cementing. No evidence of shallow gas was seen from the LWD gamma ray, resistivity and sonic logs.

The gas monitoring system installed on Ocean Vanguard by Geoservices was a GZG degasser taking suction from the flowline / active pit and a Reserval FID recording the breakdown gases in the Geoservices unit.

Hydrocarbon shows on cuttings were described by Eni Norge's wellsite geologists. Show evaluation on cuttings was difficult due to mineral fluorescence from CaCO₃ mud additives and cut fluorescence from the oilbased mud.

In the 17 ½" hole section gas levels increased sharply from 2-3% to 10% in the anomalous zone between 1402-1435m, associated with high ROP in the sandy claystone. No evidence of any connection gas. On initially penetrating the Kai Formation at 1595m MD three gas peaks were recorded to maximum values of 17.8%. Below 1680m MD these have not been repeated and an average background gas of 2 – 3.5% has predominated. There has been no connection gasses recorded.

DEPTH m	TOTAL GAS %	BACKGROUND GAS %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
1375	7.35	-	55346	0	0	0	2	8	1
1421	11.25	-	86898	0	0	10	0	9	0
1432	10.09	-	81470	0	0	0	2	7	0
1520	6.30	-	49969	0	0	0	2	9	0
1605	17.79	-	176831	0	0	0	0	7	0
1654	15.35	-	146536	0	0	0	0	5	0
2132	6.00	-	58357	133	44	12	2	14	0
2315	3.19	0.9	28547	119	35	7	3	15	0

The gas values in the 12 ¼” hole were of the order of 0.9% to 4% throughout the section with occasional peaks, between 5% and 8%, due to elevated drilling rates. From a limestone stringer at 3160 m the gas reading was 13,8 % an highest peaks is associated with a trip gas. The gas chromatography showed an increased presence of heavier hydrocarbons but still predominately methane.

DEPTH m	TOTAL GAS %	BACKGROUND GAS %	C1 ppm	C2 ppm	C3 ppm	iC4 ppm	nC4 ppm	iC5 ppm	nC5 ppm
2733	7.5	2.5	65041	838	214	24	15	0	0
2762	3	2	25503	363	98	13	8	0	0
2791	3.1	1.7	28220	382	103	14	9	0	0
2821	2.93	2	24340	309	86	12	8	0	0
2850	3.25	1.5	27139	332	91	12	8	0	0
2965	2.4	1	20454	294	75	13	9	0	0
2995	2.9	1.2	24866	337	90	13	9	0	0
3022	2.3	1.2	18354	214	60	10	6	0	0
3053	2.1	1.2	17449	203	57	9	6	0	0
3160	13.8	1.4	138950	2191	588	67	37	0	0
3190	3.4	1.3	32846	817	268	35	38	0	0
3413	2.25	1.0	19802	242	62	10	6	0	0
3429	2.26	1.2	19974	251	59	11	6	0	0
3440	7.14	1.2	70170	859	188	20	14	0	0
3457	2.25	1.1	20830	282	72	11	6	0	0
3461	3.69	0.9	31225	423	98	2	7	0	0
3515	2.3	1.5	19802	282	84	12	8	0	0
3555	2.7	1.5	16600	250	78	12	8	0	0
3555	32.85		328461	7764	1882	225	158	57	11
3555	19.8		198018	2424	559	54	47	36	4
3559	17.0	2.0	170126	3823	1135	135	122	52	9
3573	5.83	1.0	46066	1600	593	82	80	53	7
3828	2.02	1.1	16988	318	123	16	15	4	3
3932	2.44	1.4	23048	468	170	39	17	3	3
3397	12.70		116395	573	119	14	11	2	1
4113	12.72		124806	1196	385	24	30	5	3

The 8 ½” section was drilled from 4113 to 4596m in Triassic. High gas readings were recorded at connection and pump off event and are assumed to be a product of the ballooning phenomena. The gas dropped off when entering Triassic formations.

Florescence was observed in Lange sandstone. Even dull to moderate / very dull yellowish / golden direct fluorescence with very slow weak yellowish / golden cut. Low resistivity, water gradient from pressure points and a water sample from MDT indicates a water bearing reservoir.

DEPTH	TOTAL GAS	BACKGROUND GAS	C1	C2	C3	iC4	nC4	iC5	nC5
m	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
4118	3.5	0.67	30445	434	95	7	5	6	-
4130	13.8	1.4	132093	2083	456	24	28	8	2
4132	6.1	0.6	49239	776	179	11	9	7	-
4151	21.0	2.0	205000	3544	904	48	53	1	3
4160	20.0	1.5	188246	3123	684	44	35	2	3
4169	3.5	1.0	32000	796	249	20	13	1	1
4189	14.0	0.8	138950	1882	480	23	28	2	3
4219	15.0	1.4	153750	2083	505	22	33	1	2
4247	12.9	1.5	113487	1980	480	19	44	3	4
4259	11.6	1.2	105191	1835	518	17	43	3	3
4276	8.0	0.8	7169	1256	373	13	36	2	3
4305	10.4	1.1	97502	1980	505	16	47	2	4
4311	4.4	1.1	32025	1790	456	11	49	-	11
4315	4.0	1.3	31225	1499	402	10	48	-	14
4335	12.7	1.9	122437	2487	603	21	65	4	5
4351	7.0	2.5	58780	1790	434	17	49	8	5
4363	10.6	2.5	92690	1882	480	20	49	5	7
4377	8.9	4.0	75704	2083	456	19	57	6	5
4410	9.0	4.0	81278	1794	380	18	43	6	7
4392	11.8	4.5	115623	2235	516	21	51	6	8
4417	6.9	2.5	61110	1509	320	16	32	6	8
4421	13.4	3.4	131504	2472	560	27	53	7	7
4450	10.0	3.0	88116	1980	480	21	52	6	4
4456	9.6	3.0	83768	2191	480	23	57	5	5
4479	11.3	2.5	97917	2107	539	21	55	5	6
4485	17.5	2.5	150429	4848	1065	77	127	17	10
4494	7.14	1.6	54774	1954	451	24	57	8	6
4508	6.3	1.1	48276	1636	463	20	58	3	6
4537	10.8	1.0	944701	2115	562	23	59	8	6
4564	4.9	0.5	36565	1120	369	14	49	-	-
4567	3.3	1.0	23352	1173	384	12	50	8	8
4596	2.6	0.7	19180	532	191	12	35	8	6
4596	6.1	0.5	52076	1239	351	42	16	9	9
4596	5.8	0.2	50501	1079	249	28	13	9	5

2.3.3 Measurement While Drilling

Run No	Hole Diam	Drilled Intvl.	Tool Type	Comments
1	9 7/8"	462 – 1310	8 ¼" GR-Res-Dir-Sonic	Pilot hole OnTrak / APX
4	17 ½"	1310 – 1360	9 ½" GR-Res-Dir-Sonic	OnTrak / APX Anchor Winch broke
5	17 ½"	1360 – 2315	9 ½" GR-Res-Dir-Sonic	OnTrak / APX
6	12 ¼"	2315 – 3555	8 ¼" GR-Res-Sonic-Dens-Neu-Dir	Autotrack/OnTrak/APX ASS failed at 3270m
7	12 ¼"	3555 – 4113	8 ¼" GR-Res-Sonic-Dens-Neu-Dir	Autotrack/OnTrak/APX
8	8 3/8"	4113 – 4596	6 ¾" GR-Res-Dir	Ontrak / BCPM II

Comments:

Run #4 APX tool gave reduced real-time log quality due to cycle-skipping. Post processing of the memory data.

Run #6 ASS failed at 3270m. POOH at 3555m. It required directional corrections.

Run #8 Some tool shutdowns at the start of the run

2.3.4 Wireline Logs

Run	Logging Tools	Op.Time	Lost time	Comments
1A	AIT-IPLT-ECS-ACTS	12 hrs	None	Probl. w/depth encoder
1A	CMR-GR-ACTS	22 hrs		High porosity readings
1A	OBMI-DSI-GR-ATCS	11.5 hrs		
1A	MDT-GR-ACTS	25 hrs	None	
1A	VSP-GR-ATCS	12	None	

AIT Array Induction Tool
 IPLT Integrated Porosity Lithology Tool
 ECS Elemental Capture Spectroscopy Sonde
 CMR Combinable Magnetic Resonance
 OBMI Oil - Based Mud Imaging
 DSI Dipole Shear Sonic Imager
 MDT Modular Formation Dynamic Tester
 VSP Vertical Seismic Profile
 ACTS Auxiliary Compression Tension Sub

Comments:

AIT-IPLT-ECS-ACTS

High tension @4536-4320m - close caliper for this section

OBMI-DSI-GR-ATCS

Some telemetry problems

MDT-GR-ACTS

15 pressure tests were taken (4 good test / 11 dry tests). All pressure tests were attempted using single probe. One sampling depth was attempted in Lange formation at 4316.8 mMD using Dual Packer. Fluid analyser showed water at this depth. 7 water samples were taken using 4 SPMC, 2 MPSR and 1 Gallon MRSC. After finished sampling a Mini DST was performed.

VSP-GR-ATCS

A 4 level VSI (Vertical Seismic Imager) tool was used to acquire the down-hole data.
6 x 150 cu/in G-Gun (900 cu/in) was used as surface source.
2 hydrophones were set 4.5m below source and 2 hydrophones set at 9m below source

2.3.5 Formation Pressure

Eni's Wellsite geologists perform the pore pressure using Knowledge System's software – Drillwork. Pore pressure was analyzed using Eaton's model on LWD gamma ray, resistivity and sonic logs. Density – neutron log, gas values and other drilling data was used to support the pore pressure derived from resistivity and sonic.

A normal pore pressure gradient of 1.03 g/cm^3 was estimated down to Kai Fm (fig. 2.3.5.1). Below the top Kai Fm and throughout the Tertiary there is an increase in pore pressure. On initially penetrating the Kai Formation at 1595m MD three gas peaks were recorded to maximum values of 17.8%. Below 1680m MD these have not been repeated and an average background gas of 2 – 3.5% has dominated. There has been no connection gasses recorded. Cuttings shape remains blocky with no evidence of any significant cavings. Drilling parameters remain normal with no sign of hole instability. The gas peaks is evaluated to be drilled formation gas and the pore pressure is far below the mud weight. But there are uncertainties in the estimations due to the formation change and moving the normal compaction trend line.

The pore pressure builds up to a local maximum 1.5 g/cm^3 at 2500m in Rogaland group and it drops back to 1.45 g/cm^3 at the top of Shetland Group.. The pressure gradient is then constant through Shetland and it starts to increase again at 3900m in the Cromer Knoll Group. A maximum pore pressure at 1.80 g/cm^3 (762.21) bar at 4317m was measured by MDT in the Lange Sandstone. From that depth the gradient is decreasing down to 1.75 g/cm^3 at TD. Some connection gases was reported and is evaluated as a ballooning effect

2.3.6 Formation Temperature

The bottom hole temperature was 147 deg, at 4316.8m, after 75 min of pumping / cleaning up before taking MDT sample. Time after circulation stopped was 25 hrs and the circulation time during the wiper trip was 2.5 hrs. A typical temperature gradient in this area is 39° C/km giving a formation temperature of app. 164° C . at 4596m TVD (Fig:2.3.6.1).

2.3.7 Side Wall and Bottom Hole Cores

No sidewall cores or conventional core was cut in this well.

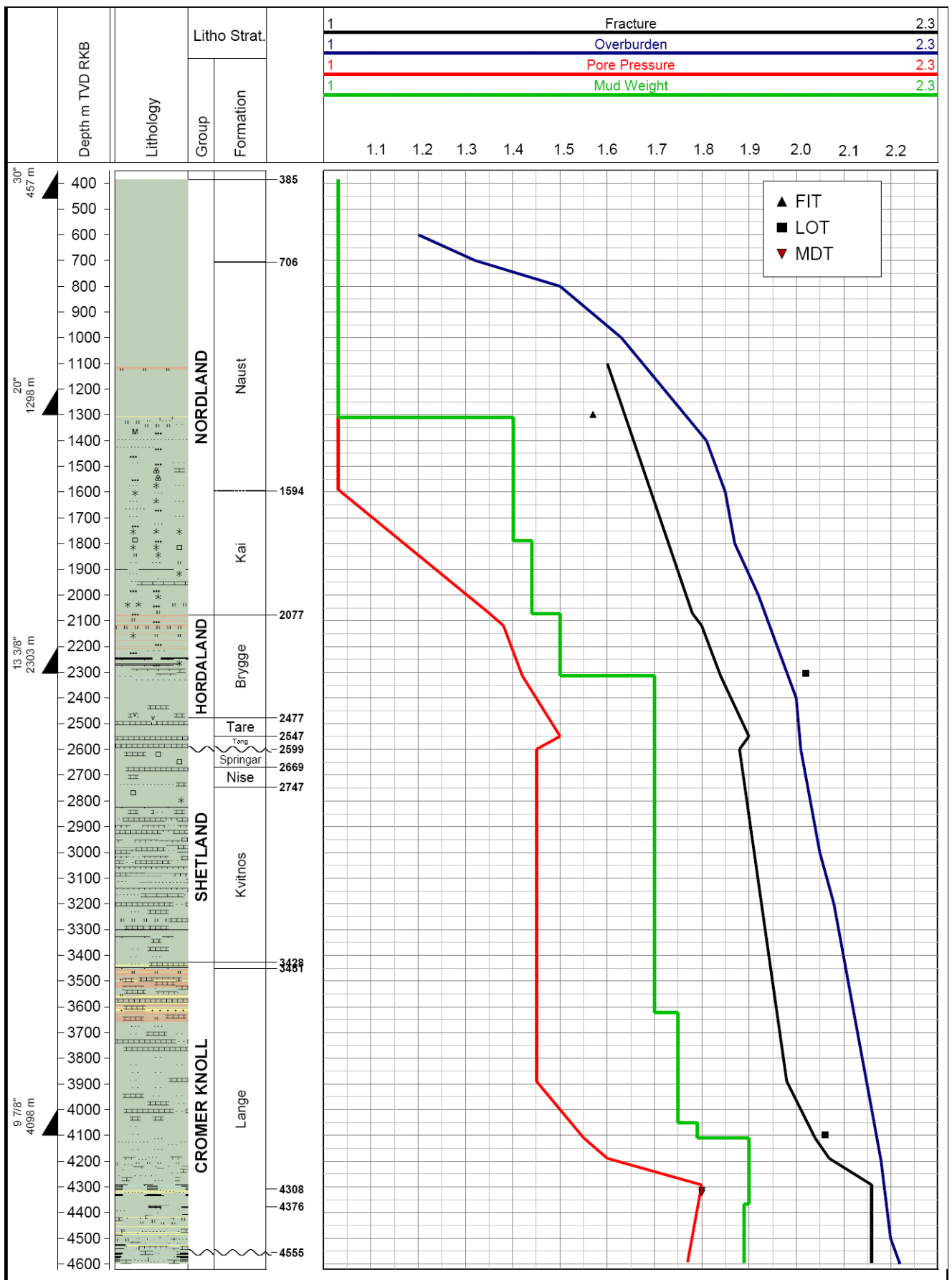


Figure: 2.3.5.1. Pore pressure, Overburden, Fracture and Mud Weight Gradient

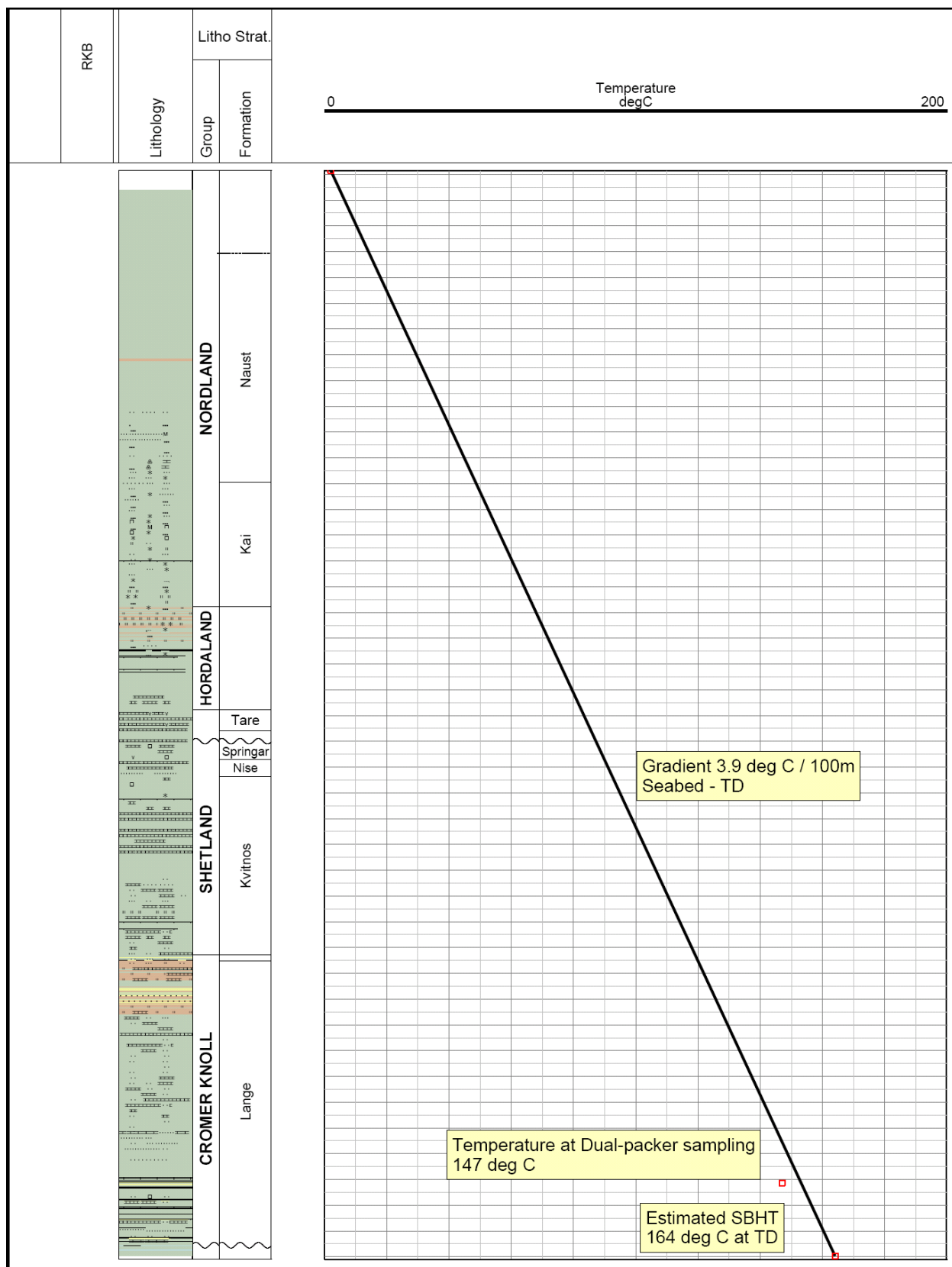


Figure: 2.3.6.1. Formation Temperature

2.4 Stratigraphy

2.4.1 Biostratigraphy

Routine Biostratigraphical analysis for well 6406/1-4 was performed by APT, Applied Petroleum Technology AS. For details see report 6406/1-4, Biostratigraphy report
The well 6406/1-4 was drilled close to the site of 6406/1-3 which was terminated before reaching the main target. Above 3415m (Coniacian, close to top Lysing) the ages are based on spot-dating as a control on the stratigraphy. Below 3415m full micropaleontological and palynological analyses were carried out.

Stratigraphic summary 6406/1-4		
Depths mRKB	Biostratigraphy	*Lithostratigraphy
	Cenozoic	
705		Naust Formation
1595		Kai Formation
2078		Brygge Formation
2070-2100	Late Oligocene? to Early Miocene	
2100-2315	Not sampled	
2315	Earliest Oligocene	
2315-2470	Not sampled	
2470-2480	Early Eocene	
2479		Tare Formation
2490-2500	Early Eocene to Late Paleocene	
2500-2590	Not sampled	
2549		Tang Formation
2590-2600	Late Paleocene	
	Unconformity	
2601		Springar Formation
	Cretaceous	
2610-2620	Middle to Late Campanian	
2620-3415	Not sampled	
3430		Lysing Formation
3415-3435	Early to Middle Coniacian	
3450-?3640	Turonian	
3453		Lange Formation
3660-4320	Late Cenomanian to Early Turonian	
4311		Lange 3
4332-4362	Late Cenomanian	
4379		Lange 1-2
4370-4500	Early? to Middle Cenomanian	
	?Unconformity	
4512-4515	Late Albian	
4521-4442	Middle to early Late Albian	
4551-4557	Middle Albian	
	Unconformity	
	Middle to Late Triassic	
4558		Top Triassic
4569-4596	Ladinian to Carnian	

***Lithostratigraphic tops:** are supplied by the operator and are preliminary and biostratigraphic tops have not therefore been adjusted. Above 3415m the ages are based on spot dating.

2.4.2 Lithostratigraphy

The lithostratigraphic and litological summary is compiled on wellsite sample description and interpretation of LWD and wireline logs. Formation tops are based on loginterpretation and biostratigraphic report.

9 7/8" pilot hole was drilled from 385 to 1310m.

Quaternary 385m – 707m RT (363m – 685m TVD MSL)

Stage: Pleistocene to Holocene

The formation is interpreted as clay with some thin stringers/layers of sand/gravel.

Nordland Group 385 – 2078 m RT (363 – 2056 m TVD MSL)

System: Tertiary – Quaternary

Naust Formation 707 – 1595 m RT (685 – 1573 m TVD MSL)

Stage: Pliocene

Upper Boundary: The top is picked at a base of a gamma ray peak and a change to a smoother resistivity pattern..

The formation below 1310 m is described from cuttings as claystone with some thin stringer of sand/sandstone.

The claystone is medium light grey – medium grey – light to medium blue grey, soft to firm, blocky occasionally amorphous, silty to sandy, calcareous, Glauconite, trace of Calcite. The thickest sandstone stringer is grey – dark green grey – light brown – orange brown with transparent - opaque , colourless – very light grey Quartz grains, dominating very coarse, poorly sorted, angular to sub rounded, argillaceous, trace Pyrite, Abundant rock fragments.

Kai formation: 1595 – 2078 m RT (1573 – 2055 m MSL TVD)

Stage: Miocene

Upper Boundary: The top is picked from a clearly decrease in the transit time on the sonic log and by a decrease in the resistivity.

The lithology is a massive silty sandy claystone with a few limestone stringers.

The **claystone** is light - medium – dark grey, olive grey, brown grey, blue grey, soft - firm, sub blocky – blocky, occasionally sticky, silty – very sandy grading argillaceous sandstone, slightly – moderate calcareous, trace - abundant Glauconite, traces Pyrite, traces of carbonaceous material. The **limestone** is light – medium grey, hard, brittle, sub blocky, waxy texture, cryptocrystalline

Hordaland Group 2078 – 2479 m RT (2055 – 2456 m MSL TVD)

Stage: Eocene to Oligocene

Brygge formation: 2078 – 2479 m RT (2055 – 2456 m MSL TVD)

Stage: Eocene to Oligocene

Upper Boundary: Shows a slight change on the sonic log and by a slight decrease in the gamma ray readings. The lithology is a massive claystone, grading into siltstone and occasionally limestone stringers.

The **claystone** is varying in greyish colour, brownish grey – olive grey, greenish grey – greenish black, medium dark grey – dark brownish grey. Firm, sub blocky - blocky, occasionally waxy, very silty grading siltstone, occasionally very fine sand, non to very calcareous, rare - trace micromicaceous, non to common Glauconite, trace Pyrite. **Limestone** stringers are white – light brown, firm, micro – crypto crystalline, argillaceous in parts.

Rogaland Group **2479 – 2601 m RT(2456 – 2578 m MSL TVD)**

Stage: Paleocene

Tare Formation **2479 – 2549 m RT (2456 – 2526 m MSL TVD)**

Stage: Pliocene

Upper Boundary: The top is defined by a decrease in interval transit time and by a slight decrease in the gamma ray readings.

The **claystone** is varicoloured, moderately brown, green grey to occasionally dark green grey, pale grey, olive grey - olive black, reddish brown, firm, blocky to platy, occasionally sub-fissile, non calcareous, occasionally waxy texture. Traces of tuffaceous claystone, with ashy texture.

Tang Formation: **2549 – 2601 m RT (2526 – 2578 m MSL TVD)**

Stage: Miocene

Upper Boundary: An increase in interval transit time on the sonic log and a decrease in density and resistivity readings

The **claystone** is greyish green – dark greenish grey, dark brown, olive grey – olive black, firm to soft, sub platy – blocky, non – slight calcareous, traces of Pyrite. **Limestone** is pale yellowish orange – greyish brown, dolomitic in parts, moderately hard.

Shetland Group **2601 – 3430 m RT (2578 – 3406 m MSL TVD)**

System: Cretaceous

The main lithology in the Shetland Group is claystone, with limestone stringers

Springar Formation: **2601 – 2671 m RT (2578 – 2647 m MSL TVD)**

Series: Upper Cretaceous

Upper Boundary: The Upper Cretaceous unconformity is clearly defined by a big change on sonic and density logs.

The **claystone** is pale greenish grey – medium grey, olive grey occasionally dark greyish green, firm – moderately hard, blocky – platy, occasionally sub fissile - fissile, non to slightly calcareous to calcareous, traces Pyrite.

Nise Formation: **2671 – 2749 m RT (2647 – 2725 m MSL TVD)**

Series: Upper Cretaceous

Upper Boundary: The top is defined by a decrease in interval transit time.

The **claystone** is pale grey - greenish grey – olive grey, soft – firm, amorphous – sub blocky, occasionally slight silty, rarely calcareous, traces of pyrite

Kvitnos Formation: **2749 – 3430 m RT (2725 – 3406 m MSL TVD)**

Series: Upper Cretaceous

The lithology in the Kvitnos formation is mainly claystone with limestone and a few sandstone stringers

The **claystone** in the Kvitnos formation is light olive - olive grey, pale to medium to dark grey, greyish black, firm – moderately hard, blocky, non to very silty in parts grading to siltstone with occasionally very fine sand lamina non to slightly calcareous occasionally calcareous. The **limestone** is white - light grey – light olive grey – brownish grey, occasionally with dark grey argillaceous lamina, firm – moderately hard, blocky, in parts dolomitic grading dolomitic limestone. The **sandstone** is medium grey, very fine to fine Quartz, sub rounded well sorted, silica cemented, rare calcareous matrix, no visible porosity and with no shows.

Cromer Knoll Group 3430 – 4558 m RT (3406 – 4534 m MSL TVD)

System: Cretaceous

The Cromer Knoll group comprises a thin Lysing formation and the Lange formation

Lysing Formation 3430 – 3453 m RT (3406 – 3429 m MSL TVD)

Series: Upper Cretaceous

Upper Boundary: The top is defined by a decrease in interval transit time and a decrease in the density.

The lithology consists of sandstone and claystone layers with limestone stringers.

The **sandstone** is medium grey, very fine – fine Quartz grains, sub angular – sub rounded poor sorted, poor – well silica cemented, in parts argillaceous matrix, glauconitic. The **claystone** is dark grey – dark black, dark olive grey – olive black, dark brownish black, firm – moderately hard, blocky, silty in parts grading to siltstone with occasionally very fine sand, non to slightly calcareous. The **limestone** is white - light grey – light olive grey – brownish grey, occasionally with dark grey argillaceous lamina, in parts silty very fine sand, firm – moderately hard, blocky, in parts dolomitic, cryptocrystalline.

Lange Formation 3453 – 4558 (3429 – 4534 m MSL TVD)

Series: Early Cretaceous

Upper Boundary: The top of the formation is picked at the base of a limestone and sandstone string.

The Lange formation consists of siltstone and silty claystone layers with sandstone and limestone stringers.

The **siltstone** is greyish brown – dark greyish brown – dark olive grey, mottled green, dark reddish brown at bottom, soft - firm, occasionally moderately hard, very clayey in parts grading claystone, occasionally glauconitic, calcareous, The **claystone** is greyish – dark greyish brown, dark grey, olive black – brown black, occasionally waxy pale green, soft – firm – friable, very silty grading to siltstone, trace – common very fine sand, The **sandstone** stringer is very fine - fine, moderately sorted, angular – sub rounded, loose - friable, slight to well silica cemented, occasionally calcareous cemented argillaceous. **Limestone** is very light grey, pale orange brown, brownish grey, dark grey – black carbonaceous lamina and specks, firm - friable, common silty, trace very fine sand, cryptocrystalline.

Lange 3 Unit 4311 – 4379 m RT (4287 – 4355 m MSL TVD)
Series: Early Cretaceous

Upper Boundary: The top is defined by a decrease in interval transit time and a decrease in the density.

The Lange 3 Unit consists of interbedded sandstone and claystone with stringers of limestone. Sandstone dominates in the upper parts.

The **sandstone** described from cuttings occurs mainly as very fine – fine clear - transparent loose quartz grains, occasionally as small aggregate medium to coarse grains, well silica cemented, occasionally calcareous cemented, angular – sub rounded, sub spherical - sub elongated. The **claystone** is medium – dark grey, olive black, occasionally bluish grey, firm, occasionally moderate hard, sub blocky – blocky, silty in parts, occasionally very fine sand, calcareous in parts.

Lange 1+2 Sequence 4379 – 4489 m RT (4355 – 4465 m MSL TVD)
Series: Early Cretaceous

The Lange 1+2 sequence consist of Claystone with stringers of sandstone and limestone.

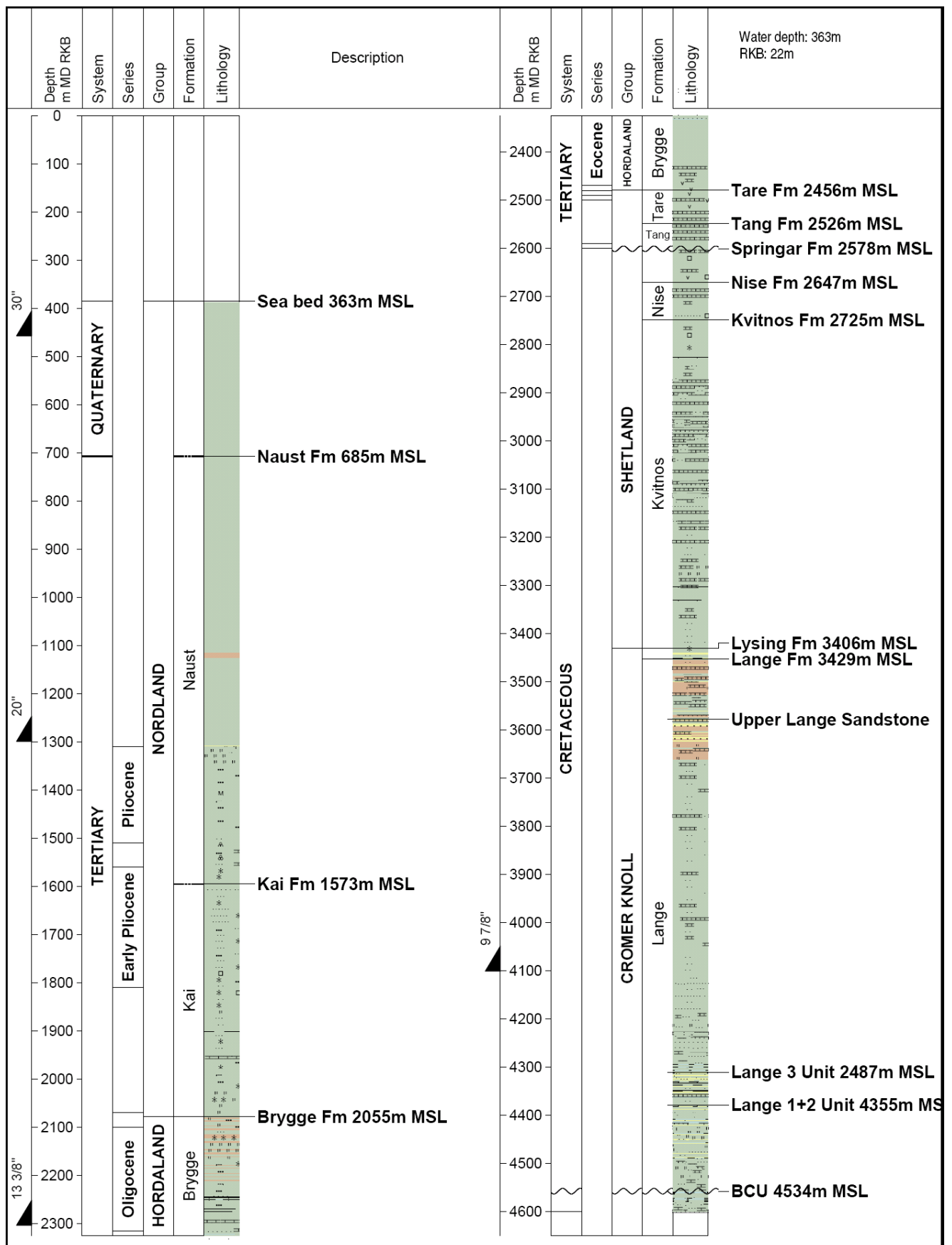
The **claystone** olive grey – dark grey – olive black, greyish brown – dark reddish brown towards bottom, sub blocky - blocky, sub fissile in parts, firm – moderately hard –occasionally hard, silty – very silty – very sandy, calcareous in parts. The **sandstone** described is mainly as very fine – fine clear - transparent loose quartz grains, occasionally as small aggregate medium to coarse grains, well silica cemented, occasionally calcareous cemented, angular – sub rounded, sub spherical - sub elongated. The **limestone** stringers is very light grey to pale brown with abundant dark grey to black carbonaceous lamina and specks, firable, common silty – sandy.

Triassic (BCU) 4558– 4601 m RT (4534 – 4577 m MSL TVD)

Upper Boundary: The top is picked by a decrease and change into a more erratic pattern in the gamma ray values and a general increase in the resistivity. The interval transit time on the sonic log is decreasing.

The drilled Triassic formation consists of claystone interbedded with limestone of varied thickness

The **claystone** is dark grey, dark brownish grey, occasionally medium grey, firm to moderately hard, silty – very silty grading in parts into siltstone, calcareous in parts grading argillaceous limestone, The **limestone** is light – medium grey, occasionally dark grey, very argillaceous – silty, firm, microcrystalline.



2.5 Well Velocity

2.5.1 Vertical Seismic Profile

A zero offset VSP was recorded in well 6406/1-4 in order to provide a correlation between the well logs and the 3D surface seismic data, plus velocities for depth conversion of seismic data and high resolution seismic images to aid interpretation. Full details are given in the VSP processing report by Schlumberger.

The VSP was acquired on 8th December 2005 using a 4 level VSI receiver tool and a source array consisting of 6 x 150 cu.in. G-guns at 2000 psi pressure and 4.5 m depth. The lateral offset of the source was 50 m, at an azimuth of 275 degrees. Across the main interval of interest, between 4595 m and 4282 m MD, the tool positions were interleaved to give 7.5 m spacing. The interval was then 15 m up to 1284 m MD. Checkshots were recorded at 100 m intervals between 1284 m and 484 m MD. A total of 283 VSP and checkshot levels were recorded. Levels shallower than 2190 m MD were affected by casing noise, but special processing was applied and first arrival times could then be measured between 2190 m and 984 m MD, for use in sonic log calibration.

VSP processing was carried out on the data from 4595 m to 2190 m MD RKB. The compressional wave processing resulted in the deconvolved zero phase upgoing wavefield and a series of corridor stacks. The shear wave content in the data was considered insufficient for separate shear wave processing to be done.

The polarity convention for the VSP and synthetic seismogram displays is that a white trough and negative number represent normal polarity for an upgoing compressional wave reflected from an interface with an increase of acoustic impedance with depth.

2.5.2 Synthetic Seismograms

The interval of compressional sonic log used for calibration was from 447.60 m to 4557.83 m TVDSS. The part above 4084 m MD was MWD and the deeper part was wireline DSI. The logs were calibrated using the time/depth information from the VSP.

The sonic and density logs were combined to produce acoustic impedance logs and reflectivity series. Synthetic seismograms were produced in two different ways. The first set used zero phase Butterworth wavelets with various bandwidths. The second type was made by extracting a wavelet from the 3D surface seismic data at a best match position close to the well location. A wavelet from the 2.4 to 2.7 second TWT window was found to be closer to zero phase than the one from the 3.5 to 3.9 second TWT window. This indicates a time variant change in phase within the 3D surface seismic volume, perhaps due to greater absorption of the higher frequencies.

A composite display with VSP, corridor stacks, well logs, synthetic seismograms and 3D surface seismic data is shown in the figure 2.5.1. The main formation tops are marked so that the correlation between well logs and the various seismic panels can be seen. In general there is a clear correspondence between reflections on the different seismic panels. Around the Base Cretaceous Unconformity the match is poorer due to dipping reflectors and the synthetics are less reliable close to the bottom end of the logs due to the length of the wavelet. The logs terminate a short distance below BCU and the interphase is therefore not represented properly on the synthetic seismograms.

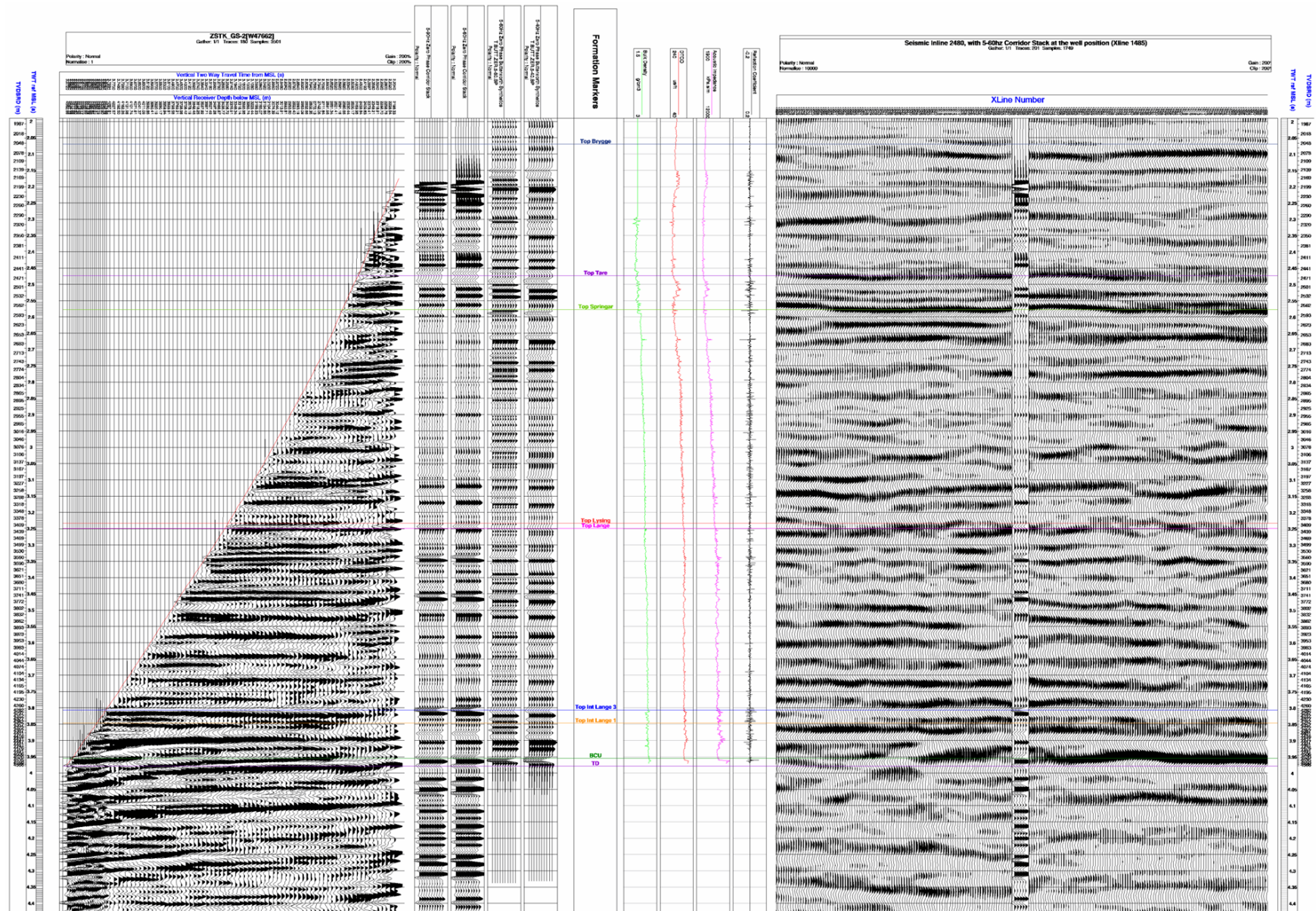


Fig. 2.5.1 VSP and Synthetic Seismogram Composite Display

2.6 Formation Evaluation

2.6.1 Log Evaluation

The CPI was performed using ELANPLUS software (GEOQUEST – GeoFrame)
The following parameters were used for the saturation calculation:

a = 1
m=1.83
n = 1.6

Water salinity of 90g/l (Rw = 0.021 at 150 deg. C is based on the water sample at 4316.8m

Main results

Zone / Interval Data				Net Reservoir		Net Pay			
Zone	Top	Bottom	Gross	PHI	PHI	Thick.	Avgerage	Average	Net/Gross
Name	(mMD)	(mMD)	Thick.	Thickness	Average	(m)	(PHI)	(Sw)	(Ratio)
			(m)	(m)	(PHI)				
Lange	4250	4311	61	0	0	0	0	0	0
Seq. 3	4311	4379	68	7.01	0.099	4.11	0.10	0.55	0.06
Seq.1-2	4379	4518	139	19.20	0.109	6.10	0.13	0.47	0.04
Total Avg. over all zones			268	26.21	0.107	10.21	0.12	0.50	0.05

Cut off values:

Phi min = 8 p.u
Sw max = 60%
Vcl max = 30%





Figure 2.6.1.2 CPI 4380 – 4520m

2.6.2 MDT Pressure and sampling

Schlumberger's MDT (Modular Dynamic Tester) was used for formation pressure measurements and reservoir fluid sampling in well 6406/1-4.

15 pressure tests were taken, 4 good / 11 dry tests. All pressure tests were performed using a Single probe (table 2.7.3.1). Pressure gradient from 3 out of 4 good points shows 1.42 g/cm³ (fig. 2.7.3.1)

One sampling was attempted at 4316.8m MD using Dual packer. Fluid analyser showed water at this depth. 7 water samples were taken using 4 SPMC, 2 MPSR and 1 Gallon MRSC.

Test	File	Depth M	TVD M	Drawdown Mobility MD/CP	Mud Pressure Before BAR	Mud Pressure After BAR	Last read build-up Pres BAR	Formation Pressure BAR	Test Type
2	173	4313.51	4311.03		806.4391	806.5178	569.3501	569.3501	Dry Test
3	175	4316.71	4314.24	1.40	807.2746	807.3566	762.2149	762.2149	Volumetric Limited draw-down
5	176	4317.35	4314.92	0.24	807.4370	807.4818	762.5369	762.5369	Volumetric Limited draw-down
6	177	4318.97	4316.50	0.89	807.7803	807.8044	762.5107	762.5107	Volumetric Limited draw-down
7	178	4320.47	4318.00		808.0676	808.0605	728.1973	728.1973	Dry Test
8	179	4322.46	4319.95		808.4099	808.4321	666.8954	666.8954	Dry Test
9	180	4324.43	4321.96		808.8391	808.8577	685.5042	685.5042	Dry Test
11	181	4325.78	4323.30	0.30	809.0794	809.1256	763.4769	763.4769	Volumetric Limited draw-down
14	191	4487.96	4485.44		838.3334	838.2354	664.8455	664.8455	Dry Test
15	192	4487.45	4484.97		838.2066	838.1689	678.4369	678.4369	Dry Test
16	193	4480.62	4478.10		836.6096	836.6218	668.4551	668.4551	Dry Test
17	194	4458.36	4455.85		832.2386	832.3700	687.4928	687.4928	Dry Test
18	195	4412.62	4410.13		823.9323	824.0290	672.5387	672.5387	Dry Test
19	196	4379.97	4377.48		817.9027	818.0672	678.1520	678.1520	Dry Test
20	197	4353.40	4350.93		813.0623	813.1697	673.0175	673.0175	Dry Test

Table: 2.7.3.1 MDT Summary

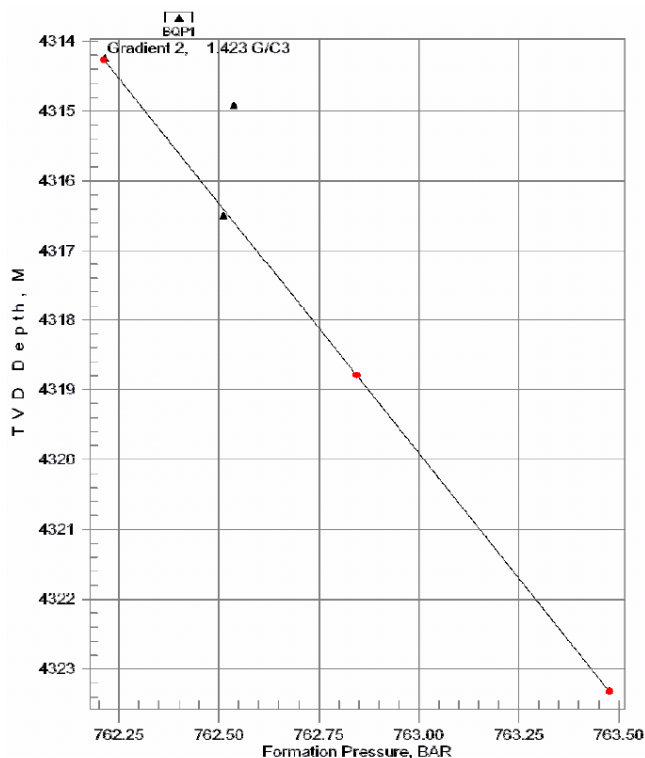


Figure: 2.7.3.1 Pressure gradient, Sample taken from 4316.8m RT / m TVD MSL

- Formation pressure 762.21 bar
- Hydrostatic pressure 807.28 bar
- Formation temperature 146° C
- Mobility 1.4 md/cp

Water analyses

pH	5.97	@ 19.7 deg.C
Conductivity (mS/cm)	104.0	@ 19.8 deg.C
Density (g/ml)	1.06159	@ 15.0 deg.C
GWR (Sm ³ /Sm ³)	2.8	

CATIONS	mg/l	meq/l
Lithium	40	6
Sodium	31800	1383
Potassium	220	6
Magnesium	190	16
Calcium	3800	190
Strontium	nd	0
Barium	nd	0
Iron (Dissolved)	na	0
SUM CATIONS	36050	1599

ATOMIC MASS	charge
Lithium 6.9	1
Sodium 23	1
Potassium 39.1	1
Magnesium 24.3	2
Calcium 40.1	2
Strontium 87.6	2
Barium 137.3	2
Iron (Diss) 55.8	2

ANIONS	mg/l	meq/l
Acetate	200	3
Formate	40	1
Chloride	54500	1535
Sulfate	230	5
Bromide	180	2
Carbonate		0
Bicarbonate*		0
SUM ANIONS	55150	1547

ATOMIC MASS	charge
Acetate 59	1
Formate 45	1
Chloride 35.5	1
Sulfate 96.1	2
Bromide 79.9	1
Carbonate 60	2
Bicarbonate 61	1

2.6.3 Dual packer mini DST

A dual packer mini DST was performed on wireline after the fluid sampling. The packers were set at 4316,2 and 4317,2 m MD with an observation probe set at 4314,7 m MD. The full DST test interpretation can be found in the report “ **Sklinna – appraisal well 6406/1-4 mini DST interpretation**”.

The main conclusions can be summarized as follows:

- The quality control confirms the good consistency of the drawdown and the final build up flow periods.
- The radial flow stabilization in the derivative log-log plot carried out an average kh value of 0.43 mDm
- Due to low permeability environment, it is unlikely that the pressure propagation in the vertical direction interested all the available pay zone (h=13.4 m). As a consequence the effective net pay involved in the test is a main uncertainty. Sensitivities were performed considering different values of effective net pay involved. Two possible scenarios were considered:

SCENARIO 1: H=1.2 m	SCENARIO 2: H=2.4 m
Model:	<i>Partial penetrating with C and S</i> <i>Homogeneous</i> <i>Infinite Lateral Extent</i>
$P_i = 758.9$ bar	$P_i = 758.9$ bar
$Kh = 0.43$ mD m	$Kh = 0.43$ mD m
$K_{xy} = 0.35$ mD	$K_{xy} = 0.18$ mD
$K_z = 0.35$ mD	$K_z = 0.18$ mD
$R_{inv} = 9$ m	$R_{inv} = 6$ m

- A match of the log-log plot and the pressure history could be achieved with two different reservoir models: the double permeability and the radial composite model. However, based on the actual information, it was not possible to justify/assess the most reliable one.
- The pressure response of the observation probe, set 2 m above the dual packer gauge, was not interpretable. The anisotropy ratio K_v/K_o was assumed equal to 1.

3. DRILLING

3.1 Introduction

Eni Norge A/S drilled the exploration well 6406/1-4 in Block 6406/1 (PL 256) in the Haltenbanken area with the semi-submersible drilling rig “Ocean Vanguard” after the well (6404/1-3) was permanently plugged and abandoned before the final well target was reached due to the mooring system failure of anchor system on the same rig.

The total time spent on well was 137 days (includes 42 days with well temporarily suspended in order to carry out repairs to anchor winch N.2 in Kristiansund).

The cost for the drilling related operations was NOK 324.4 million.

As % of total well time the distributed between the main operation groups was:

Drilling	38 %
BOP	7 %
Casing	6 %
P&A	10 %
Rig move	8 %
Other	31 %

The unplanned/unproductive time was 47 % of the total time.

On the 12th of August 2005 at 18:00 hrs the semi-submersible rig Ocean Vanguard realeased by Statoil and was taken on contract by Eni Norge. The rig was towed to the 6406/1-4 drilling location where the anchors were set and the rig ballasted down to drilling draft.

The well was spudded with a 36” bottom hole assembly at 13:30 hrs of 16th August2005. The 36” hole was drilled to 462 m and the 30” Conductor pipe was set on bottom at 457 m.

The distance from the rotary table to the seabed (RT – seabed) was 385 m.
(Distance RT – MSL was 22 m).

Final Position: 64 deg 54’ 32,918” N
06 deg 08’ 22,440” E

A 9 7/8” shallow gas check pilot hole was drilled to 1310 m, ahead of drilling a 26” hole down to 1310 m. The 20” casing was set at 1299 m.

On 03-09-05 anchor whinch N.2 sustained damage (main shaft bearing housing cracked), and as a consequence the well had to be suspended to bring the rig inshore for repairs.

A 17 1/2” hole section was drilled to 2315 m. The 13 3/8” casing string was set at 2304 m.

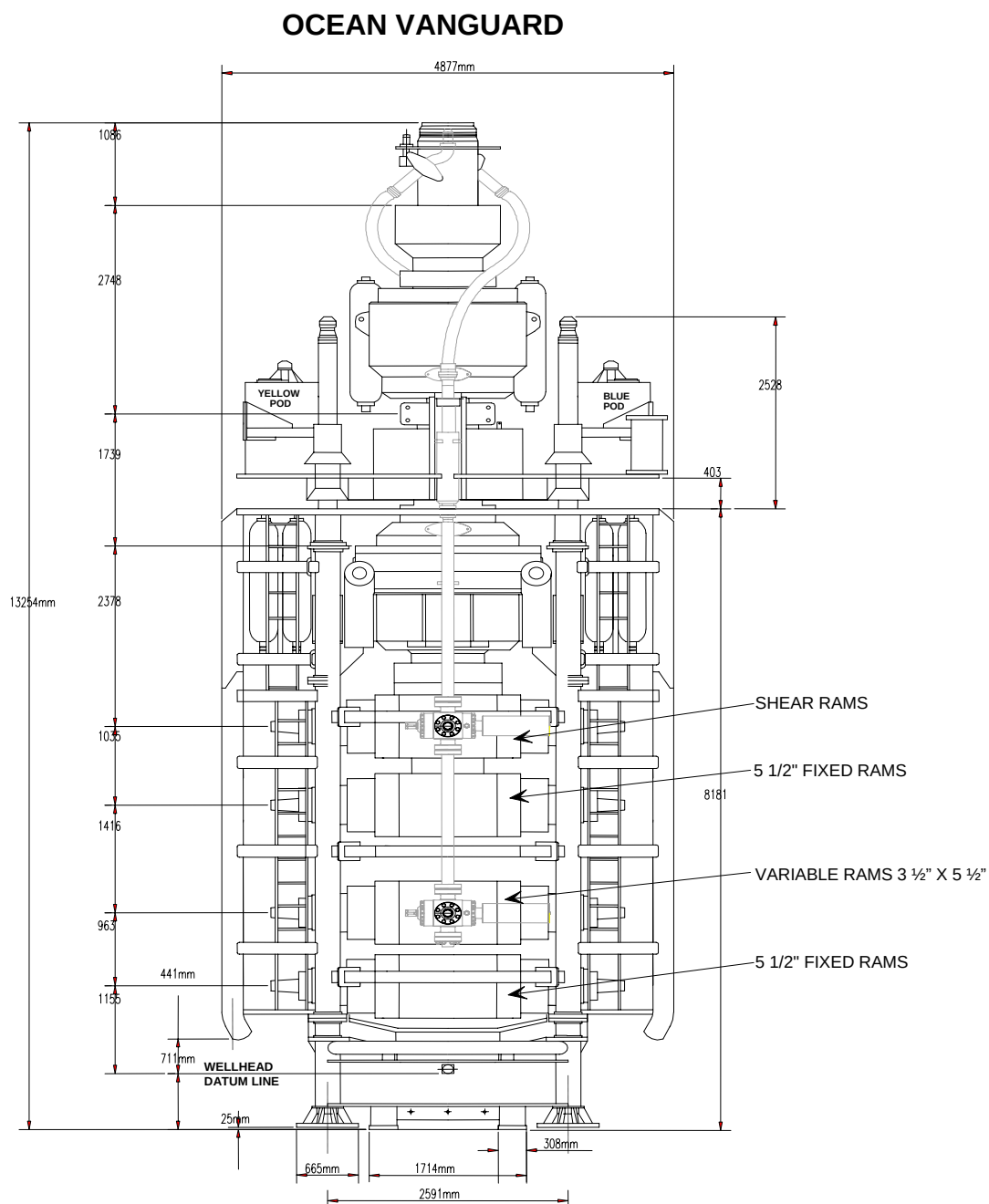
A 12 1/4” hole was drilled to 4113 m and 9 7/8” casing set at 4101 m.

An 8 3/8” hole was drilled under HPHT procedures to 4596 m and an extensive wire-line logging program carried out prior to the well being P & A.

3.1.1 Well Data summary

HOLE SECTION	1	2	3	4	5	6
Hole size & depth	36" hole was drilled to 462 m (seabed at 385 m)	9 7/8" pilot hole was drilled from 30" shoe to 1310 m in order to check for shallow gas	26" hole was drilled to 1310 m	17 1/2" hole was drilled to 2315 m	12 1/4" hole was drilled to 4113 m	8 3/8" hole was drilled to 4596 m
Drilling fluids	Type: Seawater/ High Viscous Sweeps with seawater/PAC spud mud Viscous Sweeps: Density: 1.03 -1.20 sg FV: 110 -120	Type: Seawater/ High Viscous Sweeps with seawater/PAC spud mud Viscous Sweeps: Density: 1.03 -1.20 sg FV: 110 -120 Pilot hole displaced to 1.2 sg mud prior to POOH	Type: Seawater/ High Viscous Sweeps with seawater/PAC spud mud Viscous Sweeps: Density: 1.03 -1.20 sg FV: 110 26" hole displaced to 1.2 sg mud prior to POOH	Type: Performadrill water based mud Density: 1.37 – 1.5 sg PV: 22 –40 cP YP: 10 – 20 Pa pH: 8-10	Type: XP-07 Oil based mud Density: 1.70– 1.75 sg PV: 45 – 52 cP YP: 9 – 26 Pa Cl-: 190 – 320g/l	Type: XP-07 Oil based mud Density: 1.90sg PV: 48- 55 YP: 15 20 Pa Cl-: 200 – 250 g/l
Coring				No coring	No coring	No coring
Logging	Drilling: None AnderDrift used for surveys. Logging in open hole: None	Drilling: MWD-GR-Sonic-Res. -directional Logging in open hole: None	Drilling: MWD- GR-Sonic-Res. - directional Logging in open hole: None	Drilling: MWD-GR-Sonic-Res. -directional Logging in open hole: None	Drilling: MWD-GR-Sonic-Res. -directional -density Logging in open hole: None	Drilling: MWD-GR-Sonic-Res. -directional -density Logging in open hole: AIT/Sonic/OBMI, IPLT/ECS, MDT, VSP
Casing	30" casing to 457 m.		20" casing to 1299 m. Vetco MS-700 Wellhead System 18 3/4" x 15000 psi	13 3/8" casing to 2304 m	9 7/8" casing to 4101 m.	
Cement	Cement Type : Class G Mixwater: Sea water (lead) Fresh water (tail) Density: 1,56 sg lead 1,92 sg tail Top cement: Lead: Seabed Tail: 435 m		Cement type: Class G Mixwater: Seawater (lead), freshwater (tail) Density: 1.5 sg lead, 1.92 sg tail Top cement: Lead: Seabed Tail: 1100 m	Cement type: Class G Mixwater: Freshwater Density: 1.92 sg Top cement: 1910 m	Cement type: Class G Mixwater: Fresh water Density: 1.92 sg Top cement: 3100 m	

3.1.2 BOP Sketch 18 5/8" 15000 psi BOP



Blowout Preventers:

Annular preventers: 1 ea. 18 ¾" Hydrill GX 10K, 1 ea. 18 ¾" Cameron DL 10K

Ram preventers: 4 ea. 18 ¾" Hydrill 15 K

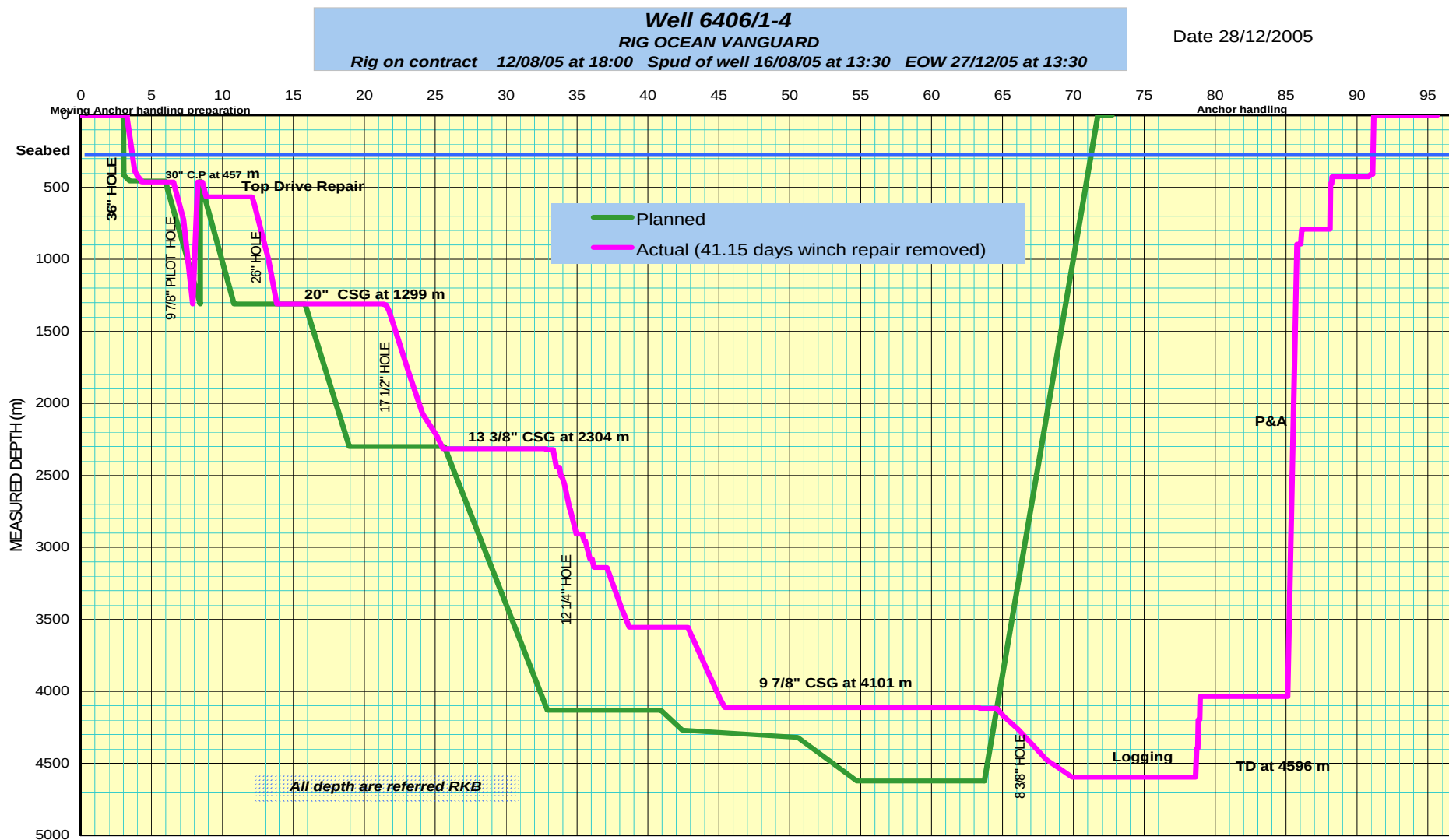
Pressure testing of the BOP stack on Well 6406/1-4

The BOP stack was pressure tested as follows:

	CASING STRINGS INSTALLED	SHEAR RAMS	BAGS (annular preventer)	PIPE RAMS, FAIL SAFES	WELLHEAD CONNECTION	K/C-LINES, HOSES
Before installation	None	500 psi/ 15000 psi	500 psi/ 7500 psi	500 psi/ 15000 psi	None	None
First test on 18 ¾” wellhead	20” casing	500 psi/ 2000 psi	None	None	500 psi/ 15000 psi	500 psi/ 15000 psi
Prior to drilling out of 13 3/8” casing	20” casing + 13 3/8 “ casing	500 psi/ 5000 psi	500 psi/ 5000 psi	500 psi/ 5000 psi	500 psi/ 5000 psi	500 psi/ 5000 psi
Bi-weekly in open hole (12 ¼”)	20” casing + 13 3/8 “ casing	None				
Prior to drilling out of 9 7/8” casing	20” casing + 13 3/8 “ casing + 9 7/8” casing	500 psi/ 10000 psi	500 psi/ 5000 psi	500 psi/ 10000 psi	500 psi/ 10000 psi	500 psi/ 10000 psi
Bi-weekly in open hole (8 ½”)	20” casing + 13 3/8 “ casing + 9 7/8” casing	None				

3.2 Time and Cost Analysis

3.2.1 Days vs. Depth

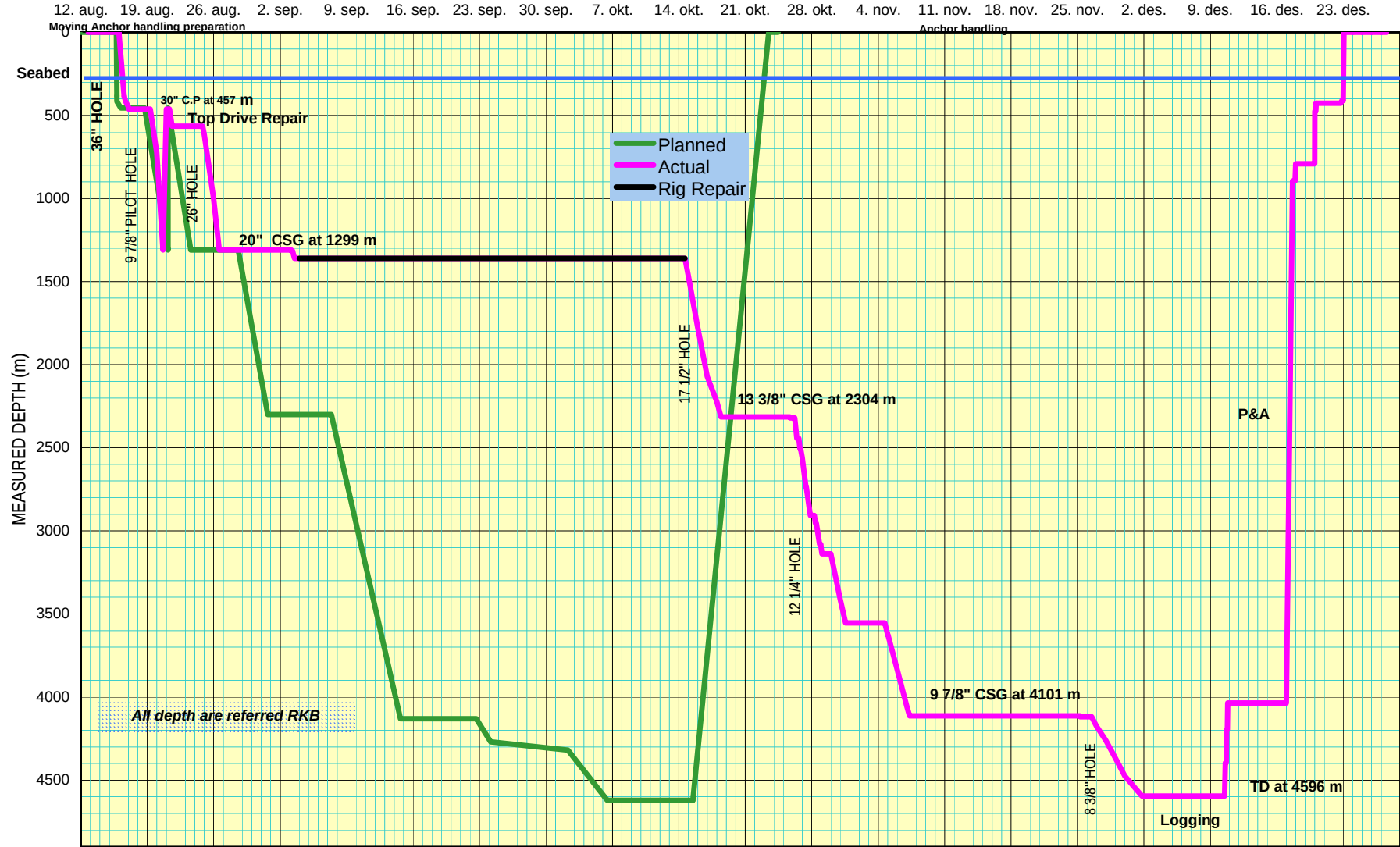


Well 6406/1-4

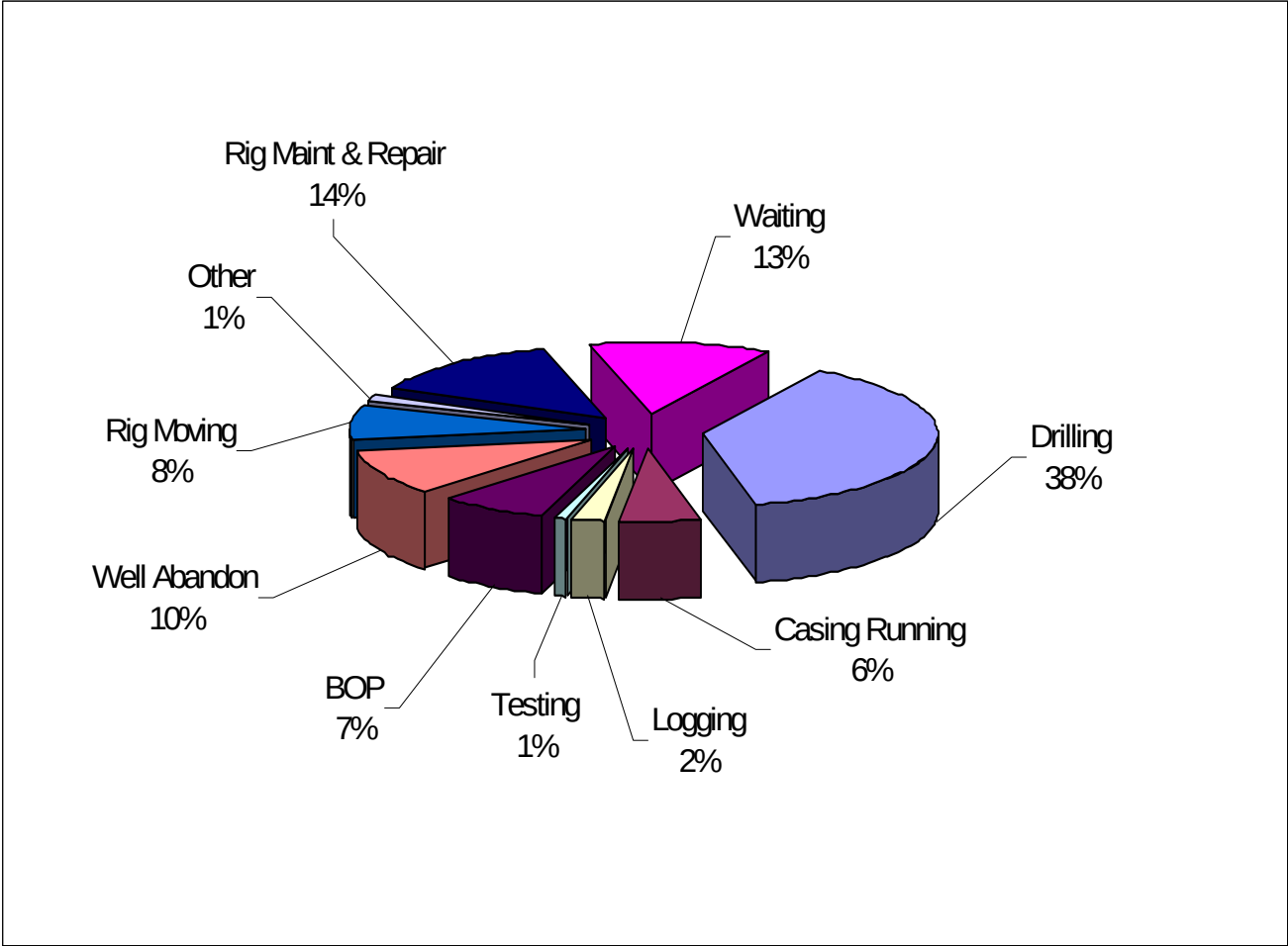
RIG OCEAN VANGUARD

Rig on contract 12/08/05 at 18:00 Spud of well 16/08/05 at 13:30 EOW 27/12/05 at 13:30

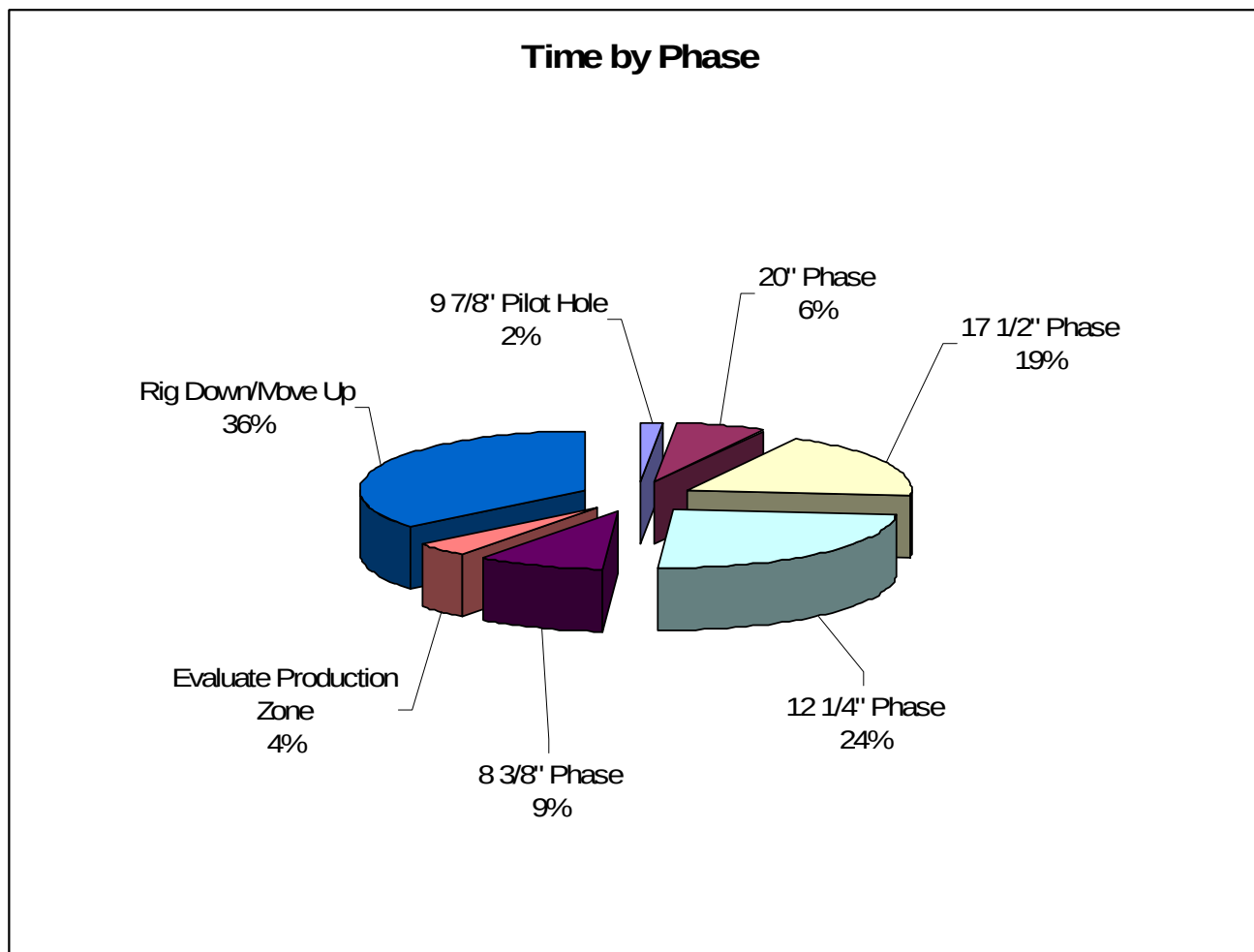
Date 28/12/2005



3.2.2 Total Well Time Breakdown by Function



3.2.3 Time by Phase

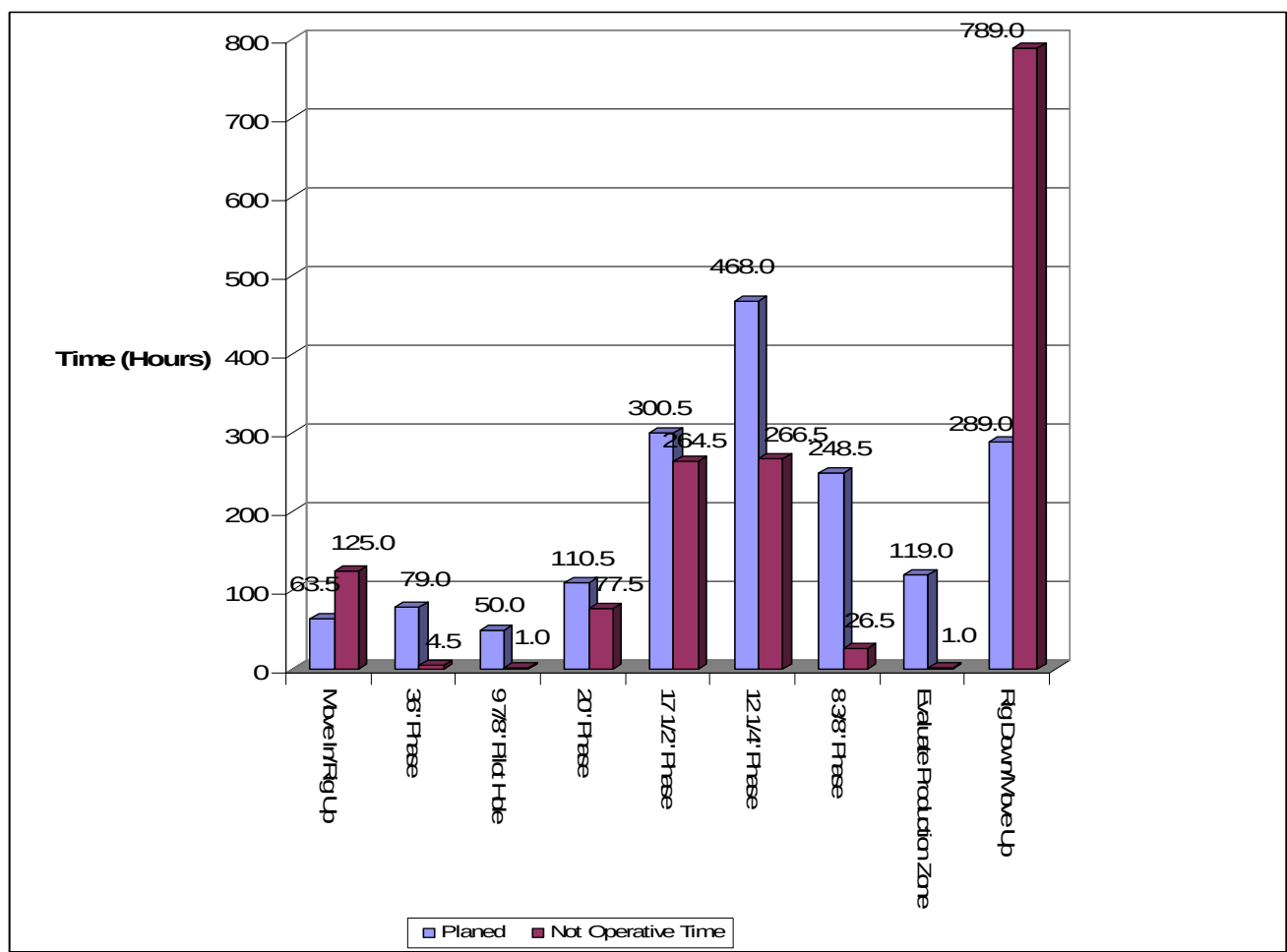


3.2.4 Time Breakdown by Phase

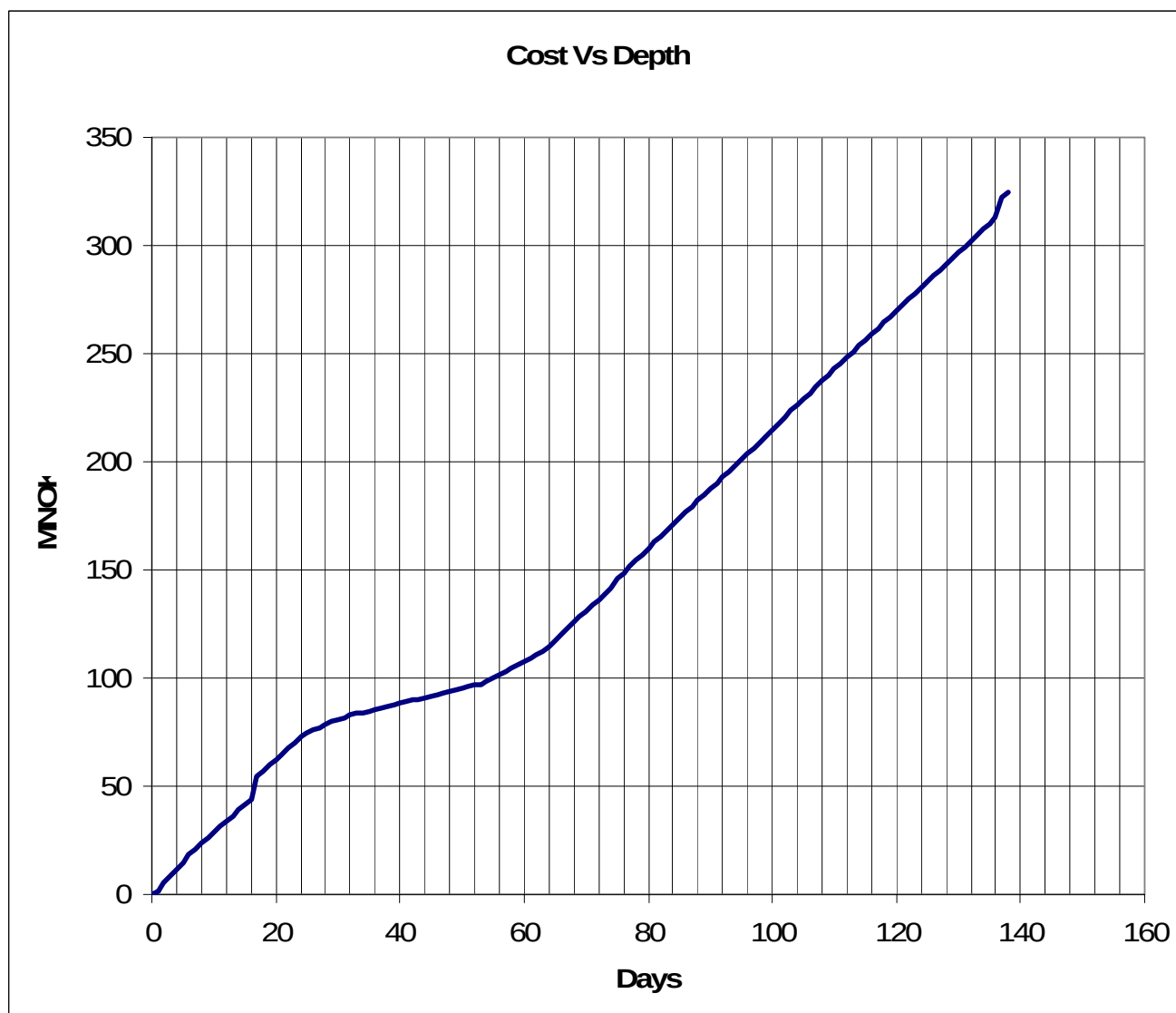
WELL 6406/1-4 TIME BREAKDOWN

	Start	End	Days	Hours	Tot m	m/Day
Move In/Rig Up	12/08/05 18:00	15/08/05 09:30	2.65	63.50	n/d	0.00
36" Phase	15/08/05 09:30	18/08/05 21:00	3.48	83.50	77	22.13
9 7/8" Pilot Hole	18/08/05 21:00	21/08/05 00:00	2.13	51.00	848	399.06
20" Phase	21/08/05 00:00	28/08/05 20:00	7.83	188.00	848	108.26
17 1/2" Phase	28/08/05 20:00	03/09/05 22:30	6.10	146.50	50	8.19
Rig Down/Move Up	03/09/05 22:30	30/09/05 07:00	26.35	632.50	n/d	0.00
Move In/Rig Up	30/09/05 07:00	05/10/05 12:00	5.21	125.00	n/d	0.00
17 1/2" Phase	05/10/05 12:00	22/10/05 22:30	17.44	418.50	1101	63.14
12 1/4" Phase	22/10/05 22:30	22/11/05 13:00	30.60	734.50	1840	60.12
8 3/8" Phase	22/11/05 13:00	04/12/05 00:00	11.46	275.00	668	58.30
Evaluate Production Zone	04/12/05 00:00	09/12/05 00:00	5.00	120.00	n/d	0.00
Rig Down/Move Up	09/12/05 00:00	27/12/05 13:30	18.56	445.50	n/d	0.00
TOTAL TIME	8/12/2005 18:00	12/27/2005 13:30	136.81	3283.50		

3.2.5 Non-Productive vs. Productive Time



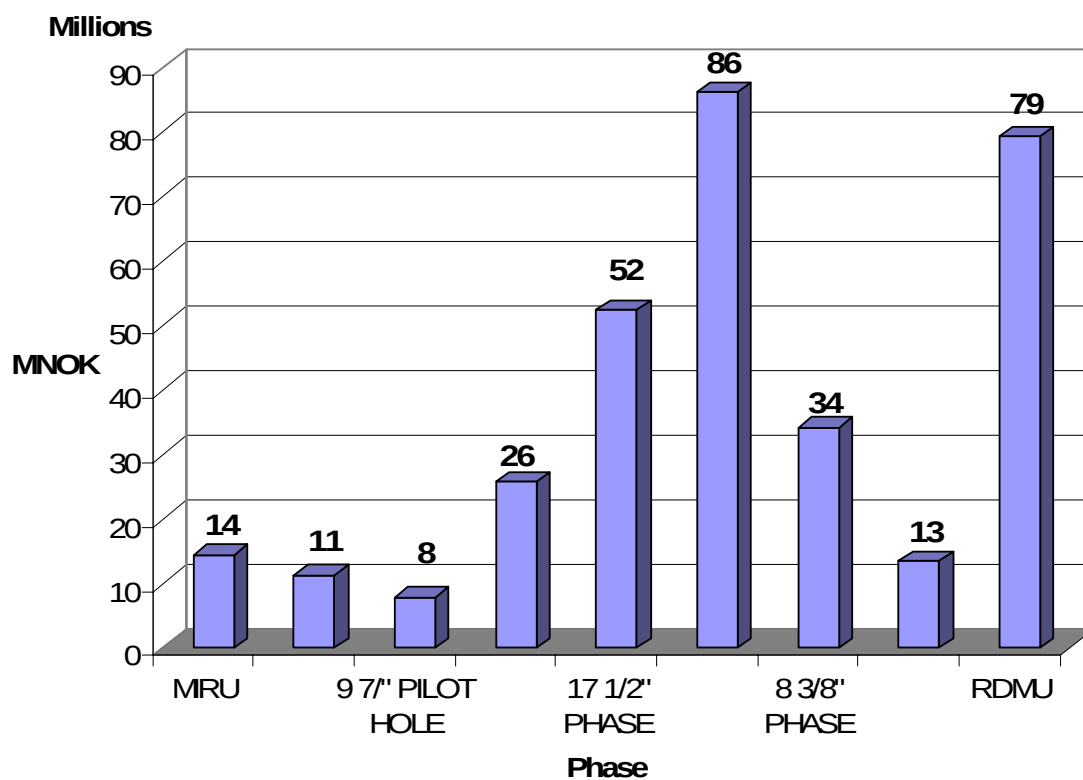
3.2.6 Cost vs. Depth



3.2.7 Cost per Phase

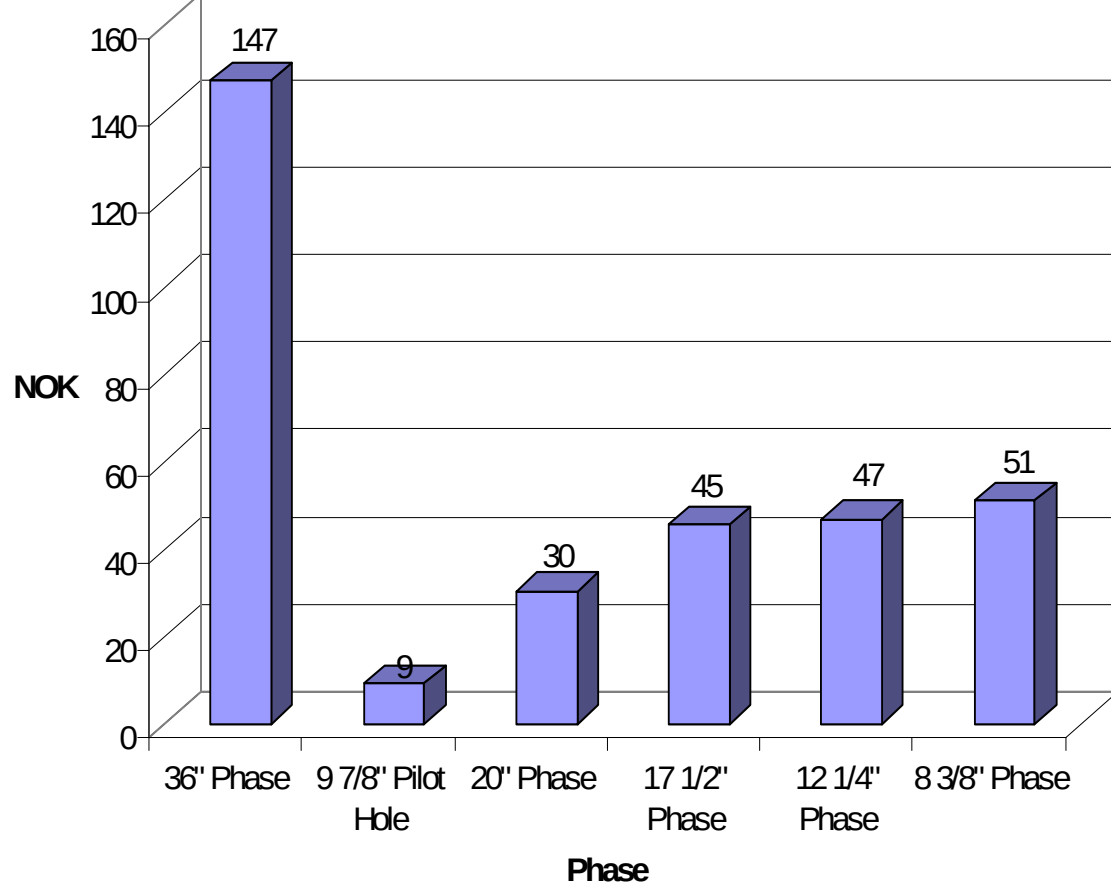
	Start	End	Days	Phase Cost NOK	Tot m	Cost/m
Move In/Rig Up	12/08/05 18:00	15/08/05 09:30	7.86	14,396,866	n/d	0
	30/09/05 07:00	05/10/05 12:00				
36" Phase	15/08/05 09:30	18/08/05 21:00	3.48	11,346,085	77	147,352
9 7/8" Pilot Hole	18/08/05 21:00	21/08/05 00:00	2.13	7,805,975	848	9,205
20" Phase	21/08/05 00:00	28/08/05 20:00	7.83	25,744,521	848	30,359
17 1/2" Phase	28/08/05 20:00	03/09/05 22:30	23.54	52,336,671	1,151	45,471
	05/10/05 12:00	22/10/05 22:30				
12 1/4" Phase	22/10/05 22:30	22/11/05 13:00	30.60	85,972,123	1,840	46,724
8 3/8" Phase	22/11/05 13:00	04/12/05 00:00	11.46	34,183,109	668	51,172
Evaluate Production Z	04/12/05 00:00	09/12/05 00:00	5.00	13,420,776	n/d	0
Rig Down/Move Up	03/09/05 22:30	30/09/05 07:00	44.91	79,145,922	n/d	0
	09/12/05 00:00	27/12/05 13:30			n/d	0
TOTAL TIME	8/12/2005 18:00	12/27/2005 13:30	136.81	324,352,048		

Phase Vs Cost



Cost/m

Thousands



3.3 Operations

3.3.1 Unplanned Events

During the entire well operations the unplanned/unproductive time amounted to 1555.5 hours (47 % of total time).

3.3.2 Drilling Summary

Rig Move In & Mooring Operations:

The rig "Ocean Vanguard" was taken on contract by Eni Norge on 12th August 2005 at 18:00 hrs after having finished a well for Statoil. The rig was towed to the drilling location where the anchors were set and the rig ballasted down to drilling draft. At drilling draft the distance from the rotary table to the sea surface (RT – MSL) was 22 m.

Total time for the rig move to location until commencement of run in = 37.5 hrs.

Time to run anchors and pre-tension (includes re-run of anchor # 1) = 20.5 hrs.

Time to ballast down to drilling draft = 5.5 hrs.

Final rig Geographical Location:

Lat. = 64 deg. 54 min 32.918" N

Long. = 06 deg. 08 min 22.440" E

The cost for the rig move phase was 14.4 MNOK

36" hole section/30" Conductor

DEPTH INTERVAL: Seabed (385 m – 462 m RT)

General - Installation method:

The 36" hole was drilled using a 17 1/2" bit c/w 26"x36" hole-opener and bottom-hole assembly from sea bed to 462 m. The 30" conductor was set on bottom and cemented.

The total time to complete the 36" hole section = 83.5 hrs (3.5 days).

The cost for the 36" phase was 11.4 MNOK

Drilling:

A 36" hole was drilled from the sea bed and down to 462 m. The hole was swept with high viscosity mud and a wiper trip was made back to seabed. The hole was circulated clean and displaced to 1.2 sg high viscosity mud prior to pulling out for running 30" conductor.

An Anderdrift inclination measurement tool was used, but it was found to be malfunctioning (irratc pulsing) once the well was spudded. As the section had to be drilled without the use of the tool, light weight and high RPM was used to stay vertical. The problem was investigated onshore when the tool was sent in and it was found to have debris on top of the plunger.

Bits/BHA:

In this hole section one 17 1/2" bit and one 36" hole opener were used.

The 36" hole was drilled with a 17 1/2" Hughes MX-303DX insert bit (IADC Code 415)

The drilling assemblies are described in the BHA report section (**ref. 3.4.2**).

Mud/Solids Control:

Seawater was used to drill the 36" hole, together with high viscosity sweeps to help clean the hole. A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the 36" hole prior to running the conductor.

Conductor installation:

The 30" conductor was run down to 462 m on 5 1/2" drill pipe. A 3 1/2" cement stinger run inside the conductor to 15 m above the shoe was used to cement the conductor. The 30" casing was cemented with 31 m3 of 1.56 sg lead slurry and 16 m3 of 1.92 sg tail slurry. A top-up cement job 16 m3 of 1.92 sg slurry was needed after top of cement in 36"/30" annulus was tagged at 397 m (12 m below seabed).

Bullseye reading on PGB : 1.25° after cementation.

Stick-up above the seabed was 2.5 m.

9 7/8" pilot hole**DEPTH INTERVAL: 462 – 1310 m RT*****General:***

The 9 7/8" pilot hole was drilled to check for shallow gas down to the setting depth of the 20" casing. No shallow gas was observed from the well.

Final survey at TD: incl = 0.5° and az = 91.31°.

Total time for the 9 7/8" pilot hole was 51 hrs.

The cost for the 9 7/8" phase was 7.8 MNOK.

Drilling:

A 9 7/8" pilot hole with MWD in the BHA was drilled from the conductor shoe and down to 1310 m to check for shallow gas. A flow check for 1 hour was made at section TD, no shallow gas was observed.

The hole was displaced to 1.2 sg high viscosity mud prior to pulling out.

Bits/BHA:

In this hole section one 9 7/8" bit was used.

The pilot hole was drilled with a 9 7/8" Hughes MX-CS09 steel tooth bit (IADC Code 117).

The drilling assemblies are described in the BHA report section (**ref. 3.4.2**).

Mud/Solids Control:

Seawater was used to drill the 9 7/8" hole, together with high viscosity sweeps to help clean the hole.

A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the hole prior to POOH.

26" hole / 20" Casing

DEPTH INTERVAL: 462 – 1310 m RT

General:

After the pilot the section was drilled to 26" from the 30" conductor. Drilling continued to a depth of 566 m whereby an oil leak was observed on the DDM. Drilling operations were suspended for 77.5 hrs (3.2 days) while repairs were carried out on the DDM shaft seal.

Drilling continued to section TD of 1310 m.

Final survey: incl = 0.3°, az = 192.69°.

Total time for drilling the 26" section, wiper trip, displace, POOH and rack BHA = 151 hrs (6.3 days, this includes the 3.2 days repair to DDM).

The running of the 20" casing and cementing took 37 hrs (1.54 days).

The cost for the 26" phase was 25.7 MNOK or 30.4 KNOK/m.

Drilling:

A 26" hole with MWD in the BHA was drilled from the conductor shoe and down to 1310 m. A flow check was made at section TD, no shallow gas was observed.

The hole was swept with high viscosity mud and displaced to 1.2 sg mud prior to a wiper trip back to 30" shoe. The hole was circulated clean and again displaced to 1.2 sg bentonite mud prior to pulling out for running 20" casing.

Bits/BHA:

In this hole section one 26" bit was used: 26" Hughes GTX-CMO3 insert bit (IADC Code 415).

The drilling assemblies are described in the BHA report section (**ref. 3.4.2**).

Mud/Solids Control:

Seawater was used to drill the 26" hole, together with high viscosity sweeps to help clean the hole. A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the 26" hole prior to running the 20" casing.

Casing/Cementing/ install BOP & riser:

The 20" casing was run on 5 1/2" drill pipe and landed on 30" conductor well-head housing. The 20" casing was cemented up to seabed with 220 m3 1.5 sg lead slurry and 30 m3 1.92 sg tail slurry. The cement was displaced with sea-water and plug bump observed. Pressure tested casing to 107 bar for 10 mins.

The installation of BOP and riser was interrupted by WOW. In the meantime utilized time to pick up and rack back tubulars in the derrick, pressure test IBOP's, choke manifold etc in preparation for 17 1/2" section.

Time taken to install BOP was 46 hrs (disregarding WOW time).

The connector was pressure tested to 20/1035 bar for 5/10 mins.

17 1/2" Hole section / 13 3/8" Casing

DEPTH INTERVAL: 1310 – 2315 m RT

General:

The 17 1/2" hole section was drilled with the intention to set the 13 3/8" casing deep enough to achieve a leak-off sufficient for drilling to the next casing point. The 13 3/8" casing was set at 2304 m. The well was temporarily abandoned at a depth of **1360 m** when a problem with anchor winch No.2 (cracked main bearing housing) was observed. The BHA was pulled to surface and a cement plug was spotted across the open hole and 100 m up inside the shoe. It was weight tested to 10 T and pressure tested to 100 bar for 10 mins. The well was then displaced to sea water. All

tubulars from the hole and derrick were laid down to deck and when weather subsided BOP was recovered to surface. After completion of backload of equipment and bulks the anchors were recovered and the rig towed to Kristiansund for repairs to anchor winch. Once repairs were completed, the rig was towed back to location, anchors re-run, tubulars picked up and when weather subsided BOP installed on wellhead. The same Bit and BHA was RIH and the well displaced to 1.4 sg Performadrill mud. The cement was drilled out to a depth of **1360 m** and thereafter to hole section TD of 2315 m.

Total time taken for all this non-productive time = 987.5 hrs (41.15 days).

Time taken to drill 17 1/2" hole to 2315 m TD = 1099.5 hrs (45.8 days, this includes the NPT of repairs to anchor winch).

Time taken to run and cement 13 3/8" casing, pressure test BOP's and surface equipment, L/O 17 1/2" BHA = 67.5 hrs (2.8 days).

The cost for the 17 1/2" phase was 52.3 MNOK or 45.5 KNOK/m.

Drilling:

The Hughes 17 1/2" MX-C303DX bit was used to drill out the 20" shoe and 5 meters of new formation to 1320 m. During this time the well was displaced to 1.37 sg Performadrill mud. Below the 20" shoe a LOT (leak-off test) was performed to an equivalent mud density of 1.57 sg. Drilling continued to a depth of 1360 m when the problem with the anchor winch occurred. See "**General**" section above for details. The well was then drilled to TD of 2315m. During this time there was an environmental incident with regard to 11 m3 of WBM being pumped to sea via the low pressure diverter line due to lack of communication between Subsea Engineer, Driller and Tool Pusher. The well was circulated clean and on the wiper trip started to pull tight hole and had to be backreamed out to the shoe. Large amounts of cuttings were observed at the shakers during the backreaming indicating the hole had not been cleaned up adequately prior to wiper trip. The booster pump was lined up to give extra velocity in the riser. On RIH the string took weight at 2256 m and had to be washed/light reamed back to bottom. Again the hole was circulated clean and no other open hole problems encountered on final POOH.

As the drilling of the 17 1/2" hole progressed, the mud weight was raised in stages to end at 1.5 sg when reaching section TD of 2315 m.

Bits/BHA:

In this hole section one 17 1/2" Hughes MX-C303DX insert bit (IADC Code 415) was used for drilling out cement in the 20" shoe and 5 m new formation. Upon re-entry after the repairs to the anchor winch, the same bit was used for the drilling of cement and new formation to hole section TD.

The drilling assembly is described in the BHA report section (**ref. 3.4.2**).

Mud/Solids Control:

The 17 1/2" hole section was drilled with the water based Performadrill mud which is a shale/clay inhibitive KCL type mud.

During the drilling of the hole section the mud weight was raised from 1.37 sg (initially) to 1.5 sg at TD.

Casing/Cementing:

The casing was run without incident, the only issue having to wash down the last 3 to 4m to land off point. The casing was cemented with 53.4 m3 of 1.92 sg slurry and the plug bumped on displacement with 1.5 sg mud, pressure tested casing to 300 bar for 10 mins. No losses were reported on the running and cementing of the casing.

12 1/4" Hole section / 9 7/8" Casing

DEPTH INTERVAL: 2315 – 4113 m RT

General:

The 12 1/4" hole section was drilled with the intention to set the 9 7/8" casing just above the reservoir to achieve a leak-off sufficient to reach the TD of the well. The 9 7/8" casing was set at 4101 m. The BHI Autotrak was utilized to ensure directional control and verticality.

Total time for the 12 1/4" interval was 734.5 hrs (30.6 days). This included 266.5 hours of unscheduled events, primarily caused by the following:

- 1) Damaged seal on BOP test tool (no spares onboard). Had to recover WB and re-configure test tool – 8 hrs
- 2) Damage to upper racking arm – 7 hrs
- 3) Shut down operations until more OBM onboard due to losses to formation during running casing – 5 hrs
- 4) Casing equipment malfunction – 2.5 hrs
- 5) WOW - includes an unlatch of LMRP – 201 hrs (8.4 days)
- 6) Equipment problems, mud pumps, drawworks, crown compensator – 17 hrs
- 7) IBOP repairs – 14 hrs
- 8) Auger problems – 4.5 hrs

The total time for the casing to be run, cemented and pressure tested was 148 hrs (6.1 days)

The cost for the 12 1/4" phase was 86 MNOK or 47.7 KNOK/m.

Drilling:

The section started with a 12 1/4" Autotrak assembly together with a PDC bit as it was necessary to come back to vertical. The BHA was RIH and the shoe track drilled out plus 5 m of new hole. While drilling out the shoe track the well was displaced to 1.7 sg OBM. A LOT was performed with a result of 2.02 sg EMW. As a matter of factfinding a second LOT was performed after spotting an 8 m3 stress treatment pill in open hole and leaving to soak. The result was the same as the previous LOT.

Drilling of the 12 1/4" section commenced after problems with the cutting transport auger had been solved. The well was drilled to a depth of 4113 m (section TD) with a wiper trip performed at 2907 m (included weekly BOP function test), a POOH for BOP pressure test at 3555 m (included change out of Autotrak which had failed to respond to down-links). Once back on bottom at 3555 m the well was circulated BU prior to drilling ahead with max 33% gas observed. The mud weight was then steadily increased in stages to 1.84 sg while drilling to TD. Once TD had been reached it was necessary to POOH to inside shoe and hang off the drill string, unlatch LMRP and WOW 7 days. Once the LMRP had been relatched and the EHOT recovered, the drill string was RIH to 4113 m and circulated BU prior to POOH for running casing (max.12% gas). Minor tight hole problems occurred while tripping in this hole section that were overcome by working through and wiping clean.

Bits/BHA:

The 12 1/4" Hughes HC607 PDC bit (IADC Code M323) was utilized in the rotary steerable assembly (Autotrak) and drilled all the way to TD.

The drilling assemblies are described in the BHA report section (**ref. 3.4.2**).

Mud/Solids Control:

This section was drilled with 1.7 sg Performadrill OBM and the mud weight was increased during the latter stages to 1.75 sg to ensure gas percentages were kept to a minimum and under control.

Casing/Cementing:

The 9 7/8" casing string was run on 5" x V150 drill pipe. There were a couple of tight spots where the casing had to be worked through. Two casing grades were run; T95 and Q125. There were 6 joints of T95 rejected due to inconclusive make-up, thread damage. The casing shoe was set at 4101 m. It was the intention to cement the 9 7/8" casing string up to 3100 m with 36 m³ of 1.92 sg slurry, however during the running and cementing mud losses to the formation occurred and the cement was displaced with very little returns. A total of 171 m³ mud losses were recorded during running, cementing and displacing. The plug was not bumped after pumping theoretical volume plus half volume of the shoe track. A minor back flow was seen prior to setting the pack-off seal assembly which was concluded to be ballooning effect as a result of the mud losses. The seal assembly was set and successfully pressure tested to 10000 psi. The casing string was successfully tested to 5100 psi. After the shear rams on the BOP had been tested a RTTS packer was RIH and set at 600 m and the casing above it pressure tested to 7300 psi.

8 3/8" Hole section

DEPTH INTERVAL: 4113 – 4596 m RT

General:

An 8 3/8" hole section was drilled under HPHT procedures to a depth of 4596 m. An H2S cascade system was rigged up as contingency with training for all involved crews completed prior to drilling out the 9 7/8" casing shoe. Drills were performed inside the casing as per the HPHT procedures. This included choke manipulation and stripping drills. Fingerprinting exercises of dummy connections, flow checks etc were completed prior to entering the reservoir. A LOT of 2.06 EMW was achieved which was sufficient to drill ahead. Upon entering the reservoir at 4309 m (top of Lange formation) a decision was taken not to cut a core and drilling continued to TD. An extensive logging programme was undertaken with a wiper trip performed prior to the 4th run - MDT log. The well was then P & A prior to anchors being recovered and rig being towed to next location.

Time taken to drill to TD = 275 hrs (11.4 days, includes 1.1 days of Unplanned/Downtime).

Time taken for logging programme (5 log runs) = 120hrs (5 days – this includes wiper trip).

Time taken for P & A = 339.5 hrs (14 days, includes approx. 4 days of Unplanned/Downtime).

The interval cost was 31.5 MNOK or 65.24 KNOK/m.

Drilling:

An 8 3/8" locked BHA + PDC bit was used to drill this section to TD. The 5" HWDP and the appropriate amount of 5" drillpipe was picked up and RIH in the 8 3/8" section with the goal of keeping ECD's to a minimum. Once the drills were completed as per the HPHT procedures, the 138 m of cement above the float collar and remainder of shoe track was drilled while displacing the well to 1.9 sg Performadrill mud. The cement was found patchy in places (firm and soft). After the LOT (2.06 sg of EMW) was performed drilling continued to section TD with connection gas peaks between 13 to 21%. Trip gas was 10 to 12%.

No core was cut in this hole section.

The well was wireline logged and then P & A.

During the drilling of the 8 3/8" hole "ballooning/ breathing" effects were experienced.

The typical well behavior was:

When the well was flow checked for 15 minutes static (as per HPHT procedures) it started to flow back. After a time the flow-back rate decreased and then the stopped. Other than the mud gain from "ballooning effects", no other significant hole problems were encountered in the drilling of the 8 3/8" hole section. The planned TD for this section was to be 4622 m however owing to slow ROP and other geological factors; TD was revised to 4596 m which gave a sufficient rathole for the logging tools intending to be run.

Bits/BHA:

One bit, a Hughes HC607 7-bladed PDC bit (IADC Code M223) was used to drill the entire 8 3/8" hole section to 4596 m.

The drilling assemblies are described in the BHA report section (**ref. 3.4.2**).

Mud/solids control:

The mud used for the 8 3/8" hole section was the same Performadrill OBM. The mud weight when drilling out of the 9 7/8" casing shoe was 1.90 sg.

Plug and Abandonment

A 3 1/2" drill pipe x 320 m length cement stinger was used to plug the well with cement. Time taken for P&A = 339.5 hrs (14 days, includes approx. 4 days of Unplanned/Downtime).

Plug # 1: Over the open hole section from 4596 m – 4035 m (100 m inside casing shoe) was set in three stages. The plug was verified with 10 ton of weight and with 130 bar of surface pressure.

9 7/8" casing was cut at 900 m (515 m below seabed) and retrieved.

Plug # 2: Owing to the well continuing to give back the mud lost to formation when cementing the 9 7/8" casing, a 13 3/8" EZSV was RIH and set at 895 m. Pressure testing of the EZSV from above confirmed the packer to be leaking slightly. A 100 m cement plug was placed on top of the EZSV and later verified with 10T of weight and 108 bar of surface pressure.

13 3/8" casing was cut at 600 m (215 m below seabed) and retrieved.

Plug # 3: Cemented from 730 m up to 425 m. The plug was verified with 10 ton of weight and 44 bar of surface pressure.

The well was displaced above top plug to seawater. Retrieved BOP on riser.

The 20" and 30" casing strings were cut at 391 m (6 m below seabed) and retrieved.

3.3.3 DailyOperation Ocean Vanguard

ENINORGE						Page 1 of 41
Operations Summary Report						
Legal Well Name:		6406/1-4				
Common Well Name:		6406/1-4		Spud Date: 8/16/2005		
Event Name:		ORIG DRILLING		Start:	8/12/2005	End: 10/18/2005
Contractor Name:		DIAMOND DRILLING		Rig Release:	12/27/2005	
Rig Name:		OCEAN VANGUARD		Rig Number:		
Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/13/2005	00:00 - 00:00	24.00	M	b	MIRU	Rig taken over on Eni Norge contract @ 18:00 HRS of 12/08/2005. On tow to 6406/1-4 location. Position @ 24:00 HRS: 61°45'N 002°24'E. Course: 009°. Speed: 6 kn. ETA: 12:00 14/08/2005. On tow to 6406/1-4 location Position @ 06:00 HRS: Lat 62°22'N Lon 003°10'E. Speed:7 kn. Course: 035° ETA 07:00 14/08/2005 Position @ 08:00 HRS: Lat 62°35'N Lon 003°24'E. Speed:7 kn. Course: 025° ETA 06:00 14/08/2005 Position @ 12:00 HRS: Lat 63°01'N Lon 003°55'E. Speed:7,5 kn. Course: 035° ETA 06:00 14/08/2005 Position @ 16:00 HRS: Lat 63°26'N Lon 004°30'E. Speed:7,7 kn. Course: 026° ETA 06:00 14/08/2005 Position @ 20:00 HRS: Lat 63°51'N Lon 004°58'E. Speed:7 kn. Course: 025° ETA 06:30 14/08/2005 Position @ 24:00 HRS: Lat 64°15'N Lon 005°31'E. Speed:7,5 kn. Course: 029° ETA 06:30 14/08/2005
8/14/2005	00:00 - 07:30	7.50	M	b	MIRU	On tow to 6406/1-4 location. Position @ 04:00 HRS: Lat 64°41,5'N Lon 006°03,5'E. Course: 029°. Speed: 7 kn. ETA: 06:30 14/08/2005. Finished seapassage @ 07:15. Prepared & commenced to run anchors.
	07:30 - 20:30	13.00	M	d	MIRU	Anchor N. Pennant to boat Anchor on bottom Pennant to rig 4 08:20 10:35 13:30 5 11:15 12:55 13:53 1 13:43 14:45 15:18 8 14:08 15:15 15:52 3 15:23 16:15 16:54 7 16:05 17:20 18:05 2 17:02 18:08 18:40 6 18:20 19:52 20:35
	20:30 - 00:00	3.50	M	d	MIRU	Commenced to cross tension anchors to 400 kips (200 tons). Anchor #4 not holding. Rerun same.
8/15/2005	00:00 - 04:00	4.00	M	d	MIRU	Anchor N. Pennant to boat Anchor on bottom Pennant to rig 4 22:06 23:23 00:35 Continued to cross tension anchors to 400 Kips (200 tons). Anchor #1 not holding. Rerun same.
	04:00 - 09:30	5.50	M	c	MIRU	Anchor No. Pennant to boat Anchor on bottom Pennant to rig 1 00:56 02:36 04:33 Ballasted rig from transit draft to drilling draft.
	09:30 - 00:00	14.50	A	a	DRLCON	Removed sea fastening. Reviewed JSA. Commenced to pick up 5 1/2" DP and racked same in derrick. All DP drifted 3". Stands picked up in total @24:00: 46. In the mean time commenced to weigh up kill mud in res. pit 1,2,3 & 4 to 1,5 sg.
8/16/2005	00:00 - 04:30	4.50	A	f	DRLCON	CONT to P/U DP and rack same in derrick. Stands picked up in total: 60. P/U 4 stands of 5 1/2" HWDP and racked same in derrick. Drift 3". In the mean time CONT to weigh up kill mud in Res. Pits 1, 2, 3, & 4 to 1,5 sg.
	04:30 - 05:00	0.50	A	f	DRLCON	P/U & M/U cement stand and racked same in derrick.
	05:00 - 13:30	8.50	A	b	DRLCON	Cleared rig floor, reviewed JSA, P/U and M/U 36" BHA. Carried out Anderdrift test on first std of 5.1/2" HWDP: OK. CONT to RIH 36" BHA on 5 1/2" HWDP & DP. Tagged bottom @ 385 m. Final well coordinates: Lat 64°54'32,918"N Lon 006°08'22,440"E.
	13:30 - 17:30	4.00	A	a	DRLCON	Spudded well and drilled from 385 m to 416 m. Increased flow & RPM in

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/16/2005	13:30 - 17:30	4.00	A	a	DRLCON	stages to 90 RPM and 3610 ltrs/m. Pressure: 1020 psi, WOB: 2-5 Klbs. Took survey @ 406 m (7 pulses indicating 1.25°). Resurveyed same (6 pulses = 1.5°). Reamed interval x 3 and took survey (2 pulses = 2.25°). Pulled back to 392 m and took survey (5 pulses = 1.5°). Reamed back down to 406 m.
	17:30 - 18:30	1.00	A	a	DRLCON	CONT to drill ahead 36" hole from 406 m to 416 m with 3040 ltrs/min, 1050 psi, 90 rpm, torque on & off bottom 2 - 5 kft.lbs, 2-5 klbs WOB: 165 klbs up, 160 klbs down & 165 klbs rotating. Swept hole with 10 m3 of gel mud. Took surveys @ 416 m (3 & 2 pulses = 2° & 2.25° respectively).
	18:30 - 00:00	5.50	A	a	DRLCON	Pulled back to 390. Took surveys (0 2 3 pulses). Indications tool may be malfunctioning. RIH to 416 m and drill ahead to 449 m with 3800 ltrs/min, 1050 psi, 90 rpm, torque on & off bottom 2 - 5 kft.lbs, WOB 3 - 5 klbs. Swept hole with 10 m3 gel mud every connection. Took survey at 426 m (1 pulse = 2.5°)
8/17/2005	00:00 - 01:30	1.50	A	a	DRLCON	CONT to drill 36" f/449 m to 462 m (section TD), with 3040 ltrs/min, 1050 psi, 90 rpm, torque on & off bottom 3 - 5 kft.lbs, WOB 3 - 5 klbs. Swept hole with 10 m3 gel mud every connection. Took survey @ 462 mtrs (zero pulses observed).
	01:30 - 02:00	0.50	A	c	DRLCON	Circulated hole clean & displaced hole w/1,2 sg gel mud (25% excess). Took survey: no pulse.
	02:00 - 03:00	1.00	A	b	DRLCON	Performed wiper trip back to sea bed. RIH again & took weight @ 458 m (17 1/2" hole). Washed/reamed f/458 m t/462 m w/3040 ltrs/min & 30 rpm.
	03:00 - 08:30	5.50	A	c	DRLCON	Circulated hole clean, & displaced hole to 1,2 sg gel mud (25% excess). POOH 36" BHA to surface racked back same in derrick
	08:30 - 09:00	0.50	A	f	DRLCON	Change handling equipment t/3,5". P/u & M/u one std 3 1/2" & racked same in derrick
	09:00 - 12:00	3.00	C	f	CSGCON	Rigged up 30" handling equipment. P/up 30" shoe jnt & 1 CP joint. Checked float: OK.
	12:00 - 14:00	2.00	C	f	CSGCON	Installed PGB on trolley in moonpool and secured same.
	14:00 - 15:00	1.00	C	b	CSGCON	CONT to run 30" CP t/61 m. Filled every joint w/1.2 sg mud
	15:00 - 16:30	1.50	C	f	CSGCON	Changed handling equipment f/30" CP t/ 5 1/2" DP. P/up & RIH wellhead housing on running tool. Landed same in PGB. Broke out running tool and l/out same.
	16:30 - 21:30	5.00	C	e	CSGCON	Changed handling equipment t/3,5". RIH one std 3 1/2" CMT stinger. Changed handling equipment t/5 1/2". Run one std 5 1/2" DP. P/up CART tool f/deck and installed same to 30" housing. Filled CP with seawater, closed ball valve on CART tool. Continued pumping until wellhead submerged. CONT RIH 30" CP till PGB 4 m above seabed, filled every joint with seawater. Skidded rig 5 m port fwd.
	21:30 - 22:30	1.00	C	b	CSGCON	Stabbed 30" CP shoe joint in hole with ROV assisting and CONT to run 30" CP on 5 1/2" landing string. P/up and M/up CMT stand and CONT to RIH. Took weight 2 m off bottom, 20 klbs.
	22:30 - 23:00	0.50	C	f	CSGCON	P/u and M/u DDM, lo-torque and hose to CMT stand. Opened compensator.
	23:00 - 00:00	1.00	C	c	CSGCON	Broke circulation and washed down to setting depth, PGB 2 m above seabed, with 3000 l/min, 500 psi and ROV observing PGB and CP position. Checked bulls eye: HA bullseye = 0,75° Stbd. 5° bullseye = 0,5°. Lined up to CMT unit.
8/18/2005	00:00 - 00:30	0.50	C	f	CSGCON	Pressure tested cement line to 200 bar, good test. Lined up to cement unit and applied 500 psi above TIW w/rig pumps.
	00:30 - 01:30	1.00	C	f	CSGCON	Observed bullseyes reading over limits. P/up string, L/up and broke circulation, spaced out with compensator to put PGB 2.5 m above seabed,

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/18/2005	00:30 - 01:30	1.00	C	f	CSGCON	ROV checked bullseyes: HA bullseye = 1°STBD AFT; 5° bulleye: 0,75°.
	01:30 - 03:00	1.50	C	c	CSGCON	L/up CMT unit, mixed and pumped 31 m3 of 1.56 sg lead slurry and 16 m3 of 1.92 sg tail slurry. Displaced w/ 7 m3 of sea water. Bled off pressure and checked for backflow: 2 ltrs observed. During CMT job observed CP coming up approx 1 mtr and slacking off 0,5 mtr. Top well head: 2,5 m above seabed. Checked bullsyeys w/ ROV: both reading 0,75°.
	03:00 - 09:00	6.00	C	d	CSGCON	WOC. Opened ball valve on CART w/ROV. Circulated down string 4,5 m3 of sea water: no return observed through annulus. Continued WOC.
	09:00 - 09:30	0.50	N	f	CSGCON	Backed out running tool. Stopped before pulling CMT stinger out of 30" CP due to rig out of well center.
	09:30 - 10:00	0.50	N	f	CSGCON	Skidded rig to well center.
	10:00 - 10:30	0.50	N	f	CSGCON	Pulled CMT stinger out of 30" CP. Stung string through PGB frame and lowered down in 36"/30" annulus to check for CMT.
	10:30 - 12:00	1.50	N	f	CSGCON	POOH w/CART & CMT stinger. L/down CART and racked back CMT stinger in derrick. No CMT observed on CMT string.
	12:00 - 16:00	4.00	N	f	CSGCON	Broke out and lay out 36" assy.
	16:00 - 19:00	3.00	C	c	CSGCON	P/u CMT stinger, run to seabed, stabbed in 36"/30" annulus and tagged cement @ 397 m. Mixed and pumped 16 m3 of 1,92 sg cmt slurry.
	19:00 - 20:30	1.50	C	c	CSGCON	POOH w/ CMT stinger and L/down same.
	20:30 - 21:00	0.50	N	f	CSGCON	Carried out shallow gas drill.
	21:00 - 00:00	3.00	N	f	DRLIN1	Picked up BOP test assy & B/out mandrill. L/down same. P/u and M/u 9 7/8" BHA. Reassembled MWD & uploaded data.
8/19/2005	00:00 - 02:30	2.50	A	b	DRLIN1	RIH 9 7/8" BHA to seabed (385 M).
	02:30 - 03:30	1.00	A	b	DRLIN1	Stabbed 9 7/8" BHA in 30" CP with ROV guiding bit in well and CONT to RIH to 432 m.
	03:30 - 04:00	0.50	A	f	DRLIN1	Carried out shallow gas drill with night crew.
	04:00 - 06:00	2.00	A	b	DRLIN1	Washed down f/432 and tagged CMT @ 451 m. Drilled out CMT and 30" CSG shoe. Pumped 5 m3 of hi-vis mud & reamed shoe.
	06:00 - 07:00	1.00	A	f	DRLIN1	Observed possible indication of gas bubbles aft of rig. Lined up and pumped 32 m3 of 1,52 kill mud. No gas bubbles observed while pumping kill mud. Displaced kill mud w/sea water. Observed well for 15 min: no gas bubbles observed.
	07:00 - 15:30	8.50	A	a	DRLIN1	Cleaned out rat hole & pumped 5 m3 of hi-vis mud. Reamed rathole several times. Drilled f/432 m t/579 wit 150 RPM, 3000 l/m, 5 tons WOB. Took survey every connection.
	15:30 - 16:30	1.00	A	f	DRLIN1	Racked back one drill stand in derrick and worked string while offloading supply vessel. Sent down link to MWD.
8/20/2005	16:30 - 00:00	7.50	A	a	DRLIN1	Drilled ahead f/579 m t/724 m w/150 RPM, 3000 lpm, 5 tons WOB. Took survey every connection. Observed bubble by ROV, with bit at 582 m. Checked same:OK.
	00:00 - 15:30	15.50	A	a	DRLIN1	Drilled ahead f/724 m t/1310 (TD) w/5 tons WOB, 3000 lpm, 150 RPM. Swept hole w/HI-VIS pills & took survey every connection.
	15:30 - 16:00	0.50	A	c	DRLIN1	Circulated hole clean. Survey @ 1303 m: incl. 0,50°, azim.:91,31°
	16:00 - 17:00	1.00	N	f	DRLIN1	Flowchecked well: OK. Observed for shallow gas w/ROV: no flow.
	17:00 - 17:30	0.50	A	c	DRLIN1	Displaced to 1,2 sg mud.
	17:30 - 21:00	3.50	A	b	DRLIN1	POOH 9 7/8" BHA to 259 m on 5 1/2" DP.
	21:00 - 23:30	2.50	A	b	DRLIN1	Reviewed JSA. POOH 9 7/8" BHA. L/down jar, stop sub & APX. P/up & M/up Stop sub, x/over & pony collar. Down loaded MWD & l/out X/over & 9 7/8" bit.
	23:30 - 00:00	0.50	A	b	DRLSUR	Reviewed JSA. P/up & M/up 26" BHA.
8/21/2005	00:00 - 03:30	3.50	A	b	DRLSUR	CONT to P/u & M/up 26" BHA. P/up 26" stabs & jar. Installed guide ropes onto guide lines.
	03:30 - 04:30	1.00	A	f	DRLSUR	Serviced DDM, dollys, washpipe and crownblock.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/21/2005	04:30 - 05:30	1.00	A	b	DRLSUR	RIH w/26" BHA w/ROV guiding 26" bit into 30" CSG
	05:30 - 08:00	2.50	A	b	DRLSUR	CONT to RIH w/26" BHA. Tagged CMT @ 451 m & drilled out CMT shoe and rat hole to 462 m (36" hole TD). Reamed through shoe several times. Pumped 2 5m3 sweeps of HI-VIS pills.
	08:00 - 14:30	6.50	A	a	DRLSUR	Drilled 26" hole f/462 m t/566 m. Took survey and swept hole w/HI-VIS pills at every connection.
	14:30 - 17:00	2.50	A	f	DRLSUR	Observed oil leak from DDM. Racked drill stand back in derrick and investigated same.
	17:00 - 19:00	2.00	A	b	DRLSUR	POOH w/26" BHA and racked same back in derrick.
	19:00 - 00:00	5.00	A	f	DRLSUR	Work on DDM for repairs.
8/22/2005	00:00 - 00:00	24.00	A	f	DRLSUR	Worked on TOP DRIVE for repairs.
8/23/2005	00:00 - 00:00	24.00	A	f	DRLSUR	CONT to work on TOP DRIVE for repairs.
8/24/2005	00:00 - 13:00	13.00	A	f	DRLSUR	Continued to work on Top Drive for repairs. Performed function test: OK
	13:00 - 14:30	1.50	A	f	DRLSUR	L/out 30" cement stand. P/up new cement head, attempted to rack in derrick. Unable to rack due to non-rotation arm on head. Set down cement head on deck.
	14:30 - 20:00	5.50	A	b	DRLSUR	P/u & M/u 26" BHA. RIH w/same. Washed down from 30" shoe t/566 m.
	20:00 - 00:00	4.00	A	a	DRLSUR	Drilled ahead 26" hole f/566 m to 616 m w/5 tons WOB, 165 RPM and 4560 lpm. Reamed and took survey every connection. Pumped 2 HI VIS pills of 5 m3 every stand.
8/25/2005	00:00 - 12:00	12.00	A	a	DRLSUR	Drill ahead 26" hole from 616 m to 810 m; record survey every connection. Pump 2 HI VIS 5 m3 sweep each stand. Possible gas shows @ 729 m, bubbles observed on sonar by ROV, drilling suspended as well was observed; no gas bubbles on surface, bubble dissipated, drilling continued.
	12:00 - 00:00	12.00	A	a	DRLSUR	Drill ahead 26" hole from 810 m to 1002 m; record survey every connection. Pump 2 HI VIS 5 m3 sweep each stand.
8/26/2005	00:00 - 12:00	12.00	A	a	DRLSUR	Drill 26" hole from 1002 m to 1274 m.
	12:00 - 14:00	2.00	A	a	DRLSUR	Continue drill 26" hole from 1274 m to 1310 m.
	14:00 - 15:00	1.00	A	c	DRLSUR	Pump 30 m3 hi vis pill and circulate hole clean with seawater.
	15:00 - 17:30	2.50	A	b	DRLSUR	POOH wet drill pipe from 1310 m to 432 m.
	17:30 - 19:00	1.50	O	b	DRLSUR	Slip and cut 40 m of drill line. Grease top drive.
	19:00 - 20:30	1.50	A	b	DRLSUR	RIH from 432 m to 1272 m.
	20:30 - 23:00	2.50	A	d	DRLSUR	Wash and ream from 1272 m to 1310 m (TD), work through tight spots; parameters: 3000l/min 120rpm. Pump 28 m3 hi/vis pill at TD, rack drilling stand, pick up single. Work stand while prep mud for displacement.
	23:00 - 00:00	1.00	A	c	DRLSUR	Commence to displace the well to 1.2sg mud. Cutting mud back from 1.5sg to 1.2sg while displacing hole.
8/27/2005	00:00 - 03:00	3.00	A	c	DRLSUR	Displacing well to 1.20 sg mud.
	03:00 - 05:00	2.00	A	b	DRLSUR	POOH from 1310 m to surface.
	05:00 - 06:30	1.50	A	e	DRLSUR	Rack 26" BHA.
	06:30 - 08:00	1.50	C	e	CSGSUR	Make up cement stand and rack in derrick.
	08:00 - 09:30	1.50	C	e	CSGSUR	Rig up to run casing.
	09:30 - 12:00	2.50	C	b	CSGSUR	Make up shoe and float assy, RIH with 20" casing.
8/28/2005	12:00 - 00:00	12.00	C	b	CSGSUR	RIH with 20" casing to 916m .
	00:00 - 02:00	2.00	C	b	CSGSUR	Change out handling gear; continue RIH on 5.5" DP fill pipe on run in.
	02:00 - 03:00	1.00	C	b	CSGSUR	Land out casing, with 5 ton down, insure land out with 25 ton overpull, stage pumps up to 2000l/min, record pressures, Hold jsa for cement job.
	03:00 - 10:30	7.50	C	c	CSGSUR	Pump through using Halliburton unit; line test to 250 bar; commence cement job as per program. 220 m3 lead @ 1.5 SG and 30 m3 tail slurry @1.92 SG. Drop dart and displace with seawater at 3000 l/min; bump plug with 8230 stks, hold 107 bar to test casing . Bleed off and check floats holding.
	10:30 - 11:00	0.50	C	b	CSGSUR	Release wellhead running tool, pull clear and jet well head until clean.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/28/2005	11:00 - 12:30	1.50	C	b	CSGSUR	POOH with landing string and well head running tool. Lay down well head running tool.
	12:30 - 14:00	1.50	C	e	CSGSUR	Break down cement head and lay down same. Meanwhile work with supply boats.
	14:00 - 15:00	1.00	C	e	CSGSUR	Rig down casing tong and clear rig floor of casing handling equipment.
	15:00 - 20:00	5.00	C	e	CSGSUR	Hold JSA break down and lay out 26" BHA. Meanwhile work with supply boats.
	20:00 - 00:00	4.00	A	e	DRLIN2	Pick up 17½" bha & rack back in derrick, take on 480m3 of water base mud from boat.
8/29/2005	00:00 - 09:00	9.00	A	e	DRLIN2	Pick up drill pipes from deck; RIH 10 stands at a time and rack back in derrick; total 35 stands made and racked.
	09:00 - 10:30	1.50	A	e	DRLIN2	Make up EDPHOT stand and rack back in derrick
	10:30 - 12:00	1.50	I	d	DRLIN2	Pressure test choke and kill manifold to 35 bar low and 1035 bar high.
	12:00 - 00:00	12.00	I	d	DRLIN2	Continue pressure test choke and kill manifold 35 / 1035 bar. Install new choke and kill goosenecks on droop hoses, install coriolis loop after inspection. Rig and test tiw and ddm upper and lower ibop v/vs with 18 bar low and 345 bar high. Retest valves 22,28,43 to 35 bar low and 1035 bar high.
8/30/2005	00:00 - 04:30	4.50	I	d	DRLIN2	Test surface equipment, stand pipe, tiws, grey, valvess nipple up coriolis loop, mix mud in preparation for drilling operations.
	04:30 - 05:00	0.50	I	d	DRLIN2	Rig down test equipment, rig up to pick up 5½" dp.
	05:00 - 09:00	4.00	A	e	DRLIN2	Pick up 5½" pipe, rack in derrick 10 stands while waiting on weather . Weather: wind= 46 knt waves=7 m.
	09:00 - 09:30	0.50	A	f	DRLIN2	Carry out mud pump and block calibrations for Baker.
	09:30 - 13:30	4.00	A	e	DRLIN2	Continue pick up 5½" pipes, rack in derrick 20 stands while waiting on weather . Total drill pipes picked up 32 stands. Weather: wind=40 knt waves=6 m.
	13:30 - 14:30	1.00	O	f	DRLIN2	Service rig.
	14:30 - 17:30	3.00	I	b	DRLIN2	Held JSA, rig up to run stack, change elevator and bails , install riser spider, install second bucket on pipe skate.
	17:30 - 20:00	2.50	I	b	DRLIN2	Pick up 2 riser joints and make up in derrick, re-hang choke, kill & booster lines in moonpool. [stand by cover @ 1930hrs]
	20:00 - 21:00	1.00	I	e	DRLIN2	Skid rig off location to run BOP stack.
	21:00 - 22:00	1.00	I	b	DRLIN2	Skid BOP from garage to well center and nipple up same.
8/31/2005	22:00 - 00:00	2.00	P	a	DRLIN2	Weather picked up & standby boat withdrew cover. Weather: wind=30 knt waves=3 m significant, 5 m maximum.
	00:00 - 05:30	5.50	P	a	DRLIN2	WOW: Wait on standby boat cover for overside work on BOP, continue with mud mixing ops.
						Time Wind Wind Wave Wave Pitch/ Heave kts deg m deg deg m
						00:00 35 210 5 220 1,0/1,0 1,0
						02:00 32 210 5 215 1,0/0,9 0,9
						04:00 28 205 4.5 210 0,9/0,8 0,8
	05:30 - 09:00	3.50	I	b	DRLIN2	Standby boat back on close standby continue with nipple up bops.
	09:00 - 10:00	1.00	I	b	DRLIN2	Pick up BOP's, skid back transporter, run BOP's through splash zone.
	10:00 - 12:00	2.00	I	f	DRLIN2	Run BOP's picking up riser from deck.
	12:00 - 14:30	2.50	P	a	DRLIN2	Standby boat cover withdrawn. WOW to continue BOP operations.
						Time Wind Wind Wave Wave Pitch/ Heave kts deg m deg deg m
						12:00 30 186 3 200 0,7/0,5 0,5
						14:00 24 177 3 190 0,7/0,5 0,5
	14:30 - 17:30	3.00	I	f	DRLIN2	Continue to run BOP stack, total joints picked up 14.
	17:30 - 19:00	1.50	I	d	DRLIN2	Install test cap, pressure test choke and kill lines 21 / 1035 bar.

Operations Summary Report

Legal Well Name: 6406/1-4
 Common Well Name: 6406/1-4
 Event Name: ORIG DRILLING
 Contractor Name: DIAMOND DRILLING
 Rig Name: OCEAN VANGUARD

Start: 8/12/2005
 Rig Release: 12/27/2005
 Rig Number:

Spud Date: 8/16/2005
 End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
8/31/2005	19:00 - 22:30	3.50	I	f	DRLIN2	Continue to run bops
	22:30 - 00:00	1.50	I	d	DRLIN2	Test c/k lines 14 / 1035bar at riser joint 20.
9/1/2005	00:00 - 02:00	2.00	I	b	DRLIN2	Run Bop
	02:00 - 03:00	1.00	I	d	DRLIN2	Test choke & kill lines to 21 / 1034 bar prior to pick up slip joint.
	03:00 - 04:00	1.00	I	f	DRLIN2	Pick up slip joint.
	04:00 - 05:30	1.50	I	f	DRLIN2	Confirm setting area to set down slip joint on spider dogs.
	05:30 - 07:00	1.50	I	f	DRLIN2	Pick up and make up landing joint, install inner barrel locking dog control panel on slip joint.
	07:00 - 10:30	3.50	I	f	DRLIN2	Install goosenecks, modify control hoses for locking into goosenecks.
	10:30 - 12:00	1.50	I	f	DRLIN2	Torque up goosenecks clamps prior to testing. Pick up and install booster line.
	12:00 - 12:30	0.50	I	f	DRLIN2	Pick up on BOP to engage load ring.
	12:30 - 14:30	2.00	I	d	DRLIN2	Carry out pressure test on choke & kill droop hoses to 34 bar low for 5 min and 1035 high for 10 min. Checked torque on droop hose clamps three times between 1034 bar test. Ok.
	14:30 - 18:00	3.50	I	b	DRLIN2	Commence skidding rig over well head while connecting pod line saddles and hanging off pod lines.
	18:00 - 20:00	2.00	I	b	DRLIN2	Land off BOP under ROV supervision with 28 ton down from neutral weight. Observe well head connector indicator move to lock position and perform 25 ton over pull test: ok. Change over from blue to yellow pod and repeat overpull test with ROV monitoring well head connector: ok.
	20:00 - 21:00	1.00	I	d	DRLIN2	Line up to choke and kill lines, confirm flowpath with Halliburton. Close shear rams with acoustic pod and pressure test ring gasket to 138 bar: positive.
	21:00 - 23:00	2.00	I	f	DRLIN2	Open slip joint, lay down landing joint and install diverter.
9/2/2005	23:00 - 00:00	1.00	I	e	DRLIN2	Rig down riser handling gear, clear equipment from rig floor.
	00:00 - 01:00	1.00	I	f	DRLIN2	Rig down riser handling equipment and remove from rig floor.
	01:00 - 02:00	1.00	I	d	DRLIN2	Pick up jetting sub and BOP isolation test tool, inspect and function same.
	02:00 - 03:00	1.00	I	d	DRLIN2	RIH with BOP isolation test tool on 5½" DP.
	03:00 - 04:30	1.50	I	d	DRLIN2	Attempt to set test tool but without success. No indication of tool setting.
	04:30 - 06:00	1.50	I	d	DRLIN2	POOH, inspect and troubleshoot test tool, clean and re-set tool,
	06:00 - 07:00	1.00	I	d	DRLIN2	RIH and set BOP isolation test tool in wellhead with positive indication of setting.
	07:00 - 10:30	3.50	I	d	DRLIN2	Pressure test wellhead connector with 20 Bar/ Low-5 min and 1035 Bar/ High-10 min. Function testing Bop blue pod from rigfloor, yellow pod from toolpusher office.
	10:30 - 12:00	1.50	I	d	DRLIN2	POOH strapping Pipe on way out.
	12:00 - 13:00	1.00	I	d	DRLIN2	Continue to POOH strapping Pipe. Cleaned and layed out isolation tool.
	13:00 - 14:30	1.50	A	e	DRLIN2	Make up cement stand changing out Pup joints and rack it back in Derrick.
	14:30 - 15:00	0.50	A	e	DRLIN2	Clear floor of excess equipment and hold JSA Meeting for running BHA from Derrick.
	15:00 - 17:30	2.50	A	b	DRLIN2	Run BHA from Derrick, picking up three singles of HWDP from deck and install Dart Sub.
	17:30 - 20:00	2.50	A	b	DRLIN2	Running in Hole on 5 1/2" Drill Pipe from 285 m to 1250 m.
	20:00 - 20:30	0.50	A	b	DRLIN2	Make up top drive, tag wiper plugs at 1272 m.
	20:30 - 21:00	0.50	N	f	DRLIN2	Space out, close upper annular and conduct choke drill with crews. Hold 21 bar with rig pumps while maintaining choke pressure constant; 0 to 20 spm.function test lower pipe rams.
	21:00 - 23:00	2.00	A	a	DRLIN2	Drill out float assy at 1272 m and drill cement to 1291 m.
9/3/2005	23:00 - 00:00	1.00	A	c	DRLIN2	Displace well to 1.4 SG performadrill mud.displace choke and kill lines.
	00:00 - 01:30	1.50	A	c	DRLIN2	Continue displace well with 1.4 SG performadrill mud.
	01:30 - 03:30	2.00	A	a	DRLIN2	Continue drill out shoe track and drill out shoe at 1298 mts, tag bottom of rathole at 1310 mts.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
9/3/2005	03:30 - 04:00	0.50	A	a	DRLIN2	Drill 5 m of new hole from 1310 to 1315 m.
	04:00 - 05:30	1.50	A	a	DRLIN2	Circulate hole clean; check mud weight: 1.37 SG.
	05:30 - 07:00	1.50	I	d	DRLIN2	Pull back into shoe, test line from halliburton, space out close bop, perform LOT; result: 25.5 bar surface pressure with 1.37 sg mud and 1.57 sg EMW. Run back to bottom and make up drilling stand.
	07:00 - 12:00	5.00	A	a	DRLIN2	Continue to Drill Ahead 17 1/2" hole from 1315 m to 1360 m. Reaming every Stand and surveying across connections.
	12:00 - 13:30	1.50	A	b	DRLIN2	Due to Anchor Winch No 2 failure, pull off bottom and commence circulating bottoms-up. Assess damage to winch number 2: main bearing block sheared.
	13:30 - 14:30	1.00	A	b	DRLIN2	Pull and rack back 3 stands wet from 1360 m to 1272 m. Shoe is at 1299 m.
	14:30 - 15:30	1.00	A	c	DRLIN2	Continue to circulate Bottom's up
	15:30 - 19:00	3.50	A	b	DRLIN2	Pump 6 m3 slug; POOH from 1272 m to 286 m with 5.5" drillpipe.
	19:00 - 21:00	2.00	A	b	DRLIN2	POOH racking BHA. Lay down top stabilizer.
	21:00 - 21:30	0.50	A	e	DRLIN2	Download MWD.
	21:30 - 22:30	1.00	A	b	DRLIN2	Continue POOH lay down MWD tools, bit and stabilizer assy.
	22:30 - 00:00	1.50	A	e	RDMO	Change out elevators, make up 3 1/2" mule shoe and pick up 15 jts of 3 1/2" DP.
9/4/2005	00:00 - 03:00	3.00	L	b	RDMO	Continue RIH 3 1/2" cement stinger to 1250 m. Total 20 joints.
	03:00 - 03:30	0.50	L	d	RDMO	Make up cement stand and rack in derrick.
	03:30 - 04:30	1.00	L	b	RDMO	Continue RIH, make up top drive, wash down and tag bottom at 1360 m.
	04:30 - 06:30	2.00	L	c	RDMO	Circulate bottoms up at 1360 m.
	06:30 - 07:00	0.50	L	d	RDMO	Make up cement stand and test surface lines to 200 bar.
	07:00 - 08:30	1.50	L	c	RDMO	Halliburton mix and pump 10 m3 of Drill-Water Spacer followed by 26.5 m3 of 1.92 sg cement and 0.5 m3 drill water spacer behind. Switch to Rig Pumps and Displace with 12.5 m3 of 1.4 sg Mud.
	08:30 - 09:30	1.00	L	b	RDMO	Pull slowly 5 stands of 5 1/2" drill pipe to 1192 m.
	09:30 - 10:30	1.00	L	c	RDMO	Circulate Bottoms up with 2 x 90 spm, 3420 l/min 145 bar.
	10:30 - 14:30	4.00	L	b	RDMO	POOH and lay out cement Stinger to Deck.
	14:30 - 18:00	3.50	L	b	RDMO	Change back to 5 1/2" Handling Gear, pick up Mule Shoe and RIH on Drill Pipe. Tag cement at 1211 m with 10 ton weight Down. Pull one Std back to 1192 m.
	18:00 - 19:30	1.50	L	c	RDMO	Rig up and Flush through from Halliburton cement Unit down Drill String 0.6 m3 to prove flow path. Close Upp Annular and commence Pressure Test of Cement Plug to 100 Bar for 10 min; 0.77 m3 pumped and full returns on bleed off. Good test.
	19:30 - 21:30	2.00	L	b	RDMO	Pump slug and POOH to 405 m.
	21:30 - 23:30	2.00	O	b	RDMO	Slip and cut 55 m drill line.
	23:30 - 00:00	0.50	L	c	RDMO	Displace riser to seawater.
9/5/2005	00:00 - 01:00	1.00	L	c	RDMO	Continue displace riser to seawater.
	01:00 - 01:30	0.50	L	b	RDMO	POOH from 405 m and lay down mule shoe.
	01:30 - 05:00	3.50	I	f	RDMO	Rig up to pull BOP's. Lay down diverter and pick up landing joint.
	05:00 - 07:00	2.00	I	f	RDMO	Recover subsea camera, prepare to close and lock slip joint.
	07:00 - 11:00	4.00	I	f	RDMO	Close and pin inn Barrel, Skid rig over Well Head. Backload casings and containers to supply boat due to deck margin.
	11:00 - 11:30	0.50	I	f	RDMO	Rov at wellhead; un-latch Well Head Connector and pick up clear of Guide Posts. Pay out slack on all four Guide Lines for ROV to un-pin Guide Posts for recovery to surface.
	11:30 - 12:00	0.50	I	f	RDMO	Move rig off location while pulling riser and BOP.
	12:00 - 00:00	12.00	I	f	RDMO	Pull up on Landing joint and engage Load Ring under Rotary Housing. Run back down to Moon Pool and Take off C & K Lines and Booster Hose and all Control Lines. Lay out landing joint and slip it, pull riser and lay out,

Operations Summary Report

Legal Well Name: 6406/1-4
 Common Well Name: 6406/1-4
 Event Name: ORIG DRILLING
 Contractor Name: DIAMOND DRILLING
 Rig Name: OCEAN VANGUARD

Start: 8/12/2005
 Rig Release: 12/27/2005
 Rig Number:

Spud Date: 8/16/2005
 End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
9/5/2005	12:00 - 00:00	12.00	I	f	RDMO	total 16 joints 3 pup joints.
9/6/2005	00:00 - 01:00	1.00	I	f	RDMO	Continue pull BOP's.
	01:00 - 06:30	5.50	I	f	RDMO	Prepare and pull BOP's into moonpool and set on carrier, disconnect riser and move to parking position.
	06:30 - 07:00	0.50	I	f	RDMO	Lay down riser double.
	07:00 - 12:00	5.00	L	f	RDMO	Recover guide-posts to surface and lay out to Deck and service same.
						Carry out Maintenance PMs on Crown Block, Drill Line Outriggers, Top & Bottom Racking Arms, Travelling Block and Top Drive, Draw-Works. Flush through C & K Lines and Booster Lines with water.
	12:00 - 14:30	2.50	O	e	RDMO	Cont with PMs and Derrick Inspections.
	14:30 - 16:00	1.50	L	f	RDMO	Move rig to safe handling area.
	16:00 - 18:00	2.00	L	d	RDMO	Clear floor of Riser Handling Gear and rig up to lay down to Deck all Tubulars.
	18:00 - 00:00	6.00	L	d	RDMO	Lay down 86 joints of 5½" DP from derrick.
	00:00 - 12:00	12.00	A	e	RDMO	Continue lay down 5½" DP from derrick.
9/7/2005	12:00 - 00:00	12.00	A	e	RDMO	Continue to Lay Out Tubulars from Derrick to Deck. Drill pipes and Collars. Total layed down: 381 joints 5½" DP, 15 HWDP and 12 by 8" drill collars.
						WOW to deballast rig. In the mean time, cleaned out sandtraps/shakers, pitrooms, mix & suction lines, prepared decks for rig move.
9/8/2005	00:00 - 00:00	24.00	A	f	RDMO	CONT to WOW to deballast rig. In the mean time, continued to clean out shakers, pit room, mix and suction, installed new pop off v/v in flare boom cooling lines from mud pumps, continued maintainance on crown compensator, recharged compensator fluid and function tested compensator.
9/9/2005	00:00 - 20:00	20.00	A	f	RDMO	Started to de-ballast rig.
						CONT to de-ballast rig
						Commenced anchor handling operations with vessels Bourbon Charisma & Maersk Achiever.
9/10/2005	20:00 - 00:00	4.00	M	f	RDMO	Anchor # passed of btm Bolstered Penant back Vessel name
	00:00 - 06:00	6.00	M	a	RDMO	6 06:00 07:02 09:16 09:24 Achiever
	06:00 - 00:00	18.00	M	d	RDMO	2 06:13 07:26 10:07 10:09 Charisma
						7 09:38 10:47 13:10 13:46 Achiever
						3 10:23 11:27 / 20:03 Charisma
						1 20:22 21:27 23:09 23.20 Achiever
						8 23:30 / / / Achiever
						At 11:56 HRS Charisma's work wire parted and anchor #3 went back on bottom. Charisma recovered anchor #3 w/J. hook. Anchor #2 and #3 left onboard Charisma. Anchors #1 and #4 left on Achiever. Fully retrieved anchor chain # 3 at 19:57 HRS. Towing Bridle hooked up to Bourbon Charisma at 21:00 HRS.
9/11/2005	00:00 - 09:00	9.00	M	d	RDMO	CONT anchor handling operations.
						Anchor # passed off bott bolstd back Vessel name
						8 / 00:21 01:50 02:00 Achiever
						5 02:10 03:05 05:02 05:15 Achiever
						4 05:30 06:20 08:52 08:59 Achiever
	09:00 - 10:00	1.00	M	f	RDMO	Secured #4 pennant on deck away from propulsion due to no anchor on chain.
	10:00 - 00:00	14.00	M	b	RDMO	Rig on tow to Kristiansund. Towing vessel: Bourbon Charisma. Position @ 1200hrs: Lat 64°48.8'N Long 006°17.4' E. Distance made: 6n/miles. Distance to go: 101nm. Average speed: 3 knts. Position at Mid-night: Lat 63°59. 5' N Long 006°58.1' E. Distance made: 59

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations																
9/11/2005	10:00 - 00:00	14.00	M	b	RDMO	nm. Distance to go: 48nm. Average speed: 4.2 knts. E.T.A. : 11:00 AM 12/9/05																
9/12/2005	00:00 - 12:00	12.00	M	b	RDMO	CONT to move rig to Kristiansund shipyard, passed pilot station & CONT on to Arsundfjorden. Distance to go @ 1200hrs: 2.64 nm. In the mean time worked on choke and kill manifold valves, CONT to clean and reassemble suction and mix lines in mud pump room, CONT with G.R.M and P.M'S, woked on #3 mud pump, worked on drawwork. WOW to enter Kristiansund shipyard.																
	12:00 - 16:30	4.50	M	f	RDMO	Tug Waterman and Waterbjorn fastened to aft bollards, CONT to move to shipyard, manoeuvred and positioned rig in line with berth, prepared to slack out anchor #6.																
	16:30 - 19:00	2.50	M	f	RDMO	Dropped anchor #6 on bottom and started to connect rig to shore.																
	19:00 - 00:00	5.00	M	f	RDMO	<table><tr><td>A/chain #</td><td>Pennant passed</td><td>Connected shore</td><td>Vessel name</td></tr><tr><td>3</td><td>19:20</td><td>20:32</td><td>Achiever</td></tr><tr><td>1</td><td>20:44</td><td>22:07</td><td>Achiever</td></tr><tr><td>4</td><td>23:20</td><td>/</td><td>Achiever</td></tr></table>	A/chain #	Pennant passed	Connected shore	Vessel name	3	19:20	20:32	Achiever	1	20:44	22:07	Achiever	4	23:20	/	Achiever
A/chain #	Pennant passed	Connected shore	Vessel name																			
3	19:20	20:32	Achiever																			
1	20:44	22:07	Achiever																			
4	23:20	/	Achiever																			
9/13/2005	00:00 - 06:00	6.00	M	f	RDMO	Connected #4 chain ashore, dropped anchor #7 on bottom, adjusted chains manoeuvring rig into the berth. Final checked all mooring chains and rig position.																
	06:00 - 00:00	18.00	O	f	RDMO	Disassembled brake band on #2 anchor winch, removed bearing housing blocks, rigged up and removed chain lifer assy on deck. Cut away walkway around #5 A/winch to remove shaft. CONT with cleaning of pit room suction lines & valves check. CONT to change out choke & kill manifold valves, worked on V/door skate system.																
9/14/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on anchor winches #2 & #5. CONT cleaning out pit room suction lines & checking valves. CONT to change out choke & kill manifold valves. Worked on v/door skate system, cleaned and carried out maintenance on gearing wheel teeth on #2 anchor chain lifter. Commenced service on DDM and repairs to the port side propulsion motor cable.																
9/15/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs to A/winch #2 & #5. CONT cleaning out pit room suction lines & checking valves, completed changing out and greasing kill and choke valves. Completed service on v/door skate system, completed repairs to the port side propulsion motor cable. Emptied holding tank, cleaned same and replaced with new oil. Carried out rig wide housekeeping.																
9/16/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on anchor winches: commenced to weld bearing housing on #2 and installed drive shaft and gearbox on #5. Completed service on DDM and commenced to rebuild same. CONT cleaning out pit room suction lines and checking valves, stripped and removed debris from trip tank fill up line valve.																
9/17/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT to work on A/winch #2 and #5, CONT to rebuild DDM, CONT cleaning out pit room suction lines and checking valves, pulled drawworks covers and checked chains, performed rig audit in derrik, carried out PM and rig wide housekeeping.																
9/18/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on A/winch #2. CONT cleaning out pit room suction lines & checking valves, commenced to rebuild same. Carried out general PM and rig wide housekeeping.																
9/19/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs to A/winch #2, CONT to rebuild pit room suction lines & valves. CONT to pressure test and reassemble C & K valves. CONT with rig PM and wide housekeeping.																

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations																												
9/20/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch. CONT to pressure test and reassemble C & K manifold. CONT w/general PM and rig wide housekeeping.																												
9/21/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch. . CONT w/general PM and rig wide housekeeping. Continue repairing on mud pump #1.																												
9/22/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch. . CONT w/general PM and rig wide housekeeping. Continue repairing on mud pump #1.																												
9/23/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch. . CONT w/general PM and rig wide housekeeping. Continue repairing on mud pump #1.																												
9/24/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch. . CONT w/general PM and rig wide housekeeping.																												
9/25/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch; (install gypsy and continue to button up anchor winch) . CONT w/general PM and rig wide housekeeping.																												
9/26/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch; (test run anchor winch and install guards) . CONT w/general PM and rig wide housekeeping.																												
9/27/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT repairs on #2 A/winch; (test run anchor winch and install guards, install Chain onto gypsy and pennant) . CONT w/general PM and rig wide housekeeping.																												
9/28/2005	00:00 - 00:00	24.00	O	f	RDMO	Trouble shoot leaks on #2 mud pump and repair same. CONT w/general PM and rig wide housekeeping.																												
9/29/2005	00:00 - 00:00	24.00	O	f	RDMO	CONT w/general PM and rig wide housekeeping.																												
9/30/2005	00:00 - 07:00	7.00	O	f	RDMO	CONT w/general PM and rig wide housekeeping.																												
	07:00 - 16:00	9.00	M	d	MIRU	Commence anchor handling:08.48 no/8 to Northern Challenger 09.03 no/8 off btm 09.37 no/8 bolstered. 10.00 no/5 pennant to Northern Challenger 10.13 no/5 off btm 10.32 no/5 bolstered 10.40 no/5 pennant to rig 10.43 no/3 released f/quayside 10.48 no/3 pennant to rig 11.00 Harbour tug secured to stbd pontoon 11.08 move rig f/quayside using 1/6 winches 11.22 Bourbon Charisma on dp to hold rig position 11.25 no/7 pennant to to Northern Challenger 11.39 no/7 off btm 11.56 no/7 wrong way round pay out tension and turn.																												
						Continue anchor handling ops:12.45 no/7 bolstered 12.54 no/7 pennant to rig 13.20 no/4 pennant released f/quayside 13.39 no/4 chain over bolster 13.42 no/4 pennant to rig 14.18 no/1 pennant passed to rig 14.38 no/1 chain over bolster 14.42 no/1 pennant to rig 14.51 no/6 pennant to Commence tow thru narrows; 16.23 harbour tug released;16.44 Bourbon Charisma extends tow wires to 400 m;19.00 pilot leaves the rig.																												
	16:00 - 19:00	3.00	M	b	MIRU	Continue tow to 6406/1-4																												
	19:00 - 00:00	5.00	M	b	MIRU																													
						<table><tr><td>time</td><td>Lat.</td><td>Long.</td><td>Speed</td><td>Miles to go</td><td>ETA</td></tr><tr><td>20.00</td><td>63.21.1N</td><td>7.30.8E</td><td>5.53</td><td>100</td><td>14.00</td></tr><tr><td>00.00</td><td>63.45.5N</td><td>7.09.7E</td><td>7</td><td>74</td><td>12.00</td></tr></table>	time	Lat.	Long.	Speed	Miles to go	ETA	20.00	63.21.1N	7.30.8E	5.53	100	14.00	00.00	63.45.5N	7.09.7E	7	74	12.00										
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00.00	63.45.5N	7.09.7E	7	74	12.00																													
10/1/2005	00:00 - 12:00	12.00	M	b	MIRU	Rig on tow to Sklinna 6406/1-4:																												
						<table><tr><td>Time</td><td>Lat</td><td>Long</td><td>Gone</td><td>To go</td><td>Knts</td><td>ETA</td></tr><tr><td>04.00</td><td>N64.8.0</td><td>E6.49</td><td>68</td><td>49</td><td>6.0</td><td>12.00</td></tr><tr><td>08.00</td><td>N64.31</td><td>E6.29.4</td><td>91</td><td>26</td><td>5.75</td><td>12.00</td></tr><tr><td>12.00</td><td>N64.53.7</td><td>E6.20.7</td><td>114</td><td>2.5</td><td>5.87</td><td>12.15</td></tr></table>	Time	Lat	Long	Gone	To go	Knts	ETA	04.00	N64.8.0	E6.49	68	49	6.0	12.00	08.00	N64.31	E6.29.4	91	26	5.75	12.00	12.00	N64.53.7	E6.20.7	114	2.5	5.87	12.15
Time	Lat	Long	Gone	To go	Knts	ETA																												
04.00	N64.8.0	E6.49	68	49	6.0	12.00																												
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12.00	N64.53.7	E6.20.7	114	2.5	5.87	12.15																												
	12:00 - 00:00	12.00	M	d	MIRU	Anchor handling operations: 13.00 # 4 pennant to Northern Challenger; 13.15 chain on deck connecting # 4 anchor; 14.45 #4 anchor connected; 14.53 # 4 anchor bolstered pennant to rig; 16.03 # 5 pennant to Northern Challenger; 16.50 nav system down, 17.10 nav system back on line; 18.16 run #5 anchor, 18.59 #5 on bottom; 19.52 #5 pennant passed back to rig; 21.10 Running #1 anchor; 22.04 #1 on bottom, 22.39 #1 pennant back on rig .																												

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/2/2005	00:00 - 19:00	19.00	M	d	MIRU	00.14 anchor #4 on bottom, 00.40 pennant #4 passed to rig. 01.08 pennant #8 passed to northern challenger, 02.50 anchor #8 on bottom, 03.20 pennant #8 passed to the rig. 03.40 bridle passed back to the rig from Bourbon Charisma. 05.12 passed pcp #2 to Bourbon Charisma for pull test on anchor winch no 2. 05.20 pennant #6 passed to northern challenger. 06.33 change over to band brake test: 100 ton on winch no 2, ok. 06.37 change over to pull test on winch no2 : 110 tons ok. 09.43 anchor #6 on bottom; 9.44 anchor #2 on bottom. 10.26 pennant #6 back to the rig, 10.44 pennant #2 back to the rig. 12.20 pass pennant #7 to northern challenger. 13.42 anchor #3 on bottom. 13.43 anchor #7 on bottom. 14.18 unable to tension up anchor #2, 14.50 northern challenger chasing out #2 anchor. 15.15 commence cross tensioning anchors #4 e #8. 15.47 northern challenger has anchor #2 on roller, anchor ok. 16.02 cross tensioning anchors #3 & #7. 16.42 anchor #2 on bottom. 17.17 cross tensioning #1 & #5. 19.00 Anchor operations complete.
10/3/2005	19:00 - 00:00	5.00	M	a	MIRU	Ballasting rig to drilling draught.
	00:00 - 02:00	2.00	M	a	MIRU	Ballasting rig to drilling draught.
	02:00 - 00:00	22.00	A	e	MIRU	Review JSA; Make up 5 1/2" drill pipes stands.
10/4/2005	00:00 - 02:00	2.00	A	e	MIRU	Pick up & make up 8" drill collar & jar. Rack back same in derrick. Waiting on weather for overside standby coverage. Weather conditions: Wind waves swell kts deg m m 32 240 3 3
	02:00 - 12:00	10.00	A	e	MIRU	Pick up & make up 5 1/2" drill pipes. Rack back same in derrick. Waiting on weather for overside standby coverage. Weather conditions: Wind waves swell kts deg m m 41 220 2.5 2.5
	12:00 - 14:00	2.00	A	e	MIRU	Pick up & make up 5 1/2" drill pipes. Separate 14 stands as designated landing string. Rack back same in derrick. Waiting on weather for overside standby coverage.
	14:00 - 20:30	6.50	A	e	MIRU	Pick up & make up 17 1/2" drill assy plug in for mwd tools. Waiting on weather for overside standby coverage.
	20:30 - 00:00	3.50	A	e	MIRU	Continue pick up & make up 5 1/2" drill pipes. Rack back same in derrick. Waiting on weather for overside standby coverage. Weather conditions: Wind waves swell kts deg m m 32 210 2.5 2.5
10/5/2005	00:00 - 12:00	12.00	P	a	MIRU	WOW; in the meanwhile continue p/up 5 1/2" drill pipes & 5 1/2" heavy weight drill pipes; rack same in derrick General house keeping. Weather: Wind 42 kts Seas 7.5m
	12:00 - 00:00	12.00	P	a	DRLIN2	WOW; in the meanwhile continue Prepare to run bop & riser. General house keeping. Replace mud pump suction v/v. Weather conditions @ 00:00 Winds 42 kts Seas 10.4m (combined wave & swell)
10/6/2005	00:00 - 02:30	2.50	P	a	DRLIN2	WOW; Prepared to run Bop and Riser. General housekeeping.

Operations Summary Report

Legal Well Name: 6406/1-4
 Common Well Name: 6406/1-4
 Event Name: ORIG DRILLING
 Contractor Name: DIAMOND DRILLING
 Rig Name: OCEAN VANGUARD

Start: 8/12/2005
 Rig Release: 12/27/2005
 Rig Number:

Spud Date: 8/16/2005
 End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations																												
10/6/2005	00:00 - 02:30	2.50	P	a	DRLIN2	Rig up handling equipment for run Bop, P/up double riser. Received close standby cover from Northern Challenger at 0715 hrs. Standby cover withdrawn at 0800 hrs due to sudden increase in wind speed. Operation aborted.																												
	02:30 - 08:30	6.00	I	e	DRLIN2																													
	08:30 - 00:00	15.50	P	a	DRLIN2	WOW; 1200 hrs, Wind 40 kts, Swell 4,1 m, Wave 3,8 2400 hrs, Wind 38 kts, Swell 3,0 m, Wave 3,0																												
10/7/2005	00:00 - 00:00	24.00	P	a	DRLIN2	Performing world wide competency training with crew members whilst WOW. General housekeeping.																												
						Continue WOW to run BOP: 0800 hre: Wind 40 kts, Swell 3,2 m, Wave 4,0 m 1200 hrs: Wind 32 kts, Swell 3,5 m, Wave 3,6 m 1600 hrs: Wind 42 kts, Swell 3,8 m, Wave 4,5 m 2400 hrs: Wind 34 kts, Swell 3,4 m, Wave 3,3 m																												
						Continue performing world wide competency training with crew members whilst WOW. General rig maintainance. Ran emergency generator w/load for 45 min.																												
10/8/2005	00:00 - 00:00	24.00	P	a	DRLIN2	WOW to run BOP monitoring weather conditions.																												
						<table><tr><td>HRS</td><td>Wind (knots)</td><td>Sea (m)</td><td>Swell (m)</td></tr><tr><td>04:00</td><td>40</td><td>4</td><td>3,5</td></tr><tr><td>08:00</td><td>36</td><td>4,5</td><td>3,8</td></tr><tr><td>12:00</td><td>52</td><td>5,7</td><td>4,2</td></tr><tr><td>16:00</td><td>32</td><td>4,8</td><td>3,8</td></tr><tr><td>20:00</td><td>28</td><td>2,8</td><td>4,2</td></tr><tr><td>24:00</td><td>52</td><td>4,2</td><td>4,2</td></tr></table>	HRS	Wind (knots)	Sea (m)	Swell (m)	04:00	40	4	3,5	08:00	36	4,5	3,8	12:00	52	5,7	4,2	16:00	32	4,8	3,8	20:00	28	2,8	4,2	24:00	52	4,2	4,2
HRS	Wind (knots)	Sea (m)	Swell (m)																															
04:00	40	4	3,5																															
08:00	36	4,5	3,8																															
12:00	52	5,7	4,2																															
16:00	32	4,8	3,8																															
20:00	28	2,8	4,2																															
24:00	52	4,2	4,2																															
						In the mean time carried out general housekeeping, CONT with worldwide competency training with crew members, CONT with PM's, calibrated pit volumes and changed out valves on choke manifold.																												
10/9/2005	00:00 - 05:30	5.50	P	a	DRLIN2	WOW to run BOP. In the meantime carried out general housekeeping, CONT with PM's and rig maintenance, CONT worldwide competency training with crew members and CONT to change out valves on choke manifold.																												
	05:30 - 07:30	2.00	N	f	DRLIN2	Prepared and launched ROV. Located and inspected wellhead.																												
	07:30 - 12:00	4.50	I	c	DRLIN2	Bourbon Charisma provides close stand-by cover. Attempted to install #3 guide post w/ROV. Not able to do it due to rig offset. Skidded rig over well and installed guide post #3.																												
	12:00 - 15:00	3.00	I	c	DRLIN2	Installed guide posts # 2, 4 & 1 w/ROV. Took on water, attempted to take on mud but not possible to do it due to boat unable to pump mud, and difficulty in maintaining position.																												
	15:00 - 16:00	1.00	I	c	DRLIN2	Slacked guidelines and moved rig off wellhead. Standby cover withdrawn.																												
	16:00 - 00:00	8.00	P	a	DRLIN2	WOW to run BOP. In the meantime performed housekeeping, CONT w/PM's and rig maintenance, CONT worlwide competency training, pressure tested new valves on choke manifold to 5000 psi.																												
						<table><tr><td>HRS</td><td>Wind (knots)</td><td>Wave (m)</td><td>Swell (m)</td></tr><tr><td>16:00</td><td>27</td><td>2</td><td>3</td></tr><tr><td>24:00</td><td>40</td><td>3</td><td>3</td></tr></table>	HRS	Wind (knots)	Wave (m)	Swell (m)	16:00	27	2	3	24:00	40	3	3																
HRS	Wind (knots)	Wave (m)	Swell (m)																															
16:00	27	2	3																															
24:00	40	3	3																															
10/10/2005	00:00 - 00:00	24.00	P	a	DRLIN2	WOW to run BOP monitoring weather conditions.																												
						<table><tr><td>Time</td><td>Wind</td><td>Wave</td><td>Swell</td><td>Pitch</td><td>Roll</td><td>Heave</td></tr></table>	Time	Wind	Wave	Swell	Pitch	Roll	Heave																					
Time	Wind	Wave	Swell	Pitch	Roll	Heave																												

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/10/2005	00:00 - 00:00	24.00	P	a	DRLIN2	(knots) (m) (m) (deg) (deg) (m) 02:00 38 3 3,1 0,6 0,6 0,8 04:00 32 2,8 3,2 1,6 1,2 0,7 06:00 42 4,1 4,8 0,7 0,7 1 08:00 48 4,5 5,8 1,1 1,1 1,1 10:00 50 4,8 6,1 2 1,5 3 12:00 51 7,8 8,2 2,5 2,3 4,5 14:00 46 8,2 8,5 4,7 3,1 3,7 16:00 48 8 8,5 5,2 2,6 5,2 18:00 47 8,2 8,8 3,5 2,1 3,4 20:00 40 7,8 8,2 3 2 3,4 22:00 42 7,2 8 2 1,9 3,6 24:00 35 7 8 2,1 1,7 3,2 In the mean time, performed housekeeping, CONT w/PM's and rig maintenance, CONT worldwide competency training.
10/11/2005	00:00 - 13:30	13.50	P	a	DRLIN2	WOW to run BOP monitoring weather conditions. Time Wind Wave Swell Pitch Roll Heave (knots) (m) (m) (deg) (deg) (m) 02:00 34 6,9 7,5 1,6 1,7 3,1 04:00 12 6 7 1,2 1,1 2,6 06:00 10 4,5 6,1 1,1 1,1 2,2 08:00 6 3,5 5,8 1,9 1,2 2,3 10:00 6 2 2,5 1 1 2,2 In the mean time, performed general housekeeping, CONT with PM's and rig maintenance, CONT worldwide competency training with crew members.
	13:30 - 23:30	10.00	I	c	DRLIN2	Bourbon Charisma provides stand by cover. Skidded BOP under rotary table, installed guide lines and POD lines, engaged guide frame, connected double to BOP stack, and run BOP stack. Run 13 riser joints R/U and tested C/K lines t/15000 psi.
10/12/2005	23:30 - 00:00	0.50	I	f	DRLIN2	CONT to test riser C&K lines to 250 psi for 5 min and to 15000 psi for 10 min. Good test.
	00:00 - 00:30	0.50	I	d	DRLIN2	CONT to run BOP's on riser.
	00:30 - 04:00	3.50	I	f	DRLIN2	Tested C/K lines. Observed leak on cement unit. Isolated leaking and re-tested w/rig pump t/250 psi for 5 min and to 15000 psi for 10 min. Good test.
	04:00 - 06:00	2.00	I	d	DRLIN2	Finished to run BOP's on riser. Run 24 riser joints in total.
	06:00 - 07:30	1.50	I	f	DRLIN2	Tested riser C & K lines t/250 psi for 5 min and t/15000 psi for 10 min. Good test.
	07:30 - 09:00	1.50	I	d	DRLIN2	Skidded rig over well head. P/U slip joint & landing joint Nippled up C & K lines and booster line and installed conduit goosenecks on slip joint.
	09:00 - 13:30	4.50	I	f	DRLIN2	Tested C & K goosenecks w/cement unit to 250 psi for 5 min and t/15000 psi for 10 min. Good test.
	13:30 - 14:30	1.00	I	d	DRLIN2	P/U tensioner ring, installed slip joint auxiliaries, connected POD hose saddles on slip joint.
	14:30 - 15:30	1.00	I	f	DRLIN2	Hydraulic hose bursted on blue POD hydraulic winch in moonpool. Isolated supply, contained and cleaned up spill.
	15:30 - 16:30	1.00	I	e	DRLIN2	Landed BOP with 50 klbs down, latched connector and tested w/50 klbs overpull. Good test.
	16:30 - 17:00	0.50	I	b	DRLIN2	Hang droop hoses, connected junction boxes, set up BOP control system. Switched f/yellow to blue POD, checked connector and took 50 klbs overpull. Set weigh down, un-pinned inner barrel and laid down landing joint.
	17:00 - 19:00	2.00	I	e	DRLIN2	

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/12/2005	19:00 - 20:30	1.50	I	f	DRLIN2	Picked up and landed out diverter. Engaged lock down dogs. Installed control block and engaged flow line seal.
	20:30 - 22:30	2.00	I	e	DRLIN2	R/d riser running tool, changed out bails, installed master bushing, bowls and 5 1/2" elevators and slips.
10/13/2005	22:30 - 00:00	1.50	I	e	DRLIN2	P/U and function tested isolation test tool. Run same on 5 1/2" DP.
	00:00 - 02:00	2.00	I	d	DRLIN2	Run BOP isolation test tool on 5 1/2" DP. Landed out same and made one turn right: good indication of set. Set down 20 Klbs, filled DP and riser and lined up to test connector.
	02:00 - 05:00	3.00	I	d	DRLIN2	Tested connector against upper pipe rams to 250 psi for 5 min and to 15000 psi for 10 min: good test. Switched to yellow pod and re-tested connector against UPR t/250 psi for 5 min and t/1000 psi for 10 min as per DODI policy. Function tested BOP's from rig office on yellow pod and from rig floor on blue pod.
	05:00 - 06:30	1.50	I	e	DRLIN2	POOH with isolation test tool and laid down same.
	06:30 - 12:00	5.50	A	b	DRLIN2	Made up and RIH with 17 1/2" BHA to 1193 m and displaced riser to 1,4 SG mud.
	12:00 - 13:30	1.50	A	b	DRLIN2	CONT to RIH w/17 1/2" BHA. Washed down and tagged cement @ 1214 m.
	13:30 - 00:00	10.50	A	a	DRLIN2	Drilled out cement f/1214 m t/1299 m with 7/15 tons WOB, 70/80 RPM, 3000 l/m.
10/14/2005	00:00 - 01:00	1.00	A	f	DRLIN2	Observed mud losses over shakers, stopped drilling out cement and pulled back. Cleaned header tank of cement cuttings. Circulated at 190 l/m while cleaning shaker screens.
	01:00 - 02:00	1.00	A	a	DRLIN2	CONT to drill out cement f/1294 m t/1302 m using previous parameters.
	02:00 - 03:00	1.00	A	f	DRLIN2	Observed no air pressure on the diverter panel guage on drill floor. Informed S/S Eng who investigated problem. Whilst doing so he inadvertently sent a pilot signal to the shaker valve causing it to operate to the close position. This resulted in mud over flowing through the pre-selected overboard diverter line. Consequently a total of 11 cubic metres of WB mud was discharged to the sea. Observed losses in the active mud system. Driller then picked up off btm shut the rig pumps down and visually checked fluid level in the hole. The fluid level in the hole was high, the diverter element was in the open position and on inspection of the diverter panel the shaker valve was shown to be in the closed position. The Driller informed the S/S Eng that the shaker valve was closed. The shaker valve was then opened and all other valves were checked and confirmed to be in the correct position.
	03:00 - 06:00	3.00	A	f	DRLIN2	Continued to drill ahead but observed excessive losses at shakers. Picked up off bottom, rotated/reciprocated pipe while circulated bottoms up at 3000 lpm and conditioned mud to spec.
	06:00 - 08:30	2.50	A	a	DRLIN2	CONT to drill ahead f/1302 m t/1332 m w/same parameters. Stopped drilling, pulled back to shoe.
	08:30 - 09:30	1.00	A	f	DRLIN2	Tested diverter element and the sequencing of valves. System working as designed to work.
	09:30 - 15:30	6.00	A	a	DRLIN2	Continued to drill out cement f/1302 m t/1360m w/same parameters. Rig back to full rate at 15:30 HRS
	15:30 - 00:00	8.50	A	a	DRLIN2	Drilled new 17 1/2" hole to 1466 m w/10 tons WOB, 120 RPM, 220 bar taking MWD surveys every std down.
10/15/2005	00:00 - 00:00	24.00	A	a	DRLIN2	CONT to drill 17 1/2" hole f/ 1466 m t/1778m w/10 tons WOB, 120 RPM, 220 bar. Reamed twice every stand and took survey before every connection. Av gas 2% - 4%, max gas at 1605 m 17.8%.
10/16/2005	00:00 - 00:00	24.00	A	a	DRLIN2	CONT to drill 17 1/2" hole f/1778 m t/2072m w/10 tons WOB, 120 RPM, 215 bar. Reamed twice every stand and took survey before every

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/16/2005	00:00 - 00:00	24.00	A	a	DRLIN2	connection. Av. gas 2% - 4%.
10/17/2005	00:00 - 00:00	24.00	A	a	DRLIN2	CONT to drill 17 1/2" hole f/2072 m to 2224 m reaming each stand twice. Took survey before every connection. Av. gas: 1.05% - 6%. Drilling parameters: WOB 10 -20 tons, RPM: 65 - 124, pump rate: 3169 - 3329 lpm, ROP: 3.3 - 21 m/h.
10/18/2005	00:00 - 10:30	10.50	A	a	DRLIN2	CONT to drill 17 1/2" hole f/2224 m t/2315 m (TD) reaming every stand twice. Took survey before every connection. Drilling parameters: 11/18 tons WOB, 79/123 RPM, 3137/3192 lpm, 230 bar.
	10:30 - 13:30	3.00	A	c	DRLIN2	Circulated bottom/up while working string. Flow checked well: OK.
	13:30 - 19:00	5.50	A	b	DRLIN2	POOH with 17 1/2" BHA f/2315 m t/1555 m. Max overpull 60 klbs. Backreamed through tight spots from 2030 m to 2005 m and 1802 m to 1773 m. Tried POOH conventional but hole becoming tight. Backreamed OOH from 1765 m to 1555 m. Heavy cuttings observed at shakers on bottoms up.
	19:00 - 21:00	2.00	A	c	DRLIN2	Circulated hole until clean with 3350 l/m (max rate) on string and with 1800 lpm on riser. Estimated 4 m3 of cuttings circulated out of well. Observed 3.5 bbls increase in active pit. Flow checked well: OK.
	21:00 - 23:30	2.50	A	b	DRLIN2	Attempted to POOH 17 1/2" BHA f/1555 m to shoe at 1299 m. Took 60 klbs overpull and 60 klbs set down. Back reamed with 3350 lpm on string and 1800 lpm on riser (highest annular velocity achievable) f/1555 m to 1441 m, torque: 3/15 klb.ft. Loss of high torque as top of 8" DC entered 20" CSG shoe. Pumped out to shoe at 1299 m at same rate, not excess drag observed.
	23:30 - 00:00	0.50	A	c	DRLIN2	Circulated bottom up at max rate till shakers clean. Observed heavy cuttings at shakers and lost to hole 4 m3 of mud.
10/19/2005	00:00 - 01:30	1.50	A	c	DRLIN2	CONT to circulate bottoms up at 3350 lpm on string and 1800 lpm on boost line.
	01:30 - 05:00	3.50	A	b	DRLIN2	RIH with 17 1/2" BHA from 20" CSG shoe. Took 25 klbs set down at 2256 m. Washed and reamed f/2256 m to bottom at 2315 m with 80 RPM, 5-10 klbs WOB, torque 3-12 kft.lbs.
	05:00 - 09:00	4.00	A	c	DRLIN2	While working string, circulated bottoms up at maximum rate till shakers clean. Flow rate: 3200 lpm on string and 1766 lpm on riser boost line. Flow checked well: OK.
	09:00 - 12:30	3.50	A	b	DRLIN2	POOH f/2315 m to 2150 m - no OH problems. Pumped slug and continued to pull out 17 1/2" BHA to 20" CSG shoe. No OH problems.
	12:30 - 13:30	1.00	A	e	DRLIN2	Flow checked well - well static. Meanwhile picked up CSG tong from deck and installed same on tracks on drill floor.
	13:30 - 16:00	2.50	A	b	DRLIN2	CONT to POOH from 20" CSG shoe to 700 m. Flow checked well prior to pull 17 1/2" BHA through BOP: OK. CONT to POOH to surface.
	16:00 - 20:00	4.00	A	b	DRLIN2	Racked back 17 1/2" BHA in derrick. Down loaded MWD data, gauged stabs and bit.
	20:00 - 22:00	2.00	C	f	DRLIN2	Made up bore protector running tool assembly and RIH.
	22:00 - 22:30	0.50	C	f	DRLIN2	Landed out in wellhead. Function tested BOP's on blue pod from rig floor panel and on yellow pod from BOP control unit.
	22:30 - 23:00	0.50	C	f	DRLIN2	Washed BOP's and bore protector with 2024 lpm on string and 2024 lpm on riser boost line.
	23:00 - 00:00	1.00	C	f	DRLIN2	Latched into bore protector and pulled free w/50 klbs overpull. Pulled back and jetted wellhead profile.
10/20/2005	00:00 - 02:00	2.00	A	b	DRLIN2	POOH with bore protector, release it, lay out running tool and jet sub.
	02:00 - 03:00	1.00	A	e	DRLIN2	Check cement stand, connect control hoses and function test them.
	03:00 - 04:30	1.50	C	e	CSGIN1	Connect cement hose and rack back in derrick.
	04:30 - 06:00	1.50	C	b	CSGIN1	Hold JSA meeting. Rig up casing equipment.
						Hold JSA meeting on rig floor, Pick up shoe joint and shoe track, test

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/20/2005	04:30 - 06:00	1.50	C	b	CSGIN1	same.
	06:00 - 17:30	11.50	C	b	CSGIN1	Pick up and run 13 3/8" casing to 1165 m filling every 5 joints.
	17:30 - 19:00	1.50	C	e	CSGIN1	Change out elevator inserts, make up cross over joint and continue to run 13 3/8" casing to 1295 m.
	19:00 - 19:30	0.50	C	c	CSGIN1	Rig up and break circulation @ 1295 m; 9.5 bar @ 30 spm, ok. Rig down surface lines and check drag prior to enter open hole: weight 155 ton up and 150 ton down.
10/21/2005	19:30 - 00:00	4.50	C	b	CSGIN1	Continue to run 13 3/8" casing to 1805 m filling every 5 joints.
	00:00 - 01:30	1.50	C	b	CSGIN1	Continued to run 13 3/8" Casing from 1805 m filling every 5 joints.
	01:30 - 04:30	3.00	C	b	CSGIN1	Picked up casing hanger and RIH on 5 1/2" land string. Picked up cement head, made up same.
	04:30 - 05:30	1.00	C	b	CSGIN1	Opened up compensator, waited on H.P. compressor to build air pressure to allow compensator to be adjusted, high drag on hole.
	05:30 - 08:30	3.00	C	b	CSGIN1	Encountered 14 m fill from TD at 2315 m. Shoe setting depth 2304 m. 40 ton weight down. Washed down and worked string last 4m at 1500 l/min and landed out casing hanger.
	08:30 - 09:30	1.00	C	c	CSGIN1	Take s.c.r with mud pump#1 @ 2, 5, 10 & 15 spm = 9, 16, 34.5 & 59 bar. Hold pjsm & rigged up surface lines; pressure tested same at 345 bar, ok. Pumped 15 m3 cement spacer.
	09:30 - 11:00	1.50	C	c	CSGIN1	Released btm dart, mix & pump 53.4 m3 of 1.92sg cement (bottom plug sheared at 800 psi).
	11:00 - 12:00	1.00	C	c	CSGIN1	Released top dart & displace cement with 1.5sg mud @ 3200 l/min (top plug sheared at 2,000 psi).
	12:00 - 12:30	0.50	C	c	CSGIN1	Continue displace cement & bump plug @ 750 l/min with 83 bar @ 7850 stks. 148.5 m3 pumped.
	12:30 - 13:00	0.50	I	d	CSGIN1	Pressure test casing 300 bar/ 4350 psi 10 min; bleed press & check for back flow: floats holding.
	13:00 - 14:30	1.50	I	d	CSGIN1	Rig down surface lines, set pack-off seal assy with 207 bar against MPR's: ok.
	14:30 - 19:00	4.50	I	d	CSGIN1	Take 50 ton over pull on casing hanger running tool & pressure test bops/annulars 21/345 bar on yellow pod.
	19:00 - 20:00	1.00	C	b	CSGIN1	Unseat casing running tool from wellhead; pick up, unable to pass upper annular. 25 ton over pull.
	20:00 - 21:30	1.50	C	b	CSGIN1	Move rig due to riser angle, Circulate down choke line around casing tool @ 750 l/min, pull pass upper annular with 5 ton over pull.
	21:30 - 23:00	1.50	C	b	CSGIN1	POOH with drill pipes, lay out casing running tool.
10/22/2005	23:00 - 00:00	1.00	C	e	CSGIN1	Change out 500t bails, rig down hyd hoses for casing elevators.
	00:00 - 01:30	1.50	I	e	CSGIN1	Picked up and made up WBRRT c/w wear bushing and run in hole, land and set Wear Bushing.
	01:30 - 03:00	1.50	I	e	CSGIN1	POOH with Running Tool, clean and lay down same to deck.
	03:00 - 04:00	1.00	C	e	CSGIN1	Run cement stand from derrick break down and lay out to deck.
	04:00 - 06:30	2.50	I	e	CSGIN1	Picked up from deck BOP Test Plug, run in hole and land out, 5 ton weight down. Tested LPRs 24 bar low / 345 bar high. Good test.
	06:30 - 07:30	1.00	I	e	CSGIN1	Carried out Accumulator/function tests on blue pod.
	07:30 - 09:00	1.50	I	e	CSGIN1	Recovered BOP test plug to surface & lay out test plug assy.
	09:00 - 10:30	1.50	I	e	CSGIN1	Laid out casing tong from drill floor. Meantime pressure test casing/shear rams 300 bar/10 mins - good test.
	10:30 - 14:00	3.50	I	e	CSGIN1	Held pjsm, rigged up x/o's/surface lines and pressure test ddm ibop's & mud hose 21 / 345 bar.
	14:00 - 14:30	0.50	I	e	CSGIN1	Prepared TIW v/v, grey v/v & x/o for pressure testing with test pump (Note: Pressure tests done offline).
	14:30 - 15:30	1.00	O	b	CSGIN1	Held pjsm, hung off blocks & commence slip & cut drill line.
	15:30 - 16:30	1.00	O	b	CSGIN1	Unable to remove pear/drill line from drawworks drum, cut out jamming

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/22/2005	15:30 - 16:30	1.00	O	b	CSGIN1	drill line from same & remove line & pear.
	16:30 - 17:30	1.00	O	b	CSGIN1	Continued slip & cut drill line.
	17:30 - 20:30	3.00	O	e	CSGIN1	Hold pjsm, and carry out safety critical electrical repairs/installation to top sensors in derrick beams/dolly rails for block retraction system/high level alarm.
	20:30 - 22:30	2.00	A	e	CSGIN1	Picked up from derrick 17 1/2" BHA, break down same and lay out to deck. Clear floor of excess equipment.
	22:30 - 23:00	0.50	A	e	DRLIN3	Carried out derrick management prior to picking up 5" DP to make room for same.
10/23/2005	23:00 - 00:00	1.00	A	e	DRLIN3	Held JSA meeting rig up and picking up 5" Drill Pipe for dedicated 9.7/8" casing landing string.
	00:00 - 03:00	3.00	A	e	DRLIN3	Continued to pick up 5" D.P. and RIH from 29 m. 39 joints have been picked up. (Drifted to 2 7/8").
	03:00 - 04:00	1.00	A	b	DRLIN3	POOH and rack back 5" landing string.
	04:00 - 04:30	0.50	A	e	DRLIN3	Taken T.O.F.S. and cleared floor of excess equipment and held PJSM for picking up BHA.
	04:30 - 07:30	3.00	A	e	DRLIN3	Picked up and make up 12 1/4" BHA under directional driller instructions to 36 m, pulled back up and programmed MWD.
	07:30 - 09:00	1.50	A	e	DRLIN3	Continued make up & RIH with bha assy from deck. Held PJSM on handling & loading of radioactive sources.
	09:00 - 09:30	0.50	A	e	DRLIN3	Loaded radioactive sources into MWD tools.
	09:30 - 12:00	2.50	A	b	DRLIN3	Continued RIH with bha assy from derrick, breaking out & checking dart/sub latch ok, reinstall dart sub & continue rih with 5 1/2" dp to 353 m.
	12:00 - 15:00	3.00	A	b	DRLIN3	Held tbt RIH with drill pipe from 353 m to 1280 m, filled string as necessary with 1.5 sg mud.
	15:00 - 16:00	1.00	A	b	DRLIN3	Function test mwd tools @ 2500 l/min: ok.
	16:00 - 18:00	2.00	A	b	DRLIN3	Continued RIH from 1280 m to 2239 m, filled drill string as necessary with 1.5sg mud.
	18:00 - 20:00	2.00	A	e	DRLIN3	Made up top drive & rigged up mwd down link tool & lines. Checked BHA and Pipe Figures.
	20:00 - 20:30	0.50	A	e	DRLIN3	Cleared floor of excess equipment and attempted to establish Flow-Rates with MWD for Down Link Test. No succes due to pump 2 failure. (Leaking cap seal)
	20:30 - 21:30	1.00	A	f	DRLIN3	Space out and open Compensator and close Upp Ann and perform Choke Drill pumping down; String and up Choke line maintaining 26 bar. with T.P.-S/Sea and Driller under ENI Night Co Man supervision.Choke reaction time 12 s.
	21:30 - 22:00	0.50	A	f	DRLIN3	Bleed -off pressure open Upper-Annular and allow same to relax.
	22:00 - 00:00	2.00	A	c	DRLIN3	Attempted to establish flow rates for MWD and Down-Link Test. Observed communication between Pit 3 and active pit 2. Also all three rig pumps jacking-off. Unable to obtain required flow rate of 2500 l/min to downlink and test MWD; troubleshoot rig pumps and communication problem between pit 2 & 3.
10/24/2005	00:00 - 04:30	4.50	A	f	DRLIN3	Continued to troubleshoot mud pumps , changed out misaligned valve on Pump No 1, Changed out Main Suction valve to pit No 2, Water Base mud leaking back into Act 2 from Pit No 3 which had been prepared to receive OBM.
	04:30 - 05:00	0.50	A	c	DRLIN3	Re-established 2500 l/min flow rate for MWD and attempted to perform Down Link test on system ; MWD service hands could not de-code signal.
	05:00 - 06:00	1.00	A	b	DRLIN3	RIH slowly from 2239 m with 680 l/min and no Rotation. Tagged Float cement plugs at 2273 m; tide corrected. Weight=5 ton Down.
	06:00 - 07:00	1.00	A	c	DRLIN3	Established good 2500 l/min flow rate and good decode signal received-performed Down Link Tests to turn off MWD batteries whilst wait

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/24/2005	06:00 - 07:00	1.00	A	c	DRLIN3	to load OBM to rig.
	07:00 - 09:00	2.00	A	f	DRLIN3	Hold pjsm prior to bring onboard OBM to mud pits. Checked all v/v's, line's, dump lines/valve,s secured as per DODI procedures.
	09:00 - 13:30	4.50	A	c	DRLIN3	Load OBM to rig from Ocean Mainport. Total received to the pits 233 m3. Continuously check system while loading OBM.
	13:30 - 14:30	1.00	A	c	DRLIN3	Check lines & load base oil to mud pits & storage tank P17. Total base oil received onboard to mud pits = 19 m3 Storage tank P17 = 21 m3.
	14:30 - 00:00	9.50	A	c	DRLIN3	Prepared & mix OBM. Check flush C & K Lines , grease swivel packing and Main Bearing Shaft Seals. Cleaned and flush out trip tank, mud Bucket Line and rotary housing.
10/25/2005	00:00 - 02:00	2.00	A	c	DRLIN3	Continued to mix and prepare OBM.
	02:00 - 03:00	1.00	A	c	DRLIN3	Held JSA meeting on rig floor under ENI Supervision; discuss plan for well displacement to OBM, displaced C & K and booster lines.
	03:00 - 06:00	3.00	A	c	DRLIN3	Displaced Well to OBM at maximum rate and at the same time backloading WBM to supply vessel. Diverted 27m3 of interface to slops pit.
	06:00 - 07:00	1.00	A	c	DRLIN3	Lined up and filled Poor-Boy De-Gasser and Trip-Tank.
	07:00 - 08:00	1.00	A	c	DRLIN3	Set up on closed circulating system, filled sandtrap #1 & confirm circulation systems ok.
	08:00 - 08:30	0.50	A	b	DRLIN3	Tagged float collar @ 2273 m, pulled back to 2272 m, function down link & check MWD depths & tool.
	08:30 - 14:00	5.50	A	a	DRLIN3	Drilled out cement plugs, float collar and cleaned up to 2299 m. Drill string continually hydraulic while drilling out plugs.
	14:00 - 14:30	0.50	A	c	DRLIN3	Circulated & conditioned mud while position rig due to adverse riser angle. [Checked depths for mwd].
	14:30 - 15:30	1.00	A	a	DRLIN3	Made connection & continued clean out cement from 2299 m to casing shoe @ 2304 m (sent down link).
	15:30 - 17:00	1.50	A	a	DRLIN3	Drilled out casing shoe, cleaned out rat hole to 2315 m. Drilled 5 m of new hole from 2315 m to 2320 m.
	17:00 - 18:30	1.50	A	c	DRLIN3	Pulled back to 2297 m working & cleaning thru casing shoe, circulated & conditioned mud till clean and 1.7 sg in/out.
	18:30 - 19:30	1.00	I	d	DRLIN3	Racked drill stand, pulled back to 2287 m & rigged up for leak off test.
	19:30 - 22:00	2.50	I	d	DRLIN3	Pumped up Cement Line and up Test Line and back to Trip Tank to prove flow path. 69 bar Line Test against Kill Line Failsafes and String Low Torque Valve 10min, good test, spaced out and closed MPRs. LOT with 1.7sg mud = 75 bar after 616 litres pumped, 594 returned. EMW = 2.02 sg.
	22:00 - 22:30	0.50	A	b	DRLIN3	Rigged down LOT test equipment, rih and tag bottom at 2320 m. Circulated for 10 min.
	22:30 - 00:00	1.50	A	c	DRLIN3	Pumped 8 m3 borehole stress treatment pill and spotted on bottom, pooh above pill, circulated pipe clean at 2000 m for 15 mins.
10/26/2005	00:00 - 00:30	0.50	A	c	DRLIN3	Displaced and spotted stress pill into annulus at 353 L/min.
	00:30 - 01:30	1.00	A	b	DRLIN3	POOH from 2318 m to 2200 m . Picked up side entry sub, rigged up surface lines.
	01:30 - 03:30	2.00	I	d	DRLIN3	Pressure tested line to 138 bar. Spaced out and close MPRs and commenced hole stress Test. Opened MPRs and cement unit pumped 3 m3 OBM back into system.
	03:30 - 04:00	0.50	I	d	DRLIN3	Rigged down test equipment and clear floor of excess equipment.
	04:00 - 05:00	1.00	A	b	DRLIN3	RIH from 2200 m to shoe @ 2304 m, logged open hole section to TD@ 2320 m.
	05:00 - 10:30	5.50	A	a	DRLIN3	Established drilling flow-rate perform down link test with MWD and drilled ahead from 2320 m to 2444 m.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/26/2005	10:30 - 12:00	1.50	A	c	DRLIN3	Swaco cuttings auger shut down causing cuttings to back up & enter sand trap by-pass flow line & plug f/line @ f/line filter in pit room. Circulated hole at reduced rate. Troubleshooted electrical problem with auger. Restarted auger checked same, ok.
	12:00 - 13:00	1.00	A	c	DRLIN3	Prepare more 1.7sg mud & transfer same to sand traps while continue circulation @ 2444 m.
	13:00 - 14:30	1.50	A	f	DRLIN3	Swaco loss all power to cuttings blower (CCB), investigated same & install new emergency stop to blower, while continue reciprocate string.
	14:30 - 15:30	1.00	A	c	DRLIN3	Continued to circulate & work string while MWD engineer carry out checks & troubleshoot MWD tool. (pulse problem-reboot system-problem resolved).
	15:30 - 18:30	3.00	A	a	DRLIN3	Continued to drill ahead from 2444 m to 2506 m controlling rate to 30 m/hr.
	18:30 - 20:00	1.50	A	c	DRLIN3	Circulated & conditioned mud while moving rig 12 m stb/aft due to riser angle.
	20:00 - 00:00	4.00	A	a	DRLIN3	Continued to drill ahead 12 1/4" hole from 2506 m to 2560 m. Survey : 2546 m 2.03 inc 327 az.
10/27/2005	00:00 - 09:00	9.00	A	a	DRLIN3	Continued to drill ahead from 2506 m to 2733 m controllig ROP @ 30 m/h. Drilling parameters WOB= 5 tons, RPM=130, flow rate= 3180 l/min .
	09:00 - 10:00	1.00	A	c	DRLIN3	Circulated for 30 minutes and worked string while changed out leaking section of swaco blower line to TSI unit.
	10:00 - 20:30	10.50	A	a	DRLIN3	Continued to drill ahead from from 2733 m to 2907 m taking surveys every stand; ROP controlled @ 30 m/h. Drilling parameters WOB= 12 tons, RPM=130, flow rate= 3180 l/min .
	20:30 - 22:30	2.00	A	c	DRLIN3	Circulated hole clean.
	22:30 - 23:30	1.00	A	b	DRLIN3	Flow checker and POOH from 2907 m to 2760 m observing overpull up to 23 tons (string pulling dry) with tendency to swab.
	23:30 - 00:00	0.50	A	b	DRLIN3	Made up top drive and pump out of hole from 2760 m to 2731 m.
						Continued POOH from 2731 m to 2674 m again observing increase in drag and tendency to swab. Made up top drive and pump out of hole from 2674 m to 2558 m and continued POOH without problems to the casing shoe.
10/28/2005	00:00 - 01:30	1.50	A	b	DRLIN3	Made up top drive and pump out of hole from 2674 m to 2558 m. Continue to pooh from 2558 m to 2258 m (inside casing shoe at 2304 m).
	01:30 - 03:30	2.00	I	d	DRLIN3	Space out and perform weekly function test on BOP's, Yellow Pod from rig floor and Blue Pod from Toolpushers office.
	03:30 - 05:00	1.50	A	b	DRLIN3	Rih from 2258 m to 2878 m. Made up top drive and fill string, break circulation and function down link.
	05:00 - 06:30	1.50	A	c	DRLIN3	Circulate bottoms up, work pipe from 2878 m to 2907 m, function down link.
	06:30 - 09:30	3.00	A	a	DRLIN3	Continued to drill ahead from 2907m to 2955m taking surveys every stand. Drilling parameters: WOB=8 ton, RPM=130, flow rate=3040 l/min.
	09:30 - 11:30	2.00	A	c	DRLIN3	Circulated and conditioned mud while moving rig 9 m due to riser angle.
	11:30 - 19:30	8.00	A	a	DRLIN3	Continued to drill 12 1/4" hole from 2955 m to 3081 m, taking surveys every stand. (#1 Mud Pump down, making repairs to same) Continue drill ahead with 2 pumps @ 105 spm.
	19:30 - 23:00	3.50	A	c	DRLIN3	Drilling parameters: WOB=10 ton, RPM=130, flow rate=3040 l/min #3 Mud Pump down, picked up and circulate whilst make repairs to same, also completing repairs on #1 Mud Pump.
	23:00 - 00:00	1.00	A	a	DRLIN3	Continued drill ahead from 3081 m to 3101 m with 2 pumps @ 105 spm.
10/29/2005	00:00 - 02:00	2.00	A	a	DRLIN3	Drilling parameters: WOB=10 ton, RPM=150, flow rate=2980 l/min Continued to drill 12 1/4" hole from 3081m to 3139 m, 3 Mud Pumps on

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
10/29/2005	00:00 - 02:00	2.00	A	a	DRLIN3	line. Drilling parameters: WOB=10 ton, RPM=150, flow rate=2980 l/min
	02:00 - 04:30	2.50	A	c	DRLIN3	Unable to continue drilling due to lack of cutting skips, function down link, tookSCRs and circulated hole clean.
	04:30 - 09:30	5.00	A	b	DRLIN3	Flow checking. POOH from 3139m to 1862m.
	09:30 - 00:00	14.50	P	a	DRLIN3	Wait on weather to offload cutting skips from Ocean Mainport
						Time Wind Wind Wave Pitch Roll Heave Speed Direction Height (knots) (deg) (m) (deg) (deg) (m)
						10:00 35 205 6 1,4 1,2 1,5
						12:00 40 200 6 1,2 1,4 1,2
						15:00 40 210 6 1,5 1,3 1,6
						18:00 40 222 6 1,4 1,4 1,8
						21:00 41 226 7 2,6 2,6 3,1
10/30/2005	00:00 - 16:00	16.00	P	a	DRLIN3	Wait on weather to offload cutting skips from Ocean Mainport
						Time Wind Wind Wave Pitch Roll Heave Speed Direction Height (knots) (deg) (m) (deg) (deg) (m)
						03:00 18 209 9 1,6 1,8 3,1
						06:00 23 202 8 2,8 2,6 3,6
						09:00 22 148 7 1,6 1,3 2,0
						12:00 34 154 7 1,5 0,9 1,6
						13:00 32 168 6 1,4 0,9 1,5
						15:00 32 168 6 1,4 0,9 1,5
						In the meanwhile performing Rig Maintenance, P.M.s, Derrick Weekly checks, Modu Safety Training & rig wide housekeeping. At 15.00 Ocean mainport at starboard side, started offloading cutting skips.
	16:00 - 17:30	1.50	O	b	DRLIN3	Field supply drawworks shorted, blown fuses, troubleshoot and repair.
10/31/2005	17:30 - 20:30	3.00	A	b	DRLIN3	Run in hole 5 1/2 dp from 1862 m to 3108 m.
	20:30 - 21:30	1.00	A	c	DRLIN3	Broke circulation and washed to bottom at 3139 m, functioned down link several times.
	21:30 - 00:00	2.50	A	a	DRLIN3	Continued to drill 12 1/4" hole from 3139 m to 3185 m. Observed max bottoms up gas of 13.8 % from stringer at 3159 m. Drilling parameters: WOB=10 ton, RPM=150, flow rate=2900 l/min
	00:00 - 00:00	24.00	A	a	DRLIN3	Continue to drill 12 1/4" hole from 3185 m to 3413 m. Take surveys every stand. (04:00 - 05:00, move rig 3 m port fwd due to riser angle). Drilling parameters: WOB=15 ton, RPM=130, flow rate=2940 l/min.
11/1/2005	00:00 - 04:30	4.50	A	a	DRLIN3	Continued to drill 12 1/4" hole from 3413 m to 3469 m. (took scr's @ 3456 m, w/1.7sg mud, move rig due to riser angle). Drilling parameters: WOB=16 ton, RPM=130, flow rate=2940 l/min.
	04:30 - 05:00	0.50	A	c	DRLIN3	Pick up and circulate at reduced rate (2600 l/min) to allow Swaco to clear cuttings from transport system.
	05:00 - 14:00	9.00	A	a	DRLIN3	Continued to drill 12 1/4" hole from 3469 to 3555 m. Drilling parameters: WOB=15 ton, RPM=150, flow rate=2940 l/min.
	14:00 - 16:30	2.50	A	c	DRLIN3	Racked back drilling stand, circulated bottoms up @ 2940 l/min.
	16:30 - 20:00	3.50	A	b	DRLIN3	Flow check, POOH 5 1/2 Dp, observed tight spot @ 3495 m make up DDM, rotate and work pipe to 3485 m. Continued to POOH observing 25 ton overpull and working tight spots as required to 2876 m.
	20:00 - 21:30	1.50	A	b	DRLIN3	Slug pipe, flow check and continued to POOH to 2287 m.
	21:30 - 00:00	2.50	A	b	DRLIN3	Flow check inside casing and continued to POOH to 1050 m.
	00:00 - 02:00	2.00	A	b	DRLIN3	Continued to POOH from 1050 m (flow check prior to pull BHA thru BOP's)

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/2/2005	00:00 - 02:00	2.00	A	b	DRLIN3	01:30, pull & rack back HWDP.
	02:00 - 02:30	0.50	A	f	DRLIN3	Hold tool box talk, review JSA, recover pipe wipers and diverter bag.
	02:30 - 03:30	1.00	A	b	DRLIN3	Pulled BHA & rack back same.
	03:30 - 05:00	1.50	A	e	DRLIN3	Hold tool box talk, review JSA, clear rig floor, remove radioactive sources from MWD tool, remove clay from tool end caps.
	05:00 - 06:00	1.00	A	e	DRLIN3	Pulled, broke out & laid down float sub / APX assy. Brokeout bit, rack back MWD assy in derrick.
	06:00 - 06:30	0.50	A	f	DRLIN3	Cleared equipment & cleaned off rig floor
	06:30 - 07:00	0.50	I	d	DRLIN3	Hold tool box talk, picked up & made up jet wash tool & x/o, RIH with two stands of 5 1/2" drill pipes.
	07:00 - 08:30	1.50	I	d	DRLIN3	Picked up & made up bop test tool and RIH same.
	08:30 - 09:00	0.50	I	d	DRLIN3	Made up DDM and Jet well head 2 x75 spm @ 35 bar. Continue to riH to land out Test tool.
	09:00 - 11:00	2.00	O	f	DRLIN3	Crown compensator locked at 2 m open, trouble shoot fault and rectify same, calibrate compensator system.
	11:00 - 12:00	1.00	O	f	DRLIN3	Function test compensator several times, open / close. Visually inspect compensator system at crown, service same, confirm all okay.
	12:00 - 12:30	0.50	I	d	DRLIN3	Continued to run and land of Bop test tool.
	12:30 - 20:30	8.00	I	d	DRLIN3	Pressure test Bop's, 21 / 345 bar on Blue Pod and function test on Yellow from main panel.
	20:30 - 21:00	0.50	I	d	DRLIN3	Unseat test plug and pulled back same. Observed plug hanging up on lower & upper annulars, work thru them.
	21:00 - 22:30	1.50	I	d	DRLIN3	POOH & laid down test plug & well head jetting tool assy's. (move rig due to riser angle)
	22:30 - 00:00	1.50	I	d	DRLIN3	Rigged up surface equipment to test lbops & mud hose. Continued pressure tests on Choke Manifold.
11/3/2005	00:00 - 00:30	0.50	I	d	DRLIN3	Completed testing choke manifold. 500 / 5000 psi
	00:30 - 02:30	2.00	I	d	DRLIN3	Rigged up and pressure tested iBOP's and mud hose. 500 / 5000 psi. (auto iBOP failed test)
	02:30 - 11:00	8.50	O	d	DRLIN3	Removed failed iBOP and made up replacement iBOP. Attempted pressure test on replacement iBOP. This also failed pressure test. Laid out replacement iBOP. Secured hoses and installed elevators.
	11:00 - 12:00	1.00	A	e	DRLIN3	Reviewed JSA for assembling and running BHA. Changed out failed AutoTrak.
	12:00 - 13:00	1.00	A	e	DRLIN3	Made up bit (rerun #5) to AutoTrak and ran into well.
	13:00 - 15:30	2.50	A	e	DRLIN3	Picked up and made up LWD tools to the string.
	15:30 - 18:00	2.50	A	e	DRLIN3	Uploaded data to LWD tools and installed radioactive sources. (operation delayed by c/c of sericehand)
	18:00 - 19:00	1.00	A	b	DRLIN3	Ran into well with BHA # 7.
	19:00 - 19:30	0.50	N	f	DRLIN3	Held Time Out For Safety meeting on rig floor to discuss incident - pinched finger.
	19:30 - 21:30	2.00	A	b	DRLIN3	Continued to run into well with BHA # 7.
	21:30 - 22:30	1.00	A	b	DRLIN3	Ran BHA # 7 into well on 5 1/2" drill pipe.
	22:30 - 00:00	1.50	O	d	DRLIN3	Picked up and installed auto iBOP assembly. Rigged up to pressure test auto iBOP.
11/4/2005	00:00 - 04:00	4.00	O	d	DRLIN3	L/up and performed 5000 psi body test on upper iBOP, continued with pressure test to 15000 psi - good test-
	04:00 - 05:00	1.00	A	b	DRLIN3	RIH bit and BHA from 731m, picking up 15 joints of 5 1/2" DP from deck
	05:00 - 06:00	1.00	A	b	DRLIN3	Continued RIH to 1000m with 12 1/4" BHA on 5 1/2" DP from derrick.
	06:00 - 06:30	0.50	A	b	DRLIN3	Filled up string at 1000m and tested MWD with 25000 lt/mmin -OK-
	06:30 - 12:00	5.50	A	b	DRLIN3	Break out DDM and continued RIH on 5 1/2" DP. Function tested compensator.
	12:00 - 15:00	3.00	A	b	DRLIN3	Continued RIH BHA. Observed tight spot at 3176m and 3335m. Rotate

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/4/2005	12:00 - 15:00	3.00	A	b	DRLIN3	string to pass through.
	15:00 - 15:30	0.50	A	d	DRLIN3	Washed down from 3514 to bottom
	15:30 - 17:00	1.50	A	c	DRLIN3	Circulated bottoms up. Observed max gas peak of 40% decreasing to 3%.
	17:00 - 00:00	7.00	A	a	DRLIN3	Drilled ahead 12 1/4" section from 3555 to 3625m. WOB=10-15T, RPM=150-160, flow rate=2910l/min. Recorded MWD survey on connection. Increased mud weight to 1.75sg.
11/5/2005	00:00 - 00:30	0.50	A	f	DRLIN3	Pulled bit off bottom and recalibrated drawwork's brake.
	00:30 - 00:00	23.50	A	a	DRLIN3	Drilled ahead 12 1/4" section from 3625 to 3835m. WOB= 7-14 ton; RPM= 127-162; flow rate= 2950 lpm. Took MWD survey on connection.
11/6/2005	00:00 - 00:00	24.00	A	a	DRLIN3	Drilled 12 1/4" hole section from 3835 to 4053m. WOB=9-15 tons; RPM=137-150; flow rate= 2900 lpm. Took MWD survey on connection.
11/7/2005	00:00 - 07:30	7.50	A	a	DRLIN3	Drilling 12 1/4" section from 4052 to 4113 m, WOB=5-18 ton, RPM= 120-150, flow rate=2850 lpm, Took MWD survey on connection.
						Meanwhile weighted up M.W. up to 1.84sg
	07:30 - 11:00	3.50	A	c	DRLIN3	Circulated hole clean, Flow check - well static
	11:00 - 19:00	8.00	A	b	DRLIN3	Reviewed JSA. POOH 10 stands wet. Pumped slug and cont POOH to shoe. Observed and wiped tight spots at 4020 m, 4005 m, 3989 m, sections from 3977 m to 3900 m and 3770 m to 3647 m, max overpull 25 tons.
	19:00 - 20:30	1.50	O	e	DRLIN3	Reviewed JSA & held TBT, Serviced top drive and blocks.
	20:30 - 22:30	2.00	O	b	DRLIN3	Reviewed JSA. Hang off block. Slip and cut 35m of drilling line.
	22:30 - 23:00	0.50	O	b	DRLIN3	Performed PM on drawwork brakes and dead line sensor, re-set C.O.M.
	23:00 - 00:00	1.00	A	f	DRLIN3	Held TBT. Changed out handling equipment and commenced to m/up cmt head.
	00:00 - 02:30	2.50	A	f	DRLIN3	P/up 2 singles of 5" V-150 DP's from deck, M/up cmt head and racked back in derrick
	02:30 - 03:00	0.50	A	b	DRLIN3	RIH on 5 1/2" DP's from shoe to 2442m
11/8/2005	03:00 - 04:00	1.00	A	b	DRLIN3	Whilst pulling out observed misalignment of LRA. Troubleshooting and observed sheared safety pin. Held TBT and reviewed JSA. Changed out safety pin.
	04:00 - 09:00	5.00	A	b	DRLIN3	Cont RIH from 2442m to 4113m. Observed tight spot at 3962m.
	09:00 - 11:30	2.50	A	c	DRLIN3	Engaged top drive and precautionally washed down from 4089m to 4113m. Circulated hole clean, max gas 7%.
	11:30 - 14:30	3.00	A	b	DRLIN3	Reviewed JSA. POOH 5 stands wet. Pumped slug and cont POOH to 3319m.
	14:30 - 15:30	1.00	A	b	DRLIN3	While pulling out one of the service loops on DDM caught a nozzle of the rig floor deluge system. Deluge's nozzle fell down onto the rig floor. Time out for Safety.Troubleshooting. Secured service loops.
	15:30 - 19:30	4.00	A	b	DRLIN3	Cont POOH from 3319m to 1920,5m.
	19:30 - 20:00	0.50	P	a	DRLIN3	Suspended POOH due to weather conditions : Wind spd= 48kts, seas= 6,5m, heave= 4m. Flow check -well static - Reviewed JSA.
	20:00 - 23:00	3.00	P	a	DRLIN3	Removed diverter insert bag and wiper rubbers,p/up EDPHOT stand from derrick, m/up grey valve and TIW. L/out 1 single of 5 1/2" DP for space out.
	23:00 - 23:30	0.50	P	a	DRLIN3	M/up top drive and land off EDPHOT on well head by using compensator. Applied four right hand turns and released from string, closed Shear Rams.
	23:30 - 00:00	0.50	P	a	DRLIN3	Held TBT and reviewed JSA. Commenced displacement of riser volume to sea water, pumping through booster, kill and choke line. Wind spd=48kts, seas= 9,8m, heave= 5,8m.
	00:00 - 01:00	1.00	P	a	DRLIN3	Displaced riser to seawater. Wind speed = 40 Knots, Sea = 6m, Heave = 4m.
	01:00 - 02:00	1.00	P	a	DRLIN3	Pulled back EDPHOT RT and racked same in derrick.
11/9/2005	02:00 - 02:30	0.50	P	a	DRLIN3	Prepared and disconnected LMRP. Wind speed = 36 Knts, Sea = 7m,

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations						
11/9/2005	02:00 - 02:30 02:30 - 00:00	0.50 21.50	P P	a a	DRLIN3 DRLIN3	Heave = 4,3m.						
						Deballast rig to 21 m. Cont WOW. Meanwhile performed general rig maintenance. Removed diverter and l/out same. Rigged up riser handling equipment, made up same to slip joint.Connected service hoses to CMT head and racked back same in derrick.						
						Wind (knts)	Sea(m)	Heave(m)				
						03:00	36	7	3,5			
						05:00	26	6	2,7			
						07:00	22	4,8	3,3			
						09:00	18	4	2,2			
						11:00	16	3,5	1,5			
						13:00	14	1,5	1,5			
						15:00	14	1,5	1,1			
						17:00	16	1,8	1,2			
						19:00	20	1,8	1,1			
						20:00	24	2,7	0,7			
						24:00	27	3	0,7			
						11/10/2005	00:00 - 00:00	24.00	A	f	DRLIN3	WOW to latch back LMRP monitoring weather conditions.
Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)								
01:00	28	2,4	0,5	0,4	0,8							
03:00	22	2,5	0,4	0,7	0,8							
05:00	32	2,9	0,6	0,7	0,9							
07:00	48	3,4	1	1,3	1,5							
11:00	38	5	1,5	1,7	2,6							
13:00	26	4,3	1,3	1,1	2,4							
15:00	28	4	1,4	0,8	2,7							
17:00	28	4	1,5	1	2,2							
19:00	30	4	1,3	1	1,9							
21:00	32	3,3	1,3	1	2,2							
23:00	32	4	1,4	0,9	2,0							
11/11/2005	00:00 - 00:00	24.00	P	a	DRLIN3							In the mean time performed general house keeping and PM's.
												WOW to latch back LMRP monitoring weather conditions.
						Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)		
						01:00	42	4,1	1,2	1,0	2,1	
						03:00	40	4,9	1,2	1,0	2,0	
						05:00	40	5,5	1,4	1,6	2,4	
						07:00	52	6,5	1,6	2,2	3,3	
						09:00	44	7,0	1,7	1,8	3,5	
						11:00	44	8,0	1,9	2,1	4,6	
						13:00	38	7,8	1,7	1,9	4,3	
						15:00	32	7,8	1,7	2,1	3,4	
						17:00	20	6,5	1,3	1,6	2,8	
						19:00	12	4,7	1,2	1,3	2,4	
						21:00	18	4,5	1,1	1,3	2,7	
						23:00	23	5,0	1,0	1,1	2,7	
11/12/2005	00:00 - 00:00	24.00	P	a	DRLIN3	In the mean time performed general house keeping and PM's.						
						WOW to latch back LMRP monitoring weather conditions.						

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/12/2005	00:00 - 00:00	24.00	P	a	DRLIN3	Wind (knts) Wave (m) Pitch (°) Roll (°) Heave(m)
						03:00 24 5,2 0,9 0,8 2,1
						06:00 18 4,5 0,8 0,6 1,6
						09:00 22 3,4 0,9 0,5 2,1
						12:00 16 2,8 0,7 0,4 1,7
						15:00 16 2,8 0,9 0,6 2,1
						18:00 14 3,5 1,4 1,0 2,8
						21:00 20 5,5 1,4 1,0 2,9
						24:00 40 3,7 1,2 1,2 2,7
11/13/2005	00:00 - 13:00	13.00	P	a	DRLIN3	In the mean time performed general house keeping and PM's. WOW to latch back LMRP monitoring weather conditions. Wind (knts) Wave (m) Pitch (°) Roll (°) Heave(m)
						03:00 40 4,7 0,9 1,2 1,3
						06:00 30 4,6 0,7 0,8 1,2
						09:00 29 3,2 0,9 1,1 1,4
						12:00 28 3,0 0,8 1,0 2,0
	13:00 - 15:00	2.00	I	e	DRLIN3	In the mean time performed general house keeping and PM's. Boat in close stand by. Attached hydraulic lines for slip joint. Re-pinned slip joint, launched ROV and check guide lines. Commenced to skid rig over location.
	15:00 - 16:30	1.50	I	e	DRLIN3	Cleaned connector with ROV while final positioning of rig. Landed and set down LMRP with 40 klbs, latched LMRP and performed overpull test to 50 klbs on yellow POD: good test. Switched to blue POD and perform 50 klbs o/pull test: OK.
	16:30 - 00:00	7.50	P	a	DRLIN3	WOW prior to displace riser, monitoring weather conditions. Wind (knts) Wave (m) Pitch (°) Roll (°) Heave(m)
						18:00 24 4,0 0,8 0,9 1,7
						21:00 40 4,0 0,8 1,1 1,7
						22:00 36 4,0 0,7 0,9 1,4
						23:00 42 4,5 0,8 0,9 1,5
						24:00 46 4,5 1,0 1,8 1,5
11/14/2005	00:00 - 16:30	16.50	P	a	DRLIN3	In the mean time, increased riser tension, unlocked slip joint and scoped out same. WOW prior to displace riser, monitoring weather conditions. Wind (knts) Wave (m) Pitch (°) Roll (°) Heave(m)
						03:00 42 5,2 1,6 1,9 3,2
						06:00 42 5,6 2,1 1,9 3,4
						09:00 42 5,7 1,7 1,7 2,8
						12:00 20 5,7 1,3 1,4 2,6
						15:00 14 5,6 1,4 1,3 2,1
						18:00 10 5,5 1,3 1,3 2,2
	16:30 - 19:00	2.50	I	f	DRLIN3	In the mean time perform general housekeeping and PM's. Hold JSA for handling riser and diverter. Pull and l/out handling joint. P/up & install diverter. Performed overpull test to 5klbs: good test. L/out spider. Boat in stand by cover. Ran ROV to observe C/K stabs. Extended and locked stabs, extended BOP stingers and energized.
	19:00 - 20:00	1.00	I	d	DRLIN3	Tested K & C lines against fail safe valves to 250/5000 psi for 5/10 min: good test.
	20:00 - 22:00	2.00	I	d	DRLIN3	Reviewed JSA. Changed to drilling bails and function tested diverter

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/14/2005	20:00 - 22:00	2.00	I	d	DRLIN3	system: good test.
	22:00 - 23:00	1.00	I	e	DRLIN3	Checked for pressure below shear rams: no pressure observed. Flow check well: OK.
11/15/2005	23:00 - 00:00	1.00	A	b	DRLIN3	P/U EDPHOT stand, broke out Acme thread sub, RIH same.
	00:00 - 00:30	0.50	A	b	DRLIN3	CONT to RIH w/EDPHOT retrieving tool.
	00:30 - 01:00	0.50	I	d	DRLIN3	Flushed lines & tested LMRP connection t/500 psi for 10 min.
	01:00 - 03:30	2.50	A	c	DRLIN3	Held JSA. Displaced riser, booster, kill line & choke line to OBM.
	03:30 - 05:00	1.50	A	b	DRLIN3	Screwed into EDPHOT & made up same to 25000 ft.lbs. POOH and hung on upper annular with 40 klbs overpull. Moved rig and pulled through upper annular.
	05:00 - 06:30	1.50	I	d	DRLIN3	Racked back one stand & function tested BOP on yellow pod from drill floor panel & from koomey unit on blue pod.
	06:30 - 08:30	2.00	A	b	DRLIN3	CONT to POOH w/EDPHOT tool to surface.
	08:30 - 10:30	2.00	A	e	DRLIN3	Reconfigured HOT, checked for pressure under grey valve and tiw, broke off same and racked back in derrick.
	10:30 - 12:00	1.50	A	c	DRLIN3	Broke circulation at 2000 l/min: OK. RIH w/12 1/4" BHA t/2400 m.
	12:00 - 15:00	3.00	A	b	DRLIN3	CONT to RIH f/2400 m t/3400.
	15:00 - 17:30	2.50	A	c	DRLIN3	Circulated B/U at 2300 l/min, max gas 13%.
	17:30 - 19:00	1.50	A	b	DRLIN3	CONT to RIH t/ 4060 m and washed down to 4113 m.
	19:00 - 23:00	4.00	A	c	DRLIN3	Circulated and conditioned mud. Tested Coriolis loop. Max gas 12%.
	23:00 - 00:00	1.00	A	f	DRLIN3	Reviewed JSA. Flow checked well: OK. Commenced to POOH with 12 1/4" BHA
11/16/2005	00:00 - 07:00	7.00	A	b	DRLIN3	POOH w/12 1/4" BHA t/3963 m, flow checked well: OK. Pumped slug due to wet pipe and CONT to POOH 12 1/4" BHA to 13 3/8" shoe at 2304 m. Flow checked well: OK.
	07:00 - 10:30	3.50	A	b	DRLIN3	CONT to POOH w/12 1/4" BHA to BOP's, flow checked well: OK: Performed kick drill and CONT to POOH with 12 1/4" BHA.
	10:30 - 13:30	3.00	A	f	DRLIN3	Reviewed JSA and commenced racking back 12 1/4" BHA in derrick.
	13:30 - 14:30	1.00	A	f	DRLIN3	CONT to rack back 12 1/4" BHA in derrick, plugged in and downloaded MWD, lay out MWD tool string.
	14:30 - 15:30	1.00	A	f	DRLIN3	Finished to rack back 12 1/4" BHA in derrick. Cleared rig floor.
	15:30 - 16:30	1.00	A	f	DRLIN3	Picked up CSG tongs and CSG handling equipment.
	16:30 - 19:00	2.50	A	f	DRLIN3	R/U and RIH BOP test tool. Landed out same with 10 klbs set down.
	19:00 - 00:00	5.00	I	d	DRLIN3	Flushed lines, commenced testing BOP's. Tested fail safe valves and all rams except for shear rams to 500/10,000 psi for 5/10 min. Tested preventer to 500/5,000 psi for 5/10 min.
	00:00 - 02:30	2.50	I	d	DRLIN3	CONT to test BOP. Function tested BOP on Blue POD from drilling office.
	02:30 - 04:00	1.50	N	f	DRLIN3	POOH w/test tool.
11/17/2005	04:00 - 06:00	2.00	N	f	DRLIN3	L/o test tool. P/u bore protector retrieving tool, RIH same, jetted BOP's and bore protector.
	06:00 - 09:00	3.00	N	f	DRLIN3	Landed out bore protector retrieving tool and set same w/10 klbs down. Pulled bore protector w/100 klbs. POOH w/bore protector and jetting assy, lay out same. No significant wear observed on bore protector.
	09:00 - 13:00	4.00	C	f	CSGIN2	Cleared rig floor, changed out saver sub to 4 1/2" IF. Rigged up 500 ton bails, connected up and tested hydraulic casing elevators. Rigged up to run 9 7/8" CSG.
	13:00 - 14:30	1.50	C	f	CSGIN2	Troubleshooted hydraulic lines on casing tongs.
	14:30 - 15:30	1.00	C	b	CSGIN2	P/U and made up 9 7/8" shoe track/float collar assy, bakerlocked same and RIH.
	15:30 - 00:00	8.50	C	b	CSGIN2	CONT to run 9 7/8" CSG to 729 m, filled up every 5 joints. Total CSG joints run: 59.
	00:00 - 11:30	11.50	C	b	CSGIN2	CONT to RIH 9 7/8" CSG f/729 m t/1650 m. Filled up every 5 joints. Rejected 6 x T95 joints.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/18/2005	11:30 - 12:00	0.50	C	b	CSGIN2	Changed out CSG slips, due to wear on same.
	12:00 - 15:30	3.50	C	b	CSGIN2	CONT to RIH 9 7/8" CSG f/1650 m t/2000 m. Filled up every 5 joints.
	15:30 - 16:00	0.50	C	b	CSGIN2	Repaired retract piston for casing tong.
	16:00 - 00:00	8.00	C	b	CSGIN2	CONT to RIH 9 7/8" CSG f/2000 m t/2732 m. Filled up every 5 joints.
11/19/2005	00:00 - 12:00	12.00	C	b	CSGIN2	Limited run speed to 2 min per joint to prevent mud losses. Joints run: 217. CONT to RIH 9 7/8" CSG f/2732 m t/3721 m filling every 5 joints, limited run speed to 2-2.5 mins per joints to prevent mud losses. Took 100 klbs (45 tons) at 3703 m, worked string through. Observed 10 bbls of losses to hole over last 15 joints of CSG run.
	12:00 - 13:00	1.00	C	e	CSGIN2	Made up CSG hanger joint, R/D casing handling gear and R/U for 5" DP.
	13:00 - 16:30	3.50	C	b	CSGIN2	CONT to RIH 9 7/8" CSG on 5" DP V150 at 4-5 mins per stand. Worked through tight spot at 3973 m with 50 klbs (23 tons) down and at 4005 m with 100 klbs (45 tons) down. Total losses to well: 30 bbls.
	16:30 - 17:00	0.50	C	b	CSGIN2	Made up CMT stand. Set 15 klbs (7 tons) of landing string down on hanger.
	17:00 - 19:30	2.50	C	c	CSGIN2	Circulated down string at max 400 lpm with 41 bar, observed losses to hole at 75 bbls/hr. Total pumped: 156 bbls, total losses while pumping: 84 bbls. Stopped pumping & flow checked well, observed mud returns to trip tank.
11/20/2005	19:30 - 20:30	1.00	N	f	CSGIN2	Passed OBM hose to boat, prepared to receive mud, no mud received to mud pits.
	20:30 - 23:30	3.00	N	f	CSGIN2	Troubleshooted mud transfer problem, found blockage and cleared same.
	23:30 - 00:00	0.50	N	f	CSGIN2	Commenced to receive mud from boat to mud pits.
	00:00 - 00:30	0.50	N	f	CSGIN2	Received mud from boat to build volume as reserve for cement job.
	00:30 - 01:00	0.50	N	f	CSGIN2	Held JSA while breaking circulation for cement job.
	01:00 - 02:00	1.00	C	c	CSGIN2	Performed line test to 6000 psi, pumped 95 bbls (15 m3) of spacer with rig pumps.
	02:00 - 06:00	4.00	C	c	CSGIN2	Switched to cement unit, released dart and commenced cement job. Mixed and pumped 36 m3 of 1,92 SG cement slurry, released second dart and sheared top plug. Switched to rig pumps and started to displace slurry at 1000 lpm with 140 m3 of 1,85 SG mud, monitoring losses to hole throughout entire cement job. Reduced flow rate to 800 lpm prior to bump plugs, but no plug bump observed. Total losses on displacement: 775 bbls (124 m3).
	06:00 - 07:00	1.00	C	c	CSGIN2	Flow checked well, observed gain on trip tank. Shut in well on upper annular, shut in pressure: 85 psi. Allowed well to flow through choke: no flow.
	07:00 - 07:30	0.50	C	f	CSGIN2	Opened annular, disconnected cement hose and control lines from cement stand.
	07:30 - 09:00	1.50	C	f	CSGIN2	Set seal assembly and tested same t/10000 psi against upper annular: good test.
	09:00 - 12:00	3.00	C	f	CSGIN2	Released r/tool from CSG hanger, POOH same laying down landing string.
	12:00 - 13:30	1.50	C	f	CSGIN2	L/D cement head.
	13:30 - 15:00	1.50	C	f	CSGIN2	Removed casing tong from rig floor, removed 500 ton bails and disconnected casing elevator hoses from top drive. Cleaned up rig floor.
	15:00 - 16:00	1.00	N	e	CSGIN2	Broke out 4 1/2" saver sub and removed torque wrench from DDM.
	16:00 - 20:30	4.50	N	e	CSGIN2	R/U drilling bails and elevators, RIH w/8" DC's and POOH laying down same.
	20:30 - 22:00	1.50	N	e	CSGIN2	R/u and installed 5 1/2" saver sub. Installed pipe handler and lock wired same.
	22:00 - 23:30	1.50	N	f	CSGIN2	P/up and RIH bore protector.
	23:30 - 00:00	0.50	N	f	CSGIN2	Set bore protector w/15 tons down and started to POOH w/bore protector running tool.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/21/2005	00:00 - 00:30	0.50	N	f	CSGIN2	POOH w/bore protector running tool and l/out same.
	00:30 - 03:30	3.00	G	e	CSGIN2	P/U plug tester and made it up to hang off std. Racked back same in derrick. RIH 5 stds of HWDP and 2 tiws, made up hang off std dressed plug tester.
	03:30 - 04:30	1.00	G	b	CSGIN2	RIH w/plug tester assy to test shear rams.
	04:30 - 05:30	1.00	G	b	CSGIN2	Land out plug tester and set down 10 klbs, broke circulation, closed MPR and attempted to test: no success.
	05:30 - 07:00	1.50	G	f	CSGIN2	Open MPRs and closed upper annular. Attempted to re-test: no success. Unseated tool, washed over BOPs, reset tool, set down 30 klbs, closed MPR and attempted to re-test: no success.
	07:00 - 08:30	1.50	G	f	CSGIN2	Held JSA, POOH with plug tester (wet pipe), inspected same and observed seals missing on tool.
	08:30 - 10:00	1.50	C	f	CSGIN2	Lined up and tested 9 7/8" CSG against shear rams to 5100 psi: good test.
	10:00 - 10:30	0.50	N	f	CSGIN2	Reconfigured plug tester, made up on hang off stand and racked back in derrick.
	10:30 - 12:00	1.50	N	f	CSGIN2	RIH w/bore protector retrieving tool, engaged same and pulled clear of well head w/90 klbs overpull.
	12:00 - 13:30	1.50	N	f	CSGIN2	POOH w/bore protector and lay down same on deck.
	13:30 - 15:00	1.50	G	b	CSGIN2	Made up plug tester, installed spacer sub, serviced EDPHOT and RIH w/plug tester assy.
	15:00 - 16:00	1.00	C	f	CSGIN2	Closed MPR's and tested seal assy to 500/10,000 psi, good test. Backed out ACME sub from EDPHOT and pull clear.
	16:00 - 16:30	0.50	G	b	CSGIN2	POOH w/ACME sub.
	16:30 - 17:00	0.50	G	c	CSGIN2	Tested shear rams to 500/10,000 psi: good test. Broke out ACME connection and made up 4 1/2" IF saver sub.
	17:00 - 19:00	2.00	G	b	CSGIN2	RIH w/hang off stand and engaged EDPHOT. POOH w/plug tester assy (wet pipe).
	19:00 - 22:00	3.00	G	b	CSGIN2	Made up ACME thread sub to EDPHOT, pulled to plug tester and l/out same, reconfigured & racked back EDPHOT in derrick, l/out Tiw valves, reconfigured plug tester and l/out to deck.
	22:00 - 23:30	1.50	N	f	CSGIN2	P/U and M/U bore protector running tool, RIH w/same set bore protector
	23:30 - 00:00	0.50	N	f	CSGIN2	POOH w/bore protector running tool.
11/22/2005	00:00 - 01:30	1.50	N	f	CSGIN2	POOH w/bore probector running tool, L/O same.
	01:30 - 04:00	2.50	G	b	CSGIN2	P/U and M/U RTTS packer and RIH with same t/595 m. Compensated through BOPs.
	04:00 - 05:00	1.00	G	c	CSGIN2	Set packer @ 595 m. Broke circulation with cement unit and tested against upper pipe rams to 7300 psi: good test.
	05:00 - 07:30	2.50	G	b	CSGIN2	POOH to surface w/RTTS and L/O same.
	07:30 - 08:30	1.00	G	b	CSGIN2	CONT to POOH racking 5 1/2" DP in derrick.
	08:30 - 09:30	1.00	G	b	CSGIN2	CONT to POOH laying down 15 jts of 5 1/2 HWDP
	09:30 - 12:00	2.50	G	c	CSGIN2	M/U tiw and pump-in sub to DDM. Pressure tested 5 1/2" tiw, automatic IBOP and manual IBOP on DDM to 250/10000 psi: good test.
	12:00 - 13:00	1.00	G	c	CSGIN2	Tested Standpipe, pump manifold and kelly hose to 5000 psi. Made up 5" tiw and Gray valve and lay down to deck to be tested w/BOP test pump.
	13:00 - 14:30	1.50	A	e	DRLPRO	M/U drilling stand and racked back in derrick. Cleared rig floor of excess equipment.
	14:30 - 16:00	1.50	A	e	DRLPRO	M/U 8 3/8" BHA and tested On-Trak.
	16:00 - 18:00	2.00	A	b	DRLPRO	CONT RIH w/8 3/8" BHA t/137 m picking up 5" HWDP and jars.
	18:00 - 19:30	1.50	N	f	DRLPRO	Carried out H2S training with all rig crew.
	19:30 - 23:00	3.50	A	b	DRLPRO	Rewied JSA for picking up DP f/deck. CONT to P/U 5" HWDP & 5" DP f/deck. Changed out dies on iron rough neck due to long hard band on 5" HWDP and 5" DP.
	23:00 - 00:00	1.00	A	f	DRLPRO	Dropped dart to drift dp to correct size - wrong sized drift used initially.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/22/2005	23:00 - 00:00	1.00	A	f	DRLPRO	Pulled back 9 stands to retrieve dart.
11/23/2005	00:00 - 00:30	0.50	A	f	DRLPRO	POOH to dart sub. Retrieved same, observed nose dislodged, recovered same in JAR.
	00:30 - 01:30	1.00	A	f	DRLPRO	Serviced DDM
	01:30 - 06:00	4.50	A	b	DRLPRO	CONT to RIH w/8 3/8" BHA pcking up 5" & 5 1/2" DP from deck.
	06:00 - 07:00	1.00	A	f	DRLPRO	M/U kill single. L/O same to deck.
	07:00 - 12:00	5.00	A	b	DRLPRO	RIH w/8 3/8" BHA t/2950 m filling string every 500 m.
	12:00 - 14:30	2.50	A	b	DRLPRO	CONT RIH w/8 3/8" BHA. Tagged CMT @ 3928 m.
	14:30 - 16:00	1.50	A	c	DRLPRO	Pulled back t/3900 m, broke circulation. Function tested BOPs on yellow POD f/rig floor and on blue POD f/BOP control unit.
	16:00 - 17:00	1.00	A	f	DRLPRO	Prepared mud system for displacing hole with 1,9 SG mud.
	17:00 - 19:00	2.00	A	a	DRLPRO	Drilled top wiper plug and pushed same down hole f/3928 m to 3935 m.
	19:00 - 20:00	1.00	A	b	DRLPRO	Worked through plugs f/3935 m t/3937 m.
	20:00 - 00:00	4.00	A	a	DRLPRO	CONT to drill firm CMT f/3937 m t/3975 m: lost drill torque and WOB @ 3975 m. Washed soft CMT f/3975 m t/3988 m. No indication of hard CMT f/3975 m t/3988 m.
11/24/2005	00:00 - 03:30	3.50	A	a	DRLPRO	Drilled cement from 3988 m to top of float collar at 4066 m.
	03:30 - 05:30	2.00	A	c	DRLPRO	Circulated hole clean at 2000 l/min.
	05:30 - 08:30	3.00	O	e	DRLPRO	Damaged upper racking arm. Safety pins sheared and rotating head damaged. Removed head to workshop for repair.
	08:30 - 10:00	1.50	O	b	DRLPRO	Slipped and cutted 40 m of drill line.
	10:00 - 11:30	1.50	O	f	DRLPRO	Tested coriolis loop with Geoservices and flush through system 1100 l/min.
	11:30 - 12:00	0.50	A	c	DRLPRO	Circulated through MWD to cool it down.
	12:00 - 13:30	1.50	O	e	DRLPRO	Continued repairing damaged racking arm.
	13:30 - 14:30	1.00	A	e	DRLPRO	Picked up Kill Assy and made up to drillstring, connected Jumper Hose to cement Line from Halliburton Unit. Carry out flow test for MWD at 500 l/m and 1400 l/m ok.
	14:30 - 16:30	2.00	A	c	DRLPRO	Took SCRs with rig pumps and Cement Pump and obtained Choke Line Friction readings. Carried out test on Rig Floor Press Gauges with Cmt Unit. 14, 41,103 and 310 bar.
	16:30 - 17:00	0.50	A	e	DRLPRO	Laid out Kill Assembly.
	17:00 - 19:30	2.50	O	e	DRLPRO	Continued to work on Upper Racking Arm. Adjusted D/W balance bar. flushed both auto chokes.
	19:30 - 21:30	2.00	A	c	DRLPRO	Circulated through coriolis loop up to 2100 l/min confirm with Geoservices flow readings. Closed upper annular, pump down string taking returns through auto chokes. Function test chokes.
	21:30 - 22:00	0.50	A	f	DRLPRO	Pulled back 5 stands, install TIW and gray valve.
	22:00 - 23:00	1.00	A	f	DRLPRO	Held meeting and carried out stripping drill with crew.
	23:00 - 00:00	1.00	A	f	DRLPRO	Pulled back, removed TIW and gray valve, run back to 4066 m.
11/25/2005	00:00 - 06:00	6.00	A	a	DRLPRO	Drilled out float collar and shoe track from 4066m to 4101 m. Drilled cement under shoe from 4101m to 4108 m and tag bottom of rathole at 4113 m.
	06:00 - 07:00	1.00	A	a	DRLPRO	Drilled new hole from 4113 to 4118 m.Drilling parameters: RPM=70 - 120 , flow=1800 l/min p=269 bar.
	07:00 - 09:30	2.50	A	c	DRLPRO	Circulated bottoms Up prior to FIT Test. Carry out 15 min Flow check, 2,3 m3 lost to formation during circulation and 2,1 m3 returned during flow check.
	09:30 - 10:30	1.00	I	d	DRLPRO	Broke off HPHT Drill Stand and pull to 4089 m, Shoe at 4101 m. Spaced out, closed Upper Annular for F.I.T. test.
	10:30 - 11:00	0.50	I	d	DRLPRO	Pressure test lines to 103 bar: ok. Pump trough halliburton unit for FIT/ LOT test, EMW=2.06 sg (leak off) .
	11:00 - 11:30	0.50	I	d	DRLPRO	Test complete open Upper Annular and carried out MWD Down-Hole

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations																														
11/25/2005	11:00 - 11:30	0.50	I	d	DRLPRO	survey tests.																														
	11:30 - 13:30	2.00	A	c	DRLPRO	Circulated at 1500,1700 and 1800 l/min to establish loss rates. Gas Peaked at 3.8 % during bottoms up from flow check, switched on De-Gasser.																														
	13:30 - 00:00	10.50	P	a	DRLPRO	Decreased flow-rate to 500 l/min and circulated and conditioned mud with Chemicals (240 sacks of Baracarb 50) while Waiting on Weather. Pulled back to 4071 m, continue pumping at 400 l/min. Serviced top drive. WOW monitoring weather conditions.																														
						<table><tr><td></td><td>Wind (knts)</td><td>Wave (m)</td><td>Pitch (°)</td><td>Roll (°)</td><td>Heave(m)</td></tr><tr><td>14:00</td><td>46</td><td>6,0</td><td>1,7</td><td>1,8</td><td>3,9</td></tr><tr><td>17:00</td><td>46</td><td>6,0</td><td>2,0</td><td>1,6</td><td>3,1</td></tr><tr><td>20:00</td><td>42</td><td>5,5</td><td>1,2</td><td>1,3</td><td>3,2</td></tr><tr><td>24:00</td><td>44</td><td>5,5</td><td>1,2</td><td>1,7</td><td>1,7</td></tr></table>		Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)	14:00	46	6,0	1,7	1,8	3,9	17:00	46	6,0	2,0	1,6	3,1	20:00	42	5,5	1,2	1,3	3,2	24:00	44	5,5	1,2	1,7	1,7
		Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)																														
14:00	46	6,0	1,7	1,8	3,9																															
17:00	46	6,0	2,0	1,6	3,1																															
20:00	42	5,5	1,2	1,3	3,2																															
24:00	44	5,5	1,2	1,7	1,7																															
11/26/2005	00:00 - 04:30	4.50	P	a	DRLPRO	WOW monitoring weather conditions.																														
						<table><tr><td></td><td>Wind (knts)</td><td>Wave (m)</td><td>Pitch (°)</td><td>Roll (°)</td><td>Heave(m)</td></tr><tr><td>01:00</td><td>40</td><td>2,1</td><td>1,1</td><td>1,2</td><td>1,8</td></tr><tr><td>04:00</td><td>40</td><td>2,1</td><td>1,5</td><td>0,9</td><td>2,3</td></tr></table>		Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)	01:00	40	2,1	1,1	1,2	1,8	04:00	40	2,1	1,5	0,9	2,3												
		Wind (knts)	Wave (m)	Pitch (°)	Roll (°)	Heave(m)																														
	01:00	40	2,1	1,1	1,2	1,8																														
	04:00	40	2,1	1,5	0,9	2,3																														
	04.30 - 06:30	2.00	N	f	DRLPRO	Carried out fingerprinting with company man. Check 15 min flowback through flowline/ coriolis loop and to trip tank.																														
	06:30 - 09:30	3.00	A	a	DRLPRO	Made up drilling stand, washed back to bottom and drilled 8 3/8" hole from 4118 m to 4129 m.																														
	09:30 - 10:00	0.50	A	c	DRLPRO	Flow Checked due to rapid unexplained 0,8 m3 gain in active pit, Flow Check: OK.																														
	10:00 - 11:00	1.00	A	a	DRLPRO	Continued to Drill Ahead 8 3/8" Hole to 4132 m. Gas Peak 13.6% from flow check on Bottoms Up.																														
	11:00 - 12:00	1.00	O	e	DRLPRO	Investigated oil leak on Top Drive; found broken Hydraulic Hose fitting on Drive Motor, repaired it.																														
12:00 - 16:30	4.50	A	a	DRLPRO	Continued to Drill Ahead 8 3/8" Hole from 4132 m to 4151 m.																															
16:30 - 17:00	0.50	A	c	DRLPRO	Picked up off Bottom and investigated rapid 0,6 m3 gain in active pit: OK.																															
17:00 - 00:00	7.00	A	a	DRLPRO	Drilled Ahead from 4151 m to 4174 m ;Gas Peak 21% on Bottoms up from connection.																															
11/27/2005	00:00 - 00:00	24.00	A	a	DRLPRO	Drilled ahead 8 3/8" from 4174 m to 4263 m. Drilling parameters: RPM=150, WOB= 15 ton, flow= 1300 l/min. Gas Peaked to 20% on Bottoms up from connection. Tested M.G.S Alarm, OK. Flow checked well at 4259 m: OK.																														
11/28/2005	00:00 - 03:00	3.00	A	a	DRLPRO	Drilled ahead 8 3/8" from 4263 m to 4276 m (6406/1-3 Total depth). Drilling parameters: RPM=120, WOB= 18 ton, flow= 1300 l/min. Consumable on board at 3.00: Baryte= 288 ton, cement g=60 ton, cement silica =76 ton, diesel=485 m3, potable water 169 m3, drill water 202 m3, helifuel=3885 l, base oil =63 m3.																														
	03:00 - 00:00	21.00	A	a	DRLPRO	Drilled ahead 8 3/8" from 4276 m to 4369 m. Drilling parameters: RPM=120, WOB= 18 ton, flow= 1300 l/min. Gas Peaked to 13% on Bottoms up from connection. Took SCR's. Increased torque and ROP from 4293 to 4295 m and from 4298 to 4299 m.																														
11/29/2005	00:00 - 00:00	24.00	A	a	DRLPRO	Continued drilling 8 3/8" from 4369 m to 4476 m. Drilling parameters: RPM=135, WOB= 15 ton, flow= 1300 l/min. Gas Peaked to 13.4% on Bottoms up from connection. Took survey on connections.																														
11/30/2005	00:00 - 00:00	24.00	A	a	DRLPRO	Continued drilling 8 3/8" from 4476 m to 4542 m. Drilling parameters: RPM=120, WOB= 17 ton, flow= 1300 l/min. Gas peaked to 13.4% on bottoms up from connection, background gas peak at 17%. Increased																														

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
11/30/2005	00:00 - 00:00	24.00	A	a	DRLPRO	drilling torque at 4510 m. Took survey on connections.
12/1/2005	00:00 - 07:00	7.00	A	a	DRLPRO	CONT to drill 8 3/8" hole f/4542 m t/4564 m. Flow checked well due to increased torque and ROP: OK.
	07:00 - 19:30	12.50	A	a	DRLPRO	CONT to drill 8 3/8" hole f/4564 m to TD @ 4596 m.
	19:30 - 20:00	0.50	A	c	DRLPRO	Took survey and SCR's at 4596 m
	20:00 - 22:30	2.50	A	c	DRLPRO	Circulated B/U at 4596 m boosting through riser. Max gas: 2,6%. Flow checked well: OK.
12/2/2005	22:30 - 00:00	1.50	A	b	DRLPRO	POOH w/8 3/8" BHA to 4275 m.
	00:00 - 01:00	1.00	A	b	DRLPRO	CONT to POOH to 9 7/8" CSG shoe at 4101 m. Flow checked well: OK.
	01:00 - 03:00	2.00	A	b	DRLPRO	RIH to TD @ 4596 m.
	03:00 - 05:30	2.50	A	c	DRLPRO	Circulated B/U at 1300 l/m with 6,3% gas peak. Flow checked well: OK.
	05:30 - 08:30	3.00	A	b	DRLPRO	POOH f/4596 m t/3695 (400 m inside 9 7/8" CSG shoe). Flow checked well: OK.
	08:30 - 10:30	2.00	A	e	DRLPRO	Held PJSM, P/U BOP test plug assy, re-configured same and set new seals. M/U BOP test plug assy.
	10:30 - 12:00	1.50	A	b	DRLPRO	RIH w/BOP test plug assy, landed out same w/15 tons down (bit depth 4078 m).
	12:00 - 17:30	5.50	I	d	DRLPRO	Pressure tested BOP's to 300/10000 psi for 5/10 mins on blue POD and function tested BOP's on yellow POD f/rig office.
	17:30 - 18:00	0.50	A	b	DRLPRO	Lined up choke & kill manifold, closed upper annular and unseated test plug monitoring any pressure and returns: none observed. Open annular, flow checked well: OK.
	18:00 - 19:00	1.00	A	b	DRLPRO	Pull test plug, observed same hanging up in RAM cavities. Closed upper annular to centralize test plug and CONT to pull back w/BOP test plug assy. Bit depth: 4054 m.
12/3/2005	19:00 - 21:30	2.50	A	c	DRLPRO	M/U top drive, filled drill string and circulated B/U at 1300 l/m, 165 bar. Boosted riser. Flow checked well: OK.
	21:30 - 23:00	1.50	A	b	DRLPRO	POOH w/test plug from 4078 m to 3695 m (bit depth).
	23:00 - 23:30	0.50	A	b	DRLPRO	Recovered and L/O test tool.
	23:30 - 00:00	0.50	A	b	DRLPRO	RIH w/8 3/8" BHA from 3695 m to 3869 m.
	00:00 - 03:00	3.00	A	b	DRLPRO	CONT to RIH w/8 3/8" BHA f/3869 m t/TD at 4596 m.
	03:00 - 05:30	2.50	A	c	DRLPRO	Circulated B/U with 5,8% max gas. Flow checked well: OK.
	05:30 - 07:00	1.50	A	b	DRLPRO	POOH w/8 3/8" BHA f/4596 m t/4099 m (2 m inside shoe). Flow checked well: OK.
	07:00 - 11:30	4.50	A	b	DRLPRO	CONT to POOH to 2130 m, observed wet string.
	11:30 - 12:00	0.50	A	c	DRLPRO	Pumped and displaced 20 BBLS of 2.2 sg slug and allowed same to stabilise. Flow checked well: OK.
	12:00 - 14:30	2.50	A	b	DRLPRO	CONT to POOH t/1232 m. Flow checked well: OK. Changed out leaking hose on iron roughneck and service rig.
	14:30 - 17:00	2.50	A	b	DRLPRO	CONT to POOH t/563 m. Changed out lift equipment and CONT to POOH w/8 3/8" BHA on 5" DP.
	17:00 - 19:00	2.00	A	b	DRLPRO	Held JSA and CONT to POOH to surface w/8 3/8" BHA. Racked back in derrick 8 stands of HWDP, laid out jar, float sub, string stab and 8 3/8" bit.
	19:00 - 20:30	1.50	A	f	DRLPRO	Down loaded MWD data, broke off MWD tools and laid out same to deck.
	20:30 - 21:00	0.50	A	f	DRLPRO	Held JSA, cleared and tidied up rig floor of excess equipment and cleaned rotary of OBM.
12/4/2005	21:00 - 00:00	3.00	A	f	DRLPRO	R/U and pressure tested lower and upper iBOPs on Top Drive and Kelly Mud Hose to 300/10000 psi for 5/10 min: good test. R/D all test equipment and cleared rig floor.
	00:00 - 01:30	1.50	F	f	EVALPR	Held JSA with all essential personnel and R/U for wire-line logging.
	01:30 - 04:00	2.50	F	f	EVALPR	P/U Tool String AIT-IPLT-ECS from deck and made up same. Load radio active sources to string.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/4/2005	04:00 - 07:00	3.00	F	b	EVALPR	Ran in hole to 100 m, opened compensator and commenced running in hole for AIT-IPLT-ECS run #1 to 4570 m.
	07:00 - 10:00	3.00	F	a	EVALPR	Carried out AIT-IPLT-ECS f/4570 m t/CSG shoe @ 4101 m.
	10:00 - 12:00	2.00	F	b	EVALPR	POOH w/wire line logging string. Noticed 30 cm long rubber hole finder was left in the hole.
	12:00 - 14:00	2.00	F	f	EVALPR	Held JSA, removed radio active sources, broke down and laid out logging tools.
	14:00 - 15:00	1.00	F	f	EVALPR	P/U and M/U wire line CMR-GR logging tools for run #2.
	15:00 - 18:30	3.50	F	b	EVALPR	Ran w/line string to 4510 m.
12/5/2005	18:30 - 00:00	5.50	F	a	EVALPR	Carried out CMR - GR logs f/4500 m t/4321 m.
	00:00 - 07:30	7.50	F	a	EVALPR	CONT to carry out CMR/GR logs f/4321 m to 9 7/8" CSG shoe @ 4101 m. POOH with CMR and GR logging tools.
	07:30 - 10:30	3.00	F	f	EVALPR	Broke down & L/O logging tools. R/D wire line head. Changed out wire line head & tension sheave.
	10:30 - 12:00	1.50	F	f	EVALPR	R/U wire line head, picked up and made up wire line OBMI/DSI tools for run #3.
	12:00 - 14:30	2.50	F	b	EVALPR	Run OBMI/DSI logging tool to 4593 m.
	14:30 - 17:30	3.00	F	a	EVALPR	Carried out OBMI/DSI logs f/4593 m t/4101 m (9 7/8" CSG shoe).
12/6/2005	17:30 - 19:30	2.00	F	b	EVALPR	POOH w/with OBMI/DSI logging tools.
	19:30 - 21:30	2.00	F	b	EVALPR	L/O OBMI/DSI logging toolstring and R/D wire line equipment from rigfloor.
	21:30 - 23:00	1.50	A	f	EVALPR	Held JSA. P/U & M/U 8 3/8" wiper trip BHA.
	23:00 - 23:30	0.50	A	f	EVALPR	Moved rig due to high riser angle before running BHA past wellhead.
	23:30 - 00:00	0.50	A	b	EVALPR	CONT to RIH w/8 3/8" BHA t/200 m.
	00:00 - 08:00	8.00	A	b	EVALPR	CONT to make up 8 3/8" BHA and RIH same t/2698 m filling string every 15 stands and monitoring returns to trip tank.
12/7/2005	08:00 - 08:30	0.50	A	f	EVALPR	Elevators sticking in open position when attempting to latch DP from derrick. Changed out elevators and elevators inserts for 5 1/2" DP.
	08:30 - 13:00	4.50	A	b	EVALPR	CONT to RIH w/8 3/8" BHA t/2730. Broke circulation. CONT to RIH w/8 3/8" BHA to 4089 (2 m inside 9 7/8" CSG shoe), filling string every 15 stands and monitoring returns to trip tank. Broke & check circulation at 9 7/8" shoe.
	13:00 - 14:30	1.50	A	b	EVALPR	CONT to RIH w/8 3/8" BHA t/4552 m, filled string and washed down to TD @ 4596 m.
	14:30 - 16:30	2.00	A	c	EVALPR	Circulated bottoms up and worked string till clean. Max gas @ bottom: 10,5 %.
	16:30 - 17:00	0.50	A	c	EVALPR	Displaced choke/kill lines with 1,89 SG mud and flow checked well for 15 min static:OK.
	17:00 - 18:30	1.50	A	b	EVALPR	Pulled back w/8 3/8" BHA to 4435 m, flow checked well for 15 min static: OK. Run back to bottom @ 4596 m.
12/7/2005	18:30 - 21:00	2.50	A	c	EVALPR	Circulated bottoms up and worked string till clean with 1,65 % gas peak. Flow checked well: OK. Pumped slug.
	21:00 - 23:00	2.00	A	b	EVALPR	POOH w/8 3/8" BHA to 9 7/8" CSG shoe. Flow checked well for 15 min static: OK.
	23:00 - 00:00	1.00	A	b	EVALPR	CONT to POOH w/8 3/8" BHA from 4101 m to 3800 m.
	00:00 - 08:00	8.00	A	b	EVALPR	CONT to POOH w/8 3/8" BHA f/3800 m t/552 m. Flow checked well @ 2000 m and 988 m.
	08:00 - 10:00	2.00	A	b	EVALPR	Changed out lift equipment for 5" DPs and CONT to POOH racking 5" DP, 5" HWDP, jars & string stab. Laid out 1 joint of HWDP and 8 3/8" bit
	10:00 - 10:30	0.50	A	f	EVALPR	Serviced rig and L/O DDM torque wrench.
12/7/2005	10:30 - 11:00	0.50	A	f	EVALPR	Carried out systems checks on derrick racking arms positioning/alarm systems.
	11:00 - 13:30	2.50	F	f	EVALPR	R/U and M/U MDT wire line logging string. Tested connections: OK.
	13:30 - 17:30	4.00	F	b	EVALPR	Run wire line MDT logging string checking drag every 500 m.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/7/2005	17:30 - 00:00	6.50	F	a	EVALPR	Carried out MDT logs.
12/8/2005	00:00 - 07:30	7.50	F	a	EVALPR	CONT to carry out MDT logs.
	07:30 - 10:00	2.50	F	b	EVALPR	POOH w/MDT logging string.
	10:00 - 12:00	2.00	F	f	EVALPR	Broke down and L/O MDT logging string.
	12:00 - 13:00	1.00	F	b	EVALPR	M/U VSP wire line assy and RIH same to TD.
	16:00 - 22:00	6.00	F	a	EVALPR	Carried out VSP logs.
	22:00 - 00:00	2.00	F	b	EVALPR	POOH w/VSP logging string. B/O and L/D logging tools. R/D wire line equipment.
12/9/2005	00:00 - 01:00	1.00	L	f	RDMO	Cleared rig floor of excess equipment and tidied up same. Installed DDM wrench whilst preparing decks for picking up 3 1/2" CMT stinger.
	01:00 - 02:00	1.00	L	f	RDMO	P/U, B/O and L/D 1 joint of 5" HWD, float assy, NB stab. and 8 3/8" bit.
	02:00 - 05:00	3.00	L	b	RDMO	Held JSA, M/U 3 1/2" DP mule shoe, RIH w/same picking up 3 1/2" DP from deck to 321 m.
	05:00 - 06:30	1.50	L	b	RDMO	Changed out pipe handling equipment and continued to RIH w/5" DP from derrick to 637 m.
	06:30 - 14:00	7.50	L	b	RDMO	Changed out pipe handling equipment to 5 1/2" and continued to RIH w/cement stinger on 5 1/2" DP to 4088 m.
	14:00 - 15:00	1.00	L	f	RDMO	L/O 2 singles of DP and M/U CMNT stand, lo-torque and hose and racked back same in derrick.
	15:00 - 16:00	1.00	L	b	RDMO	CONT to RIH t/4585 m. L/O single of DP and P/U drilling stand from derrick, M/U same.
	16:00 - 16:30	0.50	L	b	RDMO	Washed down stand 8 m, struck elevators against Upper Racking Arm breaking shear pins and causing damage to URA Head. Cleared rig floor and barriered area off, assessed damage whilst continuing to circulate B/U.
	16:30 - 18:30	2.00	L	c	RDMO	CONT to circulate B/U w/1300 LPM, 2500 psi. In the mean time continued to assess and made repairs on URA head.
	18:30 - 19:00	0.50	L	b	RDMO	Tagged bottom w/5 tons down. Pulled out, spaced out and closed upper annular, circulated remaining 1000 m through C & K lines to degasser, observed 8% max gas. Opened upper annular, lined up and circulated conventionally, observed 10% max gas, circulated out same. In the mean time, continued to assess and attempted to make repairs on URA.
	19:00 - 00:00	5.00	L	f	RDMO	CONT with repairs to URA head, claw and top plate. In the mean time continued to circulate and work pipe.
12/10/2005	00:00 - 10:30	10.50	L	f	RDMO	CONT with repairs to Upper Racking Arm head, claw and top plate. In the mean time, continued to circulate and work pipe.
	10:30 - 12:00	1.50	L	f	RDMO	Flow checked well: OK. R/U for CMT job. Broke out and laid out two singles from drilling stand. Picked up kill joint from deck, made up same to string, made up lo-torque, swivel and hose.
	12:00 - 14:00	2.00	L	c	RDMO	Reviewed JSA for setting CMT plug #1, flushed through CMNT line and performed line test to 2000 psi for 10 min.: OK. Pumped 8 m3 of weighted spacer with rig pumps, mixed and pumped 6,5 m3 of 1,98 sg CMNT slurry and displaced same with rig pumps with 44,8 m3 of 1,9 sg mud @ 1300 l/m with 165 bar.
	14:00 - 15:30	1.50	L	b	RDMO	L/O CMNT assy to deck. POOH with CMNT stinger laying out 21 singles to deck.
	15:30 - 16:00	0.50	L	d	RDMO	Picked up kill joint from deck, made up same to string, made up lo-torque, swivel and hose.
	16:00 - 17:00	1.00	L	c	RDMO	Pumped 8 m3 of weighted spacer with rig pumps, mixed and pumped 7,3 m3 of 1,98 sg CMNT slurry for setting CMNT plug #2. Switched to rig pumps and displaced same with 42,5 m3 of 1,9sg mud @ 1300 l/m and 165 bar.
	17:00 - 18:30	1.50	L	b	RDMO	L/O CMNT assy. POOH with CMNT stinger laying out 21 singles to deck.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations																																																
12/10/2005	18:30 - 19:00	0.50	L	f	RDMO	Picked up kill joint from deck, made up same to string, made up lo-torque, swivel and hose.																																																
	19:00 - 20:00	1.00	L	c	RDMO	Pumped 8 m3 of weighted spacer with rig pumps, mixed and pumped 8,4 m3 of 1,98 sg CMNT slurry for setting CMNT plug #3. Switched to rig pumps and displaced same with 40,3 m3 of 1,9sg mud @ 1300 l/m and 165 bar.																																																
	20:00 - 21:30	1.50	L	b	RDMO	R/D CMNT assy. POOH w/CMNT stinger t/3943 m, laying out 5 1/2" DP to deck.																																																
	21:30 - 00:00	2.50	L	c	RDMO	Installed 2 wiper balls in string, M/U top drive and circulated bottoms up with 1300 l/m and 170 bar. Commenced to circulate and condition mud to 1.91 sg. In the mean time installed URA head.																																																
12/11/2005	00:00 - 02:00	2.00	L	c	RDMO	Whilst WOC, continued to circulate at 3943 m with 640 l/m and 55 bar. In the mean time continued with repairs on UPR.																																																
	02:00 - 02:30	0.50	L	f	RDMO	Held JSA, RIH to 4001 m picking up 5 1/2" DP singles from deck.																																																
	02:30 - 03:00	0.50	L	b	RDMO	Upper Racking Arm back to operational. Picked up one 5 1/2" stand from derrick and M/U to string, RIH slowly to 4025 m, circulated with 270 l/m, 40 bar. Observed no cement. Pulled back to 3991 m and continued to circulate.																																																
	03:00 - 05:00	2.00	L	c	RDMO	CONT to WOC . In the mean time, continued to circulate and changed out burst hydraulic hose on URA.																																																
	05:00 - 06:00	1.00	L	b	RDMO	RIH slowly, circulated with 270 l/m with 40 bar. Tagged CMNT @ 4036 m with 10 tons down. Pulled back to 4001 m.																																																
	06:00 - 07:00	1.00	L	c	RDMO	Picked up kill joint, made up same to string, made up lo-torque, swivel and hose. Lined up to CMT unit, spaced out and closed upper annular. Attempted to pressure test CMNT plug: no success.																																																
	07:00 - 10:00	3.00	L	b	RDMO	Reviewed JSA. Laid out CMNT assy, pumped slug, POOH and racked back 400 m of 5 1/2" DP.																																																
	10:00 - 10:30	0.50	L	f	RDMO	Removed diverter packer, installed Tiw and Gray valve to string.																																																
	10:30 - 12:00	1.50	L	f	RDMO	P/U EDPHOT, checked ACME thread, O-ring, M/U EDPHOT to string and RIH w/same to 379 m.																																																
	12:00 - 13:30	1.50	L	f	RDMO	M/U top drive, landed off HOT assy, closed MPR's and backed out HOT at ACME thread. P/U clear of BOP's and closed shear rams.																																																
	13:30 - 14:00	0.50	L	f	RDMO	POOH, laid out ACME x-over and racked back hang off stand in derrick. Reviewed JSA prior to displace riser.																																																
	14:00 - 15:30	1.50	L	c	RDMO	Displaced C & K lines, booster line and Marine Riser to sea water. Made preparations prior to unlatch LMRP.																																																
	15:30 - 00:00	8.50	P	a	RDMO	Waited On Weather monitoring weather conditions. <table><tr><td>Time</td><td>Wind</td><td>Wave</td><td>Pitch</td><td>Roll</td><td>Heave</td></tr><tr><td></td><td>(knots)</td><td>(m)</td><td>(°)</td><td>(°)</td><td>(m)</td></tr><tr><td>16:00</td><td>50</td><td>9</td><td>3,5</td><td>2,5</td><td>3</td></tr><tr><td>18:00</td><td>48</td><td>9</td><td>4,7</td><td>4,3</td><td>4</td></tr><tr><td>20:00</td><td>48</td><td>9</td><td>3</td><td>4,7</td><td>4</td></tr><tr><td>22:00</td><td>41</td><td>9</td><td>3,8</td><td>6,2</td><td>4,8</td></tr><tr><td>24:00</td><td>48</td><td>10</td><td>4,2</td><td>5,1</td><td>4,5</td></tr></table>	Time	Wind	Wave	Pitch	Roll	Heave		(knots)	(m)	(°)	(°)	(m)	16:00	50	9	3,5	2,5	3	18:00	48	9	4,7	4,3	4	20:00	48	9	3	4,7	4	22:00	41	9	3,8	6,2	4,8	24:00	48	10	4,2	5,1	4,5						
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24:00	48	10	4,2	5,1	4,5																																																	
12/12/2005	00:00 - 00:00	24.00	P	a	RDMO	WOW monitoring weather conditions. <table><tr><td>Time</td><td>Wind</td><td>Wave</td><td>Pitch</td><td>Roll</td><td>Heave</td></tr><tr><td></td><td>(knots)</td><td>(m)</td><td>(°)</td><td>(°)</td><td>(m)</td></tr><tr><td>02:00</td><td>54</td><td>10</td><td>3,1</td><td>5,4</td><td>5,2</td></tr><tr><td>04:00</td><td>48</td><td>10</td><td>3,2</td><td>4,9</td><td>4,7</td></tr><tr><td>06:00</td><td>43</td><td>10</td><td>2,4</td><td>3,5</td><td>3,4</td></tr><tr><td>08:00</td><td>42</td><td>10</td><td>2,3</td><td>3,6</td><td>3,7</td></tr><tr><td>10:00</td><td>40</td><td>10,5</td><td>3,3</td><td>4,1</td><td>2,8</td></tr><tr><td>12:00</td><td>37</td><td>10,5</td><td>2,8</td><td>4,2</td><td>3,9</td></tr></table>	Time	Wind	Wave	Pitch	Roll	Heave		(knots)	(m)	(°)	(°)	(m)	02:00	54	10	3,1	5,4	5,2	04:00	48	10	3,2	4,9	4,7	06:00	43	10	2,4	3,5	3,4	08:00	42	10	2,3	3,6	3,7	10:00	40	10,5	3,3	4,1	2,8	12:00	37	10,5	2,8	4,2	3,9
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	12:00	37	10,5	2,8	4,2	3,9																																																

Operations Summary Report

Legal Well Name: 6406/1-4
 Common Well Name: 6406/1-4
 Event Name: ORIG DRILLING
 Contractor Name: DIAMOND DRILLING
 Rig Name: OCEAN VANGUARD

Start: 8/12/2005
 Rig Release: 12/27/2005
 Rig Number:

Spud Date: 8/16/2005
 End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/12/2005	00:00 - 00:00	24.00	P	a	RDMO	14:00 39 10,5 3,4 4,6 4,3 16:00 44 10 2,1 4,2 2,8 18:00 34 8 2 3,6 3,9 20:00 34 8 1,4 2,3 2 22:00 34 8 1,6 2,2 1,4 24:00 40 8 1,4 1,8 1,6 In the mean time rigged up riser handling equipment, carried out rig housekeeping and general PM.
12/13/2005	00:00 - 06:00	6.00	P	a	RDMO	WOW monitoring weather conditions. Time Wind Wave Pitch Roll Heave (knots) (m) (°) (°) (m) 01:00 38 8 1,5 1,7 1,5 03:00 48 10 1,6 1,3 1,6 06:00 43 10 1,3 1,5 1,0
	06:00 - 07:00	1.00	P	a	RDMO	Installed riser spiders, pulled out and laid down diverter, M/U riser handling sub to landing joint, M/U landing joint to slip joint, collapsed inner barrel and hydraulic locked in same.
	07:00 - 09:00	2.00	P	a	RDMO	Launched ROV and inspected LMRP with same. Untangled guidelines and tensioned up same.
	09:00 - 11:00	2.00	P	a	RDMO	Moved rig back over location in preparation for relatching.
	11:00 - 12:00	1.00	P	a	RDMO	Landed LMRP, held 25 tons down. Locked connector and C/K mini connectors. Performed overpull test with 25 tons up: OK.
	12:00 - 13:00	1.00	I	e	RDMO	Transferred weight to riser tensioners, extended stack stingers and lined up control system to BOP functions.
	13:00 - 13:30	0.50	I	d	RDMO	Attempted to pressure test C/K lines w/CMNT unit: observed leak on Kill side. Lined up down choke line from CMNT unit and tested choke side only to 5000 psi for 5 min with middle pipe rams closed around EDPHOT mandrel: good test. Opened lower inner and outer choke valves and monitored for pressure: 25 bar observed. Bled off 1,5 bbls and flow checked well: static.
	13:30 - 14:00	0.50	L	c	RDMO	Pressure tested CMNT plug to 130 bar (70 bar above LOT) with 1,91 sg mud for 15 min pumping 729 m3 (4.5 bbls): good test, full returns of volume pumped on bleed off.
	14:00 - 17:00	3.00	P	a	RDMO	Unpinned slip joint, laid out landing joint to deck, P/U diverter and made up & landed out same, attached control lines. Over pull 5 tons and removed running tool. Rig down riser handling equipment.
	17:00 - 18:00	1.00	P	a	RDMO	Re-tested kill line and mini connector to 5000 psi after functioning valves, good test. Function tested diverter system: good test.
	18:00 - 20:00	2.00	P	a	RDMO	RIH with HOT stand to retrieve EDPHOT, M/U top drive, washed over EDPHOT, M/U same, took string weight, opened MPRs and unseated HOT.
	20:00 - 21:00	1.00	P	a	RDMO	Pulled back EDPHOT, observed some hanging up in UPR cavity, closed Upper Annular to centralize and pulled clear cavities. Observed hanging up at Upper Annular, closed Lower Annular and pulled EDPHOT clear BOP's.
	21:00 - 22:30	1.50	P	a	RDMO	M/U Top Drive, spaced out and performed BOP function test on both pods.
	22:30 - 00:00	1.50	P	a	RDMO	Held JSA, lined up and established circulation, closed Upper Annular and pressure tested LMRP connector to 120 bar: good test. Bled off pressure and opened Upper Annular. Held JSA prior to displace riser.
12/14/2005	00:00 - 04:00	4.00	P	a	RDMO	Displaced riser to OBM. Observed contaminated cement at shakers, circulated riser clean thorough C/K lines with 3000 LPM @ 1500 psi.
	04:00 - 06:30	2.50	P	a	RDMO	Flow checked well: OK. POOH w/EDPHOT to surface, broke out and

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations												
12/14/2005	04:00 - 06:30	2.50	P	a	RDMO	re-configured same, broke out and laid out Grey valve and TIW, racked back EDPHOT.												
	06:30 - 09:30	3.00	L	b	RDMO	Installed diverter insert bag, CONT to POOH with CMNT stinger.												
	09:30 - 12:30	3.00	L	f	RDMO	Dolly carriage struck stand of racked back pipe in the derrick. Took Time Off For Safety. Laid out damaged stand and inspected DDM and related equipment. Re-racked stands in derrick.												
	12:30 - 17:00	4.50	L	b	RDMO	CONT to POOH w/CMNT stinger to 947 m.												
	17:00 - 18:00	1.00	L	c	RDMO	Circulated B/U @ 947 m with 2090 LPM and 2900 psi.												
	18:00 - 18:30	0.50	L	b	RDMO	POOH w/CMNT stinger to 650 m.												
	18:30 - 19:00	0.50	L	f	RDMO	Changed out handling equip. to 5" DP.												
	19:00 - 20:30	1.50	L	f	RDMO	Observed Die dropping out of bottom jaw. Troubleshot same, die holder worn and spread. Removed jaw, cleaned and redressed bolt threads, changed out jaw and replaced bolts.												
	20:30 - 21:30	1.00	L	b	RDMO	Reviewed JSA, RIH with 7 stands of HWDP and one double from derrick. Laid down jar.												
	21:30 - 00:00	2.50	L	b	RDMO	Reviewed JSA, POOH to 388 m laying down 5" HWDP and 5" DP.												
12/15/2005	00:00 - 00:30	0.50	L	b	RDMO	Continued to Pooh laying down 5" DP from 388 m.												
	00:30 - 02:00	1.50	L	d	RDMO	Held tool box talk,changed pipe handling equipment, pooh racking back 3 1/2" DP.												
	02:00 - 02:30	0.50	L	d	RDMO	Cleared rig floor of excess equipment and tidy it.												
	02:30 - 05:00	2.50	L	f	RDMO	Reviewed JSA, TBT, Slip & Cut 40 m of Drill Line.												
	05:00 - 07:30	2.50	L	d	RDMO	Reviewed JSA, TBT, picked up and made up jet sub to crossover, made up to stand of 5 1/2" DP, made up wear bushing retrieval tool assy & RIH on 5 1/2" DP.												
	07:30 - 08:00	0.50	L	f	RDMO	Jet Bop & Wellhead area and continued in hole.												
	08:00 - 09:30	1.50	L	f	RDMO	Retrieved wear bushing, 50 ton over pull, POOH to surface, laid out wear bushing retrieval tool. Inspected												
	09:30 - 11:00	1.50	L	f	RDMO	Waited crane lift due to crew change helicopter, In the meanwhile cleaned rig floor. Made preparations to pick up seal assy tool.												
	11:00 - 12:30	1.50	L	b	RDMO	Picked up seal assy tool, re-set same and RIH.												
	12:30 - 13:30	1.00	L	d	RDMO	Repaired & changed 5 1/2" auto elevators												
	13:30 - 14:00	0.50	L	b	RDMO	Continued RIH with seal assy running tool.												
	14:00 - 20:30	6.50	L	f	RDMO	Made up pipe to DDM & latched onto seal assy. Pull test 2.5 ton. Rotated string one turn to left. Closed upper annular and opened choke line. Pulled seal assy 40 ton. Observed for pressure build up on choke. No build up. Opened choke - no flow. Opened annular increase trip tank level 0.6 m3. Closed annular, pressure build up on choke , 11 bar. Opened choke and monitored back flow on trip tank from 14.40 hrs to 15.35 hrs 4.2 m3. Closed choke and monitored pressure build up @ 15.45hrs - 12 bar / 10 min. Opened choke and continued to monitor flowback, closing choke periodically to check pressure build up - 16.50hrs - 10.5 bar/10min, 18.50hrs - 13.5 bar/50 min. Total back flow 13.8 m3. 18.50hrs flowed back through kill & choke lines.												
						<table><tr><td>Time</td><td>Flow</td><td>Shut inpressure(time)</td></tr><tr><td>15.00</td><td>0.7 m3/10'</td><td>11 (10mins)</td></tr><tr><td>17.00</td><td>0.7 m3/10'</td><td>10.5(10mins)</td></tr><tr><td>19.00</td><td>0.7 m3/10'</td><td>13.5(50mins)</td></tr></table>	Time	Flow	Shut inpressure(time)	15.00	0.7 m3/10'	11 (10mins)	17.00	0.7 m3/10'	10.5(10mins)	19.00	0.7 m3/10'	13.5(50mins)
	Time	Flow	Shut inpressure(time)															
	15.00	0.7 m3/10'	11 (10mins)															
17.00	0.7 m3/10'	10.5(10mins)																
19.00	0.7 m3/10'	13.5(50mins)																
20:30 - 00:00	3.50	L	f	RDMO	Relaxed annular to 21 bar (300 psi), continued to monitor returns via C & K lines on trip tank, no change in flow back rate, still 0.3 m3 / 10 mins. 21:00 hrs, increased annular operating pressure to 103 bar (1500 psi) & opened Upper Annular, very slight increase in flowrate. Allowed 10 mins for Annular to fully open, picked up string 16 m to put pack-off seal assy													

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/15/2005	20:30 - 00:00	3.50	L	f	RDMO	above Upper Annular, (observed no restriction going thru Annular). Closed in well on Choke manifold & Upper Annular, monitored pressure build up from 21:30 - 23:00 = 16 bar. During this time circulated riser contents via booster line. 23:00 hrs, Lined up to trip tank, bled off pressure and monitor flowrate, steady at 0.3 m3/10 mins. 23:30 hrs, opened Upper Annular and continued to monitor flowrate 0.45m3/10 mins, lined up and circulated riser volume conventionally with 95spm @ 45 bar.
12/16/2005	00:00 - 01:00	1.00	L	f	RDMO	Time Flow pressure during well shutdown (bar) 23.00 0.3 m3/10' 16 Continued to circulate riser contents conventionally. (1.4 m3 increase during circulation) .Lined up on trip tank and monitor flowrate, steady 0.3 m3 / 10 mins. Note : total volume returned since seal assy unseated 26 m3.
	01:00 - 02:30	1.50	L	b	RDMO	POOH on 5 1/2" drill pipes.
	02:30 - 03:00	0.50	L	d	RDMO	Seal assy running tool on surface - no seal assy.
	03:00 - 04:30	1.50	L	d	RDMO	Re-set seal assy running tool, and RIH with same.
	04:30 - 05:00	0.50	L	b	RDMO	Made up DDM, lined up & washed across BOPs and seal assy area, made several passes, with 95 spm, @ 45 bar.
	05:00 - 06:00	1.00	L	b	RDMO	Engaged seal assy as per Vetco engineers instructions. Closed Upper Annular and picked up seal assy with no overpull, monitored for pressure on Choke manifold, none observed.
	06:00 - 06:30	0.50	L	f	RDMO	Opened C & K line to trip tank and monitored for flow: none observed. Opened Upper Annular and monitored on trip tank, observed flowrate of 0.3 m3 / 10 mins.
	06:30 - 09:00	2.50	L	b	RDMO	Pooh 5 1/2 Dp & seal assy running tool. Laid down seal assy & running tool.
	09:00 - 13:00	4.00	L	b	RDMO	Picked up and made up 9 7/8" casing cutting assy. Rih with same. Picked up marine swivel and continued to rih.
	13:00 - 14:00	1.00	L	a	RDMO	Made up DDM. Up & down weight 80 ton before landing marine swivel. Free rotation torque 120 rpm - 4500 ft/lbs. Cut 9 7/8" casing with 120 rpm & 37 spm - 124 bar. Flow checked well 20 min. Reduced to static.
	14:00 - 17:00	3.00	L	b	RDMO	Slug pipe. Pooh, laid down 4 singles & racked back marine swivel in derrick. Laid down cutting assy.
	17:00 - 19:30	2.50	L	b	RDMO	Picked up and made up spear assy. RIH.
	19:30 - 20:00	0.50	L	e	RDMO	Made up DDM, took up and down weight, engaged 9 7/8" casing as per Weatherford engineers instructions. Attempted to pick up casing string through BOPs, suspect stop ring hanging up in Pipe Ram cavities.
	20:00 - 21:00	1.00	L	f	RDMO	Moved rig to decrease differential angle.
	21:00 - 22:00	1.00	L	e	RDMO	Made several attempts to pick up casing string, no success max over pull 40 tons. Set down casing weight & released spear as per Weatherford engineer instructions, picked back up and confirmed stop ring pulling clear of BOP ram cavities. Re- engage spear in casing 1 m higher. Made several attempts to pick up casing string - negative.
	22:00 - 23:30	1.50	L	e	RDMO	Hold 10 ton overpull closed Upper Annular at reduced pressure - no change, opened Upper Annular and close Lower Annular, observed overpull drop off, picked up 3 m. Opened Lower Annular. Attempted to pick up casing string - negative. Closed Lower Annular attempted to pick up - negative. Opened Lower Annular. Made numerous attempts to pick up casing string, negative.
	23:30 - 00:00	0.50	L	e	RDMO	Hold 10 ton overpull, rotated string to the left 5 rpm / 0 torque, observed overpull drop off, picked up casing string clear of BOP's whilst continued to

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/16/2005	23:30 - 00:00	0.50	L	e	RDMO	rotate.
12/17/2005	00:00 - 02:00	2.00	L	b	RDMO	Lined up and established circulation, slug pipe, pooh racking back 5 1/2" DP.
	02:00 - 03:00	1.00	L	f	RDMO	TOFS conducted with toolpusher, Deck Crew, Safety Delegates & Safety Co-ordinator to address concerns regarding ice falling from derrick. Cleared rig floor of excess equipment & tidy same, changed out handling equipment.
	03:00 - 04:00	1.00	L	f	RDMO	Disengaged spear from casing and rack back 9 7/8" casing spear assy. Rigged up to pull 9 7/8" casing.
	04:00 - 09:00	5.00	L	b	RDMO	Reviewed JSA, hold TBT, pooh laying down 9 7/8" casing. (41 jnts, hanger, 7 m stump)
	09:00 - 10:30	1.50	L	d	RDMO	Rigged down casing equipment, cleaned rig floor from excess equipment.
	10:30 - 15:30	5.00	L	b	RDMO	Reviewed JSA. Picked up & madeup EZSV plug & running tool. Rih with same. Running speed 2 - 3 min per stand.
	15:30 - 16:00	0.50	L	f	RDMO	Set EZSV plug at 895 m as per Halliburton procedure.
	16:00 - 19:00	3.00	L	f	RDMO	Racked back one stand. Installed kick joint to test EZSV plug. Test surface line to 138 bar - ok.
	19:00 - 20:00	1.00	L	f	RDMO	Attempted to test plug without success, pressure bleeding off @ 94 bar. Broke out kick joint and picked up one single from deck and engaged EZSV plug with pump trickling over. Set down 8 ton weight.
	20:00 - 22:00	2.00	L	c	RDMO	Lined up cement unit down choke line, attempted test down annulus on top of EZSV plug, and against upper pipe rams: observed pressure increase on stand pipe manifold indicating EZSV element leaking. Bled off pressure above & below EZSV. Increased weight down to 13 ton. Attempted to test again with same results. Lined up cement unit to pump down string & perform LOT: broke over @ 55 bar bleeding to 40 bar. Bled off pressure, opened BOP rams, disengaged from EZSV bridge plug.
	22:00 - 22:30	0.50	L	b	RDMO	Reviewed JSA, held TBT, made up cement assy to drill string, rig up low torque, swivel & cement
	22:30 - 00:00	1.50	L	c	RDMO	hose, lined up cement unit & established circulation, tested surface lines to 206 bar. Lined up & pumped 8 m3 of spacer with rig pumps, lined up cement unit, pump 7.7 m3 of 1.95 sg slurry and displaced with 8 m3 of mud. Broke out & laid down cement assy.
12/18/2005	00:00 - 05:30	5.50	L	b	RDMO	Pooh from 895 m to 770 m.
	05:30 - 06:30	1.00	L	f	RDMO	Made up top drive & circulated bottoms up, 2 x 50 spm, 55 bar, diverted 1 m3 spacer to empty mud pit.
	06:30 - 08:30	2.00	L	d	RDMO	(review JSA for tripping)
	08:30 - 11:30	3.00	L	d	RDMO	Slug pipe, pooh, laying down excess 5 1/2" DP to pipe deck. (3 springs missing from EZSV bridge plug running tool)
	11:30 - 13:00	1.50	L	b	RDMO	Cleared rig floor, serviced top drive and DDM.
	13:00 - 14:00	1.00	L	b	RDMO	Picked up 6 x 8 1/2" DC from deck.
	14:00 - 15:00	1.00	L	b	RDMO	Broke out and laid down spear assy, hang off tool & kick assy.
	15:00 - 16:30	1.50	L	f	RDMO	Reviewed JSA & TBT. Picked up and made up 5 1/2" mule shoe. Rih hole to 600 m.
	16:30 - 17:30	1.00	L	c	RDMO	Pooh & laid out 12 joints of 5 1/2" drill pipes
	17:30 - 19:30	2.00	L	d	RDMO	RIH and tagged firm cement at 791 m with 10 ton weight down.
	19:30 - 20:30	1.00	L	d	RDMO	Racked back one stand. Pressure test cement plug to 108 bar/10 min - ok.
	20:30 - 21:00	0.50	L	b	RDMO	Reviewed JSA & TBT. Displaced hole to 1.50 sg mud. Displaced kill & choke lines.
						Pumped slug. Pooh. Laid down xs 5 1/2" drill pipes.
						Picked up jet assy, 1 stand of 5 1/2" drill pipe and seal assy running tool.
						RIH to 380 m.

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/18/2005	21:00 - 21:30	0.50	L	f	RDMO	Made up top drive & jetted across seal assy/wellhead area.
	21:30 - 22:00	0.50	L	f	RDMO	Latched into seal assy as per Vetco engineers instructions, closed Upper Annular on low pressure, picked up & unseated seal assy with 15 ton over pull, observed no increase in pressure. Flow checked through choke line: ok. Opened Upper Annular & pulled seal assy through 9 7/8" sealing area with 55 ton over pull.
12/19/2005	22:00 - 23:30	1.50	L	f	RDMO	Pulled seal assy clear of BOP's, pooh.
	23:30 - 00:00	0.50	L	f	RDMO	Seal Assy running tool at surface - no seal assy, inspected & re-set tool, observed broken latch ring.
	00:00 - 00:30	0.50	L	d	RDMO	Laid out seal assy running tool, racked back tool and jet assy.
	00:30 - 02:30	2.00	L	d	RDMO	Picked up and RIH with 13 3/8" casing cutter. Made up marine swivel assy and continued to RIH.
	02:30 - 04:00	1.50	L	a	RDMO	Compensated cutter assy through BOPs, took weight, 1.5 ton, rotated 5 rpm, observed weight drop off, continued RIH to place cutters at 596 m, landed off marine swivel, set down 5 ton, filled pipe & broke circulation with 10 spm. Commenced to rotate with 120 rpm, free torque 3 k ft lbs, set up parameters as per Weatherford engineer instructions and cut 13 3/8" casing. Observed pressure drop from 117 bar to 21 bar and a good indication of casing cut.
	04:00 - 06:30	2.50	L	b	RDMO	Flow checked:ok. POOH with 13 3/8" casing cutter assy. Laid out marine swivel assy and continued POOH.
	06:30 - 07:00	0.50	L	d	RDMO	Laid out cutter assy to deck.
	07:00 - 10:00	3.00	L	d	RDMO	Reviewed JSA and TBT. Picked up and made up spear assy, jar and slinger. RIH and engaged spear to casing, pulled casing with 10 ton overpull. Hung up in lower annular; rotated very slowly to left, worked string and moved rig. 50 ton max overpull.
	10:00 - 13:00	3.00	L	b	RDMO	Slug pipe, POOH with 13.3/8" casing on 5.1/2" drill pipe landing string.
	13:00 - 14:30	1.50	L	d	RDMO	Reviewed JSA and TBT. Rigged up casing handling equipment.
	14:30 - 17:30	3.00	L	e	RDMO	Released casing hanger from spear, laid down spear assy and jar. Pulled 13 3/8" casing; recovered 16 joints, 1.5 m stump and casing hanger.
	17:30 - 19:00	1.50	L	d	RDMO	Rigged down casing equipment. Cleaned rig floor.
	19:00 - 22:00	3.00	L	b	RDMO	Reviewed JSA, RIH with 3 1/2" drill pipes with blanked off mule shoe on 5 1/2" drill pipes to 730 m.
	22:00 - 22:30	0.50	L	d	RDMO	Picked up cement stand, made up cement hose, broke circulation.
12/20/2005	22:30 - 00:00	1.50	L	c	RDMO	Reviewed JSA, TBT, lined up cement unit & established circulation, lined up & tested surface lines to 207 bar / 5 mins with cement pump, lined up & pumped 10 m3 of spacer with rig pumps, lined up & pumped cement plug #5.
	00:00 - 00:30	0.50	P	c	RDMO	Lined up & displaced with rig pumps, broke out cement hose & racked back cement assy, pooh to 475 m.
	00:30 - 01:30	1.00	L	c	RDMO	Made up top drive & circulated bottoms up, diverted spacer.
	01:30 - 03:30	2.00	L	c	RDMO	Held TBT, lined up to cement unit, established circulation, tested surface lines to 206 bar with cement pump, lined up & pumped 9.8 m3 of spacer with rig pumps, lined up & pumped cement plug #6, 8.9 m3 of 1.92 sg slurry displaced it with 0.3 m3 of OBM.
	03:30 - 04:00	0.50	L	d	RDMO	Broke out & racked back cement stand, pooh to 400 m.
	04:00 - 05:00	1.00	L	c	RDMO	Installed 2 x wiper balls, made up top drive & circulated bottoms up.
	05:00 - 05:30	0.50	L	c	RDMO	Pulled back to BOP's, jetted across BOP cavities whilst circulating bottoms up.
	05:30 - 06:00	0.50	L	b	RDMO	Reviewed JSA, pooh laying down 5 1/2" DP. (lined up & displace booster line, C & K lines to Baraclean, flushed through Choke Manifold with same.)
	06:00 - 06:30	0.50	L	c	RDMO	Changed handling equipment and cleared rig floor.
	06:30 - 10:00	3.50	L	c	RDMO	Laid out 3 1/2 drill pipes to deck. Changed handling equipment from 3 1/2"

Operations Summary Report

Legal Well Name: 6406/1-4

Common Well Name: 6406/1-4

Event Name: ORIG DRILLING

Contractor Name: DIAMOND DRILLING

Rig Name: OCEAN VANGUARD

Start: 8/12/2005

Rig Release: 12/27/2005

Rig Number:

Spud Date: 8/16/2005

End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/20/2005	06:30 - 10:00	3.50	L	c	RDMO	to 5 1/2".
	10:00 - 10:30	0.50	L	c	RDMO	Picked up & broke out spear assy & jar. Laid out to deck.
	10:30 - 12:00	1.50	L	b	RDMO	RIH with wash tool with 10 stands. Pooh & laid down drill pipes while waiting on cement.
	12:00 - 12:30	0.50	L	f	RDMO	Repairs to deck crane
	12:30 - 14:30	2.00	L	c	RDMO	Continued to lay down 5 1/2" drill pipes.
	14:30 - 15:00	0.50	L	b	RDMO	RIH with 5 1/2" drill pipe & wash tool to tag cement.
	15:00 - 15:30	0.50	L	d	RDMO	Changed dies on iron roughneck.
	15:30 - 17:30	2.00	L	b	RDMO	Continued to RIH. Tagged firm cement @ 427 m. Racked back one stand & laid one single to space out. Pressure test cement plug to 44 bar/10 min - ok.
	17:30 - 20:00	2.50	L	c	RDMO	Reviewed JSA & TBT displaced well to sea water as per program.
	20:00 - 23:30	3.50	L	b	RDMO	Reviewed JSA, pooh laying down 5 1/2" drill pipes to deck.
12/21/2005	23:30 - 00:00	0.50	L	d	RDMO	Reviewed JSA, changed out drilling bails & elevators for 500 ton pipe handling equipment.
	00:00 - 01:30	1.50	L	d	RDMO	Reviewed JSA, Removed master bushings & outer ring, used Swaco crew to remove mud & cuttings
	01:30 - 03:30	2.00	L	d	RDMO	from rotary table drip pan. Installed diverter handling tool & lock in place.
	03:30 - 05:00	1.50	L	d	RDMO	Reviewed JSA, made preparations, pulled and laid out diverter.
						Reviewed JSA, Installed buckets on skate, picked up and made up riser handling sub to landing joint,
	05:00 - 05:30	0.50	L	d	RDMO	made up landing joint to slip joint.
	05:30 - 06:00	0.50	L	f	RDMO	Collapsed slip joint, orientated and confirm locked in.
	06:00 - 11:30	5.50	L	f	RDMO	Unlatched BOP's, ROV confirmed indicator to unlock, good volume count, picked up BOP's clear of guideposts & skidded rig to safe area. Meantime continued to assist Swaco & TSI with mud pit cleaning.
	11:30 - 18:30	7.00	P	a	RDMO	Nippled down slip joint.
						WOW for standby cover monitoring weather conditions:
					Wind (knts)Wave(m)Swell(m)	
					12:00444.02.5	
					15:00324.33.2	
					18:00243.52.5	
12/22/2005	18:30 - 20:00	1.50	L	f	RDMO	Continued to nipple down slip joint.
	20:00 - 21:00	1.00	L	f	RDMO	Pulled slip joint to rotary table. Broke out and laid down landing joint.
	21:00 - 22:00	1.00	L	f	RDMO	Continued to pull BOP. Broke out and laid down slip joint.
	22:00 - 00:00	2.00	L	f	RDMO	Continued to pull BOP. Broke out and laid down marine riser joints to deck.
	00:00 - 12:00	12.00	L	f	RDMO	Continued to pull BOP's and to lay down marine riser. Bop out of water @ 06:30, secured on BOP
						carrier. Lifted & secured BOP capture frame to port side, Removed pod cables, removed guide wires from guide post and secured to port side of BOP's, secured pod hoses to goose necks, and skidded BOP's to the starboard parking position. Laid out double of riser.
	12:00 - 14:00	2.00	L	d	RDMO	Laid out riser handling gear, rigged up drilling equipment while skidding rig over well centre.
	14:00 - 17:00	3.00	L	d	RDMO	Picked up casing cutting equipment and RIH.
	17:00 - 17:30	0.50	L	b	RDMO	Landed out on well head with retrieve tool and locked onto same.
	17:30 - 20:30	3.00	L	a	RDMO	Held 10 ton over pull and commenced to cut casing as per weatherford engineer instructions. Casing cut @ 2025hrs.
12/23/2005	20:30 - 00:00	3.50	L	b	RDMO	Reviewed JSA & TBT. Pooh with guide base & 20 - 30" casing. Secured guide base in moonpool. Disconnected MOST tool, laid down same.
	00:00 - 02:00	2.00	L	d	RDMO	Picked up cart tool. Connected cart to 18 3/4" well head & 30" casing.
						Pulled same & laid down. Laid down cart tool.
	02:00 - 03:30	1.50	L	d	RDMO	Transported guide base from skid & removed guide posts from guide base.

Operations Summary Report

Legal Well Name: 6406/1-4
Common Well Name: 6406/1-4
Event Name: ORIG DRILLING
Contractor Name: DIAMOND DRILLING
Rig Name: OCEAN VANGUARD

Start: 8/12/2005
Rig Release: 12/27/2005
Rig Number:

Spud Date: 8/16/2005
End: 10/18/2005

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/23/2005	03:30 - 05:30	2.00	L	b	RDMO	Rih with mule shoe on 5 1/2" drill pipes.
	05:30 - 06:00	0.50	L	c	RDMO	Tested cement line. pumped 4 m3 of silica cement.
	06:00 - 09:00	3.00	L	b	RDMO	Racked back cement stand. Pulled one stand. picked up cement stand and broke down same. Pooh and commenced laying down 5 1/2" drill pipe.
	09:00 - 21:30	12.50	L	d	RDMO	Continued laying down 5 1/2" drill pipes and 8" drill collars; total 162 joints of drill pipes and 6 joints of drill collars. In the meanwhile backloaded equipment to Ocean star and Bourbon Charisma; backload completed @20.00 hrs. Worked Normand master from 20.50 hrs to 22.10.
	21:30 - 00:00	2.50	L	f	RDMO	Cleaned pits & drilling area. Weather picked up, continued to offload equipment to boat, prepared for rig move.
12/24/2005	00:00 - 00:00	24.00	P	a	RDMO	WOW for anchor handling monitoring weather conditions: Time Wind Wave Pitch Roll Heave (knots) (m) (°) (°) (m) 04:00 20 3.1 0.8 0.8 0.8 08:00 26 3.1 0.7 0.7 1.1 12:00 38 3.5 1.0 1.1 1.1 16:00 48 4.5 1.5 1.2 1.2 20:00 30 4.0 1.2 1.9 1.9 24:00 36 4.0 2.5 1.6 1.6
						In the meanwhile prepared for rig move. Cleaned pits & drilling area. Carried out maintenance on upper racking arm and iron roughneck. CAN performed derrick inspection.
	00:00 - 10:00	10.00	P	a	RDMO	WOW for anchor handling monitoring weather conditions: Time Wind Wave Pitch Roll Heave (knots) (m) (°) (°) (m) 04:00 34 5.0 1.9 2.1 1.4 08:00 36 4.5 1.7 1.8 1.7 10:00 32 3.6 1.4 1.6 1.7
	10:00 - 00:00	14.00	M	d	RDMO	Prepared for rig move. Cleaned drilling area. 10.00 hrs commenced de-ballast rig to 200 m draft. 11.24#4 pennant to Normand Master. 11.29 Normand Master chase out #4. 11.45 stopped de-ballast. 12.02 Normand Master #4 off btm. 12.08 Normand Master chase out #5 12.09 #4 back on bottom, 12.40 #4 pennant to rig, 12.47 #5 off btm, 12.52 #5 back on bottom, re-commenced de-ballast rig, 13.35 #5 pennant to rig 18.00 Norman Master entering 500 m port side, 18.02 Norman Master entering 500 m starboard side, 19.03 #2 anchor off bottom, 19.40 # 6 anchor off bottom, 21.24 #6 bolstered, 21.38 # 7 pennant passed to Norman Mariner, 21.44 #2 bolstered, 2200 pennant # 3 to Norman Master, 22.15 completed de-ballasting to transit draft. Commenced stripping b-tanks,22.25 # 7 anchor off bottom
	00:00 - 12:00	12.00	M	d	RDMO	Continued anchor #3 100 mtrs to go. 00.08 #3 on bolstered, 00.15 # pennant to rig, 01.59 #7 bolstered, 02.00 # 4 pennant passed to Normand Master, 02.15 #7 pennant to rig. 00.254 " 8 pennant passed to Normand Mariner, 02.28 #4 off bottom, 04.10 #4 bolstered, 04.18 #4 pennant to rig. 04.31 # Pennant passed to Normand Master, 05.07 #1 off bottom, 05.20 Normand Master #1 at roller, 05.14 Normand Mariner #8 on deck heave in #8, 06.15 Commenced heave #5. 06.16 Rig propulsion running,06.31 Normand Master #1 on deck rigged for towing, 06.52 Normand Mariner rigged for towing, 08.22 Normand Master rigged for towing. 08.23 Recommended heave on #5, 09.28 #5 off bottom. 09.45 # bolstered, 09.50 Rig under way to new location, 10.15 Ocean Star depart to Kristiansund Rig under tow. Cleaned drilling area. Assisted rope access where needed
	12:00 - 00:00	12.00	M	b	RDMO	

Operations Summary Report

Legal Well Name: 6406/1-4
 Common Well Name: 6406/1-4
 Event Name: ORIG DRILLING
 Contractor Name: DIAMOND DRILLING
 Rig Name: OCEAN VANGUARD

Spud Date: 8/16/2005
 End: 10/18/2005

Start: 8/12/2005
 Rig Release: 12/27/2005
 Rig Number:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/26/2005	12:00 - 00:00	12.00	M	b	RDMO	for derrick inspection, equipment maintenance. Time Lat Long To go Speed 16.00 64 deg 12,8'N 5 deg 38,8'E 374 8,2 24.00 63 deg 43,2'N 4 deg 17' E 311 8,0
12/27/2005	00:00 - 13:29	13.48	M	b	RDMO	Rig under tow. Cleaning drilling area. Assisted rope access where needed for derrick inspection, equipment maintenance. Time Lat Long To Go Speed 04.00 62 deg 41'N 4 deg 34,5' 278 7,72 12.00 61 deg 35,2'N 3 deg 50,7' 209 8 Fuel 276 m3; Lube Oil 7935 l; Pt Water 143 m3; Helifuel 4276 l; Drill Water 275 m3; Cement 138 mT; Barite 148 mT; Bentonite 30 mT
	13:29 - 13:30	0.02	M	b	RDMO	Crossed 61' 23". End of well

3.4 Technical Information and Reports

3.4.1 Bit Record

 Eni Norge GROUP			BIT RECORD				WELL NAME 6406/1-4 FIELD NAME Sklinna Cost center	
DATE: 23/10/2005			3.DRL.FO.05					
Run n°	1	2	3	4	5	6	7	8
Bit n°	1	2	3	3	4	4	5	5
Bit size [in]	17,5	9,875	26	26	17,5	17,5	12,25	12,25
Bit manufacturer	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes	Hughes
Bit type	tricone	tricone	tricone	tricone	tricone	tricone	tricone	tricone
Special features codes								
Serial number	601834	5062464	6029479	6029479	6038080	6038080	7200503	7200503
IADC code	415	117	415	415	415	415	M323	M323
Depth in [m]	385	462	462	566	1310	1360	2315	3555
Depth out [m]	462	1310	566	1310	1360	2315	3555	4113
Drilled interval [m]	77	848	104	744	50	955	1240	558
Rotation hrs	13	31	6,5	42	5,5	112	93	62
Trip hrs	5,5	6	2	8,5	5,5	17,5	29	41
R.O.P. [m/h]	6	27	16	18	10	10	13	9
Average W.O.B. [t]	3	5	6	15	15	15	11	12
Average R.P.M.	90	150	140	160	120	120	140	145
D.H.M. R.P.M.	0	0	0	0	0	0	0	0
Flow rate [l/min]	3300	3000	4500	4500	3550	3550	3024	2900
St. pipe pressure [kg/cm ²]	70	80	170	200	215	215	280	300
D.H.M. Press. drop [kg/cm ²]	0	0	0	0	0	0	0	0
Bit HHP		115	796	584	913	553	283	236
HSI		1,5	1,5	1,1	3,8	2,3	2,4	2
Annulus min vel. [m/min]								
JESTS 1 [1/32 in] 2 [1/32 in] 3 [1/32 in] 4 [1/32 in] 5 [1/32 in] C [1/32 in] T.F.A. [in ²]	20	28	20	20	18	18	2x15	2x15
	20	28	20	20	18	18	15	15
	20	28	20	20	18	18	15	15
	12						15	15
	12						15	15
	12x4	20	20	18	18	15	15	
	1,583	1,804	1,227	1,227	0,994	0,994	1,208	1,208
BIT Inner rows [I] Outer rows [O] Dull char. [D] Location [L] Bearing/Seals [B] Gauge 1/16 [G] Other chars [O] Reason POOH [R]	2	1		1	1	3		1
	2	1		1	1	2		2
	BT	WT		WT	CT	BT		WT
	M	A		A	A			H
	E	E		E	0	0		D
	I	I		I	I	I		
	CT	NO		EC	CT	LT		CT
TD	TD		TD	RR	TD		TD	
Mud type	SW	SW	SW	SW	WBM	WBM	OBM	OBM
Mud density [kg/l]	1	1	1	1	1,5	1,5	1,7	1,84
Mud visc.					97	97	43	56
Mud Y.P.					16	16	19	21
Survey depth								
Survey incl.								
Bit Cost								
Li tho lo gy	Type	%						
B H A	Stabilizer Diameter [in]	Distance from bit [m]						
		</						

 Eni Norge GROUP			BIT RECORD						WELL NAME 6406/1-4 FIELD NAME Sklinna Cost center							
			DATE: 23/10/2005						3.DRL.FO.05							
Run n°			8		9											
Bit n°			6													
Bit size [in]			8,375		8,375											
Bit manufacturer			Hughes		Hughes											
Bit type			PDC		PDC											
Special features codes			HC 607		HC 607											
Serial number			7001963		7001963											
IADC code			M223		M223											
Depth in [m]			4113		4596											
Depth out [m]			4596		4596											
Drilled interval [m]			544		0											
Rotation hrs			135		0											
Trip hrs			24		14,5											
R.O.P. [m/h]			4,03		0											
Average W.O.B. [t]			15		0											
Average R.P.M.			107		0											
D.H.M. R.P.M.					0											
Flow rate [l/min]			1330													
St. pipe pressure [kg/cm ²]			180													
D.H.M. Press. drop [kg/cm ²]																
Bit HHP			85													
HSI			1,56													
Annulus min vel. [m/min]																
JESTS	1	[1/32 in]	2x12		2x12											
	2	[1/32 in]	12		12											
	3	[1/32 in]	12		12											
	4	[1/32 in]	12		12											
	5	[1/32 in]	12		12											
	C	[1/32 in]	12		12											
	T.F.A.	[in ²]	0,773		0,773											
BIT	Inner rows [I]		2													
	Outer rows [O]		2													
	Dull char. [D]		CT													
	Location [L]		N													
	Bearing/Seals [B]		X													
	Gauge 1/16 [G]		2													
	Other chars [O]		LN													
L	Reason POOH [R]		TD													
	Mud type		OBM		OBM											
	Mud density [kg/l]		1,89		1,89											
	Mud visc.		52													
	Mud Y.P.		9,1													
	Survey depth		4588		4588											
	Survey incl.		3,04		3,04											
Bit Cost																
Li tho lo gy	Type	%														
B H A	Stabilizer Diameter [in]	Distance from bit [m]														
Currency			Supervisor						Superintendent							
Pag.: of:																

3.4.2 BHA Record

36" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
1	1	16/08/2005	16/08/2005	0	462
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	17.5	2.81	0.4	7 5/8 R
Pony Collar	1	9.2		2.31	7 5/8 R
Hole Opener	1	36	2.81	3.93	7 5/8 R
Bit Sub	1	4	2	0.88	7 5/8 R
MWD	1	9.5		2.86	7 5/8 R
Drill Collar	1	10	3	9.2	7 5/8 R
Stab (IB) 26" FG	1	9.563	3	2.15	7 5/8 R
Drill Collar	1	9.5	3	9.8	7 5/8 R
Stab (IB) 26" FG	1	9.563	3	2.24	7 5/8 R
Drill Collar	1	9.5	3	9.65	7 5/8 R
Cross Over	1	3	1.25	1.22	7 5/8 R
Drill Collar	8	8	3	72.88	6 5/8 R
Cross Over	1	7.688	2.75	1.12	6 5/8 R
H.W.D.P	12	5.5	3.63	114.48	FH
Total Length: 233.12					

9 5/8" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
2	2	19/08/2005	20/08/2005	462	1310
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	9.87	2.81	0.25	6 5/8 R
Bit Sub	1	8	2.81	0.74	6 5/8 R
Float Sub	1	8.25	3.25	0.74	6 5/8 R
MWD	4	8.25	3	20.11	Inteq
Float Sub	1	8.25	3	0.49	6 5/8 R
Drill Collar	9	8	3	82.31	6 5/8 R
Jar	1	8.25	2.81	10.39	6 5/8 R
Drill Collar	3	8	3	28.28	6 5/8 R
Cross Over	1	7.937	2.87	1.12	FH
H.W.D.P	12	5.5	3.63	114.48	FH
Total Length: 258.91					

26" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
3	3	21/08/2005	21/08/2005	462	1310
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	26	2.81	0.54	7 5/8 R
Bit Sub	1	9.5	3.13	0.9	7 5/8 R
Cross Over	1	9	3	0.75	6 5/8 R
Float Sub	1	8.25	3	0.74	Inteq
MWD	2	8.25	3	9.36	Inteq
Float Sub	1	8.25	3.25	0.81	6 5/8 R
Cross Over	1	8.25	3.25	0.79	7 5/8 R
Pony Collar	1	9.5		2.79	7 5/8 R
Stab (IB) 26" FG	2	9.563	3	2.15	7 5/8 R
Drill Collar	1	9.5	3	19	7 5/8 R
Stab (IB) 26" FG	1	9.563	3	2.24	7 5/8 R
Drill Collar	1	9.5	3.25	9.65	7 5/8 R
Cross Over	1	9	3	1.22	7 5/8 R
Drill Collar	9	8	3	82.31	6 5/8 R
Jar	1	8.25	2.81	10.39	6 5/8 R
Drill Collar	3	8	3	28.28	6 5/8 R
Cross Over	1	8	3	1.12	6 5/8 R
H.W.D.P	12	5.5	3.63	114.48	FH
Total Length: 287.52					

17 1/2" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
4	4	2/9/2005	3/9/2005	1310	1360
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	17.5	2.81	0.42	7 5/8 R
Stab (NB) 17 1/2" FG	1	9.5	3.5	2.4	7 5/8 R
Bit Sub	1	9.5	3.5	0.49	7 5/8 R
MWD	1	9.5	3.25	5.48	7 5/8 R
Stab (IB) 17 1/2" FG	1	9.5	3.25	1.78	7 5/8 R
MWD	1	9.5	3.25	3.57	7 5/8 R
Stab (IB) 17 1/2" FG	1	9.5	3.25	1.71	7 5/8 R
Cross Over	1	9.5	3.5	0.44	6 5/8 R
LWD	1	9.5	3.5	9.97	6 5/8 R
String Stab	1	9.5	3.5	0.81	6 5/8 R
Stab (IB) 17 1/2" FG	1	9.5	3.25	1.82	6 5/8 R
Spiral Drill Collar	8	8	2.81	72.98	6 5/8 R
Jar	1	8.25	2.81	10.39	6 5/8 R
Spiral Drill Collar	3	8	2.87	28.28	6 5/8 R
Cross Over	1	7.93	2.81	1.12	6 5/8 R
H.W.D.P	15	5.5	3.63	142.94	FH
Dart Sub	1			0.64	FH
Total Length: 285.24					

17 1/2" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
5	4	13/10/2005	19/10/2005	1360	2315
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	17.5	2.81	0.42	7 5/8 R
Stab (NB) 17 1/2" FG	1	9.5	3.5	2.37	7 5/8 R
Bit Sub	1	9.5	3.5	0.61	7 5/8 R
MWD	1	9.5	3.25	5.34	7 5/8 R
Stab (IB) 17 1/2" FG	1	9.5	3.25	1.8	7 5/8 R
MWD	1	9.5	3.25	3.69	7 5/8 R
Stab (IB) 1 1/2" FG	1	9.5	3.25	1.71	7 5/8 R
Cross Over	1	9.5	3.5	0.52	6 5/8 R
LWD	1	9.5	3.5	9.96	6 5/8 R
String Stab	1	9.5	3.5	0.43	6 5/8 R
Stab (IB) 1 1/2" FG	1	9.5	3.25	2.64	6 5/8 R
Spiral Drill Collar	8	8	2.81	73.02	6 5/8 R
Jar	1	8.25	2.81	10.39	6 5/8 R
Spiral Drill Collar	3	8	2.87	28.24	6 5/8 R
Cross Over	1	7.93	2.81	0.81	6 5/8 R
H.W.D.P	15	5.5	3.63	152.05	FH
Dart Sub	1			0.64	FH
Total Length: 294.64					

12 1/4" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
6	5	23/10/2005	16/11/2005	2315	4113
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	12.25	2.81	0.39	7 5/8 R
Stab (NB) 12 1/4" FG	1	9.5	3.5	2.53	7 5/8 R
Cross Over	1	9.5	3	3.54	6 5/8 R
Bit Sub	1	9.5	3.5	1.1	7 5/8 R
MWD	1	8.25	3.25	5.79	7 5/8 R
Stab (IB) 12 1/4" FG	1	8.25	2.81	1.81	7 5/8 R
MWD	1	8.25	3.25	3.62	7 5/8 R
ST	1	8.25	2.25	2.43	7 5/8 R
ST	1	8.25	2.25	1.84	6 5/8 R
Stab (IB) 9 1/2" FG	1	8.25	3.25	1.83	6 5/8 R
Non Magnetic X-O Sub	1	8.187	3	0.78	6 5/8 R
LWD	1	8.187	3.25	9.96	6 5/8 R
Non Magnetic X-O Sub	1	8.187	2.5	0.43	6 5/8 R
Stab (IB) 12 1/4" FG	1	8	2.78	2.44	7 5/8 R
Cross Over	1	8	2.78	0.96	6 5/8 R
Spiral Drill Collar	8	8	2.81	73.02	6 5/8 R
Jar	1	8.25	2.81	10.39	6 5/8 R
Spiral Drill Collar	3	8	2.81	28.24	6 5/8 R
Cross Over	1	7.93	2.87	0.81	6 5/8 R
H.W.D.P	15	8	3.63	142.96	FH
Dart Sub	1			0.64	FH
Total Length: 295.51					

8 3/8" Hole					
BHA No	Bit No	Date In	Date Out	Depth In (m)	Depth Out (m)
7	6	3/12/2005	22/11/2005	4113	4596
Description	Number	OD (Inches)	ID (Inches)	Lenght (m)	Connection
Bit	1	8.375	2.81	0.35	4 1/2 R
Stab (NB) 6 3/4" FG	1	6.75	3.5	1.18	4 1/2 R
MWD	1	7	3	5.14	Inteq
Near Bit	1	7	3.5	1.28	Inteq
MWD	1	7	3.25	4.94	Inteq
Cross Over	1	7	2.81	0.57	NC46MOD
Float Sub	1	7	3.25	0.48	4 1/2 F
Float Sub	1	6.5	2.25	0.64	4 1/2 F
Stab (IB) 6 3/4" FG	1	6.5	2.25	1.57	4 1/2 F
Float Sub	1	7	3.25	0.85	4 1/2 F
H.W.D.P	12	5	3	110.99	4 1/2 F
Jar	1	6.25	3.25	9.38	4 1/2 F
H.W.D.P	12	5	2.5	109.35	4 1/2 F
Dart Sub	1	6.5	2.78	0.69	4 1/2 F
Total Length: 247.41					

3.4.3 Casing Data Summary

OD	30"	20"	13 3/8"	9 7/8"
WEIGHT (PPF)	310	133	72	62.8
GRADE	X-52	X-56	P-110	Q-125
CONNECTION	ST-2	E 60	Antares MS	Antares MS
PIPE ID (IN)	28	18.73	12.347	8.625
PIPE DRIFT (IN)	27.813	18.543	12.25	8.469
CONN. OD (IN)	33	21.5	14.374	10.827
CONN. ID (IN)	28	18.63	12.559	9.102
BURST (bar)	N/A	215	510	955
BURST Design	N/A	140	328	409
BURST SF	N/A	1.54	1.56	2.33
COLLAPSE (bar)	N/A	102	199	768
COLLAPSE Design	N/A	76.5	135	375
COLLAPSE SF	N/A	1.26	1.37	1.91
TENSION (MT)	N/A	880	850	1010
TENSION Design	N/A	399.4	441.4	502
TENSION SF	N/A	2.2	1.93	2.01
CASING TOP (m)	2 m above seabed	2.5 m above seabed	Approx. 2 m above seabed	Approx. 2 m above seabed
CASING BTM. (m)	457	1299	2304	4101
CASING LENGTH (m)	74,5	917,5	1921,5	3718,5

[illegible]

CASING REPORT

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME	SKLINNA
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Cost center

DATE:

3.DRL.FO.03B

[illegible]

Remarks:

Supervisor

Superintendent

Hansen J. - Millar R.

Eni Norge						CASING REPORT									WELL NAME 1/4/6406 FIELD NAME Sklinna Cost center			
						DATE: 8/28/2005				4.DRL.FO.03A								
Operation type		Casing type Drillquip E60 Ø [in] 20 Top [m] 385 Bottom [m] 1299																
Well Situation		Ø [in]	Measured Depth		Vertical depth		Capacity	From log	K.O.P.	[m]								
		[in]	Top [m]	Bottom [m]	Top [m]	Bottom [m]	[l/m]	(y/n)	Max. Inclination [°]		2.8							
Open Hole		26	385	1310	385	1310	342.5	n	at m		594							
Last Casing		30	382.5	457	382.5	457	391		D.O.P.	[m]								
Casing Profile																		
Ø [in]	Weight [lb/ft]	Steel Grade	Thread Type	M.U. Torque	Total Joints	From [m]	To [m]	S.D.	S.C.	Note								
20	133	X-56	E60		71	381.5	1299											
Casing Equipment										Centralizers								
Type	Manufacturer	Model	at m	Note							Type	Top [m]	Bottom [m]					
Shoe	Drillquip		1299															
Collar	Drillquip		1274															
Centralizers Manufactured _____ Type _____ n° _____																		
Scratchers Manufactured _____ Type _____ n° _____																		
Stop collars Manufactured _____ Type _____ n° _____																		
Circulation	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]						
Circulation test (after 6 joints)																		
Circulation at bottom																		
Casing Reciprocation	Reciprocation: W.O.H. up [t] _____ W.O.H. down [t] _____ Rotation: W.O.H. up [t] _____ W.O.H. down [t] _____ Torque _____																	
Conductor pipe																		
Guide Shoe _____ (y/n)	RKB-MudLine/Ground Level dist. _____ [m]	Total Penetration _____ [m]																
Connector Type _____	Free fall _____ [m]	Shoe _____ [m]																
Pile Hammer type _____	Internal Wash. From m _____ to m _____	Final refusal [Strk/m] _____ [mm/strk]																
Soil/Seabed characteristics _____																		
Remarks: 																		
Supervisor _____						Superintendent _____												



WELL NAME

FIELD NAME

DATE:

3.DRL.FO.03B

Cost center

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[illegible]



WELL NAME

FIELD NAME

DATE:

3.DRL.FO.03B

Cost center

Eni Norge A/S

Eni Norge						CASING REPORT								WELL NAME 6406/1-4 FIELD NAME SKLINNA Cost center 4C18N100031			
						DATE: 11/20/2005 4.DRL.FO.03A											
Operation type		Casing type	Intermediate Ø [in]		9.875		Top [m]		380		Bottom [m]		4101				
Well Situation		Ø [in]	Measured Depth		Vertical depth		Capacity [l/m]	From log (y/n)	K.O.P.	[m]	Max. Inclination [°] at m						
			Top [m]	Bottom [m]	Top [m]	Bottom [m]			D.O.P.	[m]							
Open Hole		12 1/4	4101	4113	4101	4113	49.41	n									
Last Casing		13 3/8	382.5	2304	382.5	2304	77.25										
Casing Profile																	
Ø [in]	Weight [lb/ft]	Steel Grade	Thread Type	M.U. Torque	Total Joints	From [m]	To [m]	S.D.	S.C.	Note							
9 7/8	62.8	Q125	AMS		206	382.5	3066										
9 7/8	70.4	T95	NSCC		94	3066	4060										
9 7/8	62.8	Q125	AMS		5	4060	4101										
Casing Equipment										Centralizers							
Type	Manufacturer	Model	at m	Note							Type	Top [m]	Bottom [m]				
Shoe	Weatherford		4101								NW-STA2	3975	4032				
Collar	Weatherford		4066								NW-STA2	4066	4101				
Centralizers	Manufactured	Weatherford	Type	NW-STA2	nº	8											
			Type		nº												
Scratchers	Manufactured		Type		nº												
Stop collars	Manufactured		Type		nº												
Circulation		Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]	Flow rate [l/min]	Pressure [kg/cm²]						
Circulation test (after 6 joints)																	
Circulation at bottom																	
Casing	Reciprocation:	W.O.H. up [t]		W.O.H. down [t]													
Reciprocation	Rotation:	W.O.H. up [t]		W.O.H. down [t]		Torque											
Conductor pipe																	
Guide Shoe _____ (y/n)	RKB-MudLine/Ground Level dist. _____ [m]			Total Penetration _____ [m]													
Connector Type _____	Free fall _____ [m]			Shoe _____ [m]													
Pile Hammer type _____	Internal Wash. From m _____ to m _____			Final refusal _____ [Strk/m] _____ [mm/strk]													
Soil/Seabed characteristics _____																	
Remarks: _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____																	
Supervisor _____ Superintendent _____																	

CASING REPORT

WELL NAME	6406/1-4
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FIELD NAME	SKLINNA
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Cost center	4C18N100031
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DATE:

4.DRL.FO.03B

[illegible]

3.4.4 Leak-Off Test Results

In well 6406/1-4 the following Leak-Off Tests (LOT) and Formation Integrity Tests (FIT) were done:

1. After drilling out of the 20" shoe set at 1297 m a LOT was carried out in the 17 ½" hole below the 20" shoe to an equivalent mud weight of 1.52 sg. The test was done with a pill of 12 cm Performadrill water based mud across the shoe at 1.28 sg and sea water above at a drilling depth of 1314 m.
2. 62 hours after the first LOT has been done in the 17 ½" hole a FIT was carried out to an equivalent mud weight of 1.56 sg. The test was done with 1.50 sg Performadrill water based mud at a drilled depth of 2056 m.
3. After drilling out of the 13 3/8" shoe set at 2312 m a FIT was carried out in the 12 ¼" hole below the 13 3/8" shoe to an equivalent mud weight of 1.85 sg. The test was done with 1.53 sg Performadrill water base mud at a drilled depth of 2312 m.
4. 22 hours after the first FIT has been done in the 12 ¼" hole a FIT was carried out to an equivalent mud weight of 1.87 sg. The test was done with 1.60 sg Performadrill water based mud at a drilled depth of 2510 m.
5. After drilling out of the 9 7/8" shoe set at 4119 m a LOT was carried out in the 8 1/2" hole below the 9 7/8" shoe to an equivalent mud weight of 2.14 sg. The test was done with 1.90 sg oil based mud at a drilled depth of 4135 m.

3.4.5 Cementing Reports

3.4.5.1 30" Conductor

		CEMENTING JOB REPORT				WELL NAME SKLINNA 6406/1-4			
		DATE: 18.08.2005		3.DRL.FO.04A		FIELD NAME SKLINNA			
Operation Purpose: Conductor									
Operation Type	Measured Depth Top [m] Bottom [m]		Vertical Depth Top [m] Bottom [m]		Casing Type	Ø [in]	Weight lb/ft	Stage [N°]	
Cementing	385 457		385 457		Conductor	30	310	1	
Plug					N°	Of:			
Squeeze					N°				
Well Situation	Ø [in]	Measured Depth Top [m] Bottom [m]		Vertical depth Top [m] Bottom [m]		Capacity [lt/m]	From log [y/n]	KOP [m] Max. Inclination [°] at m	
Open Hole	36	385 462		385 462		656,7	n	460	
Last Casing	30	382,5 457		382,5 457		397,3		D.O.P. [m]	
Perforation		Gradient [kg/cm²/10m]		Below shoe	Bottom hole	Pressure [kg/cm²]		B.H.S.T. [°C]	
Top [m]	Bottom [m]	Pore Gradient		1,03	1,03	Fracture at bottom		at m 385	
		Fracture Gradient		1,12	1,15	Hydrostatic increase w/slurry		From log [y/n]	
		Abnormal [kg/cm²/10m] at m:				Annular Fracture Margin		After [hr]	
		Abnormal [kg/cm²/10m] at m:				Margin during W.O.C.		B.H.C.T. [°C]	
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P.	Gel 10"/10'[g/100cmq]	Water loss [cc]	pH / ES	Cl- [g/l]	
Spud Mud	1,2								
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	
Lead								Vol.[m3]	
Tail								h annulus [m]	
Lead Slurry								Cont. Time [min]	
Tail Slurry									
1 st Slurry		Preparation		Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method		[min]	[min]	at [°C]	ratio	Type	[t]
18.08.2005 01:20		Batch		10	35			G	24
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type	
Econolite	766,7	L						Density [kg/l]	
NF-6	24	L						Quantity [ton]	
								Ratio	
2 nd Slurry		Preparation		Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method		[min]	[min]	at [°C]	ratio	Type	[t]
18.08.2005 01:20		Batch		10	32			G	20,6
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type	
CaCl2	897,5	L						Density [kg/l]	
NF-6	20,6	L						Quantity [ton]	
								Ratio	
Cementing Company Halliburton Baroid Operation Ticket N°									
Operation Results				Record (y / n)					
Theoretical TOC 385 [m]				Volume Pression					
Actual TOC 397 [m]				Flow rate Density					
Remarks				Supervisor					
				Superintendent					
				Hansen J. - Millar R.					

CEMENTING JOB REPORT

DATE: 18.08.2005

3.DRL.FO.04B

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center

Operation type	30" CSG Cement Job	Ø [in]	30	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)					[kg/cm ²]	[mins]
Casing Reciprocation	n	Bump Plug	n	Casing testing pressure		
Casing Rotation	n	Valve holding	y	Annulus pressurization		
Inner string	y					

GENERAL DATA

[illegible]

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

Hansen J. - Millar R.

3.4.5.2 20" Casing

		CEMENTING JOB REPORT				WELL NAME SKLINNA 6406/1-4			
		DATE: 28/28/2005		3.DRL.FO.04A		FIELD NAME SKLINNA			
Operation Purpose: surface casing									
Operation Type	Measured Depth		Vertical Depth		Casing Type	Ø	Weight	Stage	
	Top [m]	Bottom [m]	Top [m]	Bottom [m]		[in]	lb/ft	[N°]	
Cementing	385	1299	385	1299	surface	20	133	1	
Plug					N°	Of:			
Squeeze					N°				
Well Situation	Ø	Measured Depth		Vertical depth		Capacity	From log	KOP [m]	
	[in]	Top [m]	Bottom [m]	Top [m]	Bottom [m]	[lt/m]	[y/n]	Max. Inclination [°]	
Open Hole	26	385	1310	385	1310	342,5	n	2,8	
Last Casing	30	382,5	457	382,5	457	397,3		at m 594	
Perforation		Gradient [kg/cm²/10m]		Below shoe	Bottom hole	Pressure [kg/cm²]		B.H.S.T. [°C]	
		Top [m]	Bottom [m]	Pore Gradient	1,03	1,03	Fracture at bottom		at m
				Fracture Gradient	1,53	1,55	Hydrostatic increase w/slurry		From log [y/n]
				Abnormal [kg/cm²/10m] at m:		Annular Fracture Margin		After [hr]	
				Abnormal [kg/cm²/10m] at m:		Margin during W.O.C.		B.H.C.T. [°C]	
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P.	Gel 10"/10'[g/100cmq]	Water loss [cc]	pH / ES	Cl- [g/l]	
Spud Mud	1,2								
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	
Lead								Vol.[m3]	
Tail								h annulus [m]	
Lead Slurry								Cont. Time [min]	
Tail Slurry									
1 st Slurry		Preparation		Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method		[min]	[min]	at [°C]	ratio	Type	[t]
28.08.2005 03:00		Batch						G	145,7
Additives		Quantity	u.m.	%	Additives		Quantity	u.m.	%
Econolite		5161	L						
NF-6		105	L						
2 nd Slurry		Preparation		Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method		[min]	[min]	at [°C]	ratio	Type	[t]
28.08.2005 08:00		Batch						G	39,4
Additives		Quantity	u.m.	%	Additives		Quantity	u.m.	%
NF-6		105	L						
			L						
Cementing Company Halliburton Baroid Operation Ticket N°									
Operation Results					Plug tested with [t]		Record (y / n)		
Theoretical TOC 382 [m]					Plug milled at [m]		Volume		Pression
Actual TOC 382 [m]					Plug removed [y / n]		Flow rate		Density
Remarks							Supervisor		
							j. Jaffray		
							Superintendent		

		CEMENTING JOB REPORT			WELL NAME <u>SKLINNA 6406/1-4</u>						
		DATE: <u>28.08.2005</u> 3.DRL.FO.04B		FIELD NAME <u>SKLINNA</u>							
Operation type <u>20" CSG Cement Job</u>		$\varnothing$ [in] <u>20</u>		Stage / No.: <u>1</u>							
SQUEEZE / PLUG											
Type	$\varnothing$	Length [m]	Cap. [l/m]	Bottom [m]	Cement retainer Squeeze packer	Manufacturer	Model / Type	$\varnothing$ [inch]	Depth [m]		
					Injectivity Test with: _____		Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
					_____		[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
					Test	[kg/cm ²]	[mins]				
					Stinger Pressure test	140	10				
					Annular pressure						
CEMENTATION											
Operation (y/n)					[kg/cm ²]		[mins]				
Casing Reciprocation	<u>n</u>	Bump Plug	<u>y</u>	Casing testing pressure	<u>107</u>	<u>10</u>					
Casing Rotation	<u>n</u>	Valve holding	<u>y</u>	Annulus pressurization							
Inner string	<u>y</u>										
GENERAL DATA											
Slurry Displacement				To Surface				Losses [m ³]			
With _____ Rig _____ pumps				Density				During csg run			
Fluid type: _____ Sea water				[kg/l]				Circulation			
Volume _____ [m ³]				pH				Mix/Pump Slurry			
Density: _____ 1,03 [kg/l]				Dumped				Displacement			
Duration: _____ [mins]				[m ³]				Opening DV			
Final pressure: _____ [kg/cm ²]								Circ. through DV			
								Total			
Circulation / Displacement / Squeeze											
Time [mins.]		Flow Rate	Pressure	Total Volume	Operation Description		Final Press.	Returns			
Partial	Progr.	[l/min]	[kg/cm ²]	[l]			[kg/cm ²]	Vol. [l]			
300	300	900	11	220000	Pumped Lead Slurry						
90	390	600	10	40000	Pumped Tail Slurry						
60	450	3000	25	17000	Displaced w/seawater						
Supervisor					Superintendent						
j. Jaffray											

3.4.5.3 13 3/8" Casing

		CEMENTING JOB REPORT				WELL NAME SKLINNA 6406/1-4	
		DATE: 22.10.2005		3.DRL.FO.04A		FIELD NAME SKLINNA	
Operation Purpose: surface casing							
Operation Type	Measured Depth Top [m] Bottom [m]		Vertical Depth Top [m] Bottom [m]		Casing Type	Ø [in]	Weight lb/ft Stage [N°]
Cementing	385 2315		385 2315		intermediate	13 3/8	72 1
Plug					N°	Of:	
Squeeze					N°		
Well Situation	Ø [in]	Measured Depth Top [m] Bottom [m]		Vertical depth Top [m] Bottom [m]		Capacity [lt/m]	From log [y/n]
Open Hole	17 1/2	385 2315		385 2315		155,2	n
Last Casing	20	382,5 1299		382,5 1299		177,8	D.O.P. [m]
Perforation		Gradient [Kg/cm²/10m]		Below shoe	Bottom hole	Pressure [kg/cm²]	
Top [m]	Bottom [m]	Pore Gradient		1,03	1,4	Fracture at bottom	
		Fracture Gradient		1,55	1,8	Hydrostatic increase w/slurry	
		Abnormal [kg/cm²/10m] at m:				Annular Fracture Margin	
		Abnormal [kg/cm²/10m] at m:				Margin during W.O.C.	
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P.	Gel 10"/10'[g/100cmq]	Water loss [cc]	pH / ES
WBM	1,5						
Fluid	Type	600	300	200	100	6	3
Lead							
Tail							
Lead Slurry						1,92	51
Tail Slurry							
1 st Slurry		Preparation		Duration	Pumping time	w/c	Cement
Mixing Date & hour		Method		[min]	[min] at [°C]	ratio	Type
21/10/2005 9,40		Batch					G
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%
Halad 400 L	2670	L					
NF-6	103	L					
HR-4 L	732	L					
2 nd Slurry		Preparation		Duration	Pumping time	w/c	Cement
Mixing Date & hour		Method		[min]	[min] at [°C]	ratio	Type
		Batch					G
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%
		L					
		L					
Cementing Company		Halliburton Baroid		Operation Ticket N°			
Operation Results		Plug tested with [t]				Record (y / n)	
Theoretical TOC 1800 [m]		Plug milled at [m]				Volume Pression	
Actual TOC 1800 [m]		Plug removed [y / n]				Flow rate Density	
Remarks						Supervisor	
						j. Jaffray	
						Superintendent	

CEMENTING JOB REPORT

DATE: 22.10.2005

3.DRL.FO.04B

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center

Operation type	13 3/8" CSG Cement Job	Ø [in]	20	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)					[kg/cm ²]	[mins]
Casing Reciprocation	<u>n</u>	Bump Plug	<u>y</u>	Casing testing pressure	<u>300</u>	<u>10</u>
Casing Rotation	<u>n</u>	Valve holding	<u>y</u>	Annulus pressurization	<u> </u>	<u> </u>
Inner string	<u>y</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

GENERAL DATA

Slurry Displacement	To Surface				Losses [m ³]
With _____ Rig _____ pumps		Density	pH	Dumped	During csg run _____
Fluid type: _____ WBM		[kg/l]		[m ³]	Circulation _____
Volume _____ [m ³]	Mud	_____	_____	_____	Mix/Pump Slurry _____
Density: _____ 1,5 _____ [kg/l]	Spacer	_____	_____	_____	Displacement _____
Duration: _____ [mins]	Slurry	_____	_____	_____	Opening DV _____
Final pressure: _____ [kg/cm ²]	_____	_____	_____	_____	Circ. through DV _____
_____	_____	_____	_____	_____	Total _____

Circulation / Displacement / Squeeze

[illegible]

Supervisor

j. Jaffray

Superintendent

 Eni Norge		CEMENTING JOB REPORT				WELL NAME SKLINNA 6406/1-4					
		DATE: 20/11/2005 3.DRL.FO.04A				FIELD NAME SKLINNA					
						Cost center					
Operation Purpose: Shoe integrity											
Operation Type		Measured Depth		Vertical Depth		Casing Type	Ø	Weight	Stage		
		Top [m]	Bottom [m]	Top [m]	Bottom [m]		[in]	lb/ft	[N°]		
Cementing		3100	4101	3100	4101	Intermediate	9 7/8	70.4	1		
Plug						N°	Of:				
Squeeze						N°					
Well Situation		Ø [in]	Measured Depth		Vertical depth		Capacity	From log	KOP [m]		
			Top [m]	Bottom [m]	Top [m]	Bottom [m]	[lt/m]	[y/n]	Max. Inclination [°]		
Open Hole		12 1/4	4101	4113	4101	4113	76.04	n	at m 2371		
Last Casing		13 3/8	382.5	2304	382.5	2304	77.25		D.O.P. [m]		
Perforation		Gradient [Kg/cm²/10m]		Below shoe	Bottom hole	Pressure [kg/cm²]			B.H.S.T. [°C]		
Top [m] Bottom[m]		Pore Gradient		1.55	1.55	Fracture at bottom 843			at m 4113		
		Fracture Gradient		2.05	2.05	Hydrostatic increase w/slurry 768			From log [y/n] n		
		Abnormal [kg/cm²/10m] at m:			Annular Fracture Margin 75			After [hr]			
		Abnormal [kg/cm²/10m] at m:			Margin during W.O.C. -37			B.H.C.T. [°C]	85		
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10"[Pa]		Water loss [cc]	pH / ES	Cl- [g/l]		
OBM	1.85		57	20	6 7				24		
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	Vol.[m3]	h annulus [m]	Cont. Time [min]
Lead											
Tail											
Lead Slurry								1.92	36	Mixing water Cl- [g/l]	
Tail Slurry										Water Temperature [°C]	
1 st Slurry		Preparation				Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method				[min]	[min]	at [°C]	ratio	Type	[t]
20/11/2005		Batch				60	50			G 35% SSA1	35
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type			
Halad 499 LE+	1700	L		Microsilica	3750	L		Density [kg/l]			
NF-6	110	L						Quantity [ton]			
HR-5L	450	L						Ratio			
2 nd Slurry		Preparation				Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method				[min]	[min]	at [°C]	ratio	Type	[t]
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type			
								Density [kg/l]			
								Quantity [ton]			
								Ratio			
Cementing Company Halliburton Baroid Operation Ticket N°											
Operation Results				Plug tested with [t]				Record (y / n)			
Theoretical TOC 3100 [m]				Plug milled at [m]				Volume Pression			
Actual TOC [m]				Plug removed [y / n]				Flow rate Density			
Remarks								Supervisor			
								Superintendent			



WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center

DATE: 20/11/2005

3.DRL.FO.04B

Operation type	20" CSG Cement Job	Ø [in]	20	Stage / No.:	1
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[illegible]

	Injectivity Test with: _____			Pump Rate [l/min]	Testing Pr. [kg/cm ²]	Tot. Vol. pumped [l]	Final Sqz Pr. [kg/cm ²]	Returns Vol [l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							
	CEMENTATION							
	Operation (y/n)					[kg/cm ²]	[mins]	
	Casing Reciprocation	n	Bump Plug	n	Casing testing pressure	588	10	
	Casing Rotation	n	Valve holding	y	Annulus pressurization			
	Inner string	n						
	GENERAL DATA							
Slurry Displacement		To Surface				Losses [m ³]		
With _____ Rig _____ pumps			Density	pH	Dumped	During csg run	36	
Fluid type: _____ OBM			[kg/l]		[m ³]	Circulation	31	
Volume _____ 144 [m ³]	Mud	1,85			Mix/Pump Slurry	124		
Density: _____ 1,03 [kg/l]	Spacer	1,78			Displacement			
Duration: _____ 180 [mins]	Slurry	1,92			Opening DV			
Final pressure: _____ [kg/cm ²]					Circ. through DV			
					Total			

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

3.4.6 Cementing Summary

3.4.6.1 30" Conductor Pipe

Norcem Class G lead and tail design were used to cement the conductor in place. The lead was mixed with seawater at 1.56 sg and extended with Liquid Econolite. The tail was mixed with sea-water at 1.92 sg and calcium chloride was utilized to accelerate the thickening time of the slurry and improve the compressive strength development at these low temperatures. A 200% openhole excess was used. Seawater was used as spacer ahead.

3.4.6.2 20" Surface Casing

Norcem Class G lead and tail design were utilized to cement the surface casing in place. The lead was mixed with seawater at 1.50 sg and extended with Liquid Econolite. The tail was mixed with sea-water at 1.92 sg. The tail cement was placed for approximately the first 184 m of annulus (calculated gauge hole). A 100% openhole excess was pumped. Seawater was utilized as spacer.

3.4.6.3 Tempary Plug Abandon

The tail slurry design from the primary 20" casing job was utilized to temporary plug the well, the slurry was mixed with seawater at 1.92 sg. A rerun on TT was performed with the new temperature, see following table.

3.4.6.4 13 3/8" Intermediate Casing

Single Norcem Class G freshwater slurry at 1.92 sg was pumped to cement the intermediate casing in place. Additives to be used are HR-4L retarder to achieve the required thickening time and Halad-400L for rheology control. A 50% openhole excess was applied. A weighted 1.72 sg Tuned Spacer E+ was pumped ahead the cement.

3.4.6.5 9 5/8" Production Casing

The slurry design was Norcem Class G with pre blended silica flower and freshwater at 1.92-sg. Due to temperature related compressive strength retrogression concerns the slurry was prepared using silica blend cement. The main emphasis on this section was to design easily mixable and competent HPHT slurry. A 30% open-hole excess was applied. A weighted 1.87 sg Tuned Spacer E+ was pumped ahead the cement.

3.4.6.6 Abandonment Plug n 1 and n 3 (Reservoir Plug)

These plugs were set from TD (4622 m MD) and up to 80 m inside the 9 7/8" casing. Plugs length were ± 200 m each and placed in three steps. Plug #1 was set on TD/ bottom and the next two on top of each other.

The plugs were cemented with a 1.98 sg Norcem class G with silica flower. Due to temperature related compressive strength retrogression concerns the slurry was prepared using silica blend cement. The main emphasis on this section was to permanent plug the reservoir with a competent HPHT slurry. A weighted 1.94 sg Tuned Spacer E+ was pumped ahead the cement.

3.4.6.7 Abandonment Plug n 4

This plug was set above the 9 7/8" Casing cut. Plug length was 100 m. A Norcem Class G 1.95 sg freshwater slurry is proposed using HR-4L retarder and CFR-8L dispersant for rheology control. A weighted 1.92 sg Tuned Spacer E+ was pumped ahead the cement slurry.

3.4.6.8 Abandonment Plug n 5

This plug was set across the 13 3/8" casing cut. Plug length was 250 m. A Norcem Class G 1.95 sg seawater slurry is proposed. Calcium chloride may be required to accelerate the set. Tuned Spacer E+ is recommended at a density of 1.72 sg.

3.4.6.9 Abandonment Plug n 6

This plug was set inside the 20" surface casing close up to mudline. Plug length was 50 m. It was placed on top of plug #5. Norcem Class G 1.95 sg seawater slurry with calcium chloride was pumped to accelerate the strength development.

3.4.7 Mud Summary by Phase

Mud summary for the 36" hole section

A 17 1/2"x36" hole was drilled from the sea bed and down to 462 m. The hole was swept with high viscosity mud and a wiper trip was made back to seabed. The hole was circulated clean and displaced to 1.2 sg high viscosity mud prior to pulling out for running 30" conductor.

Seawater was used to drill the 36" hole, together with high viscosity sweeps to help clean the hole.

A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the 36" hole prior to running the conductor.

Mud summary for the 9 7/8" pilot hole and 26" hole section

A 9 7/8" pilot hole with MWD in the BHA was drilled from the conductor shoe and down to 1310 m to check for shallow gas. A flow check for 1 hour was made at section TD, no shallow gas was observed.

The hole was displaced to 1.2 sg high viscosity mud prior to pulling out. Seawater was used to drill the 9 7/8" hole, together with high viscosity sweeps to help clean the hole.

A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the hole prior to POOH.

Mud summary for the 26" hole section

A 26" hole with MWD in the BHA was drilled from the conductor shoe and down to 1310 m. A flow check was made at section TD, no shallow gas was observed.

The hole was swept with high viscosity mud and displaced to 1.2 sg mud prior to a wiper trip back to 30" shoe. The hole was circulated clean and again displaced to 1.2 sg bentonite mud prior to pulling out for running 20" casing.

Seawater was used to drill the 26" hole, together with high viscosity sweeps to help clean the hole.

A pre-mixed bentonite spud mud was used for sweeps. Bentonite spud mud at 1.20 sg was used when displacing the 26" hole prior to running the 20" casing.

Mud summary for the 17 1/2" hole section

The 17 1/2" hole section was drilled to 13 3/8" casing depth at 2304 m. The well was temporarily abandoned at a depth of 1360 m when a problem with anchor winch No.2 (cracked

main bearing block) was observed. The BHA was pulled to surface and a cement plug was spotted across the open hole and 100 m up inside the shoe. The well was then displaced to sea water.

The drilling was resumed and the same bit and BHA was RIH. The well displaced to 1.4 sg Performadrill mud. The cement was drilled out to a depth of 1360 m and on to hole section TD of 2315 m.

The 17 1/2" hole section was drilled with the water based Performadrill mud which is a shale/clay inhibitive KCL type mud.

During the drilling of the hole section the mud weight was raised from 1.37 sg (initially) to 1.5 sg at TD.

Mud summary for the 12 1/4" hole section

The 12 1/4" hole was drilled using Autotrak assembly together with a PDC bit as it was necessary to come back to vertical and have the 9 7/8" shoe directly below the wellhead. The well was drilled to a depth of 4113 m (section TD) with a wiper trip performed at 2907 m.

Once back on bottom at 3555 m the well was circulated BU prior to drilling ahead with max.40% gas observed. The mud weight was then steadily increased in stages to 1.75 sg while drilling to TD.

This section was drilled with 1.7 sg Performadrill OBM and the mud weight was increased during the latter stages to 1.75 sg to ensure gas percentages were kept to a minimum and under control.

Mud summary for the 8 3/8" hole section

An 8 3/8" hole was drilled to TD at 4596 m. During the drilling of the 8 3/8" hole "ballooning/breathing" effects were experienced.

The typical well behavior was:

When the well was flow checked for 15 minutes static (as per HPHT procedures) it started to flow back. After a time the flow-back rate decreased and then the stopped. Other than the mud gain from "ballooning effects", no other significant hole problems were encountered in the drilling of the 8 3/8" hole section. The planned TD for this section was to be 4622 m however owing to slow ROP and other geological factors; TD was revised to 4596 m which gave a sufficient rathole for the logging tools intending to be run.

The mud used for the 8 3/8" hole section was the same Performadrill OBM. The mud weight when drilling out of the 9 7/8" casing shoe was 1.90 sg.

MUD SUMMARY REPORT

Well 6406/1-3

Date	Depth (m)	FL Temp (Deg C)	Density (sg)	Funn Visc (sec/qt)	Rheology 50 Deg C				Filtration				Filtrate Analysis						MBT (kg/m3) Eq	Sand (5by vol)	Reort Analyss				Rheometer Dial Readings																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
					PV (cp)	lbs/100ft2				API	HTHP	Cake (API)	Cake (HTH P)	Temp (Deg C)	pH	Pm (ml)	Pf (ml)	Mf (ml)			Cl (mg/)	Total Hardness (mg/l)	% by vol				600	300	200	100	6	3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
						YP	10S	10M	30M			32nd in	Corr Solid										LGS	NAP Base	Water																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Hole Size: 36"									From Date: 15/08/05											Top of Interval: 385 m																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Bit Size: 30"									To Date: 18/08/05											Bottom of Interval: 457 m																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
17/08/05	0		1200	110																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

Date	Depth (m)	FL Temp (Deg C)	Density (sg)	Funn Visc (sec/qt)	Rheology 50 Deg C								Elec Stab	Exc Lime	Fluid Alk	Fluid Ca	Fluid Cl	Sand %vol	Reort Analyss					Rheometer Dial Readings					
					PV (cp)	lbs/100ft2				HTHP	Cake 32nd in	Temp (Deg C)							% by vol					600	300	200	100	6	3
						YP	10S	10M	30M										Corr Solid	LGS	NAP	Water	NAP/ Water						
Hole Size: 12 1/4"										From Date: 22/10/05										Top of Interval: 2315 m									
Bit Size: 12 1/4"										To Date: 22/11/05										Bottom of interval: 4113									
25/10/05	2320	25	1.7	80	38	19	4	5	5	3.8	1	150	605	3.69	1	14	27	0.3	26	4.6	54	19	73/26	95	57	43	28	8	7
31/10/05	3235	28	1.7	68	39	11	6	7	8	3.9	2	150	615	1.85	0.5	14	26.5	0.1	25.9	4.7	53	20	72/27	89	50	39	28	8	7
05/11/05	3765	28	1.8	110	52	26	13	17	19	4.8	2	150	590	2.4	0.65	5.6	23	0.3	29.8	8.5	52	17	75/24	130	78	60	38	8	7
15/11/05	4113	20	1.85	87	69	21	13	17	19	4.2	2	150	330	2.22	0.6	5.6	22		30.9	5	51	17	75/25	159	90	63	38	8	6
Hole Size: 8 3/8"										From Date: 22/11/05										Top of Interval: 4113 m									
Bit Size: 8 3/8"										To Date: 04/12/05										Bottom of interval: 4596									
25/11/05	4118	25	1.9	92	54	17	9	12	14	3.8	1	150	600	1.85	0.5	8	21	0.1	32.5	2.4	52.5	14	79/21	125	71	53	32	11	8
28/11/05	4335	18	1.89	136	53	22	12	15	17	3.8	1	150	690	0.74	0.2	10	21	0.1	33.1	4.3	52	14	79/21	128	75	56	35	12	10
30/11/05	4490	21	1.89	121	53	19	9	10	13	3.6	1	150	671	0.74	0.2	10	20	0.1	32.7	3.1	53.5	13	80/19	125	72	54	34	9	8
03/12/05	4596	21	1.89	105	54	17	10	12	14	3.4	1	150	610	0.74	0.2	10	19	0.2	33.2	3.9	53	13	80/19	125	71	54	34	9	8

3.4.8 Deviation Summary

Deviation Summary

Well 6406/1-4

Note: Datum (0 depth) is 22 m above MSL (water depth = 381 m)

TMD (m)	Angle (deg)	Azimuth (deg)	CTM (Calc/Misr unn/Tie-in)	TVD (m)	N/-S (m)	E/-W (m)	Section (m)	DLS (deg/30m)	BUR (deg/30m)	Type
0.00	0.000	0.00	NYN	0.00	0.00	0.00	0.00	0.00	0.00	MWD
484.20	1.320	198.98	YNN	484.16	-5.27	-1.81	-5.27	0.08	0.08	MWD
513.30	1.940	175.84	YNN	513.25	-6.08	-1.89	-6.08	0.92	0.64	MWD
599.90	1.590	166.85	YNN	599.80	-8.71	-1.51	-8.71	0.15	-0.12	MWD
658.10	1.410	166.04	YNN	657.98	-10.20	-1.15	-10.20	0.09	-0.09	MWD
716.30	1.350	244.37	YNN	716.17	-11.19	-1.60	-11.19	0.90	-0.03	MWD
774.20	1.180	196.00	YNN	774.06	-12.06	-2.38	-12.06	0.54	-0.09	MWD
803.20	1.110	131.52	YNN	803.05	-12.53	-2.25	-12.53	1.27	-0.07	MWD
832.30	1.260	166.02	YNN	832.15	-13.03	-1.96	-13.03	0.74	0.15	MWD
861.80	1.180	115.36	YNN	861.64	-13.47	-1.61	-13.47	1.6	-0.08	MWD
918.40	1.030	113.70	YNN	918.23	-13.92	-0.61	-13.92	0.08	-0.08	MWD
1,006.10	0.970	107.99	YNN	1,005.92	-14.47	0.81	-14.47	0.04	-0.02	MWD
1,035.00	0.970	103.42	YNN	1,034.82	-14.60	1.28	-14.60	0.08	0.00	MWD
1,064.10	1.090	105.81	YNN	1,063.91	-14.74	1.79	-14.74	0.13	0.12	MWD
1,093.20	1.000	118.72	YNN	1,093.01	-14.93	2.28	-14.93	0.26	-0.09	MWD
1,121.90	0.880	111.55	YNN	1,121.70	-15.13	2.7	-15.13	0.18	-0.13	MWD
1,151.00	0.860	108.30	YNN	1,150.80	-15.29	3.1	-15.29	0.05	-0.02	MWD
1,179.00	0.820	106.20	YNN	1,178.80	-15.41	3.51	-15.41	0.05	-0.04	MWD
1,237.80	0.680	92.30 Y	NN	1,237.59	-15.54	4.26	-15.54	0.12	-0.07	MWD
1,266.40	0.670	93.79 Y	NN	1,266.19	-15.56	4.6	-15.56	0.02	-0.01	MWD
1,295.60	0.550	80.80 Y	NN	1,295.39	-15.55	4.91	-15.55	0.19	-0.12	MWD
1,302.90	0.500	91.31 Y	NN	1,302.69	-15.54	4.98	-15.54	0.45	-0.21	MWD
1,360.60	1.420	139.31	YNN	1,360.38	-16.09	5.69	-16.09	0.60	0.48	MWD
1,389.10	1.410	140.16	YNN	1,388.87	-16.63	6.15	-16.63	0.02	-0.01	MWD
1,420.30	1.500	138.75	YNN	1,420.06	-17.23	6.66	-17.23	0.09	0.09	MWD
1,447.00	1.550	139.09	YNN	1,446.75	-17.76	7.13	-17.76	0.06	0.06	MWD
1,475.40	1.510	140.10	YNN	1,475.14	-18.34	7.62	-18.34	0.05	-0.04	MWD
1,505.50	1.480	139.38	YNN	1,505.23	-18.94	8.13	-18.94	0.04	-0.03	MWD
1,533.20	1.480	139.18	YNN	1,532.92	-19.48	8.6	-19.48	0.01	0.00	MWD
1,561.80	1.550	138.21	YNN	1,561.51	-20.05	9.9	-20.05	0.08	0.07	MWD
1,591.40	1.470	138.38	YNN	1,591.10	-20.63	9.61	-20.63	0.08	-0.08	MWD
1,619.90	1.510	137.98	YNN	1,619.59	-21.18	10.11	-21.18	0.04	0.04	MWD
1,648.50	1.600	139.13	YNN	1,648.18	-21.77	10.62	-21.77	0.10	0.09	MWD
1,678.10	1.690	139.86	YNN	1,677.77	-22.41	11.17	-22.41	0.09	0.09	MWD
1,708.00	1.790	143.08	YNN	1,707.65	-23.12	11.74	-23.12	0.14	0.10	MWD
1,737.50	1.820	141.43	YNN	1,737.14	-23.86	12.31	-23.86	0.06	0.03	MWD
1,766.20	1.890	143.94	YNN	1,765.82	-24.60	12.87	-24.60	0.11	0.07	MWD
1,795.00	1.950	142.84	YNN	1,794.61	-25.37	13.45	-25.37	0.07	0.06	MWD
1,824.80	1.990	142.58	YNN	1,824.39	-26.19	14.7	-26.19	0.04	0.04	MWD
1,851.60	2.080	143.25	YNN	1,851.17	-26.94	14.64	-26.94	0.10	0.10	MWD
1,880.70	2.070	142.74	YNN	1,880.25	-27.79	15.27	-27.79	0.02	-0.01	MWD
1,909.50	2.140	143.46	YNN	1,909.04	-28.63	15.91	-28.63	0.08	0.07	MWD
1,939.60	2.240	143.93	YNN	1,939.11	-29.56	16.59	-29.56	0.10	0.10	MWD
1,968.70	2.330	142.35	YNN	1,968.19	-30.49	17.29	-30.49	0.11	0.09	MWD
1,999.00	2.490	142.86	YNN	1,998.46	-31.50	18.6	-31.50	0.16	0.16	MWD
2,027.10	2.550	142.86	YNN	2,026.54	-32.48	18.81	-32.48	0.06	0.06	MWD
2,056.30	2.640	143.10	YNN	2,055.71	-33.54	19.60	-33.54	0.09	0.09	MWD
2,085.00	2.650	144.07	YNN	2,084.38	-34.61	20.39	-34.61	0.05	0.01	MWD
2,115.00	2.670	144.24	YNN	2,114.34	-35.73	21.20	-35.73	0.02	0.02	MWD
2,142.70	2.650	143.52	YNN	2,142.01	-36.77	21.96	-36.77	0.04	-0.02	MWD
2,170.80	2.580	144.78	YNN	2,170.08	-37.81	22.71	-37.81	0.10	-0.07	MWD
2,200.10	2.460	145.45	YNN	2,199.36	-38.87	23.45	-38.87	0.13	-0.12	MWD

TMD (m)	Angle (deg)	Azimuth (deg)	CTM (Calc/Misr unn/Tie-in)	TVD (m)	N/-S (m)	E/-W (m)	Section (m)	DLS (deg/30m)	BUR (deg/30m)	Type
2,230.00	2.340	148.34	YNN	2,229.23	-39.92	24.13	-39.92	0.17	-0.12	MWD
2,258.00	2.210	151.26	YNN	2,257.21	-40.88	24.69	-40.88	0.19	-0.14	MWD
2,288.20	2.190	152.81	YNN	2,287.39	-41.90	25.24	-41.90	0.06	-0.02	MWD
2,306.90	2.260	152.71	YNN	2,306.07	-42.55	25.57	-42.55	0.11	0.11	MWD
2,313.00	2.020	145.90	YNN	2,312.17	-42.74	25.68	-42.74	1.72	-1.18	MWD
2,340.00	2.990	128.81	YNN	2,339.14	-43.58	26.50	-43.58	1.35	1.8	MWD
2,371.00	3.130	101.99	YNN	2,370.10	-44.26	27.96	-44.26	1.38	0.14	MWD
2,400.00	3.040	83.97	YNN	2,399.06	-44.34	29.50	-44.34	1.00	-0.09	MWD
2,429.00	3.020	58.71	YNN	2,428.02	-43.87	30.91	-43.87	1.37	-0.02	MWD
2,459.00	2.360	25.84	YNN	2,457.99	-42.90	31.86	-42.90	1.65	-0.66	MWD
2,488.00	2.330	355.93	YNN	2,486.96	-41.77	32.08	-41.77	1.25	-0.03	MWD
2,515.00	1.970	338.20	YNN	2,513.94	-40.80	31.87	-40.80	0.84	-0.40	MWD
2,546.00	2.030	326.96	YNN	2,544.93	-39.84	31.37	-39.84	0.38	0.06	MWD
2,574.00	2.010	326.21	YNN	2,572.91	-39.02	30.82	-39.02	0.04	-0.02	MWD
2,603.00	1.960	323.97	YNN	2,601.89	-38.19	30.25	-38.19	0.10	-0.05	MWD
2,631.00	2.010	326.94	YNN	2,629.87	-37.39	29.70	-37.39	0.12	0.05	MWD
2,661.00	1.990	324.72	YNN	2,659.86	-36.53	29.11	-36.53	0.08	-0.02	MWD
2,690.50	2.020	324.17	YNN	2,689.34	-35.69	28.51	-35.69	0.04	0.03	MWD
2,719.60	2.040	321.42	YNN	2,718.42	-34.87	27.89	-34.87	0.10	0.02	MWD
2,747.30	2.000	322.71	YNN	2,746.10	-34.10	27.29	-34.10	0.07	-0.04	MWD
2,778.10	2.030	326.03	YNN	2,776.88	-33.22	26.66	-33.22	0.12	0.03	MWD
2,807.30	2.040	330.30	YNN	2,806.06	-32.34	26.11	-32.34	0.16	0.01	MWD
2,836.40	2.000	326.88	YNN	2,835.15	-31.46	25.58	-31.46	0.13	-0.04	MWD
2,865.00	1.930	333.56	YNN	2,863.73	-30.61	25.9	-30.61	0.25	-0.07	MWD
2,894.40	2.050	330.95	YNN	2,893.11	-29.71	24.62	-29.71	0.15	0.12	MWD
2,922.60	2.490	333.91	YNN	2,921.29	-28.72	24.1	-28.72	0.48	0.47	MWD
2,951.00	2.500	329.97	YNN	2,949.66	-27.63	23.52	-27.63	0.18	0.01	MWD
2,980.10	2.490	322.15	YNN	2,978.74	-26.58	22.81	-26.58	0.35	-0.01	MWD
2,997.20	2.440	314.71	YNN	2,995.82	-26.03	22.33	-26.03	0.57	-0.09	MWD
3,037.20	2.530	311.27	YNN	3,035.78	-24.85	21.6	-24.85	0.13	0.07	MWD
3,067.20	2.510	307.48	YNN	3,065.75	-24.01	20.3	-24.01	0.17	-0.02	MWD
3,095.70	2.500	311.57	YNN	3,094.23	-23.22	19.8	-23.22	0.19	-0.01	MWD
3,125.20	2.570	321.19	YNN	3,123.70	-22.28	18.18	-22.28	0.44	0.07	MWD
3,153.70	2.570	321.80	YNN	3,152.17	-21.28	17.39	-21.28	0.03	0.00	MWD
3,183.80	2.550	326.75	YNN	3,182.24	-20.19	16.60	-20.19	0.22	-0.02	MWD
3,212.50	2.480	330.68	YNN	3,210.91	-19.11	15.95	-19.11	0.19	-0.07	MWD
3,241.40	2.460	343.26	YNN	3,239.78	-17.97	15.47	-17.97	0.56	-0.02	MWD
3,269.40	2.530	335.95	YNN	3,267.76	-16.83	15.1	-16.83	0.35	0.08	MWD
3,298.50	2.710	334.39	YNN	3,296.83	-15.63	14.48	-15.63	0.20	0.19	MWD
3,327.70	2.810	332.98	YNN	3,325.99	-14.37	13.86	-14.37	0.12	0.10	MWD
3,358.00	2.760	341.25	YNN	3,356.26	-13.01	13.29	-13.01	0.40	-0.05	MWD
3,386.50	2.660	350.35	YNN	3,384.73	-11.71	12.95	-11.71	0.46	-0.11	MWD
3,416.00	2.380	359.84	YNN	3,414.20	-10.42	12.84	-10.42	0.51	-0.28	MWD
3,444.40	2.430	30011	YNN	3,442.57	-9.23	12.88	-9.23	0.18	0.05	MWD
3,473.50	2.780	350.86	YNN	3,471.64	-7.92	12.81	-7.92	0.70	0.36	MWD
3,501.30	3.030	356.77	YNN	3,499.41	-6.52	12.66	-6.52	0.42	0.27	MWD
3,530.60	2.510	357.84	YNN	3,528.67	-5.11	12.59	-5.11	0.54	-0.53	MWD
3,586.90	2.700	313.24	YNN	3,584.92	-2.97	11.58	-2.97	1.06	0.10	MWD
3,617.00	2.700	294.63	YNN	3,614.99	-2.19	10.42	-2.19	0.87	0.00	MWD
3,644.90	2.700	299.60	YNN	3,642.86	-1.59	9.25	-1.59	0.25	0.00	MWD
3,674.70	2.690	308.54	YNN	3,672.62	-0.81	8.9	-0.81	0.42	-0.01	MWD
3,705.50	1.640	309.45	YNN	3,703.40	-0.08	7.9	-0.08	2.1	-1.02	MWD

TMD (m)	Angle (deg)	Azimuth (deg)	CTM (Calc/Misr unn/Tie-in)	TVD (m)	N/-S (m)	E/-W (m)	Section (m)	DLS (deg/30m)	BUR (deg/30m)	Type
3,734.20	1.620	306.39	YNN	3,732.09	0.43	6,54	0.43	0.09	-0.02	MWD
3,763.50	1.660	301.79	YNN	3,761.38	0.90	5,85	0.90	0.14	0.04	MWD
3,790.40	1.570	297.37	YNN	3,788.27	1,27	5,19	1,27	0.17	-0.10	MWD
3,821.30	1.670	294.98	YNN	3,819.15	1,65	4,4	1,65	0.12	0.10	MWD
3,849.90	1.600	290.62	YNN	3,847.74	1,97	3,65	1,97	0.15	-0.07	MWD
3,878.00	1.840	301.07	YNN	3,875.83	2,34	2,9	2,34	0.42	0.26	MWD
3,909.10	1.750	322.86	YNN	3,906.92	2,98	2,18	2,98	0.66	-0.09	MWD
3,937.20	1.770	321.68	YNN	3,935.00	3,66	1,66	3,66	0.04	0.02	MWD
3,966.00	1.780	317.47	YNN	3,963.79	4,34	1,8	4,34	0.14	0.01	MWD
3,995.30	1.850	312.31	YNN	3,993.07	4,99	0,42	4,99	0.18	0.07	MWD
4,022.60	1.800	309.17	YNN	4,020.36	5,56	-0,24	5,56	0.12	-0.05	MWD
4,051.40	0.610	309.53	YNN	4,049.15	5,94	-0,71	5,94	1,24	-1,24	MWD
4,081.33	0.020	320.36	YNN	4,079.08	6,05	-0,83	6,05	0.59	-0.59	MWD
4,098.40	0.050	164.21	YNN	4,096.15	6,04	-0,83	6,04	0.12	0.05	MWD
4,123.60	0.200	182.41	YNN	4,121.35	5,99	-0,83	5,99	0.18	0.18	MWD
4,153.30	0.320	166.02	YNN	4,151.05	5,86	-0,81	5,86	0.14	0.12	MWD
4,183.30	0.550	187.95	YNN	4,181.05	5,63	-0,81	5,63	0.28	0.23	MWD
4,212.30	0.650	218.21	YNN	4,210.05	5,37	-0,93	5,37	0.34	0.10	MWD
4,241.30	0.870	231.10	YNN	4,239.05	5,1	-1,21	5,1	0.29	0.23	MWD
4,269.80	0.870	232.33	YNN	4,267.54	4,83	-1,55	4,83	0.02	0.00	MWD
4,299.20	1.010	234.95	YNN	4,296.94	4,55	-1,94	4,55	0.15	0.14	MWD
4,328.20	1.120	233.73	YNN	4,325.94	4,23	-2,37	4,23	0.12	0.11	MWD
4,356.50	1.100	240.42	YNN	4,354.23	3,93	-2,83	3,93	0.14	-0.02	MWD
4,385.30	1.280	248.72	YNN	4,383.02	3,68	-3,37	3,68	0.26	0.19	MWD
4,415.00	1.430	251.07	YNN	4,412.72	3,44	-4,03	3,44	0.16	0.15	MWD
4,444.00	1.510	256.89	YNN	4,441.71	3,24	-4,75	3,24	0.18	0.08	MWD
4,473.30	1.630	256.88	YNN	4,470.99	3,05	-5,53	3,05	0.12	0.12	MWD
4,502.40	2.020	264.09	YNN	4,500.08	2,91	-6,44	2,91	0.47	0.40	MWD
4,533.50	2.400	265.26	YNN	4,531.16	2,8	-7,64	2,8	0.37	0.37	MWD
4,560.00	2.920	265.89	YNN	4,557.63	2,7	-8,86	2,7	0.59	0.59	MWD
4,588.30	3.040	267.43	YNN	4,585.89	2,62	-10,33	2,62	0.15	0.13	MWD

3.5 Plug and Abandonment

Found below:

- P&A Program used for well 6406/1-4
- Listing of the actual P&A of the well
- Sketch of actual P&A

3.5.1 P&A Program used for the well

3.5.1.1 Objectives

The plugging and abandonment program has the following objectives:

- 1) Isolate the permeable zones with cement plugs to permanently prevent the flow of gas or other formation fluids.
- 2) Isolate the casing annuli; 30" x 20" x 13 3/8" x 9 7/8". Then remove casings a minimum of 5 m below the mud line.
- 3) To ensure that there will be no obstructions of any kind remaining on the seabed at the location site which may cause damage or impediment to fishing, shipping or other activities.

3.5.1.2 Design Criteria

Safety: Procedures will be applied to insure the safety of the installation and personnel onboard during the abandonment operation.

Environment: The well will be plugged to insure that no contamination to the environment occurs during plugging or in the future.

Regulatory Requirements: All requirements outlined by the PSA will be implemented as a minimum requirement for permanent plugging.

3.5.1.3 Casing Design

Casing	Weight #	Drift ID	Capacity l/m	Shoe Depth MRDT
30"	310	28"	407.8	457 m
20"	133	18.538"	177.8	1299 m
13 3/8"	72	12.347"	77.24	2304 m
9 7/8"	62.8	8.625"	45.73	4101 m

3.5.1.4 Safety

Care is to be taken when handling and laying down casing, especially wellhead and 30" conductor.

Pre-job Safety Meetings to be conducted as required, during these operations.

3.5.1.5 Regulatory Requirements

1. The wellhead installation must be removed to at least 5 m below the seabed.
2. Two barriers are required. A cement plug must be placed in the production and intermediate casing/ liner.
3. A minimum 100 meter cement plug must be set across permeable or potential flowing zones such that the top of the plug is at least 50 m above the top of the zone.
4. A minimum 200 m cement plug must be set in the top part of the well such that the top of the plug is not more than 50 m below the seabed.
5. Cement plugs acting as barriers between the open hole and annulus require to be tagged with 10 ton set-down weight and to be pressure tested to 70 bar above the measured formation strength at the casing shoe between the open hole and annulus in question (for a superficial plug is required to be tagged with 10 ton set down and to be pressure tested 35 bar above the measured formation strength at the casing shoe).
6. The ROV will do a final seabed survey to check for any debris at well location.

3.5.1.6 Plugging Program

1. Plug # 1 will be a cement plug isolating the interval 4596-4000 m. The plug will be set in multiple stages as a continuous cement plug. The plug will be tagged and pressure tested. The 9 5/8" casing will then be cut at 900 m.
2. Plug # 2 will be a balanced cement plug set from 950 m to 750 m. The plug will be tagged and pressure tested. The 13 3/8" casing will then be cut at 600 m.
3. Plug # 3 will be a balanced cement plug set from 650 m to 430 m. The plug will be tagged and pressure tested. The BOP-stack will then be pulled. The 30" conductor together with the 20" casing will be cut at 391 m (6 m below seabed). A seabed survey will be conducted at the conclusion of the well operations.

3.5.1.7 Actual Plugging and Abandonment of well 6406/1-4

Well 6406/1-4 was permanently plugged and abandoned as follows:

1. Plug # 1: Cement from 4596 m up to 4035 m. The 9 7/8" casing was cut at 900 m and retrieved. Set EZSV plug at 895.
2. Plug # 2: Cement from 890 m up to 790 m. The 13 3/8" casing was cut at 600 m and retrieved.
3. Plug # 3: Cement from 730 m up to 425 m. Retrieved BOP on riser. The 20" and 30" casing strings were cut at 391 m (6 m below seabed) and retrieved.

3.5.1.8 Plug n.1

 Eni Norge GROUP	CEMENTING JOB REPORT				WELL NAME <u>SKLINNA 6406/1-4</u>	
	DATE: <u>12/10/2005</u>		3.DRL.FO.04A		FIELD NAME <u>SKLINNA</u>	
				Cost center <u>3A01N212</u>		
Operation Purpose: <u>P&A</u>						
Operation Type	Measured Depth Top [m] Bottom [m]		Vertical Depth Top [m] Bottom [m]		Casing Type	Ø [in]
Cementing						
Plug	4420	4596	4420	4596	N° 1	Of: 3
Squeeze					N°	
Well Situation	Ø [in]	Measured Depth Top [m] Bottom [m]		Vertical depth Top [m] Bottom [m]		Capacity [lt/m]
Open Hole	8 3/8	4113	4594	4113	4594	35.54
Last Casing	9 7/8	380	4101	380	4101	70.4
						From log [y/n] <u>n</u>
						KOP [m] _____ Max. Inclination [°] <u>3.13</u> at m <u>2371</u> D.O.P. [m] _____
Perforation		Gradient [Kg/cm ² /10m]	Below shoe	Bottom hole	Pressure [kg/cm²]	
Top [m]	Bottom [m]	Pore Gradient	1.7	1.83	Fracture at bottom <u>947</u>	
		Fracture Gradient	2.06	2.14	Hydrostatic increase w/slurry <u>875</u>	
		Abnormal [kg/cm ² /10m] _____ at m: _____			Annular Fracture Margin <u>72</u>	
		Abnormal [kg/cm ² /10m] _____ at m: _____			Margin during W.O.C. <u>-14</u>	
Mud Type		Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10"[Pa]
OBM		1.89	95	49	8.14	4 6
Fluid	Type	600	300	200	100	6 3
Lead						
Tail						
Lead Slurry						1.98 6.5
Tail Slurry						
1st Slurry		Preparation		Duration	Pumping time	w/c
Mixing Date & hour		Method		[min]	[min] at [°C]	ratio
10/12/2005 13:07:00 AM					15	G 35% SSA1
Additives	Quantity	u.m.	%	Additives	Quantity	u.m. %
Halad 400 L	94	L		Microsilica	1240	L
Halad 300 L	185	L				
SCR 500 L	665	L				
2nd Slurry		Preparation		Duration	Pumping time	w/c
Mixing Date & hour		Method		[min]	[min] at [°C]	ratio
Additives	Quantity	u.m.	%	Additives	Quantity	u.m. %
Cementing Company		Halliburton Baroid		Operation Ticket N°		
Operation Results		Plug tested with _____ [t]		Record (y / n)		
Theoretical TOC	4420 [m]	Plug milled at _____ [m]		Volume	Pression	
Actual TOC	_____ [m]	Plug removed [y / n] _____		Flow rate	Density	
Remarks _____ _____ _____ _____ _____				Supervisor		
				Superintendent		

CEMENTING JOB REPORT

DATE: 12/10/2005

3.DRL.FO.04B

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center	3A01N212
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Operation type	P&A	Ø [in]	8.375	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)		[kg/cm ²]	[mins]
Casing Reciprocation	Bump Plug	Casing testing pressure	
Casing Rotation	Valve holding	Annulus pressurization	
Inner string			

GENERAL DATA

Slurry Displacement		To Surface				Losses [m ³]	
With _____ Rig _____ pumps			Density	pH	Dumped	During csg run	_____
Fluid type: _____ OBM			[kg/l]		[m ³]	Circulation	_____
Volume _____ 44.8 [m ³]	Mud	_____ 1.9	_____	_____		Mix/Pump Slurry	_____
Density: _____ 1.9 [kg/l]	Spacer	_____ 1.94	_____	_____		Displacement	_____
Duration: _____ 36 [mins]	Slurry	_____ 1.98	_____	_____		Opening DV	_____
Final pressure: _____ [kg/cm ²]	_____	_____	_____	_____		Circ. through DV	_____
	_____	_____	_____	_____		Total	_____

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

 Eni Norge GROUP	CEMENTING JOB REPORT	WELL NAME SKLINNA 6406/1-4 FIELD NAME SKLINNA Cost center 3A01N212									
DATE: 12/10/2005 3.DRL.FO.04A											
Operation Purpose: P&A											
Operation Type	Measured Depth Top [m] Bottom [m]	Vertical Depth Top [m] Bottom [m]	Casing Type	Ø [in]	Weight lb/ft	Stage [N°]					
Cementing											
Plug	4220 4420	4220 4420	N° 2 Of: 3								
Squeeze			N°								
Well Situation	Ø [in]	Measured Depth Top [m] Bottom [m]	Vertical depth Top [m] Bottom [m]	Capacity [lt/m]	From log [y/n]	KOP [m] Max. Inclination [°] at m D.O.P. [m]					
Open Hole	8 3/8	4113 4594	4113 4594	35.54	n	2371					
Last Casing	9 7/8	380 4101	380 4101	70.4							
Perforation	Gradient [Kg/cm²/10m] Top [m] Bottom [m]	Below shoe Bottom hole	Pressure [kg/cm²]			B.H.S.T. [°C] at m From log [y/n] After [hr] B.H.C.T. [°C]					
		1.7 1.83	Fracture at bottom 947			150 4596					
		2.06 2.14	Hydrostatic increase w/slurry 875			y					
		Abnormal [kg/cm²/10m] at m:	Annular Fracture Margin 72								
		Abnormal [kg/cm²/10m] at m:	Margin during W.O.C. -14			80					
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10'[Pa]	Water loss [cc]	pH / ES	Cl- [g/l]			
OBM	1.89	95	49	8.14	4 6			19			
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	Vol.[m3]	h annulus [m]	Cont. Time [min]
Lead											
Tail											
Lead Slurry								1.98	7.3	Mixing water Cl- [g/l]	
Tail Slurry										Water Temperature [°C]	
1st Slurry		Preparation			Duration		Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]		[min] at [°C]		ratio	Type	[t]
10/12/2005 13:07:00 AM							16			G 35% SSA1	10.4
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type			
Halad 400 L	102	L		Microsilica	1380	L		Density [kg/l]			
Halad 300 L	205	L						Quantity [ton]			
SCR 500 L	740	L						Ratio			
2nd Slurry		Preparation			Duration		Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]		[min] at [°C]		ratio	Type	[t]
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type			
								Density [kg/l]			
								Quantity [ton]			
								Ratio			
Cementing Company Halliburton Baroid Operation Ticket N°											
Operation Results				Plug tested with [t]				Record (y / n)			
Theoretical TOC 4220 [m]				Plug milled at [m]				Volume		Pression	
Actual TOC [m]				Plug removed [y / n]				Flow rate		Density	
Remarks								Supervisor			
								Superintendent			

CEMENTING JOB REPORT

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center	3A01N212
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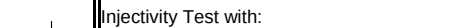
DATE: 12/10/2005

3.DRL.FO.04B

Operation type	P&A	Ø [in]	8.375	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)		[kg/cm ²]	[mins]
Casing Reciprocation	Bump Plug	Casing testing pressure	
Casing Rotation	Valve holding	Annulus pressurization	
Inner string			

GENERAL DATA

Slurry Displacement		To Surface				Losses [m ³]	
With _____ Rig _____ pumps			Density	pH	Dumped	During csg run	_____
Fluid type: _____ OBM			[kg/l]		[m ³]	Circulation	_____
Volume _____ 42.5 [m ³]	Mud	_____ 1.9		_____		Mix/Pump Slurry	_____
Density: _____ 1.9 [kg/l]	Spacer	_____ 1.94		_____		Displacement	_____
Duration: _____ 35 [mins]	Slurry	_____ 1.98		_____		Opening DV	_____
Final pressure: _____ [kg/cm ²]	_____	_____		_____		Circ. through DV	_____
	_____	_____		_____		Total	_____

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

 Eni Norge GROUP	CEMENTING JOB REPORT	WELL NAME SKLINNA 6406/1-4 FIELD NAME SKLINNA Cost center 3A01N212									
DATE: 12/10/2005 3.DRL.FO.04A											
Operation Purpose: _____ P&A _____											
Operation Type	Measured Depth Top [m] Bottom [m]	Vertical Depth Top [m] Bottom [m]	Casing Type	Ø [in]	Weight lb/ft	Stage [N°]					
Cementing											
Plug	4035	4220	4035	4220	N° 3	Of: 3					
Squeeze					N°						
Well Situation	Ø [in]	Measured Depth Top [m] Bottom [m]	Vertical depth Top [m] Bottom [m]	Capacity [lt/m]	From log [y/n]	KOP [m] _____ Max. Inclination [°] 3.13 at m 2371 D.O.P. [m] _____					
Open Hole	8 3/8	4113	4594	4113	4594	35.54					
Last Casing	9 7/8	380	4101	380	4101	70.4					
Perforation	Gradient [Kg/cm ² /10m]	Below shoe	Bottom hole	Pressure [kg/cm²]		B.H.S.T. [°C] 150 at m 4596 From log [y/n] y After [hr] _____ B.H.C.T. [°C] 80					
Top [m] Bottom[m]	Pore Gradient	1.7	1.83	Fracture at bottom 947							
	Fracture Gradient	2.06	2.14	Hydrostatic increase w/slurry 875							
	Abnormal [kg/cm ² /10m] _____ at m: _____			Annular Fracture Margin 72							
	Abnormal [kg/cm ² /10m] _____ at m: _____			Margin during W.O.C. -14							
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10'[Pa]	Water loss [cc]	pH / ES	Cl- [g/l]			
OBM	1.89	95	49	8.14	4	6		19			
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	Vol.[m3]	h annulus [m]	Cont. Time [min]
Lead											
Tail											
Lead Slurry								1.98	8.4	Mixing water Cl- _____ [g/l]	
Tail Slurry										Water Temperature _____ [°C]	
1st Slurry		Preparation			Duration		Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]		[min] at [°C]		ratio	Type	[t]
10/12/2005 13:07:00 AM							19			G 35% SSA1	12
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type _____			
Halad 400 L	122	L		Microsilica	1580	L		Density _____ [kg/l]			
Halad 300 L	240	L						Quantity _____ [ton]			
SCR 500 L	445	L						Ratio _____			
2nd Slurry		Preparation			Duration		Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]		[min] at [°C]		ratio	Type	[t]
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type _____			
								Density _____ [kg/l]			
								Quantity _____ [ton]			
								Ratio _____			
Cementing Company Halliburton Baroid Operation Ticket N° _____											
Operation Results				Plug tested with _____ [t]				Record (y / n)			
Theoretical TOC 4035 [m]				Plug milled at _____ [m]				Volume _____		Pression _____	
Actual TOC _____ [m]				Plug removed [y / n] _____				Flow rate _____		Density _____	
Remarks _____								Supervisor _____			
_____								Superintendent _____			

CEMENTING JOB REPORT

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center	3A01N212
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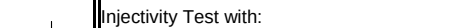
DATE: 12/10/2005

3.DRL.FO.04B

Operation type	P&A	Ø [in]	8.375	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)		[kg/cm ²]	[mins]
Casing Reciprocation	Bump Plug	Casing testing pressure	
Casing Rotation	Valve holding	Annulus pressurization	
Inner string			

GENERAL DATA

Slurry Displacement		To Surface				Losses [m ³]	
With _____ Rig _____ pumps			Density	pH	Dumped	During csg run	_____
Fluid type: _____ OBM			[kg/l]		[m ³]	Circulation	_____
Volume _____ 40.3 [m ³]	Mud	_____ 1.9		_____		Mix/Pump Slurry	_____
Density: _____ 1.9 [kg/l]	Spacer	_____ 1.94		_____		Displacement	_____
Duration: _____ 38 [mins]	Slurry	_____ 1.98		_____		Opening DV	_____
Final pressure: _____ [kg/cm ²]	_____	_____		_____		Circ. through DV	_____
	_____	_____		_____		Total	_____

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

3.5.1.9 Plug n.2

		CEMENTING JOB REPORT				WELL NAME <u>SKLINNA 6406/1-4</u>					
		DATE: <u>12/19/2005</u>		3.DRL.FO.04A		FIELD NAME <u>SKLINNA</u>					
						Cost center <u>3A01N212</u>					
Operation Purpose: <u>P&A</u>											
Operation Type	Measured Depth		Vertical Depth		Casing Type	Ø [in]	Weight lb/ft	Stage [N°]			
	Top [m]	Bottom [m]	Top [m]	Bottom [m]							
Cementing											
Plug	790	890	790	890	N°	Of:					
Squeeze					N°						
Well Situation	Ø [in]	Measured Depth		Vertical depth		Capacity [lt/m]	From log [y/n]	KOP [m] _____			
		Top [m]	Bottom [m]	Top [m]	Bottom [m]			Max. Inclination [°] <u>3.13</u>			
Open Hole								at m <u>2371</u>			
Last Casing	13 3/8	380	2304	380	2304	77.25		D.O.P. [m] _____			
Perforation		Gradient [Kg/cm ² /10m]		Below shoe	Bottom hole	Pressure [kg/cm ²]		B.H.S.T. [°C] <u>150</u>			
		Top [m]	Bottom [m]	Pore Gradient	1.7			1.83	Fracture at bottom <u>947</u>	at m <u>4596</u>	
		Fracture Gradient		2.06	2.14	Hydrostatic increase w/slurry <u>875</u>		From log [y/n] <u>y</u>			
		Abnormal [kg/cm ² /10m] _____ at m: _____				Annular Fracture Margin <u>72</u>		After [hr] _____			
		Abnormal [kg/cm ² /10m] _____ at m: _____				Margin during W.O.C. <u>-14</u>		B.H.C.T. [°C] <u>80</u>			
Mud Type	Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10'[Pa]	Water loss [cc]	pH / ES	Cl- [g/l]			
OBM	1.89	95	49	8.14	4	6		19			
Fluid	Type	600	300	200	100	6	3	Density [kg/l]	Vol.[m3]	h annulus [m]	Cont. Time [min]
Lead											
Tail											
Lead Slurry								1.95	7.7	Mixing water Cl- _____ [g/l]	
Tail Slurry										Water Temperature _____ [°C]	
1 st Slurry		Preparation			Duration	Pumping time		w/c	Cement	Quantity	
Mixing Date & hour		Method			[min]	[min] at [°C]		ratio	Type	[t]	
10/12/2005 13:07:00 AM						25			G neat	11	
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type _____			
HR 4 -L	106	L		SEM 8	132	L		Density _____ [kg/l]			
Musol E	264	L						Quantity _____ [ton]			
NF - 6	49	L						Ratio _____			
2 nd Slurry		Preparation			Duration	Pumping time		w/c	Cement	Quantity	
Mixing Date & hour		Method			[min]	[min] at [°C]		ratio	Type	[t]	
Additives	Quantity	u.m.	%	Additives	Quantity	u.m.	%	Dry blended Type _____			
								Density _____ [kg/l]			
								Quantity _____ [ton]			
								Ratio _____			
Cementing Company <u>Halliburton Baroid</u> Operation Ticket N° _____											
Operation Results				Plug tested with _____ [t]				Record (y / n)			
Theoretical TOC <u>790</u> [m]				Plug milled at _____ [m]				Volume _____		Pression _____	
Actual TOC _____ [m]				Plug removed [y / n] _____				Flow rate _____		Density _____	
Remarks _____ _____ _____ _____ _____								Supervisor _____			
								Superintendent _____			

CEMENTING JOB REPORT

DATE: 12/19/2005

3.DRL.FO.04B

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center	3A01N212
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Operation type	P&A	Ø [in]	13.375	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)		[kg/cm ²]	[mins]
Casing Reciprocation	Bump Plug	Casing testing pressure	
Casing Rotation	Valve holding	Annulus pressurization	
Inner string			

GENERAL DATA

Slurry Displacement	To Surface				Losses [m ³]
With <u> halliburton </u> pumps		Density	pH	Dumped	During csg run <u> </u>
Fluid type: <u> OBM </u>		[kg/l]		[m ³]	Circulation <u> </u>
Volume <u> 7.95 </u> [m ³]	Mud	<u> 1.87 </u>	<u> </u>	<u> </u>	Mix/Pump Slurry <u> </u>
Density: <u> 1.87 </u> [kg/l]	Spacer	<u> 1.94 </u>	<u> </u>	<u> </u>	Displacement <u> </u>
Duration: <u> 15 </u> [mins]	Slurry	<u> 1.95 </u>	<u> </u>	<u> </u>	Opening DV <u> </u>
Final pressure: <u> </u> [kg/cm ²]	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Circ. through DV <u> </u>
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Total <u> </u>

Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

 Eni Norge		CEMENTING JOB REPORT				WELL NAME SKLINNA 6406/1-4				
		DATE: 12/20/2005 3.DRL.FO.04A				FIELD NAME SKLINNA				
						Cost center 3A01N212				
Operation Purpose: P&A										
Operation Type		Measured Depth Top [m] Bottom [m]		Vertical Depth Top [m] Bottom [m]		Casing Type	Ø [in]	Weight lb/ft	Stage [N°]	
Cementing										
Plug		425	730	425	730	N°	Of:			
Squeeze						N°				
Well Situation		Ø [in]	Measured Depth Top [m] Bottom [m]		Vertical depth Top [m] Bottom [m]		Capacity [lt/m]	From log [y/n]	KOP [m]	
Open Hole									Max. Inclination [°] 3.13	
Last Casing		13 3/8	380	2304	380	2304	77.25		at m 2371	
									D.O.P. [m]	
Perforation		Gradient [Kg/cm²/10m]		Below shoe	Bottom hole	Pressure [kg/cm²]		B.H.S.T. [°C] 150		
Top [m]	Bottom[m]	Pore Gradient		1.7	1.83	Fracture at bottom 947		at m 4596		
		Fracture Gradient		2.06	2.14	Hydrostatic increase w/slurry 875		From log [y/n] y		
		Abnormal [kg/cm²/10m] at m:				Annular Fracture Margin 72		After [hr]		
		Abnormal [kg/cm²/10m] at m:				Margin during W.O.C. -14		B.H.C.T. [°C] 80		
Mud Type		Density [kg/l]	Visc.[sec]	PV [cP]	Y. P. (Pa)	Gel 10"/10"[Pa]	Water loss [cc]	pH / ES	Cl- [g/l]	
OBM		1.5	95	49	8.14	4 6			19	
Fluid	Type	600	300	200	100	6 3	Density [kg/l]	Vol.[m3]	h annulus [m]	Cont. Time [min]
Lead										
Tail										
Lead Slurry							1.93	32.2	Mixing water Cl- [g/l]	
Tail Slurry							1.92	8.9	Water Temperature [°C]	
1 st Slurry		Preparation			Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]	[min] at [°C]		ratio	Type	[t]
20/12/2005 23:12:00 AM						50			G Silica	41
Additives		Quantity	u.m.	%	Additives		Quantity	u.m.	%	Dry blended Type
HR 4 -L		330	L		SEM 8		300	L		Density [kg/l]
Musol E		600	L							Quantity [ton]
NF - 6		85	L							Ratio
2 nd Slurry		Preparation			Duration	Pumping time		w/c	Cement	Quantity
Mixing Date & hour		Method			[min]	[min] at [°C]		ratio	Type	[t]
12/21/2005 3:08						16			G neat	11
Additives		Quantity	u.m.	%	Additives		Quantity	u.m.	%	Dry blended Type
CaCl2		350	L							Density [kg/l]
NF - 6		30,g	L							Quantity [ton]
										Ratio
Cementing Company Halliburton Baroid Operation Ticket N°										
Operation Results					Plug tested with [t]			Record (y / n)		
Theoretical TOC 425 [m]					Plug milled at [m]			Volume Pression		
Actual TOC [m]					Plug removed [y / n]			Flow rate Density		
Remarks							Supervisor			
							Superintendent			

CEMENTING JOB REPORT

DATE: 12/20/2005

3.DRL.FO.04B

WELL NAME	SKLINNA 6406/1-4
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FIELD NAME SKLINNA

Cost center	3A01N212
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Operation type	P&A	Ø [in]	13.375	Stage / No.:	1
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SQUEEZE / PLUG

[illegible]

	Injectivity Test with: _____			Pump Rate	Testing Pr.	Tot. Vol.	Final Sqz Pr.	Returns Vol
				[l/min]	[kg/cm ²]	pumped [l]	[kg/cm ²]	[l]
	Test	[kg/cm ²]	[mins]					
	Stinger Pressure test	140	10					
	Annular pressure							

CEMENTATION

Operation (y/n)		[kg/cm ²]	[mins]
Casing Reciprocation	Bump Plug	Casing testing pressure	
Casing Rotation	Valve holding	Annulus pressurization	
Inner string			

GENERAL DATA

Slurry Displacement	To Surface				Losses [m ³]
With <u> halliburton </u> pumps		Density	pH	Dumped	During csg run <u> </u>
Fluid type: <u> OBM </u>		[kg/l]		[m ³]	Circulation <u> </u>
Volume <u> 3.5 </u> [m ³]	Mud	<u> 1.5 </u>	<u> </u>	<u> </u>	Mix/Pump Slurry <u> </u>
Density: <u> 1.5 </u> [kg/l]	Spacer	<u> 1.72 </u>	<u> </u>	<u> </u>	Displacement <u> </u>
Duration: <u> 6 </u> [mins]	Slurry	<u> 1.93 </u>	<u> </u>	<u> </u>	Opening DV <u> </u>
Final pressure: <u> </u> [kg/cm ²]	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Circ. through DV <u> </u>
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Total <u> </u>

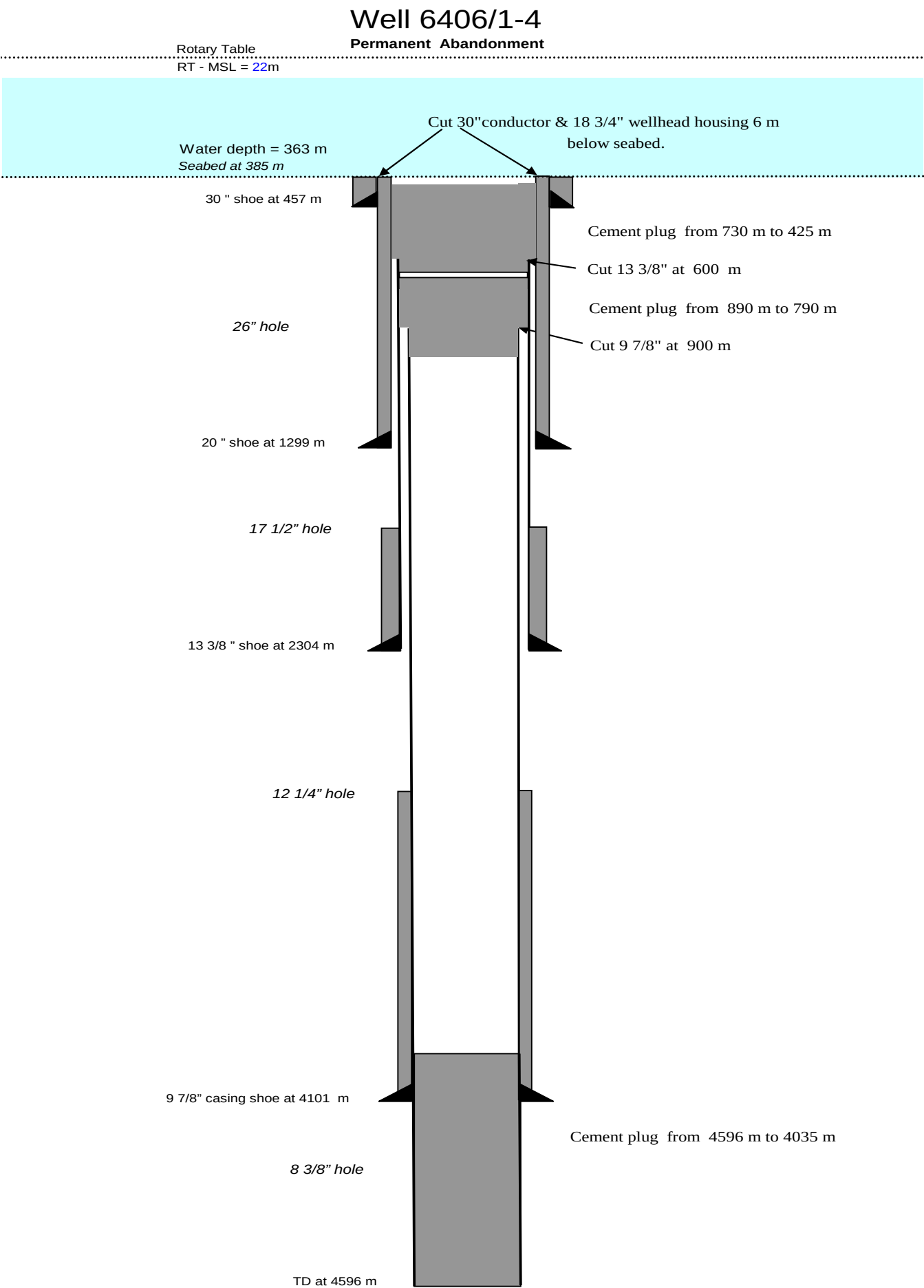
Circulation / Displacement / Squeeze

[illegible]

Supervisor

Superintendent

3.5.1.11 P & A Sketch



3.6 Logistics

3.6.1 Offices

The drilling operations office was located at Eni Norge offices, Forus. The main logistics coordinator was placed at Vestbase in Kristiansund while a local logistics coordinator was placed at the Aker Base, Tananger. The main logistics coordinator at Vestbase used the local coordinator at the Aker Base to handle shipments of equipment sent from Stavanger to the rig/Vestbase.

3.6.2 Base

The operating base for the rig during the drilling of well 6406/1-4 was Vestbase in Kristiansund. In Stavanger the Aker Base in Tananger was used for shipments of equipment sent from Stavanger to the rig/Vestbase.

3.6.3 Helicopter

The helicopter services were contracted from CHC Helicopter Service. The helicopter base was at Kvernberget Airport at Kristiansund.

3.6.4 Boats

Eni Norge had one supply vessel and one stand-by vessel on permanent hire for the duration of the operations on well 6406/1-4.

3.7 Safety and Environment

3.7.1 Summary

The amount of incidents and serious near-misses has been quite high for the 6406/1-4 activity:

- 1 LTA occurred (fall incident resulting in broken pelvis)
- The anchor winch damage incident resulted in a 42 day long delay of the operations while the winch was repaired in Kristiansund
- Several actual and potential dropped objects; some with high potential for serious personnel injuries
- 2 small environmental spills to sea, and 3 spillages onboard

The main challenge has been related to the rig owner's lack of systematic follow up of HSE issues. DODI's slim onshore organisation has been fully occupied with the close out of actions from the acceptance testing programme and outstanding issues from the anchor incident in 2004. DODI did not have the capacity at the start up of the operations to establish long-term improvements such as increasing the knowledge of the rig's technical systems and equipment, and to further develop and improve their management systems.

However, the HSE standard of the rig and the rig owner has improved over the last few months. Several improvements have been implemented. DODI seems to have increased their commitment to developing and maintaining a high HSE level on Ocean Vanguard. Due to extensive repairs in April and October, and a close follow-up and verification of the acceptance testing programme by the Joint Operators Group and Eni Norge, the technical standard of the rig has also improved.

3.7.2 Incidents Description

Incidents	Results	Comments
LTA	1	Roustabout injured during unloading operation on main deck (fractured pelvis)
First Aid Cases	5	- Bruised arm (from safety sling) - Bruised heel (walking down stairs) - Bruised finger (finger pinched when securing collar) - Trapped ankle (in LQ door) - Cut in finger (on portable grinder)
Dropped objects	7 (3 green and 4 yellow potential)	No personnel injures, but high potential <u>Green potential:</u> - Knife from Halliburton tank (fell 1 m) - Securing plate (fell from finger board – weight 83 grams) - Proximity switch (NB; area was barriered off) <u>Yellow potential:</u> - Handrail (headache ball on Stbd crane came in contact with handrail on top of the BOP cathedral roof – handrail fell 19 m) - Spanner (fell from scaffold – 12 meters to roof of crane cabin) - TSI mud cutting transfer hose (lifting assembly failed when the hammer union hung up on the hose storage saddle) - Nozzle assembly (3 kg, falling 10 m)
Potential dropped objects	14	8 green potential and 6 yellow potential
Discharge to external environment	2 (both yellow)	- WBM to sea over diverter line (11 m3) - OBM spillage on supply vessel (70 l to deck and 10 l to sea)
Other discharges (no spill to sea)	3 (1 green and 2 yellow)	- Hydraulic oil spill on cellar deck (yellow) - OBM spill in mud pit room (yellow) - Waste oil spill to deck (green)
Technical incident (material damage, downtime etc)	8	<u>Red Potential:</u> - Anchor winch # 2 damage <u>Yellow Potential:</u> - Top drive repair - Thruster cable fire - Upper racking arm collision x 2 - Collision with finger board - Snatched loading hose <u>Green Potential:</u> - Pulled off loading hose

3.7.3 Damaged anchor winch incident

On 3-Sep-05, the number 2 anchor winch bearing housing suffered damage while attempting to park the chain lifter on the pawl using the jog button/motor brake. The pawl was swung into the engaged position earlier than normal, creating a larger distance than desired between the chain lifter and pawl. While jogging the chain lifter on to the pawl, the chain tension accelerated the chain lifter, motor and gearbox resulting in a significant impact to the pawl. When the chain lifter landed on the pawl, the rapid deceleration from the motor and gear box inertia (kinetic energy) produced an upward force on the chain lifter of sufficient magnitude to crack the bearing housing.

The pawl was swung into the engaged position earlier than normal as the operator was concerned about an unexplained motor stalling problem. The operator wanted to investigate the situation and wanted to park the chain lifter on the pawl as soon as possible. During the parking process, the operator used the jog button, per procedures, to lower the chain lifter to the pawl. On the last jog, the chain lifter rotated quickly and impacted the pawl. The most likely reason for this occurrence was that the jog button was depressed and held too long allowing excessive motor speeds to be produced. The risk of this action was not known by the operator as the force produced by the motor inertia is neither apparent nor documented properly in the Pusnes winch literature. Parking the chain lifter on the pawl using the jog button can be safely performed with a gap of less than 5cm, but the distance attempted in this circumstance (about 10 times that amount) produced too much kinetic energy.

The winch damage incident caused a lost drilling time for the rig of 42 days, as the well had to be plugged back, before recovering the BOP and Riser and towing the rig to Kristiansund for repairs.

To prevent a re-occurrence of a similar incident, it became necessary to re-educate and train all winch operating crew members. The training program was redesigned to ensure a better in-depth understanding of the winch functions, and to foster improved operator confidence in winch operations.

Some waiting on weather added to the rig's off hire period. However, on October 14, 2005 the rig had drilled out the cement plugs and commenced drilling new formation.

3.7.4 Environmental discharges

Two environmental spills occurred early October:

- Hydraulic Oil spill on cellar deck: While running BOP a hydraulic hose separated from the crimped fitting at the end of the hose resulting in an approx 500 litres oil spillage on deck. The hydraulic oil was contained on the rig.(i.e. no spill to sea)
- Water Based Mud spilled overboard: While trouble shooting the diverter system, a manual signal was sent that closed the shaker valve. This caused the mud level to back up and overflow the selected diverter line; resulting in 11 m3 water based mud spilling to the sea via the diverter line

Based on the serious potential of these two incidents, Eni Norge, together with ExxonMobil, decided to contract DNV to conduct an environmental audit including a review of the investigations carried out onboard. The audit resulted in several findings which were communicated to DODI. Based on the report, and also environmental incidents occurring at a later date, DODI decided to develop a new Environmental Management Manual (to be implemented in January 2006), and to increase the focus on environmental risk awareness in operational meetings onboard the rig. In addition to the above measures, Eni Norge initiated weekly environmental inspections carried out jointly by the Safety Coach and the OIM onboard.

A spillage of approximately 10 litres of oil based mud to the sea occurred in November during transfer of mud from the supply vessel Ocean Mainport to the rig: A valve which should have been closed on the vessel was left open into the mud box and this resulted in over pressure which blew off the mud box causing the spill.

3.7.5 Environmental status

Regular discharges of chemicals and cuttings from the drilling operation are given in the tables below. Total discharges of chemicals amounted to 464 tonnes, while total discharges of cuttings were estimated

to be 1452 tonnes. The theoretical hole volume was calculated to be 483,9 m³. A total of 1105 m³ (1900 tonnes) of SBM was used during the operation.

Regular discharges to sea	
Component	Discharge in tonnes
Cementing chemicals	71
Mud chemicals	382
Rig chemicals	6,7
Cuttings	1452
Total discharges	1911,7

Chemical discharges, categorized using SFT's colour categories				
Categories	Discharges in kg			
	Cement	Mud	Rig	Total
Green	70 985	361 993	9 570	442 548
Yellow	47	20 001	1 121	21 168
Red	0	0	17	17
Total	71 032	381 994	10 707	463 733

Two accidental events resulted in discharges to sea. The major spill of 11 m³ WMB occurred when a diverter line was accidentally opened. The spill resulted in 7,8 tonnes of chemicals spilled to the environment. Of these, 961 kg were yellow chemicals, 6 854 kg were Green.

The accidental discharge of 70 liters SBM occurred during transfer of mud from the supply vessel. A total of 137 kg of chemicals are expected spilt to sea, of which 7,2 kg are red and 43,1 kg yellow.

Accidental discharges:	
Total amount of accidental discharges:	2 accidental discharges
Total volume discharged:	11.070 m³
Incident 1:	11 m³ spill of WBM
Incident 2:	Approximately 70 liters of SBM

A total of 1 715 tonnes of diesel was consumed during the drilling operation. The resulting emissions to air are given below.

Emissions to air from drilling operations:	
Component	Emissions from rig (ton)
CO₂	5 489
NO_x	120
VOC	8.6
CO	12
SO₂	4.8
Total emissions (ton)	5 634

Waste was segregated on the rig and sent to Westbase (Maritime Waste Management, MWM) for further handling, treatment and recovery onshore. Total amounts of waste generated are given in the table below.

Industrial waste				
Category/fraction	Totals for Well 6406/1-4		Recycl.	Segreg.
	kg	%	%	%
Food contaminated waste	7 900	14,1	60,0	100,0
Paper/Cardboard	3 740	6,7	100,0	100,0
Plastic	2 240	4,0	100,0	100,0
Wood	10 435	18,7	100,0	100,0
Glass	105	0,2	100,0	100,0
EE-waste	415	0,7	100,0	100,0
Other sorted waste	3 240	5,8	60,0	100,0
Unsorted waste	27 875	49,8	45,0	0,0
Total for Well 6406/1-4	55 950	100,0	64,6	50,2
Metal waste				
Category/fraction			Recycl.	Segreg.
	kg	%	%	%
Total for Well 6406/1-4	31 995	100,0	100,0	100,0
Hazardous waste				
Category/fraction			Recycl.	Segreg.
	kg *	%	%	%
Batteries	170	0,0	95,0	100,0
Blast sand	12 080	0,7	-	100,0
Fluorescent tubes/lightbulbs	65	0,0	95,0	100,0
Paint	550	0,0	80,0	100,0
Waste oil	30 285	1,8	90,0	100,0
Oily waste	52 005	2,8	95,0	100,0
Spray cans	55	0,0	97,0	100,0
Drilling waste	1 725 828	94,5	35,0	100,0
Chemicals w/ heavy metal	50	0,0	10,0	100,0
Pure chemicals w/ heavy metal	940	0,1	10,0	100,0
Total for Well 6406/1-4	1 825 393	100,0	37,5	100,0
Total for all wastes	1 913 338	-	39,3	98,5

The dominant fraction of wastes generated is drilling waste (cuttings and slop), which has a poor recycling rate, but very high segregation rate. The main end use of this waste category is energy recovery. Therefore the overall segregation and recycling rates are dominated by this fraction. The segregation rate is 98,5%, while the recycling rate is 39,3%. These are comparable to the previous operation. For industrial wastes the degree of recycling is 62,4% while the degree of segregation is 50,2 %.

A summary of all discharges, emissions and wastes deposited onshore are given in the table below.

Total emissions, discharges and non-recycled waste generation	
Component	Amount in tonnes
Chemicals used during drilling	463,7
Drill Cuttings	1452
Emissions to air	5 634
Waste deposited at land fills	40,0

4. ENCLOSURES

ENCLOSURE 1 6406/1-4 Composite Log

ENCLOSURE 2 6406/1-4 C.P.I.