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NETHERBY 1DW1

BASIC DATA REPORT

PREPARED BY:
David Adderley
(Consultant)
September 2008

NETHERBY 1DW1

BASIC DATA REPORT

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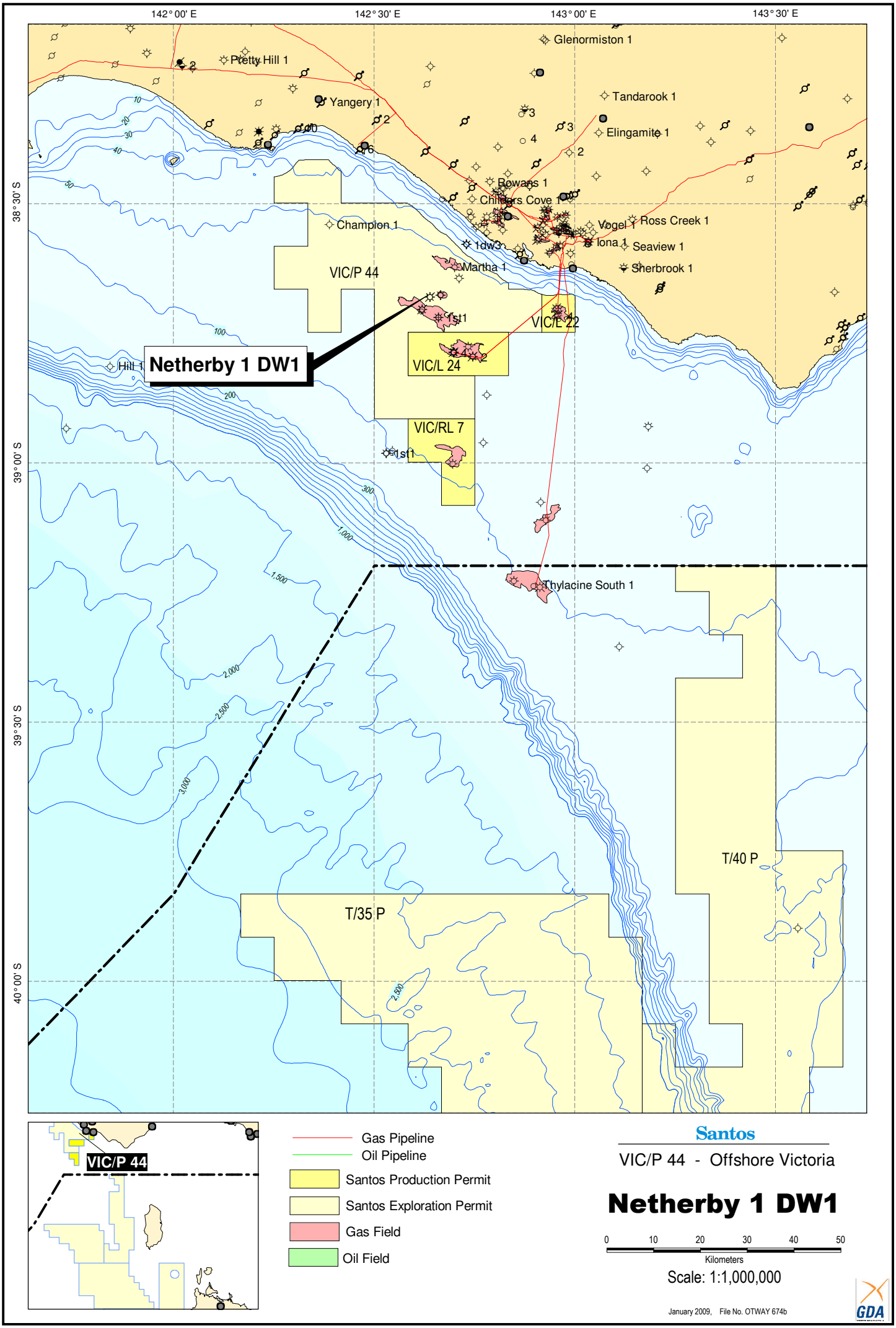
LOCATION MAP


142° 00' E
142° 30' E
143° 00' E
143° 30' E
38° 30' S
39° 00' S
39° 30' S
40° 00' S
Glenormiston 1
Pretty Hill 1
Yangery 1
Tandarook 1
Elingamite 1
Rowans 1
Chillers Cove 1
Vogel 1
Ross Creek 1
Iona 1
Seaview 1
Sherbrook 1
Champion 1
1dw3
Martha 1
VIC/P 44
1st1
VIC/L 22
VIC/L 24
Netherby 1 DW1
Hill 1
VIC/RL 7
1st1
Thylacine South 1
T/40 P
T/35 P
10
20
30
40
50
100
200
300
1,000
1,500
2,000
2,500
3,000
2,500
VIC/P 44
Gas Pipeline
Oil Pipeline
Santos Production Permit
Santos Exploration Permit
Gas Field
Oil Field
Santos
VIC/P 44 - Offshore Victoria
Netherby 1 DW1
0
10
20
30
40
50
Kilometers
Scale: 1:1,000,000
January 2009, File No. OTWAY 674b
GDA

GENERAL DATA CARD

WELL: NETHERBY 1DW1	**WELL CATEGORY:** OFFSHORE DEVELOPMENT	**KICK-OFF START:** 21:00 hours 02/08/2008
		TD REACHED: 01:30 hours 12/08/2008
	WELL INTENT: GAS	**RIG RELEASED:** 10:00 hours 24/08/2008
SURFACE LOCATION: **LAT:** 38° 40' 48.58" S **LONG:** 142° 38' 25.74" E **(GDA94)** **NORTHING:** 5 717 438.49 m **EASTING:** 642 694.06 m **(MGA 54)**		**RIG:** OCEAN PATRIOT
		STATUS: SINGLE COMPLETION GAS WELL (SCG)
		REMARKS: Last anchor up from Netherby 1DW1, start of Henry 2 at 10:00 hours on 24/08/2008.
SEISMIC STATION: 01CAS3D, INL 6790, XLN 3484		
ELEVATION SEA FLOOR: -66.10 m MSL **RT:** +20.80 m MSL **RT–SEA FLOOR:** 86.9 m		
BLOCK / LICENCE: VICTORIA, VIC/P 44		
TD: N/A **(Logger Extrap.)**, 2517 m MD **(Driller)** -1655.3 m SS TVD **(Driller)**		
PBTD: N/A – Well Cased and Suspended		
TYPE STRUCTURE: Tilted Block Fault		
TYPE COMPLETION: Lower Completion: 43 joints, 168mm (6 5/8") 24lb/ft 13Cr80 Super Flo Sand Screens / 23 joints, 168mm (6 5/8") 24lb/ft 13Cr80 Tubing. **Upper Completion:** 133 joints, 178mm (7") 29lb/ft 13Cr80 Tubing.		
ZONE(S): Waarre "A"		

HOLE SIZE	CASING SIZE	SHOE DEPTH	TYPE
914 mm (36")	762 mm (30")	130.9 m	X52, 461 kg/m (310 lb/ft)
445 mm (17 ½")	340 mm (13 3/8")	642.2 m	L80, 101 kg/m (68 lb/ft)
311 mm (12 ¼")	244 mm (9 5/8") / 273 mm (10¾")	1936 m	L80, 70 kg/m (47 lb/ft) / L80, 83 kg/m (55.5 lb/ft)
	168 mm (6 5/8") / 178 mm (7")	2508 m	13Cr80, 24lb/ft sand screens / 13Cr80, 24lb/ft tubing / 13Cr80, 29 lb/ft tubing

LOG (WIRELINE)	SUITE / RUN	INTERVAL (m)	COMMENTS
No wireline logs were run in Netherby 1DW1			

LOG (LWD)	SUITE / RUN	INTERVAL (m)	COMMENTS
ARC - MWD	1 / 1	1505 – 1944	311 mm (12¼") hole section. Final Circulating Temperature: 56˚C.
GAMMA RAY – RESISTIVITY – DENSITY – NEUTRON POROSITY - MWD	1 / 2	1944 – 2517	216 mm (8 ½") hole section. Final Circulating Temperature: 80˚C.

SECTION 1 : WELL HISTORY

1.1 INTRODUCTION

Netherby 1DW1 is located in permit VIC/P 44, in the Otway Basin, offshore western Victoria. The Netherby prospect is located immediately north of the Henry Field in the adjacent fault block. The drill location is 17.4km from the Victorian coastline in water depths of 65 metres. The nearest wells are Pecten 1A (2.3 km E) and Henry 1 ST1 (4.7 km SSE). The Netherby 1 (35° Pilot) well was designed to confirm gas in the Netherby structure, evaluate the reservoir properties and provide sufficient depth control to drill and complete a horizontal production well (Netherby 1DW1) over the Waarre A reservoir.

Netherby 1DW1 was drilled as a 'U' shaped horizontal well of 573m length over the Waarre A reservoir. The horizontal section was designed to intersect an area of bright Waarre A full-stack seismic amplitudes. The 'U' shaped design enabled two passes vertically through the reservoir and mitigated against any possible vertical permeability barriers.

The Netherby structure is primarily a single rotated half graben bound by major southerly dipping faults to the north and south with structural dip occurring to the east and west. The TWT and depth structure maps illustrate the structural configuration of the Waarre A prospect. The bounding faults to the north and south separate the Netherby structure from the Henry Field to the south and the Pecten East prospect to the north. Along the northern edge of the prospect northerly dipping faults are interpreted. These northerly faults become more prevalent in the accommodation zone to the east of the Netherby prospect. The extension-related normal faults in the area exhibit significant displacement often in relay-ramp fault arrays. Detailed 3D seismic interpretation has also shown areas of Waarre A reservoir truncation. The areas of truncation are associated with the structural highs, and more specifically at the southern edge of the Netherby prospect.

The Netherby prospect has been identified from strong full stack seismic amplitudes interpreted within the Casino 3D volume (acquired in 2001). The primary target, the Waarre A, exhibits an anomaly that conforms to structural closure and is directly analogous in seismic character and structural style to the nearby discoveries at Casino, Henry and Martha.

The Netherby 1DW1 well will be connected into the proposed VIC/P 44 Stage 2 development pipeline from Casino to Pecten East. Assuming success at Netherby 1 and Pecten East 1, this new pipeline will enable the Henry Field, Netherby and Pecten East to be tied into the existing Casino to Iona pipeline facilities. Further exploration successes on the Pecten High may also be connected though the new pipeline. Netherby 1DW1 was designed to produce gas from the Waarre A Formation in the Netherby Field.

1.2 GENERAL DATA

Well Name:	NETHERBY 1DW1	
Well Classification:	Gas Development	
Interest Holders:	Santos	50%
	Mitsui	25%
	AWE	25%
Operator:	Santos Ltd.	
Location:	Otway Basin / Offshore Victoria	
Surveyed Location:	Latitude: 38° 40' 48.58" South (GDA94) Longitude: 142° 38' 25.74" East Northing: 5 717 438.49 m (MGA54) Easting: 642 694.06 m	
Seismic Location:	01CAS3D, INL 6790, XLN 3484	
Seismic Survey:	Casino 3D, 2001	
Elevations:	Water Depth: 66.10 m MSL Rotary Table: 20.80 m MSL	
Total Depth:	Driller: 2517 m MDRT Logger: N/A	
Status:	Single Completion Gas Well (SCG)	
License:	VIC/P 44, Offshore Victoria	
Date Sidetrack Commenced:	21:00 hours on 2nd August, 2008	
Date Drilling Completed:	01:30 hours on 12th August 2008	
Date Rig Released:	10:00 hours on 24th August 2008 (Last anchor from Netherby 1DW1)	
Total Well Time:	22 days	
Contractor:	Diamond Offshore	
Rig:	Ocean Patriot (Semi-submersible)	

1.3 DRILLING SUMMARY

(a) Drilling Summary (All Depths Driller's RT)

Netherby 1 was drilled in late July 2008 as a 35˚ pilot well. Netherby 1 encountered elevated gas shows in the Waarre A unit. Following wireline logs the well was plugged back to 1421m in preparation for the Netherby 1DW1 production well.

Netherby 1DW1 was sidetracked from the Netherby 1 wellbore from 1505m at 21:00 hours on 2nd August 2008 utilising the semi-submersible mobile offshore drilling unit (MODU) "Ocean Patriot". Cement plugs had been set plugging back the Netherby 1 pilot well bore. A 311mm (12¼") bit and directional bottom hole assembly were made up and run in the hole tagging top of cement at 1421m. Soft cement was reamed through from 1421m to 1455m. The well was time drilled from 1455m to 1505m, at which point Netherby 1DW1 was officially kicked off.

Bit 1, a 311mm (12¼") Reed RSX616 PDC bit, was drilled ahead with the ARC-MWD tools from kickoff point at 1505m to a section TD of 1944m. Deviation was increased in this section of hole to a maximum inclination of 80.9˚. The hole was circulated clean and a wiper trip performed. At this point 115 joints of 244mm (9 5/8") 70 kg/m (47 lb/ft) L80 casing and 35 joints of 273mm (10 ¾") 83 kg/m (55.5 lb/ft) L80 casing were run on 127mm (5") drill pipe. The 244mm (9 5/8") casing was landed with the shoe set at 1936m and cemented as per program. Lead: 12.2m3 (77 bbl) class "G" cement at 1.5sg (12.5ppg). Tail: 6.9m3 (44bbl) class "G" cement at 1.9sg (15.8ppg). The cement was displaced with drill water by the cement unit followed by 1.3sg (11.1ppg) mud using the rig pumps. The plug was bumped with 6.9MPa (1000psi). The Blow Out Preventers were then pressure tested as per program.

Bit 2, a 216mm (8 ½") Reed RSX519M PDC bit, was made up with the ARC-MWD-NEUTRON-DENSITY tools and run in the hole tagging top of cement at 1900m. The cement and shoe track were drilled out to 1944m. The 216mm (8 ½") high angle hole was drilled ahead from 1944m to total depth at 2517m (Driller) through the Waarre A. Total depth was reached at 01:30 hours on 12th August 2008. After reaching total depth the hole was circulated clean and a wiper trip performed into the casing shoe at 1936m. The string was then run in hole to bottom and the mud system conditioned with 325 mesh screens.

A casing scraper run was performed with the casing being scraped over the packer setting depths; the Blow Out Preventers were then jetted clean. The lower completion assembly consisting of 43 joints of 168mm (6 5/8") 24lb/ft 13Cr80 Super Flo Sand Screens and 23 joints of 168mm (6 5/8") 24lb/ft 13Cr80 Tubing was run and landed out with the guide shoe set at 2508m. The well was displaced to brine at this point. The upper completion string was run and consisted of 133 joints of 178mm (7") 29lb/ft 13Cr80 Tubing. The tubing was then displaced to diesel.

The well clean up test was performed at this point resulting in a gas flow rate of 51MMscf/d through a 1" choke. Netherby 1DW1 was then shut in and glycol was pumped into the tubing string. After rigging down completions equipment the Blow Out Preventers were pulled to surface on marine riser, and anchor retrieval operations commenced. Handover from Netherby 1DW1 to Henry 2 occurred at 10:00 hours on 24th August 2008 when the last anchor was retrieved.

(b) Mudlogging Services

Mudlogging services were provided by Baker Inteq Unit 573 (Advantage Logging System) with the following parameters monitored:

1. Total Gas
2. Chromatographic Gas Breakdown (fast chromatograph: C1-C5 in 2 minutes)
3. Hydrogen Sulphide Levels
4. Depth/Rate of Penetration.
5. Pipe Speed/Block Position
6. Top drive RPM
7. Top drive Torque
8. Hook Load/Weight On Bit
9. Standpipe Pressure
10. Casing Shut-in Pressure
11. Mud Pump Rate (3 pumps)
12. Mud Flow Out
13. Mud Pit Levels (8 pits including the trip tank)
14. Mud Weight In and Out
15. Mud Temperature In and Out
16. CO_2 detection

Ditch cuttings were collected at 10m intervals from the kickoff point at 1505m to 1870m, 5m intervals from 1870m to 2280m, 3m intervals from 2280m to TD at 2517m in the 216mm (8 ½") hole section. In addition to microscopic examination of all drilled cuttings, samples were examined under the fluoroscope for hydrocarbon indications. Additional information pertinent to Mudlogging is presented in the Baker Hughes Inteq report, Section 11: MUDLOGGING WELL REPORT. Details of all wellsite samples are found in Section 2.3: CATALOGUE OF WELLSITE SAMPLES.

(c) LWD Data

Logging While Drilling (LWD) was acquired by Anadrill. LWD services consisted of Gamma Ray, Resistivity and Directional in the 311mm (12¼") hole section. Gamma Ray, Resistivity, Density, Neutron Porosity and Directional was recorded in the 216mm (8 ½") hole section. Anadrill's detailed report is attached in Section 3.4: LWD END OF WELL REPORT

TABLE 1: SUMMARY OF LWD

LOG (LWD)	SUITE / RUN	INTERVAL (m)	COMMENTS
ARC - MWD	1 / 1	1505 – 1944	311 mm (12¼") hole section. Final Circulating Temperature: 56˚C.
GAMMA RAY – RESISTIVITY – DENSITY – NEUTRON POROSITY - MWD	1 / 2	1944 – 2517	216 mm (8 ½") hole section. Final Circulating Temperature: 80˚C.

(d) Testing

Netherby 1 was plugged back and sidetracked as Netherby 1DW1. At the completion of drilling Netherby 1DW1 was completed and a flow test was conducted. This resulted in a gas flow rate of 51MMscf/d through a 1" choke.

(e) Coring

No full hole cores or sidewall cores were taken at the Netherby 1DW1 location.

(f) Biostratigraphy

Samples were forwarded at the completion of the well for analysis. Results can be found in Section 15: PRELIMINARY PALYNOLOGY REPORT

(g) Electric Logging

No Electric Logging was conducted at the Netherby 1DW1 location.

TABLE 2: SUMMARY OF WIRELINE OPERATIONS

LOG (Wireline)	SUITE / RUN	INTERVAL (m)	COMMENTS
No wireline logs were run in Netherby 1DW1			

(h) MDT Pressure Data

No MDT pressure survey was conducted at the Netherby 1DW1 location.

(i) Hole Deviation

Netherby 1DW1 was drilled as a high angle production well. An electronic multi-shot (EMS) survey was taken after drilling the 445mm (17½") hole section in Netherby 1 (pilot well). Deviation surveys were taken while drilling the deviated 311mm (12¼") hole section in Netherby 1 and 216mm (8 ½") hole section in Netherby 1DW1 using the MWD/LWD tools. Survey data are presented in Section 14: DEVIATION SUMMARY.

(j) Velocity Surveys

No VSP run was performed at the Netherby 1DW1 location.

(k) Casing & Cementing Summary

The following table summarises casing sizes, depths and cementing details for Netherby 1 (pilot well) and Netherby 1DW1. Casing and Cementing Reports for each casing run are detailed in Section 10: CASING & CEMENTING SUMMARY.

TABLE 3: CASING AND CEMENTING SUMMARY

HOLE SIZE	DEPTH	CASING SIZE	CASING DEPTH	JOINTS	CASING TYPE	CEMENT
914 mm (36”)	130.9 m	762 mm (30”)	130.9 m	3	461 kg/m (310 lb/ft) X52	Mixed and pumped 30.8m3 (194bbl) of class "G" cement at 1.9sg (15.8ppg) and displaced with seawater.
445 mm (17½”)	647.5 m	340 mm (13 3/8”)	642.2 m	43	101 kg/m (68 lb/ft) L80	Lead: 41.3m3 (260bbls) class "G" at 1.5sg (12.5ppg) Tail: 17.1m3 (108bbls) class "G" at 1.9sg (15.8ppg). Displaced with seawater using the rig pumps. Bumped plug with 12.4MPa (1800psi).
311 mm (12¼”)	1944 m	244 mm (9 5/8”)	1936 m	115 / 35	70 kg/m (47 lb/ft) / 83 kg/m (55.5 lb/ft)	Lead: 12.2m3 (77bbls) class "G" at 1.5sg (12.5ppg) Tail: 6.9m3 (44bbls) class "G" at 1.9sg (15.8ppg). Displaced with drill water using the rig pumps followed by 1.3sg (11.1ppg) mud. Bumped plug with 6.9MPa (1000psi).

SECTION 2 : LITHOLOGICAL DESCRIPTIONS

SECTION 2.1: CUTTINGS DESCRIPTIONS

2.1 NETHERBY 1DW1 - LITHOLOGICAL DESCRIPTIONS

(Depths are referenced to Drillers Depth)

Depth From (m)	Depth To (m)	%	Lithology and Shows
NETHERBY 1DW1 was sidetracked from the Netherby 1 wellbore from 1505m at 21:00 hours on 2nd August 2008.			
Directional assembly run into the hole tagging soft cement at 1421m. Soft cement drilled, washed and reamed from 1421m to firm cement at 1455m. Time drill attempting to sidetrack from the Netherby 1 wellbore.			
2nd August 2008.			
1455	1455.5	70 30	Cement Siltstone
1455.5	1456	70 30	Cement Siltstone
1456	1456.5	80 20	Cement Siltstone
1456.5	1457	80 20	Cement Siltstone
1457	1457.5	80 20	Cement Siltstone
1457.5	1458	75 25	Cement Siltstone
1458	1458.5	70 30	Cement Siltstone / Sandstone
1458.5	1459	60 40	Cement Siltstone / Sandstone
1459	1459.5	60 40	Cement Siltstone / Sandstone
1459.5	1460	60 40	Cement Siltstone / Sandstone

1455	1460	60-100 trace- 10	**Directional drill 311mm (12¼") hole attempting to sidetrack the well.** SILTSTONE: medium dark grey to dark grey, occasionally brownish grey, locally very finely arenaceous, trace fine carbonaceous specks, trace forams, minor fine grained glauconite, trace fine grained lithics, firm to predominately moderately hard, blocky to sub blocky. SANDSTONE: clear, translucent, trace with orange Fe stain, very fine to fine grained, minor medium grained, rare loose coarse quartz grains, fair sorting, weak siliceous cement, minor light grey argillaceous matrix, trace nodular pyrite, friable to moderately hard aggregates, poor inferred porosity, no fluorescence. **Note: 100 decreasing to 60% cement in samples.**
1460	1460.5	70 30	Cement Siltstone
1460.5	1461	40 50 10	Cement Siltstone Sandstone: very fine to fine grained.
1461	1461.5	60 30 10	Cement Siltstone Sandstone: very fine to fine grained.
1461.5	1462	60 30 10	Cement Siltstone Sandstone: very fine to fine grained.
1462	1462.5	30 40 30	Cement Siltstone Sandstone: very fine to fine grained.
1462.5	1463	40 40 20	Cement Siltstone Sandstone: very fine to fine grained, trace medium to coarse.
1463	1463.5	50 40 10	Cement Siltstone Sandstone: very fine to fine grained.
1463.5	1465	100	Cement
1465	1469	95 5	Cement Siltstone / trace loose medium quartz grains.
1469	1470	90 10	Cement Siltstone / Sandstone

1470	1475	80 10 10	Cement SILTSTONE: medium dark grey to dark grey, dark greenish grey, very finely arenaceous, rare to minor fine grained glauconite, trace fine carbonaceous specks, trace fine grained lithics, firm to predominately moderately hard, blocky to sub blocky. SANDSTONE: clear, translucent, very fine to fine grained, minor medium to coarse grained, fair sorting, weak siliceous cement in very fine to fine grained aggregates, minor light grey argillaceous matrix, trace very fine glauconite, friable very fine to fine grained aggregates, poor inferred porosity, no fluorescence.
1475	1480	100	Cement
1480	1485	100	Cement
1485	1490	100	Cement
1490	1495	90 10	Cement Siltstone.
1495	1497	75 25	Cement Siltstone: dark grey, minor – common glauconite.
1497	1500	75 25	Cement SILTSTONE: dark grey, dark brownish grey, argillaceous, minor glauconite, soft to dispersive, amorphous, blocky.
1500	1502	70 20 10	Cement Siltstone. Sandstone: very fine to fine grained.
1502	1505	30 40 30	Cement SILTSTONE: medium dark brownish grey, dark grey, very finely arenaceous, argillaceous in part, minor fine grained glauconite, trace very fine lithics, soft, dispersive with argillaceous content easily washed from samples, locally moderately hard, blocky. SANDSTONE: translucent, clear, very fine to fine grained, sub angular to predominately sub rounded, well sorted, common grey silty / argillaceous matrix, minor very fine glauconite, trace fine grained lithics, predominately loose quartz grains, poor inferred porosity, no fluorescence.
			NETHERBY 1DW1 sidetracked from the Netherby 1 wellbore from 1505m at 21:00 hours on 02/08/2008

1505	1510	50 50	SILTSTONE: medium dark brownish grey, dark grey, very finely arenaceous, argillaceous in part, minor fine grained glauconite, trace very fine lithics, soft, dispersive with argillaceous content easily washed from samples, locally moderately hard, blocky. SANDSTONE: translucent, clear, very fine to fine grained, sub angular to predominately sub rounded, well sorted, common grey silty / argillaceous matrix, minor very fine glauconite, trace fine grained lithics, predominately loose quartz grains, poor inferred porosity, no fluorescence
1510	1520	50 50	SILTSTONE: medium brownish grey, dark grey, very finely arenaceous, argillaceous in part, rare fine grained glauconite, trace very fine lithics, trace forams, soft, dispersive with argillaceous content easily washed from samples, locally moderately hard, blocky. SANDSTONE: translucent, clear, very fine to fine grained, trace medium loose quartz grains, sub angular to predominately sub rounded, moderately well sorted, common grey silty / argillaceous matrix, rare very fine glauconite, trace fine grained lithics, friable to loose quartz grains, poor inferred porosity, no fluorescence
1520	1530	70 30	SILTSTONE: medium brownish grey, dark grey, very finely arenaceous, argillaceous in part with clay content washing from samples, rare fine grained glauconite, trace very fine lithics, firm, locally moderately hard, blocky. SANDSTONE: translucent, clear, very fine to fine grained, trace medium – coarse loose quartz grains, sub angular to predominately sub rounded, moderately well sorted, common light grey argillaceous / silty matrix, rare very fine glauconite, trace fine grained lithics, friable to loose quartz grains, poor inferred porosity, no fluorescence
1530	1540	90 10	SILTSTONE: pale to medium grey brown, medium grey, generally argillaceous, minor carbonaceous specks and quartz grains, very soft to dispersive, occasionally firm, amorphous, sub-blocky in part. SANDSTONE: clear to translucent, off white, dominantly fine, occasionally medium to coarse, moderately sorted, sub-round to occasionally sub-angular, moderately calcareous cement, occasional off white argillaceous matrix, minor lithics, friable to moderately hard, loose in part, very poor visual porosity, poor inferred porosity, no fluorescence.

1540	1550	50 50	SILTSTONE: pale to medium grey brown, medium grey, generally argillaceous, minor carbonaceous specks and quartz grains, very soft to dispersive, occasionally firm, amorphous, sub-blocky in part. SANDSTONE: clear to translucent, off white, dominantly fine, rare medium to coarse, moderately sorted, sub-round to occasionally sub-angular, moderately calcareous cement, occasional off white argillaceous matrix, minor glauconite grains and lithics, friable to moderately hard, loose in part, very poor visual porosity, poor inferred porosity, no fluorescence.
1550	1560	30 70	SILTSTONE: pale to medium grey brown, medium grey, generally argillaceous, minor carbonaceous specks and quartz grains, very soft to dispersive, occasionally firm, amorphous, sub-blocky in part. SANDSTONE: clear to translucent, off white, dominantly fine to medium, minor coarse, moderately sorted, sub-round to occasionally sub-angular, moderately calcareous cement, occasional off white argillaceous matrix, locally common glauconite grains, minor lithics, friable to moderately hard, loose in part, very poor visual porosity, poor inferred porosity, no fluorescence.
1560	1570	90 10	SILTSTONE: pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, soft to firm, sub-blocky, amorphous. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.
1570	1580	90 10	SILTSTONE: pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, minor pyrite nodules, soft to firm, sub-blocky, amorphous. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.

1580	1590	90 10	SILTSTONE: pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, minor pyrite nodules, soft to firm, sub-blocky, amorphous. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.
1590	1600	100 trace	SILTSTONE: pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, soft to firm, occasionally hard, sub-blocky, amorphous. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.
1600	1610	100 trace	SILTSTONE: medium to occasionally dark grey brown, minor argillaceous to arenaceous, occasional carbonaceous specks, firm to moderately hard, occasionally soft, sub-blocky. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.
1610	1620	100	SILTSTONE: medium to dark grey brown, arenaceous in part, minor carbonaceous specks, locally micro mica, firm to moderately hard, occasionally hard, blocky to sub-blocky.
1620	1630	100	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous.
1630	1640	100	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous.

1640	1650	80 20	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous. SANDSTONE: clear to translucent, off white, occasionally pale brown, fine to occasionally medium, moderately well sorted, sub-angular to sub-round, weak calcareous cement, occasional off white argillaceous matrix, rare lithics, loose, minor friable, poor to very poor visual and inferred porosity, no fluorescence.
1650	1660	50 50	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous. SANDSTONE: clear to translucent, off white, occasionally pale brown, fine to dominantly medium, occasionally coarse, moderately well sorted, sub-angular to sub-round, weak calcareous cement, occasional off white argillaceous matrix, rare lithics, loose, minor friable, poor to visual and inferred porosity, no fluorescence.
1660	1670	70 30	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, minor glauconite grains, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous. SANDSTONE: clear to translucent, off white, occasionally pale brown, fine to dominantly medium, occasionally coarse, moderately well sorted, sub-angular to sub-round, weak calcareous cement, occasional off white argillaceous matrix, rare lithics, loose, minor friable, poor to visual and inferred porosity, no fluorescence.
1670	1680	90 10	SILTSTONE: medium to predominately dark brown, minor brown grey, argillaceous to minor arenaceous, rare carbonaceous specks and micro mica, minor glauconite grains, occasional inclusions, firm to moderately hard, occasionally soft, sub-blocky to blocky, amorphous. SANDSTONE: clear to translucent, off white, occasionally pale brown, fine to dominantly medium, occasionally coarse, moderately well sorted, sub-angular to sub-round, weak calcareous cement, occasional off white argillaceous matrix, rare lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.
1680	1690	100	SILTSTONE: medium to dark grey, grey brown, rare arenaceous, occasional glauconite grains, minor carbonaceous specks, rare pyrite nodules, soft to firm, occasionally moderately hard, dispersive, blocky to sub-blocky.

1690	1700	100	SILTSTONE: medium to dark brown, grey brown, rare arenaceous, occasional glauconite grains, minor carbonaceous specks, minor calcareous inclusions, soft to firm, occasionally moderately hard, dispersive, blocky to sub-blocky.
1700	1710	100	SILTSTONE: medium to dark brown, grey brown, rare arenaceous, occasional glauconite grains, minor carbonaceous specks, minor calcareous inclusions, soft to firm, occasionally moderately hard, dispersive, blocky to sub-blocky.
1710	1720	100	SILTSTONE: medium to dark brown, grey brown, rare arenaceous, occasional glauconite grains, minor carbonaceous specks, minor glauconite grains and calcareous inclusions, soft to firm, occasionally moderately hard, dispersive, blocky to sub-blocky.
1720	1730	100	SILTSTONE: medium to dark brown, locally arenaceous, occasional glauconite grains, minor carbonaceous specks, minor glauconite grains and calcareous inclusions, soft to firm, occasionally moderately hard, dispersive, blocky to sub-blocky.
1730	1740	100	SILTSTONE: medium grey brown, occasionally pale to medium brown, siliceous in part, minor arenaceous, minor carbonaceous specks, rare glauconite grains, moderately hard to hard, minor very hard, blocky to sub-blocky.
1740	1750	100	SILTSTONE: medium grey brown, occasionally pale to medium brown, siliceous in part, minor arenaceous, minor carbonaceous specks, occasional calcareous inclusions, rare glauconite grains, moderately hard to hard, minor very hard, blocky to sub-blocky.
1750	1760	100	SILTSTONE: medium grey brown, occasionally pale to medium brown, siliceous in part, minor arenaceous, minor carbonaceous specks, occasional calcareous inclusions, rare glauconite grains, soft to dispersive, amorphous, moderately hard, blocky to sub-blocky.
1760	1770	100	SILTSTONE: medium grey brown, occasionally pale to medium brown, siliceous in part, minor arenaceous, minor carbonaceous specks, occasional calcareous inclusions, rare glauconite grains, soft to dispersive, amorphous, moderately hard, blocky to sub-blocky.
1770	1780	100	SILTSTONE: medium brownish grey, grey brown, locally arenaceous, minor fine carbonaceous specks, rare calcareous fragments, rare fine grained glauconite, soft to firm, moderately hard in part, blocky to sub blocky.

1780	1790	100 trace	SILTSTONE: medium brownish grey, grey brown, locally arenaceous, minor fine carbonaceous specks, rare calcareous fragments, rare fine grained glauconite, soft to firm, moderately hard in part, blocky to sub blocky. SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, minor off white argillaceous matrix, trace very fine lithics, friable, poor visual porosity, no fluorescence.
1790	1800	95 5	SILTSTONE: medium brownish grey, grey brown, locally arenaceous, minor fine carbonaceous specks, rare cal fragments, rare fine grained glauconite, soft to firm, moderately hard in part, blocky to sub blocky. SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, minor off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, trace fine grained glauconite, friable, poor visual porosity, no fluorescence.
1800	1810	100 trace	SILTSTONE: medium brownish grey, grey brown, locally arenaceous, minor fine carbonaceous specks, rare fine grained glauconite, trace LIMESTONE fragments, soft to firm, moderately hard in part, blocky to sub blocky. SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, trace loose medium sub rounded quartz grains, sub angular to sub rounded, well sorted, weak calcareous cement, minor off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, trace fine grained glauconite, friable, poor visual porosity, no fluorescence.
1810	1820	100	SILTSTONE: medium dark grey, occasionally medium to dark greenish grey, brownish grey, locally arenaceous, minor fine carbonaceous specks, common fine grained glauconite, trace LIMESTONE fragments, soft to firm, moderately hard in part, blocky to sub blocky.
1820	1830	95 5	SILTSTONE: medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, minor fine carbonaceous specks, abundant fine grained glauconite, trace LIMESTONE fragments, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, common fine grained glauconite, friable, poor visual porosity, no fluorescence.

1830	1840	95 5	SILTSTONE: medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, minor fine carbonaceous specks, abundant fine grained glauconite, trace LIMESTONE fragments, trace forams, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, common fine grained glauconite, friable, poor visual porosity, no fluorescence.
1840	1850	95 5	SILTSTONE: medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, minor fine carbonaceous specks, abundant fine grained glauconite, trace LIMESTONE fragments, trace forams, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, common fine grained glauconite, friable, poor visual porosity, no fluorescence.
1850	1860	95 5	SILTSTONE: medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, minor fine carbonaceous specks, abundant fine grained glauconite, trace LIMESTONE fragments, trace forams, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, common fine grained glauconite, friable, poor visual porosity, no fluorescence.
1860	1870	100	SILTSTONE: medium to dark greenish grey, medium to dark grey, locally arenaceous, minor fine carbonaceous specks, common fine grained glauconite, trace LIMESTONE fragments, trace forams, firm to moderately hard, blocky to sub blocky
1870	1875	100	SILTSTONE: medium dark grey, medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, common fine grained glauconite, firm to moderately hard, blocky to sub blocky

1875	1880	100 trace	SILTSTONE: medium dark grey, medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, common fine grained glauconite, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, clear, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, friable to loose, poor visual porosity, no fluorescence.
1880	1885	95 5	SILTSTONE: medium to dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, clear, trace yellow Fe stain, very fine to fine grained, trace loose sub rounded medium quartz grains, sub angular to predominately sub rounded, moderately well sorted, rare weak calcareous cement, common very light grey argillaceous matrix, common fine grained glauconite, trace very fine lithics, friable to loose, poor visual porosity, no fluorescence.
1885	1890	100	SILTSTONE: medium to dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky.
1890	1895	95 5	SILTSTONE: medium to dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, clear, very fine to fine grained, sub angular to predominately sub rounded, moderately well sorted, rare weak calcareous cement, common very light grey argillaceous matrix, common fine grained glauconite, trace very fine lithics, friable to loose, poor inferred porosity, no fluorescence.
1895	1900	100	SILTSTONE: medium to dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky.

1900	1905	95 5	SILTSTONE: dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, clear, very fine to fine grained, sub angular to predominately sub rounded, moderately well sorted, rare weak calcareous cement, common very light grey argillaceous matrix, common fine grained glauconite, trace very fine lithics, friable to loose, poor inferred porosity, no fluorescence.
1905	1910	95 5	SILTSTONE: dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, clear, very fine to fine grained, trace medium, sub angular to predominately sub rounded, moderately well sorted, trace very light grey argillaceous matrix, common fine grained glauconite, rare nodular pyrite, predominately loose, poor to fair inferred porosity, no fluorescence.
1910	1915	100	SILTSTONE: dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky.
1915	1920	100	SILTSTONE: dark greenish grey, medium dark grey, medium to dark brownish grey, very finely arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm, blocky to sub blocky.
1920	1925	100	SILTSTONE: medium to dark brownish grey, medium to dark greenish grey, argillaceous, locally very finely arenaceous, rare fine carbonaceous specks, minor to common fine grained glauconite, firm, blocky to sub blocky, Note argillaceous content easily washing from samples.
1925	1927	100	SILTSTONE: as above. Spot sample.
1925	1930	100 trace	SILTSTONE: medium to dark brownish grey, medium to dark greenish grey, argillaceous, locally very finely arenaceous, rare fine carbonaceous specks, minor to common fine grained glauconite, firm, blocky to sub blocky, Note argillaceous content easily washing from samples. SANDSTONE.

1930	1932	85 15	SILTSTONE: as above. SANDSTONE: very light, off white, translucent, clear, very fine to fine grained, moderately well sorted, sub rounded, abundant off white argillaceous matrix, minor to common fine grained glauconite, rare carbonaceous specks, trace nodular pyrite, soft to friable aggregates, very poor visual porosity, no fluorescence.
1932	1935	30 70	SILTSTONE: as above. SANDSTONE: off white, clear to translucent, very fine to fine, moderately well sorted, sub-round, weak siliceous cement, common to abundant off white argillaceous matrix, occasional carbonaceous specks and minor fragments, firm to friable, minor loose, common rock flour, very poor visual porosity, poor inferred porosity, no fluorescence.
1935	1937	40 60	SILTSTONE: as above. SANDSTONE: off white, clear to translucent, very fine to fine, moderately well sorted, sub-round, weak siliceous cement, common to abundant off white argillaceous matrix, occasional carbonaceous specks and minor fragments, firm to friable, minor loose, trace fine glauconite grains, common rock flour, very poor visual porosity, poor inferred porosity, no fluorescence.
1937	1940	40 60	SILTSTONE: pale brown, medium brown grey in part, argillaceous to minor arenaceous, occasionally glauconite grains and carbonaceous specks, very soft to dispersive, occasionally firm to moderately hard, amorphous, sub-blocky. SANDSTONE: off white, clear to translucent, very fine to fine, moderately well sorted, sub-round, weak siliceous cement, common to abundant off white argillaceous matrix, occasional carbonaceous specks and minor micro laminations, firm to friable, minor loose, trace fine glauconite grains, common rock flour, very poor visual porosity, poor inferred porosity, no fluorescence.
1940	1944	20 80	SILTSTONE: pale brown, medium brown grey in part, argillaceous to minor arenaceous, occasionally glauconite grains and carbonaceous specks, very soft to dispersive, occasionally firm to moderately hard, amorphous, sub-blocky. SANDSTONE: off white, clear to translucent, very fine to fine, moderately well sorted, sub-round, weak siliceous cement, common off white argillaceous matrix, occasional carbonaceous specks and minor micro laminations, firm to friable, loose, trace fine glauconite grains, occasional rock flour, poor visual and inferred porosity, no fluorescence.

1944	1950	100	SANDSTONE: pale grey, clear to translucent, medium to minor fine, moderately well sorted, sub-angular to sub-round, moderately siliceous cement, occasional off white argillaceous matrix, common to abundant carbonaceous fragments and specks, rare pyrite nodules, minor lithics, generally loose clean grains, occasionally friable, poor to fair visual porosity, fair inferred porosity, no fluorescence.
1950	1955	90 10	SANDSTONE: pale grey, clear to translucent, medium to minor fine to coarse, moderately well sorted, sub-angular to sub-round, moderately siliceous cement, occasional off white argillaceous matrix, common to abundant carbonaceous fragments and specks, rare pyrite nodules, minor lithics, generally loose clean grains, occasionally friable, poor to fair visual porosity, fair inferred porosity, no fluoresce. SILTSTONE: pale grey, arenaceous, occasional carbonaceous specks and minor fragments, locally micro mica, firm to occasionally moderately hard, blocky to sub-blocky.
1955	1960	100 trace	SANDSTONE: pale grey, clear to translucent, medium to minor fine to coarse, moderately well sorted, sub-angular to sub-round, moderately siliceous cement, occasional off white argillaceous matrix, common to abundant carbonaceous fragments and specks, rare pyrite nodules, minor lithics, generally loose clean grains, occasionally friable, poor to fair visual porosity, fair inferred porosity, no fluoresce. SILTSTONE: pale grey, arenaceous, occasional carbonaceous specks and minor fragments, locally micro mica, firm to occasionally moderately hard, blocky to sub-blocky.
1960	1965	100	SANDSTONE: pale grey, clear to translucent, fine to medium, occasionally coarse to very coarse, moderately sorted, sub-angular to sub-round, moderately siliceous cement, occasional off white argillaceous matrix, common to abundant carbonaceous fragments and specks, rare pyrite nodules, minor lithics, generally loose clean grains, occasionally friable, poor to fair visual porosity, fair inferred porosity, no fluorescence.
1965	1970	100 trace	SANDSTONE: off white to pale grey, clear to translucent, medium to coarse, rare fine to very coarse, angular to occasionally sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional to common carbonaceous specks, minor lithics, rare pyrite nodules, generally loose clean grains, minor friable, fair visual & inferred porosity, no fluorescence. SILTSTONE: pale grey, arenaceous, occasional carbonaceous specks and minor fragments, locally micro mica, firm to occasionally moderately hard, blocky to sub-blocky.

1970	1975	100	SANDSTONE: clear to translucent, off white to pale grey, fine to dominantly medium, well sorted, sub-angular to sub-round, weak siliceous cement, minor off white argillaceous matrix, common carbonaceous fragments and specks, minor lithics, generally loose clean grains, rare friable, fair visual & inferred porosity, no fluorescence.
1975	1980	100	SANDSTONE: clear to translucent, minor pale grey, medium to occasionally fine, well sorted, angular to sub-angular, minor sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
1980	1985	100	SANDSTONE: clear to translucent, minor pale grey, medium to occasionally fine, well sorted, angular to sub-angular, minor sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
1985	1990	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, angular to sub-angular, minor sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
1990	1995	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, angular to sub-angular, minor sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
1995	2000	100	SANDSTONE: clear to translucent, minor pale grey, medium to dominantly fine, well sorted, sub-angular to sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
2000	2005	100	SANDSTONE: clear to translucent, minor pale grey, medium to dominantly fine, well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
2005	2010	100	SANDSTONE: clear to translucent, fine, minor medium, well sorted, sub-angular to sub-round, weak siliceous cement, rare pale grey to off white argillaceous matrix, minor carbonaceous specks, loose clean grains, fair to good inferred porosity, no fluorescence.

2010	2015	100	SANDSTONE: clear to translucent, fine, minor medium, well sorted, sub-angular to sub-round, weak siliceous cement, rare pale grey to off white argillaceous matrix, minor carbonaceous specks, rare pyrite nodules, loose clean grains, fair to good inferred porosity, no fluorescence.
2015	2020	100	SANDSTONE: clear to translucent, minor off white to pale grey, fine to medium, rare coarse, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare off white argillaceous matrix, minor carbonaceous specks, generally loose clean grains, fair to good inferred porosity, no fluorescence.
2020	2025	100	SANDSTONE: clear to translucent, minor off white to pale grey, fine to medium, rare coarse, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare off white argillaceous matrix, minor carbonaceous specks, rare pyrite nodules, generally loose clean grains, fair to good inferred porosity, no fluorescence.
2025	2030	100	SANDSTONE: clear to translucent, fine to occasionally medium, well sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey to off white argillaceous matrix, rare carbonaceous specks, generally loose clean grains, fair to good inferred porosity, no fluorescence.
2030	2035	100	SANDSTONE: clear to translucent, fine to occasionally medium, well sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey to off white argillaceous matrix, rare carbonaceous specks occasional lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.
2035	2040	100	SANDSTONE: clear to translucent, fine to occasionally medium, well sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey to off white argillaceous matrix, rare carbonaceous specks occasional lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.
2040	2045	100	SANDSTONE: clear to translucent, off white, fine to medium, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, minor lithics and carbonaceous specks, loose, friable, poor visual porosity, poor to fair inferred porosity, no fluorescence.
2045	2050	100	SANDSTONE: clear to translucent, off white, fine to medium, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, minor lithics and carbonaceous specks, loose, friable, poor visual porosity, poor to fair inferred porosity, no fluorescence.

2050	2055	100	SANDSTONE: clear to translucent, off white, fine to occasionally medium, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, minor lithics and carbonaceous specks, loose, friable, poor visual porosity, poor to fair inferred porosity, no fluorescence.
2055	2060	100	SANDSTONE: clear to translucent, pale grey to off white, fine to medium in part, moderately well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, friable, poor visual porosity, fair inferred porosity, no fluorescence.
2060	2065	100	SANDSTONE: clear to translucent, pale grey to off white, fine to medium in part, moderately well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, friable, poor visual porosity, fair inferred porosity, no fluorescence.
2065	2070	100	SANDSTONE: clear to translucent, pale grey to off white, fine to medium in part, moderately well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, friable, poor visual porosity, fair inferred porosity, no fluorescence.
2070	2075	100	SANDSTONE: clear to translucent, pale grey to off white, fine, occasionally medium in part, well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2075	2080	100	SANDSTONE: clear to translucent, pale grey to off white, fine, occasionally medium to rare very fine, well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2080	2085	100	SANDSTONE: clear to translucent, pale grey to off white, fine, occasionally medium to rare very fine, well sorted, sub-angular to sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, minor carbonaceous specks & lithics, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.

2085	2090	100	SANDSTONE: clear to translucent, minor pale grey, fine to very fine, occasionally medium, well sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics and carbonaceous specks, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2090	2095	100	SANDSTONE: clear to translucent, minor pale grey, very fine to medium, dominantly fine, well sorted, dominantly sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics and carbonaceous specks, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2095	2100	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, dominantly sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics and carbonaceous specks, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2100	2105	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, dominantly sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics and carbonaceous specks, rare pale orange grains, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2105	2110	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, dominantly sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics and carbonaceous specks, rare pale orange grains, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.
2110	2115	100	SANDSTONE: clear to translucent, off white, fine, occasionally medium, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, rare pyrite nodules, generally loose grains, friable to rare moderately hard, poor visual porosity, fair inferred porosity, no fluorescence.
2115	2120	100	SANDSTONE: translucent, clear, light grey, fine to occasionally medium grained, well sorted, sub angular to predominately sub rounded, weak siliceous cement, trace calcareous cement, minor light grey argillaceous matrix, rare fine grained lithics, minor carbonaceous flecks, predominately loose to friable, minor moderately hard aggregates, fair inferred porosity, no fluorescence.

2120	2125	90 10	SANDSTONE: white, light grey, translucent, clear in part, fine to predominately medium grained, sub angular to sub rounded, moderately sorted, abundant white calcareous cement, minor light grey argillaceous matrix, trace fine pyrite nodules, trace orange and light green lithics, minor carbonaceous flecks, friable to occasionally moderately hard aggregates, poor visual porosity, 90% dull orange mineral fluorescence. SILTSTONE: medium to dark brownish grey, dark grey, common carbonaceous flecks, trace micro mica, moderately hard, sub blocky to sub fissile.
2125	2130	100	SANDSTONE: white, light grey, translucent, clear in part, fine to predominately medium grained, trace loose sub rounded coarse quartz grains, sub angular to sub rounded, moderately sorted, abundant white calcareous cement, minor light grey argillaceous matrix, trace red/orange and light green lithics, minor carbonaceous flecks, friable to occasionally moderately hard aggregates, poor visual porosity, 80% dull orange mineral fluorescence.
2130	2135	100	SANDSTONE: white, light grey, translucent, clear, fine to predominately medium grained, trace loose sub rounded coarse quartz grains, sub angular to sub rounded, moderately sorted, common white calcareous cement, minor light grey argillaceous matrix, trace red/orange and light green lithics, minor carbonaceous flecks, friable to moderately hard aggregates, poor visual porosity, 60% dull orange mineral fluorescence.
2135	2140	100	SANDSTONE: white, light grey, translucent, clear, fine to predominately medium grained, sub angular to sub rounded, moderately well sorted, common white calcareous cement, minor light grey / white argillaceous matrix, trace lithics, minor carbonaceous flecks, friable to moderately hard aggregates, loose in part, poor to fair visual porosity, 30% dull orange mineral fluorescence.
2140	2145	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to sub rounded, weak siliceous cement, minor light grey / off white argillaceous matrix, trace fine pyrite nodules, trace lithics, minor carbonaceous flecks, predominately loose quartz grains, friable to moderately hard aggregates in part, fair inferred porosity, trace mineral fluorescence.
2145	2150	100	SANDSTONE: translucent, light grey, clear, fine to predominately medium grained, moderately well sorted, sub angular to predominately sub rounded, rare weak siliceous cement, trace light grey argillaceous matrix, trace lithics, rare carbonaceous flecks, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.

2150	2155	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, rare weak siliceous cement, trace light grey argillaceous matrix, trace lithics, common carbonaceous flecks, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.
2155	2160	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, rare weak siliceous cement, rare to minor light grey argillaceous matrix, trace red lithics, minor carbonaceous flecks, predominately loose clean quartz grains, minor friable aggregates, good inferred porosity, no fluorescence.
2160	2165	100	SANDSTONE: light grey, translucent, clear, fine to predominately medium occasionally coarse, poor to fair sorting, sub angular to predominately sub rounded, rare weak siliceous cement, minor light grey argillaceous matrix, trace red lithics, common carbonaceous flecks, loose to friable aggregates, fair inferred porosity, no fluorescence.
2165	2170	100	SANDSTONE: light grey, translucent, clear, fine to predominately medium occasionally coarse, poor to fair sorting, sub angular to predominately sub rounded, rare weak siliceous cement, minor light grey argillaceous matrix, trace red lithics, common carbonaceous flecks, loose to friable aggregates, fair inferred porosity, no fluorescence.
2170	2175	100	SANDSTONE: light grey, translucent, clear, fine to predominately medium, rare coarse, fair sorting, sub angular to predominately sub rounded, rare weak siliceous cement, minor light grey argillaceous matrix, trace red lithics, minor carbonaceous flecks, loose to friable aggregates, fair inferred porosity, no fluorescence.
2175	2180	100	SANDSTONE: light grey, translucent, clear, fine to predominately medium, rare coarse, poor to fair sorting, sub angular to predominately sub rounded, rare weak siliceous cement, minor to common light grey argillaceous matrix, trace red lithics, minor carbonaceous flecks, loose to friable aggregates, fair inferred porosity, no fluorescence.
2180	2185	100	SANDSTONE: translucent, light grey, clear, fine to predominately medium grained, minor coarse, sub angular to sub rounded, moderately sorted, rare weak siliceous cement, minor to common calcareous cement, minor light grey argillaceous matrix, common carbonaceous flecks, trace light green and red lithics, rare biotite flecks, loose to friable aggregates, minor moderately hard, fair visual & fair to good inferred porosity, 30% dull orange mineral fluorescence.

2185	2190	100	SANDSTONE: light grey, translucent, clear, fine to medium grained, sub angular to sub rounded, well sorted, rare weak siliceous cement, common calcareous cement, minor light grey argillaceous matrix, common carbonaceous fragments, trace nodular pyrite, trace light green and red lithics, rare biotite flecks, loose to friable aggregates, minor moderately hard, fair visual and fair to good inferred porosity, 30% dull orange mineral fluorescence.
2190	2195	95 5	SANDSTONE: light grey, white, translucent, clear, fine to medium grained, sub angular to sub rounded, moderately sorted, common white calcareous cement, minor light grey argillaceous matrix, trace red & light green lithics, common carbonaceous flecks / fragments, friable to occasionally moderately hard aggregates, poor to fair visual porosity, 50% dull orange mineral fluorescence. SILTSTONE: medium to dark brownish grey, dark grey, common carbonaceous flecks, moderately hard, sub blocky to sub fissile.
2195	2199	95 5	SANDSTONE: light grey, white, translucent, clear, fine to medium grained, trace coarse, sub angular to sub rounded, moderately sorted, common white calcareous cement, minor light grey argillaceous matrix, trace red & light green lithics, common carbonaceous fragments, friable to occasionally moderately hard aggregates, poor to fair visual & inferred porosity, 20% dull orange mineral fluorescence. SILTSTONE: medium to dark brownish grey, carbonaceous in part, dark grey, common carbonaceous flecks, trace disseminated pyrite, moderately hard, sub blocky to sub fissile.
2199	2202	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to sub rounded, rare weak siliceous cement, trace light grey argillaceous matrix, trace red & light green lithics, common carbonaceous flecks, trace biotite, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2202	2205	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to sub rounded, rare weak siliceous cement, trace light grey argillaceous matrix, trace red & light green lithics, common carbonaceous flecks, trace biotite, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2205	2210	100	SANDSTONE: clear to dominantly translucent, occasionally pale grey, medium grains, minor coarse, well sorted, angular to occasionally sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional to common carbonaceous specks, minor orange grains, generally loose clean grains, friable to occasionally moderately hard, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2210	2215	100	SANDSTONE: clear to translucent, occasionally pale grey, medium grains, minor coarse, well sorted, angular to occasionally sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional to common carbonaceous specks, minor lithics, generally loose clean grains, friable to occasionally moderately hard, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2215	2220	100	SANDSTONE: clear to translucent, occasionally pale grey, medium grains, minor coarse, well sorted, angular to occasionally sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional to common carbonaceous specks and fragments, minor lithics, generally loose clean grains, friable, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2220	2225	100	SANDSTONE: clear to translucent, occasionally pale grey, medium grains, very well sorted, angular to occasionally sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional to common carbonaceous specks and fragments, minor orange lithics, generally loose clean grains, friable, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2225	2230	100	SANDSTONE: clear to translucent, off white, fine to medium grains, well sorted, sub-angular to sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2230	2235	90 10	SANDSTONE: clear to translucent, off white, fine to medium grains, occasionally very fine, well sorted, sub-angular to sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, minor orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence. SILTSTONE: pale grey, argillaceous, minor carbonaceous specks, dispersive to firm, amorphous, occasionally sub-blocky.

2235	2240	100	SANDSTONE: clear to translucent, off white, fine to medium grains, occasionally very fine, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, minor orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2240	2245	100	SANDSTONE: clear to translucent, off white, very fine to medium grains, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, minor orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2245	2250	90 10	SANDSTONE: clear to translucent, off white, fine to medium grains, occasionally very fine, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, rare orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence. SILTSTONE: pale grey, argillaceous, minor carbonaceous specks, dispersive to minor firm, amorphous, occasionally sub-blocky.
2250	2255	100	SANDSTONE: clear to translucent, off white, fine, very fine to medium in part, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks, rare orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.
2255	2260	100	SANDSTONE: clear to dominantly translucent, off white, medium, occasionally fine, well sorted, angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, occasional orange grains, loose clean grains, minor friable, fair visual porosity, fair to good inferred porosity, no fluorescence.
2260	2265	100	SANDSTONE: clear to dominantly translucent, off white, medium, occasionally fine, well sorted, angular to sub-round, dominantly angular to sub-angular, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, occasional orange grains, loose clean grains, minor friable, fair visual porosity, fair to good inferred porosity, no fluorescence.

2265	2270	100	SANDSTONE: clear to translucent, occasionally pale orange, fine to coarse, occasionally very fine to very coarse, poor sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, loose, good inferred porosity, no fluorescence.
2270	2275	100	SANDSTONE: clear to translucent, occasionally pale orange, fine to medium, occasionally very fine to rare very coarse, poor sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, loose, good inferred porosity, no fluorescence.
2275	2280	100	SANDSTONE: clear to translucent, occasionally pale orange, fine to medium, occasionally very fine, poor sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white argillaceous matrix, minor lithics, occasional carbonaceous specks, loose, good inferred porosity, no fluorescence.
2280	2283	100	SANDSTONE: clear to translucent, minor pale grey, generally medium, minor fine, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, occasional carbonaceous specks and minor fragments, minor orange grains, loose clean grains, fair to good inferred porosity, no fluorescence.
2283	2286	100	SANDSTONE: clear to translucent, minor pale grey, fine to medium, well sorted, sub-angular to dominantly sub-round, weak siliceous cement, occasional off white to pale grey argillaceous matrix, occasional carbonaceous specks and minor fragments, rare orange grains, loose clean grains, fair to good inferred porosity, no fluorescence.
2286	2289	100	SANDSTONE: clear to translucent, fine to dominantly medium, minor coarse to very coarse, moderately well sorted, sub-angular to dominantly sub-round, minor round, weak siliceous cement, minor off white argillaceous matrix, minor carbonaceous specks and fragments, loose, good inferred porosity, no fluorescence.
2289	2292	100	SANDSTONE: clear to translucent, pale orange in part, fine to dominantly medium, minor coarse, moderately well sorted, sub-angular to dominantly sub-round, minor round, weak siliceous cement, minor off white argillaceous matrix, minor carbonaceous specks and fragments, loose, good inferred porosity, no fluorescence.

2292	2295	100	SANDSTONE: clear to translucent, pale orange in part, fine to dominantly medium, trace coarse, moderately well sorted, sub-angular to dominantly sub-round, minor round, weak siliceous cement, minor off white argillaceous matrix, minor carbonaceous specks, loose, good inferred porosity, no fluorescence.
2295	2298	100	SANDSTONE: clear to translucent, pale orange in part, fine to dominantly medium, moderately well sorted, sub-angular to dominantly sub-round, minor round, weak siliceous cement, occasional off white argillaceous matrix, minor carbonaceous specks, loose, good inferred porosity, no fluorescence.
2298	2301	100	SANDSTONE: clear to translucent, pale orange in part, fine to dominantly medium, moderately well sorted, angular to sub-round, weak siliceous cement, rare off white argillaceous matrix, minor carbonaceous specks, loose, good inferred porosity, no fluorescence.
2301	2304	100	SANDSTONE: clear to minor translucent, fine to dominantly medium, moderately well sorted, angular to sub-round, weak siliceous cement, rare off white argillaceous matrix, minor carbonaceous specks, loose, good inferred porosity, no fluorescence.
2304	2307	100	SANDSTONE: clear to minor translucent, dominantly medium, occasional fine grains, moderately well sorted, angular to sub-round, weak siliceous cement, rare off white argillaceous matrix, minor carbonaceous specks, loose, good inferred porosity, no fluorescence.
2307	2316	100	SANDSTONE: clear to translucent, fine to medium, well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, minor off white argillaceous matrix, minor lithics and carbonaceous specks, loose clean grains, fair to good inferred porosity, no fluorescence.
2316	2319	100	SANDSTONE: clear to translucent, fine to medium, well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, minor off white argillaceous matrix, occasional carbonaceous specks, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
2319	2322	100	SANDSTONE: clear to translucent, fine to medium, rare very fine, well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, minor off white argillaceous matrix, occasional carbonaceous specks, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.

2322	2325	100	SANDSTONE: clear to translucent, fine to occasionally very fine, minor medium, moderately well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence.
2325	2328	100	SANDSTONE: clear to translucent, fine to occasionally very fine, minor medium, moderately well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks, minor lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2328	2331	100	SANDSTONE: clear to translucent, pale grey, fine to occasionally very fine, minor medium, moderately well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and rare laminations, minor lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2331	2334	100	SANDSTONE: translucent, clear, light grey, very fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, weak siliceous cement, trace off white argillaceous matrix, rare carbonaceous specks / flecks, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2334	2337	100	SANDSTONE: translucent, clear, light grey, very fine to medium grained, rare coarse to very coarse round quartz grains, moderately sorted, sub angular to predominately sub rounded, weak siliceous cement, trace off white argillaceous matrix, minor carbonaceous fragments, rare light red and green lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2337	2340	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, rare coarse, moderately well sorted, sub angular to predominately sub rounded, rare weak siliceous cement, trace off white argillaceous matrix, common carbonaceous fragments, rare red and light green lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2340	2343	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, rare coarse, moderately well sorted, sub angular to predominately sub rounded, rare weak siliceous cement, trace off white argillaceous matrix, common carbonaceous fragments, rare red and light green lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2343	2346	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, minor coarse, moderately sorted, sub angular to predominately sub rounded, rare weak siliceous cement, minor off white argillaceous matrix, minor carbonaceous fragments, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2346	2349	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, rare coarse, moderately sorted, sub angular to predominately sub rounded, rare weak siliceous cement, minor to common light grey argillaceous matrix, rare carbonaceous fragments, trace lithics, predominately loose clean quartz grains, friable aggregates in part, moderately good inferred porosity, trace dull orange mineral fluorescence.
2349	2352	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, common carbonaceous flecks / fragments, rare lithics, trace nodular pyrite, trace mica flecks, predominately loose clean quartz grains, trace friable aggregates in part, good inferred porosity, no fluorescence.
2352	2355	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, common carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates in part, good inferred porosity, no fluorescence.
2355	2358	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, trace coarse, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, common carbonaceous flecks, rare lithics, trace mica, predominately loose clean quartz grains, trace friable aggregates in part, good inferred porosity, no fluorescence. Note: slight increase of metal in cuttings.
2358	2361	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, common carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.

2361	2364	100	SANDSTONE: translucent, light grey, clear, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, common carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.
2364	2367	100	SANDSTONE: light grey, translucent, clear, fine to medium grained, rare coarse, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, common light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2367	2370	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, common carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.
2370	2373	100	SANDSTONE: light grey, translucent, clear, fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, common light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2373	2376	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, common carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, good inferred porosity, no fluorescence.
2376	2379	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2379	2382	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.

2382	2385	100	SANDSTONE: light grey, translucent, clear, fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, common light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2385	2388	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2388	2391	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, trace friable aggregates, fair to good inferred porosity, no fluorescence.
2391	2394	100	SANDSTONE: translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2394	2397	100	SANDSTONE: translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, moderate to good inferred porosity, no fluorescence.
2397	2400	100	SANDSTONE: translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, rare carbonaceous flecks, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2400	2403	100	SANDSTONE: translucent, clear, light grey, fine to predominately medium grained, trace coarse, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2403	2406	100	SANDSTONE: translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2406	2409	100	SANDSTONE: as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2409	2412	100	SANDSTONE: as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor to common carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2412	2415	100	SANDSTONE: generally as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2415	2418	100	SANDSTONE: generally as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2418	2421	100	SANDSTONE: generally as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2421	2424	100	SANDSTONE: as above, translucent, clear, light grey, fine to predominately medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2424	2427	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2427	2430	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2430	2433	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2433	2436	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2436	2439	100	SANDSTONE: generally as above, translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2439	2442	100	SANDSTONE: generally as above, translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, trace light grey argillaceous matrix, rare carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2442	2445	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, trace carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2445	2448	100	SANDSTONE: translucent, clear, light grey, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, trace carbonaceous flecks, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2448	2451	100	SANDSTONE: light grey, off white, translucent, clear, fine to medium grained, well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor to common light grey argillaceous matrix, rare carbonaceous flecks / fragments, trace lithics, predominately loose clean quartz grains, friable aggregates in part, fair to good inferred porosity, no fluorescence.
2451	2454	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2454	2457	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2457	2460	100	SANDSTONE: generally as above, translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2460	2463	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, trace lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2463	2466	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2466	2469	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, minor carbonaceous fragments, predominately loose clean quartz grains, good inferred porosity, no fluorescence.

2469	2472	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, common carbonaceous fragments, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2472	2475	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, rare light grey argillaceous matrix, common carbonaceous fragments, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2475	2478	100	SANDSTONE: translucent, light grey, clear, very fine to medium grained, moderately sorted, sub angular to predominately sub rounded, trace weak siliceous cement, minor light grey argillaceous matrix, common carbonaceous fragments, rare lithics, predominately loose clean quartz grains, good inferred porosity, no fluorescence.
2478	2481	100	SANDSTONE: clear to dominantly translucent, pale grey to off white, medium to occasionally fine, moderately well sorted, sub-angular to sub-round, occasionally angular, weak siliceous cement, minor off white to pale grey argillaceous matrix, occasional to common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2481	2484	100	SANDSTONE: clear to dominantly translucent, pale grey to off white, medium, minor fine to very fine, moderately well sorted, sub-angular to sub-round, occasionally angular, weak siliceous cement, minor off white to pale grey argillaceous matrix, occasional to common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2484	2487	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine to rare very fine, moderately well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, minor off white to pale grey argillaceous matrix, occasional to common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.

2487	2490	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine, well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, minor off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2490	2493	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine, well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2493	2496	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine to coarse, moderately well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2496	2499	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine to rare coarse, moderately well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.
2499	2502	100	SANDSTONE: clear to translucent, pale grey to off white, medium, minor fine to rare coarse, moderately well sorted, sub-angular to sub-round, occasionally round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence.
2502	2505	100	SANDSTONE: clear to translucent, pale grey to off white, fine too occasionally medium, well sorted, sub-round to round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, rare pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence.

2505	2508	90 10	SANDSTONE: clear to translucent, pale grey, fine to occasionally medium, well sorted, sub-round to round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, occasional pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence. SILTSTONE: pale grey, minor medium to dark grey, argillaceous, rare arenaceous, occasional to common carbonaceous specks and fragments, soft to minor firm, dispersive, amorphous, sub-blocky.
2508	2511	95 5	SANDSTONE: clear to translucent, pale grey, fine to occasionally medium, rare coarse to very coarse, moderately sorted, sub-angular to sub-round, weak siliceous cement, rare off white to pale grey argillaceous matrix, common carbonaceous specks and fragments, occasional pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence. SILTSTONE: pale grey, minor medium to dark grey, argillaceous, rare arenaceous, occasional to common carbonaceous specks and fragments, minor pyrite nodules, soft to minor firm, dispersive, amorphous, sub-blocky. Note: dispersive silts washing out of samples.
2511	2514	95 5	SANDSTONE: clear to translucent, pale grey, fine to occasionally medium, moderately well sorted, sub-angular to sub-round, weak siliceous cement, rare pale grey argillaceous matrix, common carbonaceous specks and fragments, rare pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence. SILTSTONE: pale grey, minor medium grey, argillaceous, rare arenaceous, occasional to common carbonaceous specks and fragments, soft to dispersive, amorphous, rare sub-blocky. Note: dispersive silts washing out of samples.
2514	2517 **Total Depth**	95 5	SANDSTONE: clear to translucent, pale grey, fine to occasionally medium, rare coarse, moderately well sorted, sub-angular to sub-round, weak siliceous cement, rare pale grey argillaceous matrix, common carbonaceous specks and fragments, rare pyrite nodules, rare lithics, rare orange grains, loose clean grains, good inferred porosity, no fluorescence. SILTSTONE: pale grey, minor medium grey, argillaceous, rare arenaceous, occasional carbonaceous specks and fragments, soft to dispersive, amorphous, rare sub-blocky. Note: dispersive silts washing out of samples.

SECTION 2.2 : ROTARY SIDEWALL CORE DESCRIPTIONS

No Sidewall Cores were performed in Netherby 1DW1.

SECTION 2.3 : CATALOGUE OF WELLSITE SAMPLES

Ditch cuttings were collected at 10m intervals from the kickoff point at 1505m to 1870m, 5m intervals from 1870m to 2280m, 3m intervals from 2280m to TD at 2517m in the 216mm (8 ½") hole section.

Due to weather conditions the samples were not able to be dried at the wellsite. Samples were forwarded to the Santos Core Library for processing and distribution.

The Netherby 1DW1 Catalogue of Wellsite Samples also incorporates Netherby 1.

BAKER HUGHES

INTEQ

SAMPLE MANIFEST

Cutting samples were collected at the following intervals for NETHERBY- 1

DEPTH (mMDRT)	SAMPLE INTERVAL
650 m – 1690 m	10 m (104 Samples)
1695m – 1780m	5 m (46 Samples)
1780m-1783m	3 m (1 Samples)
1783m – 1785m	2 m (1 Samples)
1785m – 1870m/TD	5m (18 Samples)

PALYNOLOGY

Washed and Wet samples were collected in Plastic Zip lock bags and packed in Split boxes. Total 4small boxes.

BOX NO.	START DEPTH (mMDRT)	END DEPTH (mMDRT)
1	650 m	970 m
2	970 m	1420 m
3	1420 m	1800 m
4	1800 m	1870 m

Washed samples were collected in Cotton bags and packed in Pacart boxes. Total 14 boxes, missed samples 950m, 960m, 970m returns dump @the shale shaker.

BOX NO.	START DEPTH (mMDRT)	END DEPTH (mMDRT)
1	650m	710m
2	710m	810m
3	810m	910m
4	910m	1040m
5	1040m	1140m
6	1140m	1240m
7	1240m	1340m
8	1340m	1440m
9	1440m	1540m
10	1540m	1640m
11	1640m	1715m
12	1715m	1765m
13	1765m	1815m
14	1815m	1875m/TD

Samples should be sent to :

SET A: 1 x 100g to Santos
SET B: 1 x 100g to Santos

SET C: 1 x 200g to AGSO
SET D: 1 x 200g to VIC DPI

Delivery Instruction emailed for Vic DPI
To be included with the manifest.

Sample Shipping Manifest

Well: **Netherby 1DW1**
Includes: **Cutting Samples from Netherby 1DW1**
Date: **13 August 2008**
From: **BHI Unit / Ocean Patriot**
Location: **Bass Strait**

Geological Samples from Netherby 1DW1

Dispatch To:

Santos Core Library
Lot 44 Ocean Steamer Rd
Port Adelaide, S.A. 5015
Ph: 08 82413431 / 08 82413430
Fax: 08 82413452

Container number : OPC 2091
Boat Name/Number: Nor Captain

SAMPLE TYPE	No. Of Sets	COMPOSITION			PACKING DETAILS & NOTES
		Sample Box No.	Depth Interval (mMDRT)		
Set A,B,C,D: Washed samples in cotton bags Set A & B: Santos Set C: AGSO Set D: VIC DPI	1	1 2 3 4 5 6 7 8 9 10 11 12 13	1450 1550 1650 1750 1850 1940 2065 2199 2250 2301 2349 2397 2439	1550 1650 1750 1850 1940 2065 2199 2250 2301 2349 2397 2439 2517m TD	missed samples 2310m missed sample 2313
Sets E: Palaeontology Washed Set In Plastic zip-lock bags	1	1	1450 1940 2373	1940 2373 2517m TD	
Set: F Samplex trays/with Netherby-1 In side	1	1	1450	2517m TD	wooden box # 2

<u>For Santos Core Library:</u>
Lot 44 Ocean Steamer Rd
Port Adelaide, S.A. 5015
Ph: 08 82413431 / 08 82413430
Fax: 08 82413452

<u>For Victorian DPI:</u>
Attn: Terry Smith – Client Services Officer
Petroleum Information Energy Geoscience Group
Geoscience Victoria Branch Minerals and Petroleum Division
Department of Primary Industries
Level 9 55 Collins St.
Melbourne 3000
GPO Box 4440
Melbourne 3001

<u>For Australian Geological Survey Organisation (AGSO)</u>
Cnr Jerrabomberra Ave and Hindmarsh Drive
Symonston ACT 2609
Attn: Danny Britton
.

SECTION 3: WIRELINE LOGGING REPORTS

No Wireline Logging was performed in Netherby 1DW1.

SECTION 3.1 : SUITE 1 - LOGGING ORDER FORM

No Wireline Logging was performed in Netherby 1DW1.

SECTION 3.2 : SUITE 1 – FIELD ELECTRIC LOGGING REPORT

No Wireline Logging was performed in Netherby 1DW1.

SECTION 3.3 : SUITE 1 – ELECTRIC LOGGING TIME SUMMARY

No Wireline Logging was performed in Netherby 1DW1.

SECTION 3.4: MDT PRESSURE SURVEY RESULTS

No MDT Pressure Survey was performed in Netherby 1DW1.

SECTION 3.5: LWD END OF WELL REPORT (Schlumberger)

The Netherby 1DW1 LWD End of Well Report also incorporates Netherby 1.

Schlumberger

Santos

Netherby-1 & Netherby-1DW1

End of Well Report

	Name	Signature	Date
Schlumberger QC	David de Freitas		
Approval			

Schlumberger Santos

Contents

Schlumberger

Santos

General Information

Client:	Santos	
Well Name:	Netherby-1 & Netherby-1DW1	
Rig:	Ocean Patriot	
Field:	Netherby	
Location:	Bass Strait	
Country:	Australia	
Cell Members:	**Agus Partono** (DD) **Andrew Stroud** (DD) **Chris Skiba** (DDT) **Anagh Kohli** (MWD/LWD) **Uzma Hassan** (MWD/LWD) **Zachary Rudd** (MWD/LWD)	
Town Contacts:	**David de Freitas**	Directional Drilling Coordinator
	Mee Yean Tan	Field Services Manager
	Ryan Mulligan	Drilling Engineer
Company Representatives:	**Chris Roots**	Company Representative
	Nathan Peri	Company Representative
	Peter Devine	Company Representative

Schlumberger Santos

Geomagnetic and Survey Reference Criteria

Geomagnetic Data

Magnetic Model:	BGGM 2007
Magnetic Date:	July 28th 2008
Magnetic Field Strength:	60758.875 nT
Magnetic Declination:	10.776°
Magnetic Dip:	-69.864°

Survey Reference Criteria

Reference G:	1000.07 mG
Reference H:	1215.18HCNT
Reference Dip:	-69.864°
G value Tolerance:	2.50 mG
H value Tolerance:	6.00 HCNT
Dip Tolerance:	0.45°

Survey Corrections Applied

Reference North:	Grid North
Magnetic Declination:	10.776°
Grid Convergence:	-1.02543044°
Total Azimuth Correction:	+11.801°
Vertical Section Azimuth:	118.74°

Survey Reference Location

Location Coordinates

Latitude:	38° 40′ 48.578″ South
Longitude:	142° 38′ 25.745″ East
Easting:	642694.060m
Northing:	5717438.490m
Reference System:	

Schlumberger

Santos Limited

Santos

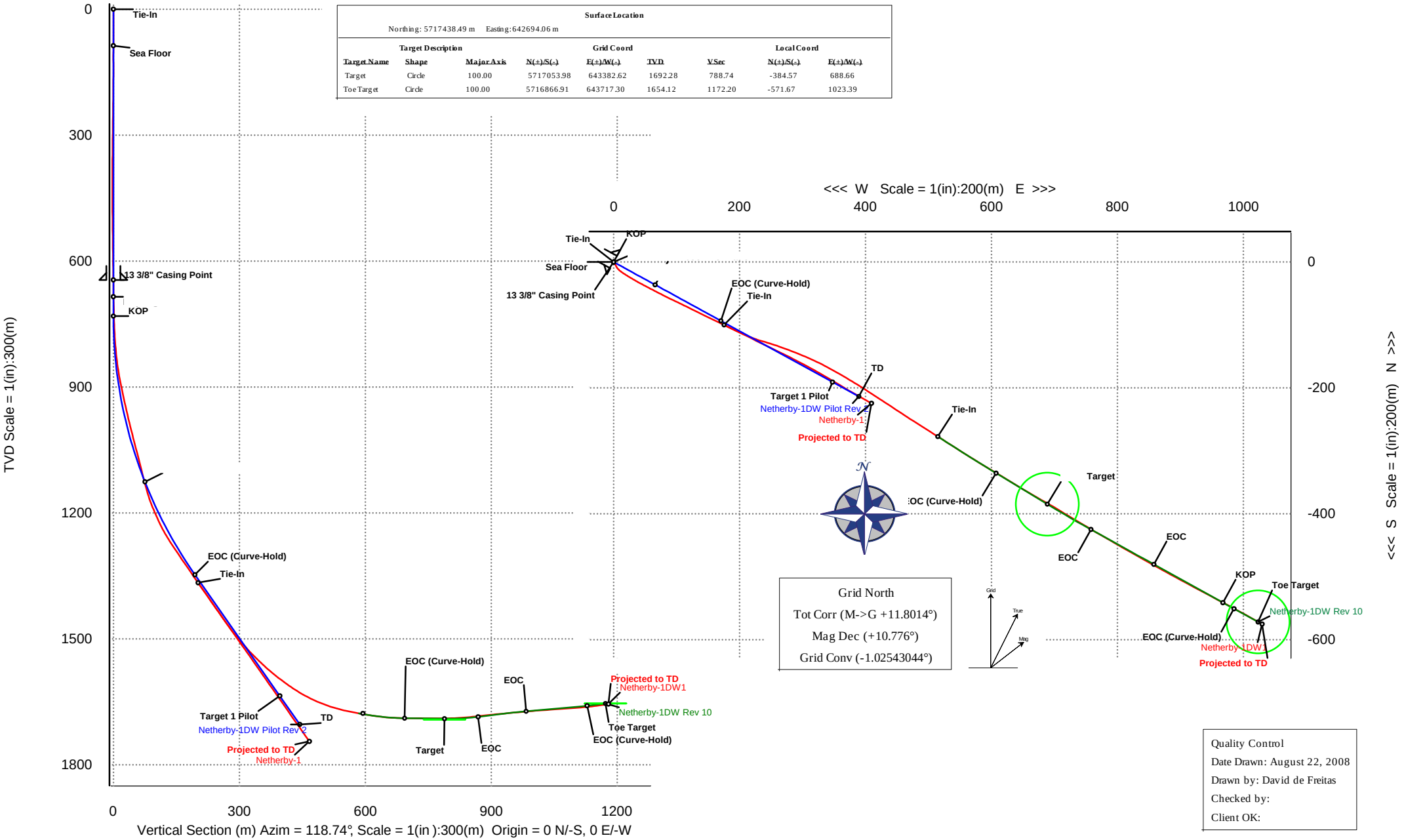
WELL	FIELD	STRUCTURE
Netherby-1DW1	Netherby	Netherby

Magnetic Parameters	Surface Location	Miscellaneous
Model: BGGM 2007 Dip: -69.864° Date: July 28, 2008	GDA94/MGA94 Zone 54	Slot: 1 TVD Ref: RKB (22.00 m above MSL)
Mag Dec: +10.776° FS: 60758.9 nT	Lat: S38 40 48.578 Northing: 5717438.49 m Grid Conv: -1.02543044°	Plan: Netherby-1DW1 Srvy Date: August 03, 2008
	Lon: E142 38 25.745 Easting: 642694.06 m Scale Fact 0.9998507426	

Surface Location

Northing: 5717438.49 m Easting: 642694.06 m

Target Description			Grid Coord				Local Coord	
Target Name	Shape	Major Axis	N(+)/S(-)	E(+)/W(-)	TVD	V.Sec	N(+)/S(-)	E(+)/W(-)
Target	Circle	100.00	5717053.98	643382.62	1692.28	788.74	-384.57	688.66
Toe Target	Circle	100.00	5716866.91	643717.30	1654.12	1172.20	-571.67	1023.39

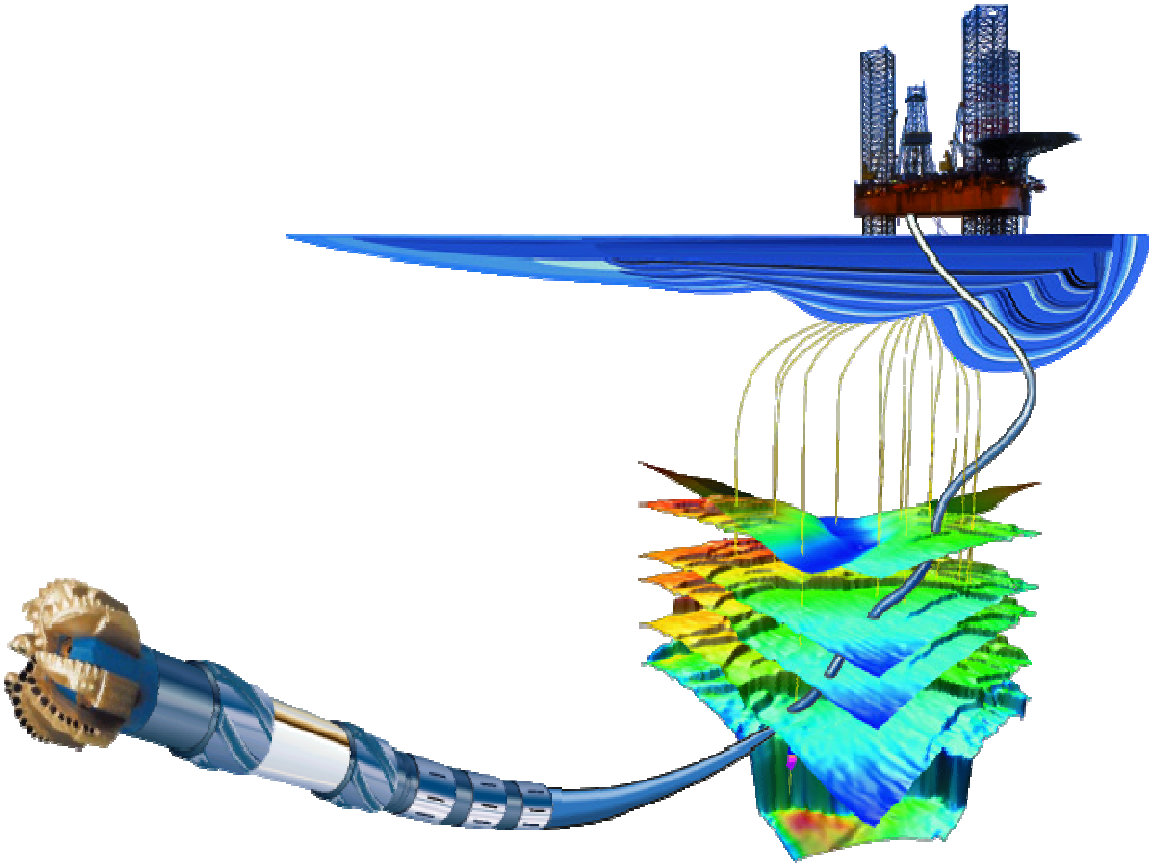


Quality Control
Date Drawn: August 22, 2008
Drawn by: David de Freitas
Checked by:
Client OK:

Schlumberger

Santos

3. Definitive Survey



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Schlumberger

Netherby-1 Survey Report

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1 / July 18, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	52.054° / 476.04 m / 4.940 / 0.273	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	Course Length (m)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	Closure (m)	Closure Azimuth (deg)	DLS (deg/30 m)	Mag / Grav Tool Face (deg)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---
Sea Floor	87.00	0.00	0.00	87.00	87.00	0.00	0.00	0.00	0.00	0.00	0.00	228.85M
	110.29	0.34	228.85	23.29	110.29	-0.02	-0.05	-0.05	0.07	228.85	0.44	70.38M
	139.31	0.48	70.38	29.02	139.31	0.03	-0.06	0.00	0.06	182.21	0.83	302.02M
	168.50	0.56	302.02	29.19	168.50	-0.03	0.06	-0.01	0.06	351.63	0.96	250.43M
	196.58	0.62	250.43	28.08	196.58	-0.27	0.08	-0.27	0.28	286.10	0.55	303.64M
	224.66	0.70	303.64	28.08	224.66	-0.54	0.12	-0.55	0.57	282.37	0.64	294.72M
	252.74	0.64	294.72	28.08	252.73	-0.87	0.28	-0.84	0.88	288.58	0.13	298.73M
	280.80	0.72	298.73	28.06	280.79	-1.20	0.43	-1.14	1.22	290.84	0.10	287.17M
	309.51	0.65	287.17	28.71	309.50	-1.54	0.57	-1.45	1.56	291.36	0.16	292.15M
	337.98	0.69	292.15	28.47	337.97	-1.87	0.68	-1.76	1.89	291.08	0.07	359.25M
	366.89	0.70	359.25	28.91	366.88	-2.13	0.92	-1.93	2.14	295.57	0.80	12.26M
	395.80	0.92	12.26	28.91	395.78	-2.28	1.32	-1.88	2.30	305.19	0.30	19.30M
	424.75	0.87	19.30	28.95	424.73	-2.39	1.76	-1.76	2.49	315.04	0.13	88.31M
	453.68	0.56	88.31	28.93	453.66	-2.30	1.97	-1.54	2.50	321.94	0.88	96.35M
	482.49	0.59	96.35	28.81	482.47	-2.04	1.96	-1.26	2.33	327.35	0.09	96.56M
	511.36	0.65	96.56	28.87	511.34	-1.75	1.92	-0.94	2.14	333.84	0.06	100.87M
	540.27	0.70	100.87	28.91	540.24	-1.43	1.87	-0.61	1.97	341.99	0.07	112.99M
	569.05	0.71	112.99	28.78	569.02	-1.09	1.77	-0.27	1.79	351.27	0.16	128.34M
	597.90	0.69	128.34	28.85	597.87	-0.74	1.59	0.03	1.59	1.05	0.20	123.17M
	617.15	0.84	123.17	19.25	617.12	-0.48	1.44	0.24	1.46	9.38	0.26	124.68M
	634.46	0.94	124.68	17.31	634.43	-0.22	1.29	0.46	1.37	19.65	0.18	130.06M
	660.03	0.52	130.06	25.57	659.99	0.11	1.10	0.72	1.31	33.35	0.50	160.81M
	745.23	2.31	160.81	85.20	745.16	1.76	-0.77	1.58	1.76	116.02	0.66	158.54M
	773.50	4.27	158.54	28.27	773.39	2.99	-2.29	2.16	3.15	136.74	2.08	157.85M
	801.23	5.89	157.85	27.73	801.01	4.89	-4.57	3.07	5.50	146.11	1.75	24.13L
	831.45	7.57	152.25	30.22	831.02	7.75	-7.77	4.58	9.02	149.47	1.79	59.07L
	859.94	9.31	137.33	28.49	859.20	11.50	-11.12	7.02	13.15	147.75	2.93	49.94L
	889.70	11.19	126.87	29.76	888.49	16.64	-14.63	10.96	18.28	143.16	2.66	33.13L
	919.19	12.15	123.94	29.49	917.37	22.57	-18.08	15.82	24.02	138.80	1.15	28.28L
	948.90	12.93	122.08	29.71	946.37	29.00	-21.59	21.23	30.28	135.47	0.89	29.42L
	979.41	13.44	120.85	30.51	976.07	35.95	-25.22	27.17	37.07	132.87	0.57	7.74L
	1007.51	14.16	120.45	28.10	1003.36	42.65	-28.63	32.94	43.64	131.00	0.78	51.45L
	1036.14	14.55	118.54	28.63	1031.10	49.74	-32.13	39.12	50.62	129.40	0.64	56.63L
	1065.20	14.60	118.24	29.06	1059.22	57.06	-35.60	45.55	57.81	128.01	0.09	179.18R
	1096.08	14.09	118.27	30.88	1089.14	64.71	-39.23	52.29	65.37	126.88	0.50	102.48L

	1124.66	14.01	116.68	28.58	1116.87	71.64	-42.43	58.44	72.22	125.98	0.41	2.33R
	1153.50	15.82	116.95	28.84	1144.73	79.06	-45.78	65.07	79.56	125.13	1.88	3.33R
	1182.04	19.92	117.65	28.54	1171.89	87.82	-49.80	72.84	88.24	124.36	4.32	HS
	1210.10	23.56	117.60	28.06	1197.95	98.21	-54.62	82.05	98.57	123.65	3.89	29.34L
	1239.36	25.76	114.79	29.26	1224.54	110.40	-59.99	93.01	110.68	122.82	2.56	6.46R
	1267.39	29.36	115.62	28.03	1249.39	123.34	-65.52	104.74	123.54	122.03	3.87	3.63R
	1294.27	33.74	116.12	26.88	1272.29	137.38	-71.66	117.39	137.53	121.40	4.90	42.02R
	1322.42	33.97	116.49	28.15	1295.67	153.05	-78.61	131.45	153.16	120.88	0.33	40.41L
	1350.13	34.69	115.42	27.71	1318.55	168.66	-85.45	145.50	168.73	120.42	1.02	134.42R
	1379.95	34.59	115.60	29.82	1343.08	185.58	-92.75	160.79	185.63	119.98	0.14	48.54R
	1408.27	35.05	116.50	28.32	1366.33	201.73	-99.85	175.32	201.76	119.66	0.73	130.43L
	1436.16	34.88	116.15	27.89	1389.19	217.70	-106.94	189.65	217.72	119.42	0.28	5.87L
	1465.63	35.16	116.10	29.47	1413.32	234.60	-114.38	204.83	234.60	119.18	0.29	114.37R
	1494.27	35.09	116.37	28.64	1436.75	251.06	-121.67	219.61	251.06	118.99	0.18	16.15L
	1523.47	35.39	116.22	29.20	1460.60	267.89	-129.13	234.72	267.89	118.82	0.32	148.16L
	1552.94	35.14	115.95	29.47	1484.66	284.89	-136.61	250.00	284.89	118.65	0.30	LS
	1581.55	35.10	115.95	28.61	1508.06	301.33	-143.81	264.80	301.33	118.51	0.04	91.48R
	1610.85	35.09	116.84	29.30	1532.03	318.16	-151.30	279.89	318.17	118.39	0.52	97.55R
	1639.13	35.01	117.96	28.28	1555.18	334.40	-158.78	294.31	334.40	118.35	0.69	128.51R
	1668.08	34.91	118.18	28.95	1578.91	350.98	-166.58	308.94	350.99	118.33	0.17	92.15R
	1695.83	34.89	119.39	27.75	1601.67	366.86	-174.23	322.86	366.87	118.35	0.75	89.30R
	1725.28	34.90	120.32	29.45	1625.83	383.70	-182.61	337.47	383.71	118.42	0.54	75.08R
	1753.73	34.99	120.90	28.45	1649.15	399.99	-190.91	351.49	399.99	118.51	0.36	63.16L
	1781.62	35.06	120.66	27.89	1671.98	415.99	-199.10	365.25	415.99	118.60	0.17	58.48L
	1811.05	35.22	120.21	29.43	1696.05	432.92	-207.68	379.85	432.92	118.67	0.31	95.28L
	1838.59	35.18	119.41	27.54	1718.56	448.79	-215.57	393.63	448.79	118.71	0.50	27.54L
Projected to TD	1870.00	35.38	119.23	31.41	1744.20	466.93	-224.46	409.44	466.93	118.73	0.22	---

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1870.00	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1

**Italicized stations are NOT used in position calculations.*

Santos

Schlumberger

Netherby-1 Geodetic Survey

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1 / July 18, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	52.054° / 476.04 m / 4.940 / 0.273	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
Sea Floor	87.00	0.00	0.00	87.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
	110.29	0.34	228.85	110.29	-0.02	-0.05	-0.05	0.44	5717438.44	642694.01	S 38 40 48.579	E 142 38 25.742
	139.31	0.48	70.38	139.31	0.03	-0.06	0.00	0.83	5717438.43	642694.06	S 38 40 48.580	E 142 38 25.745
	168.50	0.56	302.02	168.50	-0.03	0.06	-0.01	0.96	5717438.55	642694.05	S 38 40 48.576	E 142 38 25.744
	196.58	0.62	250.43	196.58	-0.27	0.08	-0.27	0.55	5717438.57	642693.79	S 38 40 48.575	E 142 38 25.733
	224.66	0.70	303.64	224.66	-0.54	0.12	-0.55	0.64	5717438.61	642693.51	S 38 40 48.574	E 142 38 25.722
	252.74	0.64	294.72	252.73	-0.87	0.28	-0.84	0.13	5717438.77	642693.22	S 38 40 48.569	E 142 38 25.710
	280.80	0.72	298.73	280.79	-1.20	0.43	-1.14	0.10	5717438.92	642692.92	S 38 40 48.564	E 142 38 25.697
	309.51	0.65	287.17	309.50	-1.54	0.57	-1.45	0.16	5717439.06	642692.61	S 38 40 48.560	E 142 38 25.684
	337.98	0.69	292.15	337.97	-1.87	0.68	-1.76	0.07	5717439.17	642692.30	S 38 40 48.557	E 142 38 25.671
	366.89	0.70	359.25	366.88	-2.13	0.92	-1.93	0.80	5717439.41	642692.13	S 38 40 48.549	E 142 38 25.664
	395.80	0.92	12.26	395.78	-2.28	1.32	-1.88	0.30	5717439.81	642692.18	S 38 40 48.536	E 142 38 25.666
	424.75	0.87	19.30	424.73	-2.39	1.76	-1.76	0.13	5717440.25	642692.30	S 38 40 48.522	E 142 38 25.671
	453.68	0.56	88.31	453.66	-2.30	1.97	-1.54	0.88	5717440.46	642692.52	S 38 40 48.515	E 142 38 25.679
	482.49	0.59	96.35	482.47	-2.04	1.96	-1.26	0.09	5717440.45	642692.81	S 38 40 48.515	E 142 38 25.691
	511.36	0.65	96.56	511.34	-1.75	1.92	-0.94	0.06	5717440.41	642693.12	S 38 40 48.516	E 142 38 25.704
	540.27	0.70	100.87	540.24	-1.43	1.87	-0.61	0.07	5717440.36	642693.45	S 38 40 48.517	E 142 38 25.718
	569.05	0.71	112.99	569.02	-1.09	1.77	-0.27	0.16	5717440.26	642693.79	S 38 40 48.521	E 142 38 25.732
	597.90	0.69	128.34	597.87	-0.74	1.59	0.03	0.20	5717440.08	642694.09	S 38 40 48.526	E 142 38 25.745
	617.15	0.84	123.17	617.12	-0.48	1.44	0.24	0.26	5717439.93	642694.30	S 38 40 48.531	E 142 38 25.753
	634.46	0.94	124.68	634.43	-0.22	1.29	0.46	0.18	5717439.78	642694.52	S 38 40 48.536	E 142 38 25.763
	660.03	0.52	130.06	659.99	0.11	1.10	0.72	0.50	5717439.59	642694.78	S 38 40 48.542	E 142 38 25.774
	745.23	2.31	160.81	745.16	1.76	-0.77	1.58	0.66	5717437.72	642695.64	S 38 40 48.602	E 142 38 25.811
	773.50	4.27	158.54	773.39	2.99	-2.29	2.16	2.08	5717436.20	642696.21	S 38 40 48.651	E 142 38 25.835
	801.23	5.89	157.85	801.01	4.89	-4.57	3.07	1.75	5717433.92	642697.13	S 38 40 48.724	E 142 38 25.875
	831.45	7.57	152.25	831.02	7.75	-7.77	4.58	1.79	5717430.72	642698.64	S 38 40 48.827	E 142 38 25.940
	859.94	9.31	137.33	859.20	11.50	-11.12	7.02	2.93	5717427.37	642701.08	S 38 40 48.934	E 142 38 26.043
	889.70	11.19	126.87	888.49	16.64	-14.63	10.96	2.66	5717423.87	642705.02	S 38 40 49.046	E 142 38 26.209
	919.19	12.15	123.94	917.37	22.57	-18.08	15.82	1.15	5717420.42	642709.88	S 38 40 49.155	E 142 38 26.413
	948.90	12.93	122.08	946.37	29.00	-21.59	21.23	0.89	5717416.91	642715.29	S 38 40 49.265	E 142 38 26.639
	979.41	13.44	120.85	976.07	35.95	-25.22	27.17	0.57	5717413.28	642721.23	S 38 40 49.380	E 142 38 26.887
	1007.51	14.16	120.45	1003.36	42.65	-28.63	32.94	0.78	5717409.86	642726.99	S 38 40 49.487	E 142 38 27.128
	1036.14	14.55	118.54	1031.10	49.74	-32.13	39.12	0.64	5717406.37	642733.17	S 38 40 49.597	E 142 38 27.386
	1065.20	14.60	118.24	1059.22	57.06	-35.60	45.55	0.09	5717402.89	642739.60	S 38 40 49.706	E 142 38 27.655
	1096.08	14.09	118.27	1089.14	64.71	-39.23	52.29	0.50	5717399.27	642746.34	S 38 40 49.819	E 142 38 27.937
	1124.66	14.01	116.68	1116.87	71.64	-42.43	58.44	0.41	5717396.07	642752.49	S 38 40 49.919	E 142 38 28.194
	1153.50	15.82	116.95	1144.73	79.06	-45.78	65.07	1.88	5717392.72	642759.12	S 38 40 50.024	E 142 38 28.470
	1182.04	19.92	117.65	1171.89	87.82	-49.80	72.84	4.32	5717388.70	642766.89	S 38 40 50.150	E 142 38 28.795
	1210.10	23.56	117.60	1197.95	98.21	-54.62	82.05	3.89	5717383.88	642776.10	S 38 40 50.301	E 142 38 29.179
	1239.36	25.76	114.79	1224.54	110.40	-59.99	93.01	2.56	5717378.51	642787.05	S 38 40 50.469	E 142 38 29.636

	1267.39	29.36	115.62	1249.39	123.34	-65.52	104.74	3.87	5717372.98	642798.78	S 38 40 50.641	E 142 38 30.126
	1294.27	33.74	116.12	1272.29	137.38	-71.66	117.39	4.90	5717366.84	642811.43	S 38 40 50.833	E 142 38 30.654
	1322.42	33.97	116.49	1295.67	153.05	-78.61	131.45	0.33	5717359.89	642825.49	S 38 40 51.050	E 142 38 31.240
	1350.13	34.69	115.42	1318.55	168.66	-85.45	145.50	1.02	5717353.06	642839.54	S 38 40 51.264	E 142 38 31.826
	1379.95	34.59	115.60	1343.08	185.58	-92.75	160.79	0.14	5717345.76	642854.83	S 38 40 51.492	E 142 38 32.465
	1408.27	35.05	116.50	1366.33	201.73	-99.85	175.32	0.73	5717338.66	642869.36	S 38 40 51.713	E 142 38 33.071
	1436.16	34.88	116.15	1389.19	217.70	-106.94	189.65	0.28	5717331.57	642883.68	S 38 40 51.935	E 142 38 33.669
	1465.63	35.16	116.10	1413.32	234.60	-114.38	204.83	0.29	5717324.13	642898.86	S 38 40 52.168	E 142 38 34.302
	1494.27	35.09	116.37	1436.75	251.06	-121.67	219.61	0.18	5717316.84	642913.64	S 38 40 52.395	E 142 38 34.919
	1523.47	35.39	116.22	1460.60	267.89	-129.13	234.72	0.32	5717309.38	642928.74	S 38 40 52.628	E 142 38 35.550
	1552.94	35.14	115.95	1484.66	284.89	-136.61	250.00	0.30	5717301.90	642944.02	S 38 40 52.862	E 142 38 36.187
	1581.55	35.10	115.95	1508.06	301.33	-143.81	264.80	0.04	5717294.70	642958.82	S 38 40 53.087	E 142 38 36.805
	1610.85	35.09	116.84	1532.03	318.16	-151.30	279.89	0.52	5717287.21	642973.91	S 38 40 53.321	E 142 38 37.435
	1639.13	35.01	117.96	1555.18	334.40	-158.78	294.31	0.69	5717279.74	642988.32	S 38 40 53.555	E 142 38 38.037
	1668.08	34.91	118.18	1578.91	350.98	-166.58	308.94	0.17	5717271.93	643002.96	S 38 40 53.800	E 142 38 38.648
	1695.83	34.89	119.39	1601.67	366.86	-174.23	322.86	0.75	5717264.29	643016.87	S 38 40 54.039	E 142 38 39.229
	1725.28	34.90	120.32	1625.83	383.70	-182.61	337.47	0.54	5717255.90	643031.48	S 38 40 54.303	E 142 38 39.840
	1753.73	34.99	120.90	1649.15	399.99	-190.91	351.49	0.36	5717247.61	643045.50	S 38 40 54.564	E 142 38 40.426
	1781.62	35.06	120.66	1671.98	415.99	-199.10	365.25	0.17	5717239.42	643059.25	S 38 40 54.821	E 142 38 41.001
	1811.05	35.22	120.21	1696.05	432.92	-207.68	379.85	0.31	5717230.84	643073.85	S 38 40 55.091	E 142 38 41.612
	1838.59	35.18	119.41	1718.56	448.79	-215.57	393.63	0.50	5717222.95	643087.63	S 38 40 55.339	E 142 38 42.187
Projected to TD	1870.00	35.38	119.23	1744.20	466.93	-224.46	409.44	0.22	5717214.07	643103.44	S 38 40 55.618	E 142 38 42.848

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1870.00	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1

**Italicized stations are NOT used in position calculations.*

Santos

Schlumberger

Netherby-1 EOU Report

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1 / July 18, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	52.054° / 476.04 m / 4.940 / 0.273	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Semi-Axis Major NEV (m)	Semi-Axis Minor NEV (m)	EOU Unc Vertical (m)	Major Axis Azimuth NEV (deg)	Survey Tool Model
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.38	0.00	90.00	SLB_EMS-STD-Depth Only
Sea Floor	87.00	0.00	0.00	87.00	0.00	0.00	0.00	0.00	0.38	0.38	0.98	90.00	SLB_EMS-STD-Depth Only
	110.29	0.34	228.85	110.29	-0.02	-0.05	-0.05	0.44	0.42	0.42	0.98	48.27	SLB_EMS-STD
	139.31	0.48	70.38	139.31	0.03	-0.06	0.00	0.83	0.42	0.42	0.98	69.26	SLB_EMS-STD
	168.50	0.56	302.02	168.50	-0.03	0.06	-0.01	0.96	0.41	0.41	0.98	124.06	SLB_EMS-STD
	196.58	0.62	250.43	196.58	-0.27	0.08	-0.27	0.55	0.47	0.47	0.99	66.40	SLB_EMS-STD
	224.66	0.70	303.64	224.66	-0.54	0.12	-0.55	0.64	0.48	0.48	0.99	35.47	SLB_EMS-STD
	252.74	0.64	294.72	252.73	-0.87	0.28	-0.84	0.13	0.48	0.48	0.99	25.48	SLB_EMS-STD
	280.80	0.72	298.73	280.79	-1.20	0.43	-1.14	0.10	0.51	0.50	1.00	28.69	SLB_EMS-STD
	309.51	0.65	287.17	309.50	-1.54	0.57	-1.45	0.16	0.53	0.53	1.00	19.99	SLB_EMS-STD
	337.98	0.69	292.15	337.97	-1.87	0.68	-1.76	0.07	0.54	0.53	1.00	23.19	SLB_EMS-STD
	366.89	0.70	359.25	366.88	-2.13	0.92	-1.93	0.80	0.51	0.50	1.01	10.17	SLB_EMS-STD
	395.80	0.92	12.26	395.78	-2.28	1.32	-1.88	0.30	0.48	0.47	1.01	19.42	SLB_EMS-STD
	424.75	0.87	19.30	424.73	-2.39	1.76	-1.76	0.13	0.48	0.47	1.02	27.44	SLB_EMS-STD
	453.68	0.56	88.31	453.66	-2.30	1.97	-1.54	0.88	0.47	0.46	1.02	73.73	SLB_EMS-STD
	482.49	0.59	96.35	482.47	-2.04	1.96	-1.26	0.09	0.52	0.52	1.03	70.99	SLB_EMS-STD
	511.36	0.65	96.56	511.34	-1.75	1.92	-0.94	0.06	0.59	0.59	1.04	85.06	SLB_EMS-STD
	540.27	0.70	100.87	540.24	-1.43	1.87	-0.61	0.07	0.68	0.67	1.04	103.92	SLB_EMS-STD
	569.05	0.71	112.99	569.02	-1.09	1.77	-0.27	0.16	0.74	0.74	1.05	121.23	SLB_EMS-STD
	597.90	0.69	128.34	597.87	-0.74	1.59	0.03	0.20	0.78	0.78	1.06	134.10	SLB_EMS-STD
	617.15	0.84	123.17	617.12	-0.48	1.44	0.24	0.26	0.81	0.81	1.06	135.28	SLB_EMS-STD
	634.46	0.94	124.68	634.43	-0.22	1.29	0.46	0.18	0.86	0.85	1.07	138.12	SLB_EMS-STD
	660.03	0.52	130.06	659.99	0.11	1.10	0.72	0.50	0.90	0.90	1.07	141.76	SLB_MWD+SAG
	745.23	2.31	160.81	745.16	1.76	-0.77	1.58	0.66	0.92	0.91	1.10	163.60	SLB_MWD+SAG
	773.50	4.27	158.54	773.39	2.99	-2.29	2.16	2.08	0.93	0.93	1.11	22.33	SLB_MWD+SAG
	801.23	5.89	157.85	801.01	4.89	-4.57	3.07	1.75	0.96	0.95	1.12	57.55	SLB_MWD+SAG
	831.45	7.57	152.25	831.02	7.75	-7.77	4.58	1.79	1.02	0.98	1.13	59.11	SLB_MWD+SAG
	859.94	9.31	137.33	859.20	11.50	-11.12	7.02	2.93	1.08	1.00	1.13	52.71	SLB_MWD+SAG
	889.70	11.19	126.87	888.49	16.64	-14.63	10.96	2.66	1.16	1.03	1.14	47.00	SLB_MWD+SAG
	919.19	12.15	123.94	917.37	22.57	-18.08	15.82	1.15	1.28	1.06	1.15	43.33	SLB_MWD+SAG
	948.90	12.93	122.08	946.37	29.00	-21.59	21.23	0.89	1.43	1.11	1.17	40.41	SLB_MWD+SAG
	979.41	13.44	120.85	976.07	35.95	-25.22	27.17	0.57	1.61	1.17	1.18	38.22	SLB_MWD+SAG
	1007.51	14.16	120.45	1003.36	42.65	-28.63	32.94	0.78	1.79	1.23	1.19	36.81	SLB_MWD+SAG
	1036.14	14.55	118.54	1031.10	49.74	-32.13	39.12	0.64	1.97	1.29	1.21	35.25	SLB_MWD+SAG
	1065.20	14.60	118.24	1059.22	57.06	-35.60	45.55	0.09	2.16	1.34	1.22	34.21	SLB_MWD+SAG
	1096.08	14.09	118.27	1089.14	64.71	-39.23	52.29	0.50	2.31	1.34	1.23	33.58	SLB_MWD+SAG
	1124.66	14.01	116.68	1116.87	71.64	-42.43	58.44	0.41	2.44	1.32	1.24	32.76	SLB_MWD+SAG
	1153.50	15.82	116.95	1144.73	79.06	-45.78	65.07	1.88	2.63	1.35	1.26	32.19	SLB_MWD+SAG
	1182.04	19.92	117.65	1171.89	87.82	-49.80	72.84	4.32	2.87	1.42	1.28	31.72	SLB_MWD+SAG
	1210.10	23.56	117.60	1197.95	98.21	-54.62	82.05	3.89	3.16	1.50	1.30	31.14	SLB_MWD+SAG
	1239.36	25.76	114.79	1224.54	110.40	-59.99	93.01	2.56	3.51	1.59	1.33	30.01	SLB_MWD+SAG
	1267.39	29.36	115.62	1249.39	123.34	-65.52	104.74	3.87	3.88	1.65	1.36	29.47	SLB_MWD+SAG
	1294.27	33.74	116.12	1272.29	137.38	-71.66	117.39	4.90	4.29	1.72	1.40	28.99	SLB_MWD+SAG
	1322.42	33.97	116.49	1295.67	153.05	-78.61	131.45	0.33	4.74	1.80	1.42	28.61	SLB_MWD+SAG

	1350.13	34.69	115.42	1318.55	168.66	-85.45	145.50	1.02	5.19	1.86	1.45	28.10	SLB_MWD+SAG
	1379.95	34.59	115.60	1343.08	185.58	-92.75	160.79	0.14	5.65	1.89	1.47	27.80	SLB_MWD+SAG
	1408.27	35.05	116.50	1366.33	201.73	-99.85	175.32	0.73	6.08	1.91	1.49	27.66	SLB_MWD+SAG
	1436.16	34.88	116.15	1389.19	217.70	-106.94	189.65	0.28	6.52	1.95	1.51	27.45	SLB_MWD+SAG
	1465.63	35.16	116.10	1413.32	234.60	-114.38	204.83	0.29	7.00	1.99	1.54	27.26	SLB_MWD+SAG
	1494.27	35.09	116.37	1436.75	251.06	-121.67	219.61	0.18	7.47	2.04	1.57	27.13	SLB_MWD+SAG
	1523.47	35.39	116.22	1460.60	267.89	-129.13	234.72	0.32	7.96	2.08	1.60	26.98	SLB_MWD+SAG
	1552.94	35.14	115.95	1484.66	284.89	-136.61	250.00	0.30	8.45	2.13	1.63	26.83	SLB_MWD+SAG
	1581.55	35.10	115.95	1508.06	301.33	-143.81	264.80	0.04	8.89	2.12	1.64	26.73	SLB_MWD+SAG
	1610.85	35.09	116.84	1532.03	318.16	-151.30	279.89	0.52	9.35	2.13	1.66	26.71	SLB_MWD+SAG
	1639.13	35.01	117.96	1555.18	334.40	-158.78	294.31	0.69	9.81	2.17	1.69	26.76	SLB_MWD+SAG
	1668.08	34.91	118.18	1578.91	350.98	-166.58	308.94	0.17	10.28	2.20	1.72	26.77	SLB_MWD+SAG
	1695.83	34.89	119.39	1601.67	366.86	-174.23	322.86	0.75	10.73	2.23	1.74	26.87	SLB_MWD+SAG
	1725.28	34.90	120.32	1625.83	383.70	-182.61	337.47	0.54	11.22	2.29	1.78	26.99	SLB_MWD+SAG
	1753.73	34.99	120.90	1649.15	399.99	-190.91	351.49	0.36	11.69	2.35	1.82	27.11	SLB_MWD+SAG
	1781.62	35.06	120.66	1671.98	415.99	-199.10	365.25	0.17	12.16	2.40	1.86	27.19	SLB_MWD+SAG
	1811.05	35.22	120.21	1696.05	432.92	-207.68	379.85	0.31	12.66	2.46	1.89	27.24	SLB_MWD+SAG
	1838.59	35.18	119.41	1718.56	448.79	-215.57	393.63	0.50	13.12	2.50	1.92	27.25	SLB_MWD+SAG
Projected to TD	1870.00	35.38	119.23	1744.20	466.93	-224.46	409.44	0.22	13.65	2.57	1.96	27.27	SLB_MWD+SAG

Survey Type: Definitive Survey
NOTES: Only depth error sources are used from surface to mud-line.
Structure Uncertainty: 0.00 m Included
Slot Uncertainty: 0.00 m Included
Hole Diameter: 30.00 in Included
Global Error Sources Used: YES
Along-Hole Depth Uncertainty: At survey stations

Survey Error Model: SLB ISCWSA version 24 * 3-D 95.00% Confidence 2.7955 sigma**
Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1870.00	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1

**Italicized stations are NOT used in position calculations.*

Santos

Schlumberger

Netherby-1DW1 Survey Report

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1DW1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1DW1 / August 3, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	130.946° / 1190.59 m / 5.882 / 0.705	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	Course Length (m)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	Closure (m)	Closure Azimuth (deg)	DLS (deg/30 m)	Mag / Grav Tool Face (deg)
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---
Sea Floor	87.00	0.00	0.00	87.00	87.00	0.00	0.00	0.00	0.00	0.00	0.00	228.85M
	110.29	0.34	228.85	23.29	110.29	-0.02	-0.05	-0.05	0.07	228.85	0.44	70.38M
	139.31	0.48	70.38	29.02	139.31	0.03	-0.06	0.00	0.06	182.21	0.83	302.02M
	168.50	0.56	302.02	29.19	168.50	-0.03	0.06	-0.01	0.06	351.63	0.96	250.43M
	196.58	0.62	250.43	28.08	196.58	-0.27	0.08	-0.27	0.28	286.10	0.55	303.64M
	224.66	0.70	303.64	28.08	224.66	-0.54	0.12	-0.55	0.57	282.37	0.64	294.72M
	252.74	0.64	294.72	28.08	252.73	-0.87	0.28	-0.84	0.88	288.58	0.13	298.73M
	280.80	0.72	298.73	28.06	280.79	-1.20	0.43	-1.14	1.22	290.84	0.10	287.17M
	309.51	0.65	287.17	28.71	309.50	-1.54	0.57	-1.45	1.56	291.36	0.16	292.15M
	337.98	0.69	292.15	28.47	337.97	-1.87	0.68	-1.76	1.89	291.08	0.07	359.25M
	366.89	0.70	359.25	28.91	366.88	-2.13	0.92	-1.93	2.14	295.57	0.80	12.26M
	395.80	0.92	12.26	28.91	395.78	-2.28	1.32	-1.88	2.30	305.19	0.30	19.30M
	424.75	0.87	19.30	28.95	424.73	-2.39	1.76	-1.76	2.49	315.04	0.13	88.31M
	453.68	0.56	88.31	28.93	453.66	-2.30	1.97	-1.54	2.50	321.94	0.88	96.35M
	482.49	0.59	96.35	28.81	482.47	-2.04	1.96	-1.26	2.33	327.35	0.09	96.56M
	511.36	0.65	96.56	28.87	511.34	-1.75	1.92	-0.94	2.14	333.84	0.06	100.87M
	540.27	0.70	100.87	28.91	540.24	-1.43	1.87	-0.61	1.97	341.99	0.07	112.99M
	569.05	0.71	112.99	28.78	569.02	-1.09	1.77	-0.27	1.79	351.27	0.16	128.34M
	597.90	0.69	128.34	28.85	597.87	-0.74	1.59	0.03	1.59	1.05	0.20	123.17M
	617.15	0.84	123.17	19.25	617.12	-0.48	1.44	0.24	1.46	9.38	0.26	124.68M
	634.46	0.94	124.68	17.31	634.43	-0.22	1.29	0.46	1.37	19.65	0.18	130.06M
	660.03	0.52	130.06	25.57	659.99	0.11	1.10	0.72	1.31	33.35	0.50	160.81M
	745.23	2.31	160.81	85.20	745.16	1.76	-0.77	1.58	1.76	116.02	0.66	158.54M
	773.50	4.27	158.54	28.27	773.39	2.99	-2.29	2.16	3.15	136.74	2.08	157.85M
	801.23	5.89	157.85	27.73	801.01	4.89	-4.57	3.07	5.50	146.11	1.75	24.13L
	831.45	7.57	152.25	30.22	831.02	7.75	-7.77	4.58	9.02	149.47	1.79	59.07L
	859.94	9.31	137.33	28.49	859.20	11.50	-11.12	7.02	13.15	147.75	2.93	49.94L
	889.70	11.19	126.87	29.76	888.49	16.64	-14.63	10.96	18.28	143.16	2.66	33.13L
	919.19	12.15	123.94	29.49	917.37	22.57	-18.08	15.82	24.02	138.80	1.15	28.28L
	948.90	12.93	122.08	29.71	946.37	29.00	-21.59	21.23	30.28	135.47	0.89	29.42L
	979.41	13.44	120.85	30.51	976.07	35.95	-25.22	27.17	37.07	132.87	0.57	7.74L
	1007.51	14.16	120.45	28.10	1003.36	42.65	-28.63	32.94	43.64	131.00	0.78	51.45L
	1036.14	14.55	118.54	28.63	1031.10	49.74	-32.13	39.12	50.62	129.40	0.64	56.63L
	1065.20	14.60	118.24	29.06	1059.22	57.06	-35.60	45.55	57.81	128.01	0.09	179.18R
	1096.08	14.09	118.27	30.88	1089.14	64.71	-39.23	52.29	65.37	126.88	0.50	102.48L

	1124.66	14.01	116.68	28.58	1116.87	71.64	-42.43	58.44	72.22	125.98	0.41	2.33R
	1153.50	15.82	116.95	28.84	1144.73	79.06	-45.78	65.07	79.56	125.13	1.88	3.33R
	1182.04	19.92	117.65	28.54	1171.89	87.82	-49.80	72.84	88.24	124.36	4.32	HS
	1210.10	23.56	117.60	28.06	1197.95	98.21	-54.62	82.05	98.57	123.65	3.89	29.34L
	1239.36	25.76	114.79	29.26	1224.54	110.40	-59.99	93.01	110.68	122.82	2.56	6.46R
	1267.39	29.36	115.62	28.03	1249.39	123.34	-65.52	104.74	123.54	122.03	3.87	3.63R
	1294.27	33.74	116.12	26.88	1272.29	137.38	-71.66	117.39	137.53	121.40	4.90	42.02R
	1322.42	33.97	116.49	28.15	1295.67	153.05	-78.61	131.45	153.16	120.88	0.33	40.41L
	1350.13	34.69	115.42	27.71	1318.55	168.66	-85.45	145.50	168.73	120.42	1.02	134.42R
	1379.95	34.59	115.60	29.82	1343.08	185.58	-92.75	160.79	185.63	119.98	0.14	48.54R
Tie-In	1408.27	35.05	116.50	28.32	1366.33	201.73	-99.85	175.32	201.76	119.66	0.73	164.00R
	1429.41	34.97	116.54	21.14	1383.65	213.85	-105.26	186.17	213.87	119.48	0.12	87.09L
	1487.90	35.17	112.27	58.49	1431.53	247.35	-119.14	216.76	247.35	118.79	1.26	79.26L
	1505.00	35.50	109.55	17.10	1445.48	257.14	-122.67	226.00	257.14	118.49	2.82	83.75L
	1517.15	35.81	105.68	12.15	1455.35	264.09	-124.81	232.75	264.10	118.20	5.62	27.18R
	1543.44	37.54	107.13	26.29	1476.43	279.43	-129.25	247.81	279.49	117.54	2.21	33.92R
	1569.82	39.74	109.42	26.38	1497.04	295.62	-134.42	263.44	295.75	117.03	2.98	26.14R
	1600.60	42.06	111.11	30.78	1520.30	315.55	-141.40	282.34	315.77	116.60	2.51	25.40R
	1629.46	44.65	112.85	28.86	1541.29	335.23	-148.82	300.71	335.52	116.33	2.96	27.87R
	1657.18	47.47	114.86	27.72	1560.52	355.11	-156.90	318.96	355.46	116.19	3.43	42.46R
	1686.89	50.14	117.99	29.71	1580.09	377.44	-166.86	338.97	377.81	116.21	3.59	33.04R
	1715.23	52.55	119.95	28.34	1597.79	399.57	-177.58	358.32	399.91	116.36	3.02	16.99R
	1744.26	55.92	121.19	29.03	1614.76	423.11	-189.57	378.60	423.41	116.60	3.63	21.60R
	1773.52	59.64	122.89	29.26	1630.36	447.82	-202.70	399.57	448.05	116.90	4.09	1.62R
	1804.17	64.78	123.05	30.65	1644.64	474.85	-217.45	422.31	475.01	117.24	5.03	3.06R
	1832.79	69.15	123.30	28.62	1655.84	501.10	-231.86	444.35	501.21	117.56	4.59	2.73L
	1860.88	73.78	123.07	28.09	1664.76	527.65	-246.44	466.64	527.71	117.84	4.95	9.53L
	1889.08	77.80	122.38	28.20	1671.68	554.91	-261.21	489.63	554.95	118.08	4.34	3.45R
	1919.55	79.76	122.50	30.47	1677.61	584.74	-277.24	514.85	584.75	118.30	1.93	1.40R
To MD	1946.54	80.97	122.53	26.99	1682.13	611.29	-291.54	537.29	611.29	118.49	1.35	3.46L
	1973.95	83.60	122.37	27.41	1685.81	638.39	-306.12	560.21	638.39	118.65	2.88	17.63L
	2011.18	87.85	121.02	37.23	1688.58	675.46	-325.62	591.79	675.46	118.82	3.59	5.64L
	2031.41	89.37	120.87	20.23	1689.08	695.67	-336.02	609.14	695.67	118.88	2.27	61.74R
	2060.00	89.80	121.67	28.59	1689.28	724.23	-350.86	633.57	724.23	118.98	0.95	104.77L
	2089.29	89.46	120.38	29.29	1689.47	753.49	-365.95	658.67	753.50	119.06	1.37	88.80L
	2112.91	89.48	119.43	23.62	1689.69	777.11	-377.73	679.14	777.12	119.08	1.21	26.67R
	2148.38	93.04	121.22	35.47	1688.91	812.55	-395.63	709.75	812.57	119.14	3.37	20.69L
	2177.62	94.65	120.61	29.24	1686.95	841.70	-410.62	734.78	841.73	119.20	1.77	5.94R
	2204.99	96.37	120.79	27.37	1684.32	868.93	-424.52	758.20	868.96	119.24	1.90	95.56L
	2234.16	96.29	119.97	29.17	1681.11	897.90	-439.19	783.21	897.95	119.28	0.84	167.51L
	2262.23	94.85	119.65	28.07	1678.38	925.84	-453.07	807.45	925.88	119.30	1.58	3.35R
	2291.13	95.36	119.68	28.90	1675.81	954.62	-467.32	832.46	954.67	119.31	0.53	135.10L
	2321.31	95.04	119.36	30.18	1673.07	984.67	-482.13	858.62	984.72	119.32	0.45	151.37L
	2350.31	93.87	118.72	29.00	1670.82	1013.58	-496.16	883.90	1013.63	119.31	1.38	60.51L
	2378.82	94.18	118.17	28.51	1668.82	1042.02	-509.71	908.90	1042.07	119.28	0.66	96.35L
	2407.67	94.16	117.99	28.85	1666.72	1070.79	-523.25	934.29	1070.84	119.25	0.19	70.50L
	2436.52	94.22	117.82	28.85	1664.61	1099.56	-536.72	959.72	1099.60	119.22	0.19	19.51R
	2465.68	95.68	118.34	29.16	1662.10	1128.61	-550.39	985.35	1128.65	119.19	1.59	18.38R
	2494.27	98.42	119.26	28.59	1658.59	1156.98	-564.06	1010.21	1157.02	119.18	3.03	161.74R
	2517.00	98.30	119.30	22.73	1655.28	1179.47	-575.06	1029.82	1179.50	119.18	0.17	---

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**
Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1408.27	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1
1408.27	2517.00	Act-Stns	SLB_MWD+SAG	Netherby-1DW1 -> Netherby-1DW1

**Italicized stations are NOT used in position calculations.*

Santos

Schlumberger

Netherby-1DW1 Geodetic Survey

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1DW1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1DW1 / August 3, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	130.946° / 1190.59 m / 5.882 / 0.705	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
Sea Floor	87.00	0.00	0.00	87.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
	110.29	0.34	228.85	110.29	-0.02	-0.05	-0.05	0.44	5717438.44	642694.01	S 38 40 48.579	E 142 38 25.742
	139.31	0.48	70.38	139.31	0.03	-0.06	0.00	0.83	5717438.43	642694.06	S 38 40 48.580	E 142 38 25.745
	168.50	0.56	302.02	168.50	-0.03	0.06	-0.01	0.96	5717438.55	642694.05	S 38 40 48.576	E 142 38 25.744
	196.58	0.62	250.43	196.58	-0.27	0.08	-0.27	0.55	5717438.57	642693.79	S 38 40 48.575	E 142 38 25.733
	224.66	0.70	303.64	224.66	-0.54	0.12	-0.55	0.64	5717438.61	642693.51	S 38 40 48.574	E 142 38 25.722
	252.74	0.64	294.72	252.73	-0.87	0.28	-0.84	0.13	5717438.77	642693.22	S 38 40 48.569	E 142 38 25.710
	280.80	0.72	298.73	280.79	-1.20	0.43	-1.14	0.10	5717438.92	642692.92	S 38 40 48.564	E 142 38 25.697
	309.51	0.65	287.17	309.50	-1.54	0.57	-1.45	0.16	5717439.06	642692.61	S 38 40 48.560	E 142 38 25.684
	337.98	0.69	292.15	337.97	-1.87	0.68	-1.76	0.07	5717439.17	642692.30	S 38 40 48.557	E 142 38 25.671
	366.89	0.70	359.25	366.88	-2.13	0.92	-1.93	0.80	5717439.41	642692.13	S 38 40 48.549	E 142 38 25.664
	395.80	0.92	12.26	395.78	-2.28	1.32	-1.88	0.30	5717439.81	642692.18	S 38 40 48.536	E 142 38 25.666
	424.75	0.87	19.30	424.73	-2.39	1.76	-1.76	0.13	5717440.25	642692.30	S 38 40 48.522	E 142 38 25.671
	453.68	0.56	88.31	453.66	-2.30	1.97	-1.54	0.88	5717440.46	642692.52	S 38 40 48.515	E 142 38 25.679
	482.49	0.59	96.35	482.47	-2.04	1.96	-1.26	0.09	5717440.45	642692.81	S 38 40 48.515	E 142 38 25.691
	511.36	0.65	96.56	511.34	-1.75	1.92	-0.94	0.06	5717440.41	642693.12	S 38 40 48.516	E 142 38 25.704
	540.27	0.70	100.87	540.24	-1.43	1.87	-0.61	0.07	5717440.36	642693.45	S 38 40 48.517	E 142 38 25.718
	569.05	0.71	112.99	569.02	-1.09	1.77	-0.27	0.16	5717440.26	642693.79	S 38 40 48.521	E 142 38 25.732
	597.90	0.69	128.34	597.87	-0.74	1.59	0.03	0.20	5717440.08	642694.09	S 38 40 48.526	E 142 38 25.745
	617.15	0.84	123.17	617.12	-0.48	1.44	0.24	0.26	5717439.93	642694.30	S 38 40 48.531	E 142 38 25.753
	634.46	0.94	124.68	634.43	-0.22	1.29	0.46	0.18	5717439.78	642694.52	S 38 40 48.536	E 142 38 25.763
	660.03	0.52	130.06	659.99	0.11	1.10	0.72	0.50	5717439.59	642694.78	S 38 40 48.542	E 142 38 25.774
	745.23	2.31	160.81	745.16	1.76	-0.77	1.58	0.66	5717437.72	642695.64	S 38 40 48.602	E 142 38 25.811
	773.50	4.27	158.54	773.39	2.99	-2.29	2.16	2.08	5717436.20	642696.21	S 38 40 48.651	E 142 38 25.835
	801.23	5.89	157.85	801.01	4.89	-4.57	3.07	1.75	5717433.92	642697.13	S 38 40 48.724	E 142 38 25.875
	831.45	7.57	152.25	831.02	7.75	-7.77	4.58	1.79	5717430.72	642698.64	S 38 40 48.827	E 142 38 25.940
	859.94	9.31	137.33	859.20	11.50	-11.12	7.02	2.93	5717427.37	642701.08	S 38 40 48.934	E 142 38 26.043
	889.70	11.19	126.87	888.49	16.64	-14.63	10.96	2.66	5717423.87	642705.02	S 38 40 49.046	E 142 38 26.209
	919.19	12.15	123.94	917.37	22.57	-18.08	15.82	1.15	5717420.42	642709.88	S 38 40 49.155	E 142 38 26.413
	948.90	12.93	122.08	946.37	29.00	-21.59	21.23	0.89	5717416.91	642715.29	S 38 40 49.265	E 142 38 26.639
	979.41	13.44	120.85	976.07	35.95	-25.22	27.17	0.57	5717413.28	642721.23	S 38 40 49.380	E 142 38 26.887
	1007.51	14.16	120.45	1003.36	42.65	-28.63	32.94	0.78	5717409.86	642726.99	S 38 40 49.487	E 142 38 27.128
	1036.14	14.55	118.54	1031.10	49.74	-32.13	39.12	0.64	5717406.37	642733.17	S 38 40 49.597	E 142 38 27.386
	1065.20	14.60	118.24	1059.22	57.06	-35.60	45.55	0.09	5717402.89	642739.60	S 38 40 49.706	E 142 38 27.655
	1096.08	14.09	118.27	1089.14	64.71	-39.23	52.29	0.50	5717399.27	642746.34	S 38 40 49.819	E 142 38 27.937
	1124.66	14.01	116.68	1116.87	71.64	-42.43	58.44	0.41	5717396.07	642752.49	S 38 40 49.919	E 142 38 28.194
	1153.50	15.82	116.95	1144.73	79.06	-45.78	65.07	1.88	5717392.72	642759.12	S 38 40 50.024	E 142 38 28.470
	1182.04	19.92	117.65	1171.89	87.82	-49.80	72.84	4.32	5717388.70	642766.89	S 38 40 50.150	E 142 38 28.795
	1210.10	23.56	117.60	1197.95	98.21	-54.62	82.05	3.89	5717383.88	642776.10	S 38 40 50.301	E 142 38 29.179
	1239.36	25.76	114.79	1224.54	110.40	-59.99	93.01	2.56	5717378.51	642787.05	S 38 40 50.469	E 142 38 29.636

	1267.39	29.36	115.62	1249.39	123.34	-65.52	104.74	3.87	5717372.98	642798.78	S 38 40 50.641	E 142 38 30.126
	1294.27	33.74	116.12	1272.29	137.38	-71.66	117.39	4.90	5717366.84	642811.43	S 38 40 50.833	E 142 38 30.654
	1322.42	33.97	116.49	1295.67	153.05	-78.61	131.45	0.33	5717359.89	642825.49	S 38 40 51.050	E 142 38 31.240
	1350.13	34.69	115.42	1318.55	168.66	-85.45	145.50	1.02	5717353.06	642839.54	S 38 40 51.264	E 142 38 31.826
	1379.95	34.59	115.60	1343.08	185.58	-92.75	160.79	0.14	5717345.76	642854.83	S 38 40 51.492	E 142 38 32.465
Tie-In	1408.27	35.05	116.50	1366.33	201.73	-99.85	175.32	0.73	5717338.66	642869.36	S 38 40 51.713	E 142 38 33.071
	1429.41	34.97	116.54	1383.65	213.85	-105.26	186.17	0.12	5717333.24	642880.21	S 38 40 51.883	E 142 38 33.524
	1487.90	35.17	112.27	1431.53	247.35	-119.14	216.76	1.26	5717319.37	642910.79	S 38 40 52.315	E 142 38 34.799
	1505.00	35.50	109.55	1445.48	257.14	-122.67	226.00	2.82	5717315.84	642920.03	S 38 40 52.424	E 142 38 35.184
	1517.15	35.81	105.68	1455.35	264.09	-124.81	232.75	5.62	5717313.70	642926.77	S 38 40 52.489	E 142 38 35.465
	1543.44	37.54	107.13	1476.43	279.43	-129.25	247.81	2.21	5717309.26	642941.83	S 38 40 52.625	E 142 38 36.091
	1569.82	39.74	109.42	1497.04	295.62	-134.42	263.44	2.98	5717304.09	642957.46	S 38 40 52.783	E 142 38 36.742
	1600.60	42.06	111.11	1520.30	315.55	-141.40	282.34	2.51	5717297.11	642976.36	S 38 40 52.999	E 142 38 37.529
	1629.46	44.65	112.85	1541.29	335.23	-148.82	300.71	2.96	5717289.69	642994.73	S 38 40 53.229	E 142 38 38.294
	1657.18	47.47	114.86	1560.52	355.11	-156.90	318.96	3.43	5717281.61	643012.97	S 38 40 53.480	E 142 38 39.055
	1686.89	50.14	117.99	1580.09	377.44	-166.86	338.97	3.59	5717271.66	643032.98	S 38 40 53.791	E 142 38 39.890
	1715.23	52.55	119.95	1597.79	399.57	-177.58	358.32	3.02	5717260.93	643052.33	S 38 40 54.128	E 142 38 40.699
	1744.26	55.92	121.19	1614.76	423.11	-189.57	378.60	3.63	5717248.95	643072.60	S 38 40 54.504	E 142 38 41.546
	1773.52	59.64	122.89	1630.36	447.82	-202.70	399.57	4.09	5717235.82	643093.57	S 38 40 54.918	E 142 38 42.424
	1804.17	64.78	123.05	1644.64	474.85	-217.45	422.31	5.03	5717221.07	643116.31	S 38 40 55.383	E 142 38 43.375
	1832.79	69.15	123.30	1655.84	501.10	-231.86	444.35	4.59	5717206.66	643138.35	S 38 40 55.837	E 142 38 44.298
	1860.88	73.78	123.07	1664.76	527.65	-246.44	466.64	4.95	5717192.09	643160.63	S 38 40 56.297	E 142 38 45.230
	1889.08	77.80	122.38	1671.68	554.91	-261.21	489.63	4.34	5717177.32	643183.62	S 38 40 56.763	E 142 38 46.192
	1919.55	79.76	122.50	1677.61	584.74	-277.24	514.85	1.93	5717161.29	643208.84	S 38 40 57.268	E 142 38 47.248
To MD	1946.54	80.97	122.53	1682.13	611.29	-291.54	537.29	1.35	5717146.99	643231.27	S 38 40 57.718	E 142 38 48.187
	1973.95	83.60	122.37	1685.81	638.39	-306.12	560.21	2.88	5717132.42	643254.19	S 38 40 58.178	E 142 38 49.145
	2011.18	87.85	121.02	1688.58	675.46	-325.62	591.79	3.59	5717112.92	643285.76	S 38 40 58.791	E 142 38 50.466
	2031.41	89.37	120.87	1689.08	695.67	-336.02	609.14	2.27	5717102.52	643303.11	S 38 40 59.119	E 142 38 51.192
	2060.00	89.80	121.67	1689.28	724.23	-350.86	633.57	0.95	5717087.69	643327.54	S 38 40 59.585	E 142 38 52.214
	2089.29	89.46	120.38	1689.47	753.49	-365.95	658.67	1.37	5717072.59	643352.63	S 38 41 0.060	E 142 38 53.263
	2112.91	89.48	119.43	1689.69	777.11	-377.73	679.14	1.21	5717060.82	643373.10	S 38 41 0.430	E 142 38 54.119
	2148.38	93.04	121.22	1688.91	812.55	-395.63	709.75	3.37	5717042.92	643403.70	S 38 41 0.993	E 142 38 55.398
	2177.62	94.65	120.61	1686.95	841.70	-410.62	734.78	1.77	5717027.94	643428.73	S 38 41 1.464	E 142 38 56.445
	2204.99	96.37	120.79	1684.32	868.93	-424.52	758.20	1.90	5717014.03	643452.15	S 38 41 1.901	E 142 38 57.424
	2234.16	96.29	119.97	1681.11	897.90	-439.19	783.21	0.84	5716999.37	643477.15	S 38 41 2.362	E 142 38 58.469
	2262.23	94.85	119.65	1678.38	925.84	-453.07	807.45	1.58	5716985.48	643501.39	S 38 41 2.798	E 142 38 59.483
	2291.13	95.36	119.68	1675.81	954.62	-467.32	832.46	0.53	5716971.24	643526.40	S 38 41 3.246	E 142 39 0.528
	2321.31	95.04	119.36	1673.07	984.67	-482.13	858.62	0.45	5716956.43	643552.55	S 38 41 3.711	E 142 39 1.621
	2350.31	93.87	118.72	1670.82	1013.58	-496.16	883.90	1.38	5716942.40	643577.82	S 38 41 4.151	E 142 39 2.677
	2378.82	94.18	118.17	1668.82	1042.02	-509.71	908.90	0.66	5716928.86	643602.83	S 38 41 4.576	E 142 39 3.721
	2407.67	94.16	117.99	1666.72	1070.79	-523.25	934.29	0.19	5716915.31	643628.21	S 38 41 5.000	E 142 39 4.782
	2436.52	94.22	117.82	1664.61	1099.56	-536.72	959.72	0.19	5716901.85	643653.63	S 38 41 5.422	E 142 39 5.844
	2465.68	95.68	118.34	1662.10	1128.61	-550.39	985.35	1.59	5716888.18	643679.26	S 38 41 5.850	E 142 39 6.914
	2494.27	98.42	119.26	1658.59	1156.98	-564.06	1010.21	3.03	5716874.51	643704.12	S 38 41 6.279	E 142 39 7.953
Projected to TD	2517.00	98.30	119.30	1655.28	1179.47	-575.06	1029.82	0.17	5716863.52	643723.73	S 38 41 6.624	E 142 39 8.773

Survey Type: Definitive Survey

Survey Error Model: **SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1408.27	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1
1408.27	2517.00	Act-Stns	SLB_MWD+SAG	Netherby-1DW1 -> Netherby-1DW1

**Italicized stations are NOT used in position calculations.*

Santos

Schlumberger

Netherby-1DW1 EOU Report

Report Date:	August 22, 2008	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	Santos Limited	**Vertical Section Azimuth:**	118.740°
Field:	Netherby	**Vertical Section Origin:**	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	**TVD Reference Datum:**	RKB
Well:	Netherby-1DW	**TVD Reference Elevation:**	22.0 m relative to MSL
Borehole:	Netherby-1DW1	**Sea Bed / Ground Level Elevation:**	-65.000 m relative to MSL
UWI/API#:		**Magnetic Declination:**	10.776°
Survey Name / Date:	Netherby-1DW1 / August 3, 2008	**Total Field Strength:**	60758.875 nT
Tort / AHD / DDI / ERD ratio:	130.946° / 1190.59 m / 5.882 / 0.705	**Magnetic Dip:**	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	**Declination Date:**	July 28, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	**Magnetic Declination Model:**	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	**North Reference:**	Grid North
Grid Convergence Angle:	-1.02543044°	**Total Corr Mag North -> Grid North:**	+11.801°
Grid Scale Factor:	0.99985074	**Local Coordinates Referenced To:**	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Semi-Axis Major NEV (m)	Semi-Axis Minor NEV (m)	EOU Unc Vertical (m)	Major Axis Azimuth NEV (deg)	Survey Tool Model
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.38	0.00	90.00	SLB_EMS-STD-Depth Only
Sea Floor	87.00	0.00	0.00	87.00	0.00	0.00	0.00	0.00	0.38	0.38	0.98	90.00	SLB_EMS-STD-Depth Only
	110.29	0.34	228.85	110.29	-0.02	-0.05	-0.05	0.44	0.42	0.42	0.98	48.27	SLB_EMS-STD
	139.31	0.48	70.38	139.31	0.03	-0.06	0.00	0.83	0.42	0.42	0.98	69.26	SLB_EMS-STD
	168.50	0.56	302.02	168.50	-0.03	0.06	-0.01	0.96	0.41	0.41	0.98	124.06	SLB_EMS-STD
	196.58	0.62	250.43	196.58	-0.27	0.08	-0.27	0.55	0.47	0.47	0.99	66.40	SLB_EMS-STD
	224.66	0.70	303.64	224.66	-0.54	0.12	-0.55	0.64	0.48	0.48	0.99	35.47	SLB_EMS-STD
	252.74	0.64	294.72	252.73	-0.87	0.28	-0.84	0.13	0.48	0.48	0.99	25.48	SLB_EMS-STD
	280.80	0.72	298.73	280.79	-1.20	0.43	-1.14	0.10	0.51	0.50	1.00	28.69	SLB_EMS-STD
	309.51	0.65	287.17	309.50	-1.54	0.57	-1.45	0.16	0.53	0.53	1.00	19.99	SLB_EMS-STD
	337.98	0.69	292.15	337.97	-1.87	0.68	-1.76	0.07	0.54	0.53	1.00	23.19	SLB_EMS-STD
	366.89	0.70	359.25	366.88	-2.13	0.92	-1.93	0.80	0.51	0.50	1.01	10.17	SLB_EMS-STD
	395.80	0.92	12.26	395.78	-2.28	1.32	-1.88	0.30	0.48	0.47	1.01	19.42	SLB_EMS-STD
	424.75	0.87	19.30	424.73	-2.39	1.76	-1.76	0.13	0.48	0.47	1.02	27.44	SLB_EMS-STD
	453.68	0.56	88.31	453.66	-2.30	1.97	-1.54	0.88	0.47	0.46	1.02	73.73	SLB_EMS-STD
	482.49	0.59	96.35	482.47	-2.04	1.96	-1.26	0.09	0.52	0.52	1.03	70.99	SLB_EMS-STD
	511.36	0.65	96.56	511.34	-1.75	1.92	-0.94	0.06	0.59	0.59	1.04	85.06	SLB_EMS-STD
	540.27	0.70	100.87	540.24	-1.43	1.87	-0.61	0.07	0.68	0.67	1.04	103.92	SLB_EMS-STD
	569.05	0.71	112.99	569.02	-1.09	1.77	-0.27	0.16	0.74	0.74	1.05	121.23	SLB_EMS-STD
	597.90	0.69	128.34	597.87	-0.74	1.59	0.03	0.20	0.78	0.78	1.06	134.10	SLB_EMS-STD
	617.15	0.84	123.17	617.12	-0.48	1.44	0.24	0.26	0.81	0.81	1.06	135.28	SLB_EMS-STD
	634.46	0.94	124.68	634.43	-0.22	1.29	0.46	0.18	0.86	0.85	1.07	138.12	SLB_EMS-STD
	660.03	0.52	130.06	659.99	0.11	1.10	0.72	0.50	0.90	0.90	1.07	141.76	SLB_MWD+SAG
	745.23	2.31	160.81	745.16	1.76	-0.77	1.58	0.66	0.92	0.91	1.10	163.60	SLB_MWD+SAG
	773.50	4.27	158.54	773.39	2.99	-2.29	2.16	2.08	0.93	0.93	1.11	22.33	SLB_MWD+SAG
	801.23	5.89	157.85	801.01	4.89	-4.57	3.07	1.75	0.96	0.95	1.12	57.55	SLB_MWD+SAG
	831.45	7.57	152.25	831.02	7.75	-7.77	4.58	1.79	1.02	0.98	1.13	59.11	SLB_MWD+SAG
	859.94	9.31	137.33	859.20	11.50	-11.12	7.02	2.93	1.08	1.00	1.13	52.71	SLB_MWD+SAG
	889.70	11.19	126.87	888.49	16.64	-14.63	10.96	2.66	1.16	1.03	1.14	47.00	SLB_MWD+SAG
	919.19	12.15	123.94	917.37	22.57	-18.08	15.82	1.15	1.28	1.06	1.15	43.33	SLB_MWD+SAG
	948.90	12.93	122.08	946.37	29.00	-21.59	21.23	0.89	1.43	1.11	1.17	40.41	SLB_MWD+SAG
	979.41	13.44	120.85	976.07	35.95	-25.22	27.17	0.57	1.61	1.17	1.18	38.22	SLB_MWD+SAG
	1007.51	14.16	120.45	1003.36	42.65	-28.63	32.94	0.78	1.79	1.23	1.19	36.81	SLB_MWD+SAG
	1036.14	14.55	118.54	1031.10	49.74	-32.13	39.12	0.64	1.97	1.29	1.21	35.25	SLB_MWD+SAG
	1065.20	14.60	118.24	1059.22	57.06	-35.60	45.55	0.09	2.16	1.34	1.22	34.21	SLB_MWD+SAG
	1096.08	14.09	118.27	1089.14	64.71	-39.23	52.29	0.50	2.31	1.34	1.23	33.58	SLB_MWD+SAG
	1124.66	14.01	116.68	1116.87	71.64	-42.43	58.44	0.41	2.44	1.32	1.24	32.76	SLB_MWD+SAG
	1153.50	15.82	116.95	1144.73	79.06	-45.78	65.07	1.88	2.63	1.35	1.26	32.19	SLB_MWD+SAG
	1182.04	19.92	117.65	1171.89	87.82	-49.80	72.84	4.32	2.87	1.42	1.28	31.72	SLB_MWD+SAG
	1210.10	23.56	117.60	1197.95	98.21	-54.62	82.05	3.89	3.16	1.50	1.30	31.14	SLB_MWD+SAG
	1239.36	25.76	114.79	1224.54	110.40	-59.99	93.01	2.56	3.51	1.59	1.33	30.01	SLB_MWD+SAG
	1267.39	29.36	115.62	1249.39	123.34	-65.52	104.74	3.87	3.88	1.65	1.36	29.47	SLB_MWD+SAG
	1294.27	33.74	116.12	1272.29	137.38	-71.66	117.39	4.90	4.29	1.72	1.40	28.99	SLB_MWD+SAG
	1322.42	33.97	116.49	1295.67	153.05	-78.61	131.45	0.33	4.74	1.80	1.42	28.61	SLB_MWD+SAG

	1350.13	34.69	115.42	1318.55	168.66	-85.45	145.50	1.02	5.19	1.86	1.45	28.10	SLB_MWD+SAG
	1379.95	34.59	115.60	1343.08	185.58	-92.75	160.79	0.14	5.65	1.89	1.47	27.80	SLB_MWD+SAG
Tie-In	1408.27	35.05	116.50	1366.33	201.73	-99.85	175.32	0.73	6.08	1.91	1.49	27.66	SLB_MWD+SAG
	1429.41	34.97	116.54	1383.65	213.85	-105.26	186.17	0.12	6.41	1.93	1.51	27.54	SLB_MWD+SAG
	1487.90	35.17	112.27	1431.53	247.35	-119.14	216.76	1.26	7.32	1.97	1.55	26.62	SLB_MWD+SAG
	1505.00	35.50	109.55	1445.48	257.14	-122.67	226.00	2.82	7.60	2.01	1.57	26.15	SLB_MWD+SAG
	1517.15	35.81	105.68	1455.35	264.09	-124.81	232.75	5.62	7.79	2.07	1.60	25.62	SLB_MWD+SAG
	1543.44	37.54	107.13	1476.43	279.43	-129.25	247.81	2.21	8.26	2.09	1.64	25.11	SLB_MWD+SAG
	1569.82	39.74	109.42	1497.04	295.62	-134.42	263.44	2.98	8.76	2.13	1.68	24.78	SLB_MWD+SAG
	1600.60	42.06	111.11	1520.30	315.55	-141.40	282.34	2.51	9.39	2.20	1.73	24.48	SLB_MWD+SAG
	1629.46	44.65	112.85	1541.29	335.23	-148.82	300.71	2.96	10.01	2.26	1.79	24.34	SLB_MWD+SAG
	1657.18	47.47	114.86	1560.52	355.11	-156.90	318.96	3.43	10.65	2.32	1.86	24.35	SLB_MWD+SAG
	1686.89	50.14	117.99	1580.09	377.44	-166.86	338.97	3.59	11.36	2.39	1.94	24.57	SLB_MWD+SAG
	1715.23	52.55	119.95	1597.79	399.57	-177.58	358.32	3.02	12.07	2.46	2.02	24.85	SLB_MWD+SAG
	1744.26	55.92	121.19	1614.76	423.11	-189.57	378.60	3.63	12.83	2.52	2.12	25.17	SLB_MWD+SAG
	1773.52	59.64	122.89	1630.36	447.82	-202.70	399.57	4.09	13.64	2.58	2.22	25.59	SLB_MWD+SAG
	1804.17	64.78	123.05	1644.64	474.85	-217.45	422.31	5.03	14.53	2.62	2.32	25.98	SLB_MWD+SAG
	1832.79	69.15	123.30	1655.84	501.10	-231.86	444.35	4.59	15.41	2.66	2.42	26.34	SLB_MWD+SAG
	1860.88	73.78	123.07	1664.76	527.65	-246.44	466.64	4.95	16.31	2.69	2.52	26.65	SLB_MWD+SAG
	1889.08	77.80	122.38	1671.68	554.91	-261.21	489.63	4.34	17.23	2.71	2.62	26.89	SLB_MWD+SAG
	1919.55	79.76	122.50	1677.61	584.74	-277.24	514.85	1.93	18.24	2.74	2.74	27.16	SLB_MWD+SAG
To MD	1946.54	80.97	122.53	1682.13	611.29	-291.54	537.29	1.35	19.15	2.76	2.85	27.36	SLB_MWD+SAG
	1973.95	83.60	122.37	1685.81	638.39	-306.12	560.21	2.88	20.07	2.77	2.96	27.55	SLB_MWD+SAG
	2011.18	87.85	121.02	1688.58	675.46	-325.62	591.79	3.59	21.33	2.78	3.11	27.70	SLB_MWD+SAG
	2031.41	89.37	120.87	1689.08	695.67	-336.02	609.14	2.27	22.02	2.78	3.19	27.77	SLB_MWD+SAG
	2060.00	89.80	121.67	1689.28	724.23	-350.86	633.57	0.95	22.98	2.79	3.31	27.90	SLB_MWD+SAG
	2089.29	89.46	120.38	1689.47	753.49	-365.95	658.67	1.37	23.97	2.79	3.40	27.95	SLB_MWD+SAG
	2112.91	89.48	119.43	1689.69	777.11	-377.73	679.14	1.21	24.77	2.79	3.47	27.97	SLB_MWD+SAG
	2148.38	93.04	121.22	1688.91	812.55	-395.63	709.75	3.37	25.98	2.80	3.58	28.09	SLB_MWD+SAG
	2177.62	94.65	120.61	1686.95	841.70	-410.62	734.78	1.77	26.97	2.79	3.71	28.14	SLB_MWD+SAG
	2204.99	96.37	120.79	1684.32	868.93	-424.52	758.20	1.90	27.89	2.79	3.82	28.20	SLB_MWD+SAG
	2234.16	96.29	119.97	1681.11	897.90	-439.19	783.21	0.84	28.88	2.78	3.93	28.23	SLB_MWD+SAG
	2262.23	94.85	119.65	1678.38	925.84	-453.07	807.45	1.58	29.82	2.78	4.01	28.25	SLB_MWD+SAG
	2291.13	95.36	119.68	1675.81	954.62	-467.32	832.46	0.53	30.80	2.78	4.10	28.27	SLB_MWD+SAG
	2321.31	95.04	119.36	1673.07	984.67	-482.13	858.62	0.45	31.83	2.77	4.21	28.27	SLB_MWD+SAG
	2350.31	93.87	118.72	1670.82	1013.58	-496.16	883.90	1.38	32.81	2.77	4.28	28.26	SLB_MWD+SAG
	2378.82	94.18	118.17	1668.82	1042.02	-509.71	908.90	0.66	33.79	2.77	4.37	28.23	SLB_MWD+SAG
	2407.67	94.16	117.99	1666.72	1070.79	-523.25	934.29	0.19	34.78	2.77	4.49	28.20	SLB_MWD+SAG
	2436.52	94.22	117.82	1664.61	1099.56	-536.72	959.72	0.19	35.78	2.77	4.60	28.17	SLB_MWD+SAG
	2465.68	95.68	118.34	1662.10	1128.61	-550.39	985.35	1.59	36.78	2.77	4.72	28.15	SLB_MWD+SAG
	2494.27	98.42	119.26	1658.59	1156.98	-564.06	1010.21	3.03	37.76	2.77	4.83	28.16	SLB_MWD+SAG
	2517.00	98.30	119.30	1655.28	1179.47	-575.06	1029.82	0.17	38.52	2.77	4.91	28.16	SLB_MWD+SAG

Survey Type: Definitive Survey
NOTES: Only depth error sources are used from surface to mud-line.
Structure Uncertainty: 0.00 m Included
Slot Uncertainty: 0.00 m Included
Hole Diameter: 30.00 in Included
Global Error Sources Used: YES
Along-Hole Depth Uncertainty: At survey stations

Survey Error Model: SLB ISCWSA version 24 * 3-D 95.00% Confidence 2.7955 sigma**
Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1408.27	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1
1408.27	2517.00	Act-Stns	SLB_MWD+SAG	Netherby-1DW1 -> Netherby-1DW1

**Italicized stations are NOT used in position calculations.*

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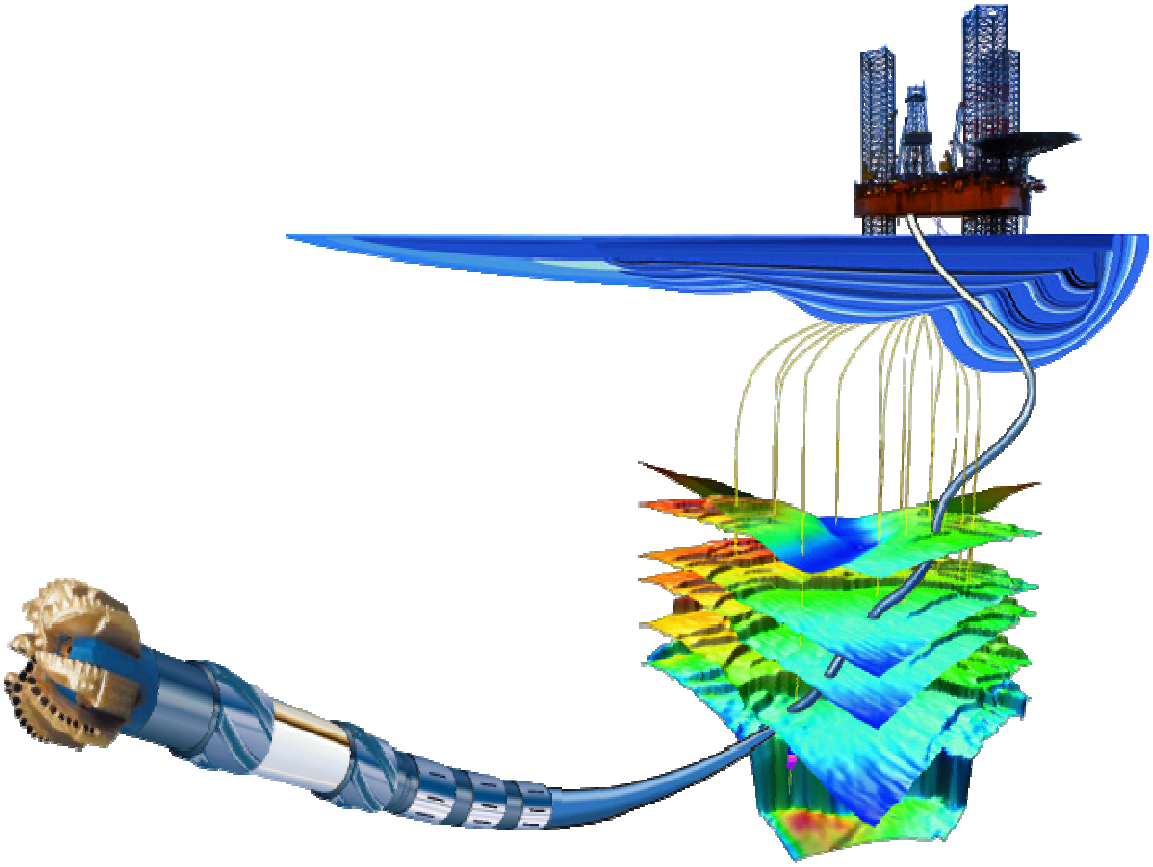
4. Drilling Summary



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Netherby-1 & Netherby-1DW1

End of Well Drilling Summary

Netherby-1 & Netherby-1DW1 Objectives:

The proposed Netherby-1 (Pilot) exploration well is located in the VIC/P44 exploration permit offshore Victoria. The well will be situated on the Pecten High immediately adjacent to the Shipwreck Trough. The nearest well is Pecten-1A located 2.3 km to the east. The Netherby-1 Pilot exploration well will test the Waarre A objective by drilling a deviated hole at 35° inclination.

Assuming success in the Pilot well, a 'U' shaped horizontal production well will be drilled and completed over the Waarre A reservoir section.
The primary target, the Waarre A, exhibits an anomaly that conforms to structural closure and is directly analogous in seismic character and structural style to the nearby discoveries at Casino, Henry and Martha.

The Netherby structure is primarily a single rotated half graben bound by major southerly dipping faults to the north and south with structural dip occurring to the east and west.
The bounding faults to the north and south separate the Netherby structure from the Henry Field to the south and the Pecten East prospect to the north.

If successful, Netherby-1 DW1 will be drilled as a 'U' shaped horizontal well of approximately 600m length over the Waarre A reservoir. The horizontal section has been designed to intersect an area of bright Waarre A full-stack seismic amplitudes. The 'U' shaped design will enable two passes vertically through the reservoir and mitigate against any possible vertical permeability barriers.

The well surface co-ordinates for Netherby-1 are:

Latitude	38º 40' 48.62" S	5717437 m Northing
Longitude	142º 38' 25.75" E	642694 m Easting

The co-ordinates are calculated from the GDA94, UTM 54S.
Rig floor elevation is 22.0 m above MSL.
Water Depth is 66.1 m

Netherby-1

BHA # 3: Rotary Steerable Xceed Assembly
311.1mm - 12 ¼" Hole Section – Directional (647m MD –1421m MD)

The following BHA was made up and successfully shallow hole tested: -

12 1/4 " Mill Tooth Bit, MXL-1X
Xceed 900, w/ 12_1/8" bottom & middle Sleeve Stab
ARC-8
PowerPulse HF
8" NMDC (2 joints)
8" DC (7 joints)
Hydraulic Jar
8" DC (2 joints)
Crossover
5" HWDP (15 joints)
5" 19.50 Drill Pipe to Surface

Run Summary

Cement was tagged @ 616m MD RT, shoe at 648m and 4 meters of new formation was drilled and Leakoff test was carried out. Continued drilling with moderate parameters and slowly increased to full speed after all the BHA components passed through the casing shoe. The rate of penetration was pushed to the limit when entering the unconsolidated sand formation to avoid washing out the formation and to minimize the mud losses which were up to 100 bbls per hour. Flow rate was cut back from 1000 GPM to 800 GPM due to mud losses. The programmed kick off point was in this formation at 731 m. The Xceed was downlinked to 120 deg MTF and 60% steering ratio while drilling, the tool responded well and we started the kick off at 728m without any problem.

Drilling ahead from 940m MD the well path was high and to the right of plan, reduce the build rate and turn the well to the left and back towards the plan @ 118° Az. The mud was displaced with new mud system and the flow increased to 1000GPM as per the drilling program. Several attempts were made to downlink to the Xceed without success. After reducing the flow to 800GPM downlinks were successful completed. The delays in successful downlinks caused the well to fall below the plan. After the first successful downlink, Xceed inclination and azimuth became incorrect for the next 3 stands resulting in no real-time inclination and azimuth at the bit. Whatever the problem was it corrected itself and the tools started behaving correctly. 3° doglegs were needed to get to the 35° inclination required.

After the build section was successfully drilled, the Xceed was set in Steering Mode 3 which is HIA (Hold Inclination & Azimuth) mode. Another downlink was made to set the tool to a non aggressive response which was "Low Inc Gain. 4 minute drill Cycle. 100% SR at +/- 1.4 deg".

This gave the tool a proportional steering ratio (10-40%) in response to the change of inclination and azimuth against what is programmed.

On surface the tool was physically checked and given OK for re run. The bit was dull and graded : 1-3-CT-1/2-E-3-ER-PR.

Netherby-1

BHA # 4: Rotary Steerable Xceed Assembly
311.1mm - 12 ¼" Hole Section – Directional (1421 m MD –1870 m MD)

12 1/4 " PDC Hycalog RSX616M-A10 Bit
Xceed 900, w/ 12_1/8" bottom & middle Sleeve Stab
ARC-8
PowerPulse HF
8" NMDC (2 joints)
8" DC (7 joints)
Hydraulic Jar
8" DC (2 joints)
Crossover
5" HWDP (15 joints)
5" 19.50 Drill Pipe to Surface

Run Summary

The same BHA was rerun with a new Hycalog RSX616M-A10 bit. The string was filled every 20 stands. Bottom was tagged, a new pattern cut, and drilling commenced with 10-15 Klbs and 160 RPM. This was slowly staged up to 20 Klbs WOB. As the course of the well had been in tangent section, the tool then was set to HIA after few meters drilling in neutral for the rest of the course length. Several downlinks were made for nudging up the inclination and to counter the left walk tendency.

The ROP was generally good throughout this section with an average of 35-40 m/hr. When drilling through the pyrite from1500-1530 m MD, the ROP dropped significantly to 2 m/hr. Once we passed through the pyrite zone, the ROP was back up to 30-40 m/hr.

Severe stick and slip was present for some time especially when changing formation, after altering the RPM to 200 and WOB to between 7-15 Klbs, the stick and slip could be mitigated to an acceptable risk from 230-250 to below 150.

At 1870m MD / 1744.2 m TVD section TD was called. On surface the BHA was laid out, the bit was graded : 2-3-CT-S-X-I-WT-TD.

BHA # 5 & 6 : Clean Out Assembly
311.1mm - 12 ¼" Hole Section – Directional (1870 m MD –1870 m MD)

12 1/4 " Mill tooth, HC, MXL-1X Bit

12 1/4 " Near Bit Stabilizer
8" Drill Colar (2 joints)
12 1/8" String Stabilizer
8" Hydraulic Jar
8" Drill Collar (2 joints)
Crossover
5" HWDP (15 joints)

Run Summary

This was a clean out assembly run when Schlumberger Wireline Logging couldn't pass 1368 m, and a second run when they couldn't pass 1780m. There were no well profile related problems. After a third attempt using TLC failed to pass, they decided to run a LWD BHA to log the well.

BHA # 7 : LWD Assembly
311.1mm - 12 ¼" Hole Section – Directional (1870 m MD –1870 m MD)

12 1/4 " Mill tooth, HC, MXL-1X Bit

Bit Sub with Float Valve inside
Stethoscope
Telescope 825 NF
ARC-8
SonicVISION 825
ADN8 w/ 12" Stab
1 x 8" DC
8" Hydraulic Jar
1 x 8" DC
Crossover
15 x 5" HWDP

Run Summary

This was a LWD logging assembly run by D&M after Wireline logging couldn't reach the bottom of the hole to log and take formation pressures. The job was done without any problem.

Netherby-1DW1

BHA # 8: Rotary Steerable Xceed Assembly
311.1mm - 12 ¼" Hole Section – Directional (1421 m MD –1944.5 m MD)

12 1/4 " PDC Hycalog RSX616M-A10 Bit
Xceed 900, w/ 12_1/8" bottom & middle Sleeve Stab
ARC-8
PowerPulse HF
8" NMDC (2 joints)
Crossover
5" HWDP (9 joints)
Hydraulic Jar
5" HWDP (5 joints)

5" 19.50 Drill Pipe to Surface

Run Summary

Once all the logging data was retrieved the well was cemented back to a planned TOC of 1430m. The BHA was picked up, successfully shallow hole tested and run in the hole. The top of cement was tagged at 1421m but was not firm, drilling with 100 RPM, 800 GPM flow rate, and less than 2 klbs WOB. The drilling continued and hard cement was encountered at 1454m MD with the bit taking 7-8 klbs WOB. The Xceed was downliked with the toolface at 252 deg (108 left) and 100% steering ratio. A 6m ledge was cut before starting time drilling.

Time drilling was planned for 1m/hr for the first 5 meters with 120 RPM, and 800 GPM flow rate. The shakers were closely monitored and the percentage of formation vs cement noted. First 3 meters, sample showing 20%, and the next 2 meters showing 40%. The weight indicator didn't show any resistant when the pipe was slacked off, no pressure increasing. It was decided to extent to another 3 meters the time drilling at 1m/hr. After drilling 8 meters the percentage of formation didn't increase significantly, staying at 40%. We tried to speed up the ROP to maintain the weight on bit, still no resistant, only 0-2 Klbs WOB.

Drilling continued to try and maintain the WOB while looking for harder cement. The WOB started increasing from1480m, where we were able to maintain 5-7 Klbs WOB. The continuous surveys indicated we were turning to the left, and by 1505m the well was finally was sidetracked.

Continued drilling with 160-200 RPM, 930 GPM flow rate, and 10-20 Klbs WOB. The surface torque was 10-19 Kftlbs tand stand pipe pressure 3600 to 3900 psi. The plan was to build inclination from 35 deg to 80 deg and maintain the azimuth on 119 deg to penetrate the Waarre A Formation before reaching section TD. The Xceed performance was very good delivering the DLS as required. As the actual sidetrack point was deeper than planned larger DLS were

required to achieve the planned trajectory. The sidetrack operation positioned the well to the left of plan. The Heel-1 target was intersected within 10m from the center without any problems.

The 12.25 section TD was called at 1944.5m after penetrating the Waarre A formation with 80 deg inclination. The BHA was back reamed out the hole, on surface tool was checked and no physical damage was observed. The bit was graded: 1-1-CT-S-X-I-NO-TD

BHA # 9: Rotary Steerable Xceed Assembly
216 mm – 8 ½ ″ Hole Section (1944.5 m MD – 2517 m MD)

8 ½ " PDC Reed Hycalog RSX519M-A4 Bit
Xceed 675, w/ 8_3/8" bottom & middle Sleeve Stab
Ecoscope
Telescope
6 ¾ " NMDC (2 joints)
Crossover
5" HWDP (10 joints)
Hydraulic Jar
5" HWDP (4 joints)
5" 19.50 Drill Pipe to Surface

Run Summary

The BHA was made up and successfully shallow hole tested then RIH. Drilling the float equipment, shoe track and 3m new formation took 3 hours, no FIT test was conducted. The plan required a build in inclination with 3 deg DLS from below the shoe. The Xceed was set to highside and 40% power setting. This setting produced more than 3° DLS, and had to be reduced to 30% and 20% to get the dogleg below the 3 deg needed. A flow rate of 620gpm was used. The inclination was built to 89.3° inc at 2029md at which point the Xceed was downlinked to HIA for the tangent section to 2148m. The well was then build at 3° DLS to 97° inc. The Xceed was downlinked to 40% highside initially but reduced to 20% as the build was greater than expected.

As we were high on the plan by 1meter the plan was altered by the Geologist to hold 96° inc for this tangent section which put us back on plan. 96° inclination was held to 2293m. From this point the directionally control was done on instructions from the geologist. The inclination was reduced to 95° by 2328m, then reduced further to 94° by 2450m. We were then instructed to build to 96.5° at a 3° DLS. Once we reached 96.5° we were instructed to build another 2° to 98.5° at TD.

There were several times when the top drive's saver sub backed off due to high torque produced while drilling. From the beginning of drilling 8.5" hole section with high angle the

torque was up to 25-26 kft-lbs, it's the limit of 4 ½" IF drill pipe connection. Drilling was slowed down due to the high torque. Average ROP was 16 m/hr, with WOB 10-15 klbs, RPM was varied between 100 to 140 with the flow rate at 620 GPM most of the time.

All geological targets were achieved. TD was called at 2517m. The BHA was pulled out up to the shoe, then run back to the bottom without any major problem, the hole was circulated clean before final trip out of hole. The tools was checked on the surface and found to be in good condition. The bit was graded 1-3-BT-G-G-I-WT-TD.

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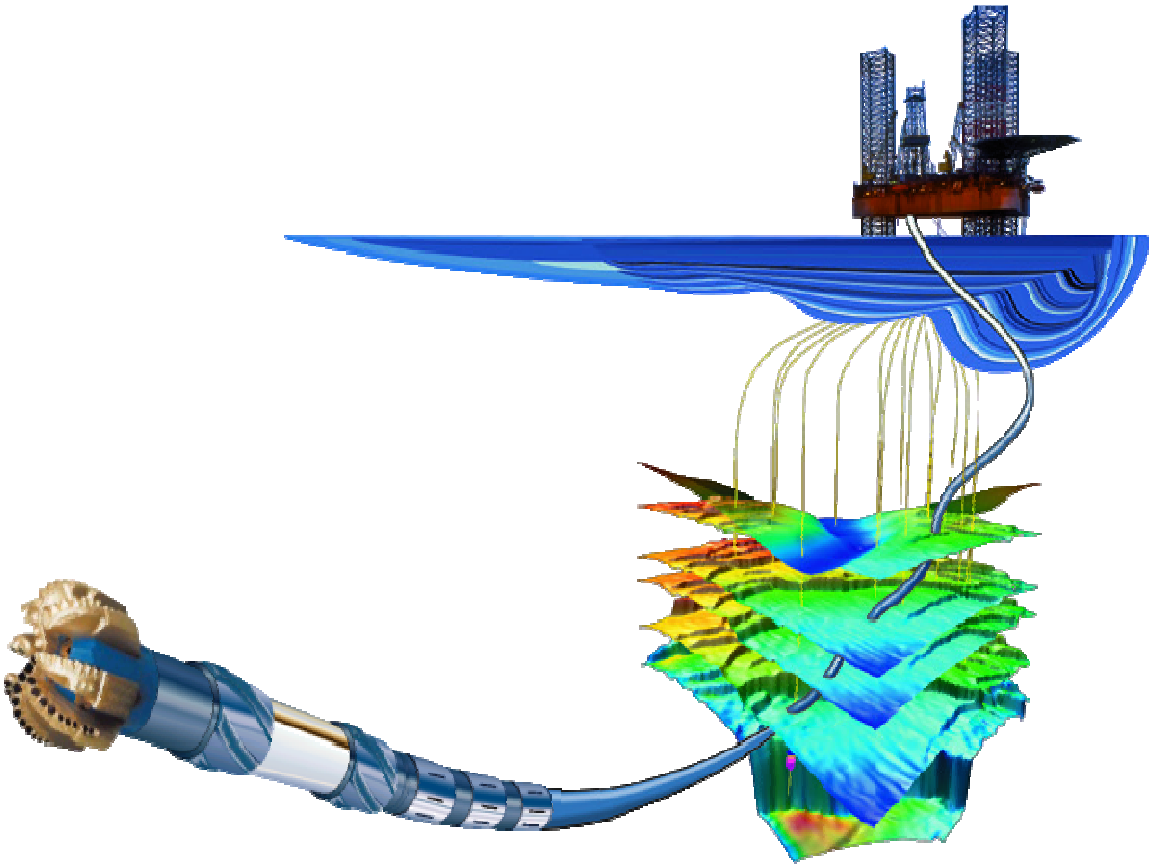
5. BHA Reports



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BHA Data Sheet

Santos Limited - Netherby-1DW

BHA #	12 1/4" Xceed_LWD BHA 3 Run 2	**Date**	July 21, 2008
Field	Netherby	**Well**	Netherby-1DW
Structure	Netherby	**e**	Netherby-1 DW

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Hughes Christensen	6066569		8.50	12.25		0.34	0.34
		MXL-1X			3.75		6.63 Reg Pin		
2	Xceed 900	Schlumberger	058	9.00	9.00	12.13	6.63 Reg Box	8.65	8.99
		Xceed 900Stabilizer		4.48	5.25		6.63 FH Box		
3	ARC-8	Schlumberger	1106	8.38	8.25	9.10	6.63 FH Pin	5.84	14.83
		ARC-8		1.37	2.81		6.63 FH Box		
4	PowerPulse HF	Schlumberger	E1518		8.25	8.41	6.63 FH Pin	8.51	23.34
		PowerPulse HF			5.90		6.63 Reg Box		
5	2 x 8" NMDC (2 joints)		SBD5552-3		8.00	8.00	6.63 Reg Pin	18.60	41.94
					2.81		6.63 Reg Box		
6	7 x 8" DC (7 joints)	Diamond offshore	Rig		8.00	8.00	6.63 Reg Pin	65.65	107.60
					3.25		6.63 Reg Box		
7	Hydraulic Jar	Smith International	718096		6.50	6.63	6.63 Reg Pin	10.11	117.71
		-			2.75		6.63 Reg Box		
8	2 x 8" DC (2 joints)	Diamond	-		8.00	8.00	6.63 Reg Pin	18.91	136.62
					3.25		6.63 Reg Box		
9	Crossover	Santos	GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	137.71
					2.81		4.50 IF Box		
10	15 x 5" HWDP (15 joints)	Diamond	-		5.00	6.50	4.50 IF Pin	140.40	278.10
					3.00		4.50 IF Box		
11	5" 19.50 Drill Pipe to Surface				4.93	6.63	4.50 IF Pin		
	5,19.5,5,10%Wear				4.28		4.50 IF Box		
					Total Weight (lbf)		85550	**Total Len.**	278.10
					Below Jar (lbf)		50507.5		

BHA Comments:

Stabilizer	
Blade Length (m)	**Mid-Pt. To Bit (m)**
0.34	0.73
0.34	4.19

Bent Housing Angle (deg)	**Bend To Bottom Connection (m)**

Sensor	
Type	**Distance To Bit (m)**
D&I	3.33
Resistivity	11.10
Gamma Ra	11.18
D&I	18.40

Bit Nozzles	
Count	**Size(1/32 in**
1	14.00
3	20.00
TFA (in2)	1.07

Quality Control	
Created By:	AStroud
Checked By:	

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	Cum. Len. (m)
5" 19.50 Drill Pipe to Surface	279.11
15 x 5" HWDP (15 joints)	278.11
Crossover	137.71
2 x 8" DC (2 joints)	136.62
Hydraulic Jar	117.71
7 x 8" DC (7 joints)	107.60
2 x 8" NMDC (2 joints)	41.95
PowerPulse HF	23.35
ARC-8	14.84
Xceed 900	8.99
12 1/4 " Bit	0.34

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Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1 DW
12 1/4" Xceed_LWD BHA 3 Run 2

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (mm)	ID (mm)	Max OD (mm)
12 1/4 " Bit	0.34	12.3	3.8	12.3
Xceed 900	8.65	9.0	5.3	12.1
ARC-8	5.85	8.3	2.8	9.1
PowerPulse HF	8.51	8.3	5.9	8.4
2 x 8" NMDC (2 joints)	18.60	8.0	2.8	8.0
7 x 8" DC (7 joints)	65.65	8.0	3.3	8.0
Hydraulic Jar	10.11	6.5	2.8	6.6
2 x 8" DC (2 joints)	18.91	8.0	3.3	8.0
Crossover	1.09	8.0	2.8	8.0
15 x 5" HWDP (15 joints)	140.40	5.0	3.0	6.5
5" 19.50 Drill Pipe to Su	1.00	4.9	4.3	6.6

Bit to MWD D & I Sensor = 18.40 m
Bit to Gamma Ray Sensor = 11.18 m
Bit to Resistivity Sensor = 11.10 m
Bit to Xceed D & I Sensor = 3.33 m

Insert Logo

DRILLING OVERVIEW

The BHA was performed very well while kicking off from vertical to build the angle to 35 deg and hold the angle until pull out of the hole for bit trip.

Depth in:	647.00 m	Depth out:	1421.00 m
Inclination in:	0.94°	To:	35.05°
Direction in:	124.98°	To:	116.50°
Total Drilled	774.00 m	Dogleg:	4.9

Schlumberger

Quality Control
Created by: AStroud Date: 21/07/2008
Checked by: Date:

Schlumberger

Santos

BHA Data Sheet — Santos Limited - Netherby-1DW

BHA #	12 1/4" Xceed_LWD BHA 4 Run 3	Date	July 22, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1 DW

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Reed Hycalog	215850		8.50	12.25		0.27	0.27
		RSX616M-A10			3.75		6.63 Reg Pin		
2	Xceed 900	Schlumberger	058	9.00	9.00	12.13	6.63 Reg Box	8.65	8.92
		Xceed 900Stabilizer		4.48	5.25		6.63 FH Box		
3	ARC-8	Schlumberger	1106	8.38	8.25	9.10	6.63 FH Pin	5.84	14.76
		ARC-8		1.37	2.81		6.63 FH Box		
4	PowerPulse HF	Schlumberger	E1518		8.25	8.41	6.63 FH Pin	8.51	23.27
		PowerPulse HF			5.90		6.63 Reg Box		
5	2 x 8" NMDC (2 joints)		SBD5552-3		8.00	8.00	6.63 Reg Pin	18.60	41.88
					2.81		6.63 Reg Box		
6	7 x 8" DC (7 joints)	Diamond offshore	Rig		8.00	8.00	6.63 Reg Pin	65.65	107.53
					3.25		6.63 Reg Box		
7	Hydraulic Jar	Smith International	718096		6.50	6.63	6.63 Reg Pin	10.11	117.64
		-			2.75		6.63 Reg Box		
8	2 x 8" DC (2 joints)	Diamond	-		8.00	8.00	6.63 Reg Pin	18.91	136.54
					3.25		6.63 Reg Box		
9	Crossover	Santos	GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	137.63
					2.81		4.50 IF Box		
10	15 x 5" HWDP (15 joints)	Diamond	-		5.00	6.50	4.50 IF Pin	140.40	278.03
					3.00		4.50 IF Box		
11	5" 19.50 Drill Pipe to Surface				4.93	6.63	4.50 IF Pin		
	5,19.5,10% Wear				4.28		4.50 IF Box		
					Total Weight (lbf)		85550	Total Len.	278.03
					Below Jar (lbf)		50507.5		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.34	0.66
0.34	4.12

Bent Housing Angle (deg)	Bend To Bottom Connection (m)

Sensor	
Type	Distance To Bit (m)
D&I	3.26
Resistivity	11.03
Gamma Ra	11.11
D&I	18.33

Bit Nozzles	
Count	Size(1/32 i
6	16.00
TFA (in2)	1.18

Quality Control	
Created By:	AStroud
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" 19.50 Drill Pipe to Surface	279.04
15 x 5" HWDP (15 joints)	278.04
Crossover	137.64
2 x 8" DC (2 joints)	136.55
Hydraulic Jar	117.64
7 x 8" DC (7 joints)	107.53
2 x 8" NMDC (2 joints)	41.88
PowerPulse HF	23.28
ARC-8	14.77
Xceed 900	8.92
12 1/4 " Bit	0.27

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1 DW
12 1/4" Xceed_LWD BHA 4 Run 3

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (mm)	ID (mm)	Max OD (mm)
12 1/4 " Bit	0.27	12.3	3.8	12.3
Xceed 900	8.65	9.0	5.3	12.1
ARC-8	5.85	8.3	2.8	9.1
PowerPulse HF	8.51	8.3	5.9	8.4
2 x 8" NMDC (2 joints)	18.60	8.0	2.8	8.0
7 x 8" DC (7 joints)	65.65	8.0	3.3	8.0
Hydraulic Jar	10.11	6.5	2.8	6.6
2 x 8" DC (2 joints)	18.91	8.0	3.3	8.0
Crossover	1.09	8.0	2.8	8.0
15 x 5" HWDP (15 joints)	140.40	5.0	3.0	6.5
5" 19.50 Drill Pipe to Su	1.00	4.9	4.3	6.6

Bit to MWD D & I Sensor = 18.33 m
Bit to Gamma Ray Sensor = 11.11 m
Bit to Resistivity Sensor = 11.03 m
Bit to Xceed D & I Sensor = 3.26 m

Insert Logo

DRILLING OVERVIEW

The BHA was performed well during drilling the tangent section by maintaining inclination at 35 deg and azimuth at 118 deg. The new software v37 on the Xceed was good in HIA mode with some options in how aggressive the tool react to keep the given inclination & azimuth against the actual wellpath.

Depth in:	1421.00 m	Depth out:	1870.00 m
Inclination in:	35.05°	To:	35.18°
Direction in:	116.30°	To:	119.41°
Total Drilled	449.00 m	Dogleg:	0.75

Schlumberger

Quality Control			
Created by:	AStroud	Date:	25/07/2008
Checked by:		Date:	

Schlumberger

Santos

BHA Data Sheet — Santos Limited - Netherby-1DW

BHA #	12 1/4" Wiper Trip BHA 5	Date	July 28, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1 DW

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Hughes Christensen	5119202		8.00	12.25		0.33	0.33
		MXL-1X			3.25		6.63 Reg Pin		
2	12.25" Stabilizer		50204		8.00	12.25	6.63 Reg Pin	1.25	1.58
					3.00		6.63 Reg Box		
3	8" Drill Collar (2 joints)				8.00	8.00	6.63 Reg Pin	18.54	20.12
					2.88		6.63 Reg Box		
4	12.125" Stabilizer		XM778		8.00	12.13	6.63 Reg Pin	1.68	21.80
					2.81		6.63 Reg Box		
5	8" Drill Collar (4 joints)				8.00	8.00	6.63 Reg Pin	37.65	59.45
					2.50		6.63 Reg Box		
6	Hydraulic Jar	Smith International	718086		8.25	8.25	6.63 Reg Pin	10.11	69.56
					3.00		6.63 Reg Box		
7	8" Drill Collar (2 joints)				8.00	8.00	6.63 Reg Pin	18.91	88.47
					2.50		6.63 Reg Box		
8	Crossover		GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	89.56
					2.63		4.50 IF Box		
9	5" HWDP (15 joints)				5.00	6.50	4.50 IF Pin	140.40	229.96
					3.00		4.50 IF Box		
10	5" 19.50 DPS, 10% Wear				4.93	6.63	4.50 IF Pin		
	5,19.5,10%Wear DP to Surface				4.28		4.50 IF Box		
					Total Weight (lbf)		66602	Total Len.	229.96
					Below Jar (lbf)		29501.6		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.60	1.08
0.60	20.87
	Bend To Bottom
Bent Housing Angle (deg)	Connection (m)

Sensor	
Type	Distance To Bit (m)

Bit Nozzles	
Count	Size(1/32 in
1	14.00
3	20.00
TFA (in2)	1.07

Quality Control	
Created By:	A Stroud
Checked By:	

Schlumberger

Santos

BHA Data Sheet — Santos Limited - Netherby-1DW

BHA #	12 1/4" Sonic Stethiscope BHA 7	**Date**	July 30, 2008
Field	Netherby	**Well**	Netherby-1DW
Structure	Netherby	**e**	Netherby-1 DW

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Hughes Christens	5119202		8.00	12.25		0.33	0.33
		MXL-1X			3.25		6.63 Reg Pin		
2	Bit Sub		GUD 1231-2		8.00	8.00	6.63 H90 Pin	0.90	1.23
					2.50		6.63 Reg Box		
3	StethoScope	Schlumberger			8.38	11.94	6.63 Reg Pin	10.40	11.63
		StethoScope			2.81		6.63 FH Box		
4	Telescope 825 NF	Schlumberger	DEVA-77		8.25	8.41	6.63 FH Pin	8.48	20.11
		Telescope 825 NF			5.11		6.63 FH Box		
5	ARC-8	Schlumberger	2724		8.25	9.10	6.63 FH Pin	5.87	25.98
		ARC-8			2.81		6.63 FH Box		
6	sonicVISION 825	Schlumberger	34888		8.38	11.50	6.63 FH Pin	8.08	34.06
		sonicVISION 825			4.25		6.63 FH Box		
7	ADN-8 w/ 12" Stab	Schlumberger	42730		8.13	12.00	6.63 FH Pin	8.87	42.93
		ADN-8 w/ 12" Stab			3.25		6.63 Reg Box		
8	8" Drill Collar				8.00	8.00	6.63 Reg Pin	9.44	52.37
					2.50		6.63 Reg Box		
9	Hydraulic Jar	Smith International	989SE2		8.25	8.25	6.63 Reg Pin	9.94	62.31
					3.00		6.63 Reg Box		
10	8" Drill Collar				8.00	8.00	6.63 Reg Pin	9.45	71.76
					2.50		6.63 Reg Box		
11	Crossover		GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	72.85
					2.63		4.50 IF Box		
12	5" HWDP (15 joints)				5.00	6.50	4.50 IF Pin	140.40	213.25
					3.00		4.50 IF Box		
13	5" 19.50 DPS, 10% Wear DP to S				4.93	6.63	4.50 IF Pin	1.00	214.25
	5,19.5,10%Wear				4.28		4.50 IF Box		
					Total Weight (lbf)		55097	**Total Len.**	214.25
					Below Jar (lbf)		22754.0		

BHA Comments:

Stabilizer	
Blade Length (m)	**Mid-Pt. To Bit (m)**
0.59	2.52
1.09	37.09
0.99	39.55

Bent Housing Angle (deg)	**Bend To Bottom Connection (m)**

Sensor	
Type	**Distance To Bit (m)**
Gamma Ra	14.65
D&I	15.30
Resistivity	22.22
Gamma Ra	22.29
Sonic	30.28
Density	36.99
Neutron	39.20

Bit Nozzles	
Count	**Size(1/32 in**
1	14.00
3	20.00
TFA (in2)	1.07

Quality Control	
Created By:	AStroud
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" 19.50 DPS, 10% Wear DP t	214.25
5" HWDP (15 joints)	213.25
Crossover	72.85
8" Drill Collar	71.76
Hydraulic Jar	62.31
8" Drill Collar	52.37
ADN-8 w/ 12" Stab	42.93
sonicVISION 825	34.06
ARC-8	25.98
Telescope 825 NF	20.11
StethoScope	11.63
Bit Sub	1.23
12 1/4 " Bit	0.33

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1 DW
12 1/4" Sonic Stethoscope BHA 7

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (mm)	ID (mm)	Max OD (mm)
12 1/4 " Bit	0.33	12.3	3.3	12.3
Bit Sub	0.90	8.0	2.5	8.0
StethoScope	10.40	8.4	2.8	11.9
Telescope 825 NF	8.48	8.3	5.1	8.4
ARC-8	5.87	8.3	2.8	9.1
sonicVISION 825	8.08	8.4	4.3	11.5
ADN-8 w/ 12" Stab	8.87	8.1	3.3	12.0
8" Drill Collar	9.44	8.0	2.5	8.0
Hydraulic Jar	9.94	8.3	3.0	8.3
8" Drill Collar	9.45	8.0	2.5	8.0
Crossover	1.09	8.0	2.6	8.0
5" HWDP (15 joints)	140.40	5.0	3.0	6.5
5" 19.50 DPS, 10% Wear	1.00	4.9	4.3	6.6

Bit to Neutron Sensor = 39.20 m
Bit to Density Sensor = 36.99 m
Bit to Sonic Sensor = 30.28 m
Bit to Gamma Ray Sensor = 22.29 m
Bit to Resistivity Sensor = 22.22 m
Bit to D&I Sensor = 15.30 m
Bit to GR Sensor = 14.65 m

Insert Logo

DRILLING OVERVIEW

This is a logging assembly run by D&M after Wireline logging couldn't reach the bottom of the hole to perform logging and taking formation pressure. The job was done without any problem.

Depth in:	1870.00 m	Depth out:	1870.00 m
Inclination in:	35.38°	To:	35.38°
Direction in:	119.23°	To:	119.23°
Total Drilled	0.00 m	Dogleg:	

Schlumberger

Quality Control
Created by: AStroud Date: 30/07/2008
Checked by: Date:

Schlumberger

Santos

BHA Data Sheet — Santos Limited - Netherby-1DW

BHA #	12 1/4" Xceed_LWD BHA 8	Date	August 02, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1DW HZ

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in)/ Length (m)	OD (in)/ ID (in)	Max OD (in)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Reed Hycalog	218712		8.50	12.25		0.29	0.29
		RSX616M-A16			3.75		6.63 Reg Pin		
2	Xceed 900	Schlumberger	002	8.25	9.00	12.13	6.63 Reg Box	8.60	8.89
		Xceed 900Stabilizer		0.27	5.25		6.63 FH Box		
3	ARC-8	Schlumberger	2724	8.38	8.38	9.10	6.63 FH Pin	5.87	14.76
		ARC-8		1.44	2.81		6.63 FH Box		
4	PowerPulse HF	Schlumberger	FB 46	8.31	8.31	8.41	6.63 FH Pin	8.49	23.25
		PowerPulse HF		0.48	4.31		6.63 Reg Box		
5	2 x 8" NMDC (2 joints)		SBD5552-3		8.00	8.00	6.63 Reg Pin	18.60	41.85
					2.81		6.63 Reg Box		
6	Crossover	Santos	GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	42.94
					2.81		4.50 IF Box		
7	9 x 5" HWDP (9 joints)	Diamond	-		5.00	6.50	4.50 IF Pin	84.26	127.20
					3.00		4.50 IF Box		
8	Hydraulic Jar	Dailey Petroleum S	1		6.50	6.63	4.50 IF Pin	10.06	137.26
		HDL-100			2.75		4.50 IF Box		
9	5 X 5" HWDP (5 joints)				5.00	6.50	4.50 IF Pin	46.60	183.86
					3.00		4.50 IF Box		
10	5" 19.50 Drill Pipe to Surface				4.93	6.63	4.50 IF Pin	1.00	184.86
	5,19.5,10% Wear				4.28		4.50 IF Box		

Total Weight (lbf)	44518	Total Len.	184.86
Below Jar (lbf)	34341.4		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.34	0.68
0.34	4.14

Bent Housing Angle (deg)	Bend To Bottom Connection (m)

Sensor	
Type	Distance To Bit (m)
D&I	3.26
Resistivity	11.00
Gamma Ra	11.08
D&I	18.33

Bit Nozzles	
Count	Size(1/32 i
6	15.00
TFA (in2)	1.03

Quality Control	
Created By:	Apartono
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" 19.50 Drill Pipe to Surface	184.86
5 X 5" HWDP (5 joints)	183.86
Hydraulic Jar	137.26
9 x 5" HWDP (9 joints)	127.20
Crossover	42.94
2 x 8" NMDC (2 joints)	41.85
PowerPulse HF	23.25
ARC-8	14.76
Xceed 900	8.89
12 1/4 " Bit	0.29

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1DW HZ
12 1/4" Xceed_LWD BHA 8

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (in)	ID (in)	MAX OD (in)
12 1/4 " Bit	0.29	12.25	3.75	12.25
Xceed 900	8.60	9.00	5.25	12.13
ARC-8	5.87	8.38	2.81	9.10
PowerPulse HF	8.49	8.31	4.31	8.41
2 x 8" NMDC (2 joints)	18.60	8.00	2.81	8.00
Crossover	1.09	8.00	2.81	8.00
9 x 5" HWDP (9 joints)	84.26	5.00	3.00	6.50
Hydraulic Jar	10.06	6.50	2.75	6.63
5 X 5" HWDP (5 joints)	46.60	5.00	3.00	6.50
5" 19.50 Drill Pipe to Su	1.00	4.93	4.28	6.63

Bit to MWD D & I Sensor = 18.33 m
Bit to Gamma Ray Sensor = 11.08 m
Bit to Resistivity Sensor = 11.00 m
Bit to Xceed D & I Sensor = 3.26 m

Insert Logo

DRILLING OVERVIEW

This is a sidetrack BHA. Initial sidetrack operation was using time drilling 1/m/hr method. But since there was no cement support, it was difficult operation. Decided to chase the weight on bit in order to be able to sidetrack. With 7-8 klbs WOB finally the sidetrack was done successfully, and continued drilling to land the well in Waarre A formation at 80 deg.

Depth in:	1421.00 m	Depth out:	1944.50 m
Inclination in:	35.05°	To:	80.90°
Direction in:	116.54°	To:	122.50°
Total Drilled	523.50 m	Dogleg:	5.62

Schlumberger

Quality Control			
Created by:	Apartono	Date:	2/08/2008
Checked by:		Date:	

Schlumberger

Santos

BHA Data Sheet

Santos Limited - Netherby-1DW

BHA #	8 1/2" Xceed_Ecoscope_ BHA #9	Date	August 09, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1DW HZ

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	8 1/2 " PDC Bit	Reed Hycalog	119583		6.00	8.50		0.24	0.24
		RSX519M-A4			2.25		4.50 Reg Pin		
2	Xceed 675	Schlumberger	266		6.75	8.38	4.50 Reg Box	7.66	7.90
		Xceed 675 Stabilizer			2.00		5.50 FH Box		
3	EcoScope w / 8 1/4 Stabilizer	Schlumberger	987		6.75	8.25	5.50 FH Pin	8.04	15.94
		EcoScope w / 8 1/4 Stabilizer			2.00		5.50 FH Box		
4	8_3/8" ILS Stabilizer	Schlumberger	OSS051299B		6.75	8.38	5.50 FH Pin	1.08	17.02
	Attached w/ Telescope 675				3.25		5.50 FH Box		
5	Telescope 675 NF	Schlumberger	FA27		6.75	6.89	5.50 FH Pin	7.53	24.55
		Telescope 675 NF			5.10		5.50 FH Box		
6	XO Saver sub	Schlumberger	OSS061159G		6.75	6.75	5.50 FH Pin	0.50	25.05
					3.00		4.50 IF Box		
7	6 3/4" NMDC	Schlumberger	M364		6.75	6.75	4.50 IF Pin	9.09	34.14
					2.75		4.50 IF Box		
8	6 3/4" NMDC	Schlumberger	0SS0611112A		6.75	6.75	4.50 IF Pin	9.48	43.62
					2.88		4.50 IF Box		
9	5" HWDP (10 joints)	Diamond	Rig		5.00	6.50	4.50 IF Pin	93.42	137.04
					3.00		4.50 IF Box		
10	Hydraulic Jar	HE	21449E		6.50	6.50	4.50 IF Pin	9.32	146.36
		Hydra-Jar			2.75		4.50 IF Box		
11	5" HWDP (4 joints)	Diamond	rig		5.00	6.50	4.50 IF Pin	37.44	183.80
					3.00		4.50 IF Box		
12	5" DP to surface	Diamond	rig		4.93	6.63	4.50 IF Pin	1.00	184.80
	5,19.5,10%Wear				4.28		4.50 IF Box		
					Total Weight (lbf)		37724	Total Len.	184.80
					Below Jar (lbf)		29646.5		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.33	0.58
0.40	3.64
0.60	10.53
0.35	16.44
	Bend To Bottom
Bent Housing Angle (deg)	Connection (m)

Sensor	
Type	Distance To Bit (m)
D&I	4.14
Gamma Ra	9.72
Density	10.93
D&I	12.37
Resistivity	12.77
Neutron	13.02
D&I	20.68

Bit Nozzles	
Count	Size(1/32 in
5	13.00
TFA (in2)	0.65

Quality Control	
Created By:	AStroud
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" DP to surface	184.80
5" HWDP (4 joints)	183.80
Hydraulic Jar	146.36
5" HWDP (10 joints)	137.04
6 3/4" NMDC	43.62
6 3/4" NMDC	34.14
XO Saver sub	25.05
Telescope 675 NF	24.55
8_3/8" ILS Stabilizer	17.02
EcoScope w/ 8 1/4 Stabilizer	15.94
Xceed 675	7.90
8 1/2 " PDC Bit	0.24

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1DW HZ
8 1/2" Xceed_Ecoscope_ BHA #9

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (mm)	ID (mm)	Max OD (mm)
8 1/2 " PDC Bit	0.24	8.5	2.3	8.5
Xceed 675	7.66	6.8	2.0	8.4
EcoScope w/ 8 1/4 Stabi	8.04	6.8	2.0	8.3
8_3/8" ILS Stabilizer	1.08	6.8	3.3	8.4
Telescope 675 NF	7.53	6.8	5.1	6.9
XO Saver sub	0.50	6.8	3.0	6.8
6 3/4" NMDC	9.09	6.8	2.8	6.8
6 3/4" NMDC	9.48	6.8	2.9	6.8
5" HWDP (10 joints)	93.42	5.0	3.0	6.5
Hydraulic Jar	9.32	6.5	2.8	6.5
5" HWDP (4 joints)	37.44	5.0	3.0	6.5
5" DP to surface	1.00	4.9	4.3	6.6

Bit to MWD D & I Sensor = 20.68 m
Bit to Neutron Sensor = 13.02 m
Bit to ResistivitySensor = 12.77 m
Bit to Density Sensor = 10.93 m
Bit to GR Sensor = 9.72 m
Bit to Xceed D & I Sensor = 4.14 m

Insert Logo

DRILLING OVERVIEW

The BHA was performed well during drilling the 'U' shape on 8.5" open hole section, from 80 deg to 98.5 deg. The drilling was on Waarre A reservoir sandstone formation. A high torque was faced during drilling this section, limiting the average ROP to 16.1 m/hr. The drilling was successfully penetrate all the geological target.

Depth in:	1944.50 m	Depth out:	2517.00 m
Inclination in:	80.90°	To:	98.42°
Direction in:	122.50°	To:	119.30°
Total Drilled	572.50 m	Dogleg:	3.59

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Quality Control			
Created by:	AStroud	Date:	9/08/2008
Checked by:		Date:	

Schlumberger

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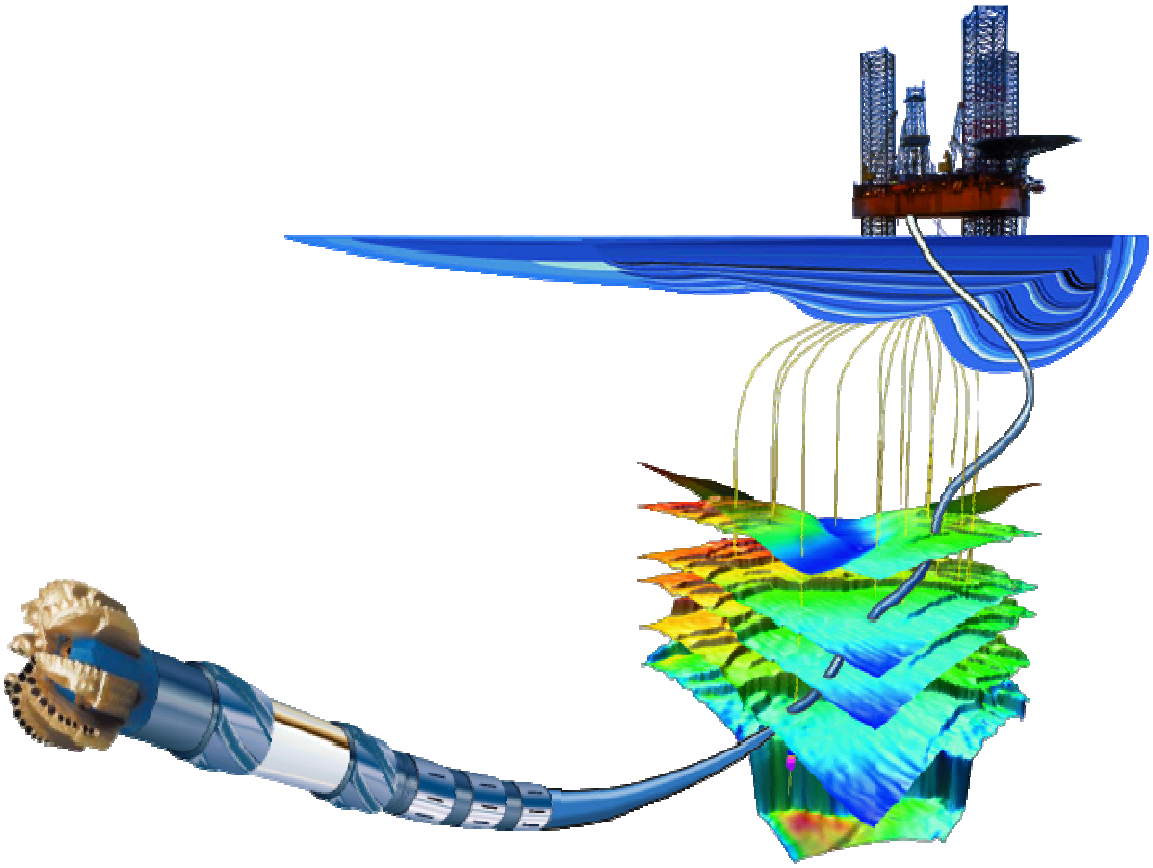
5. Drilling Parameter Sheets



Schlumberger

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Slide Sheet

BHAs: 12 1/4" Xceed_LWD BHA 3 Run 2

Client: Santos Limited
Field: Netherby
Structure: Netherby

Well: Netherby-1DW
Borehole: Netherby-1 DW
UWI/API#:

Directional Driller: Agus Partono
Directional Driller: Andrew Stroud
Job #: 08ASQ0003

Depth In: 648 **Depth Out:** 1421 **Tot Distance:** 773
Inclination In: 0.52 **Inclination Out:** 35.05 **STRAIGHT:** 80 **% STRAI** 10.3
Azimuth In: 130.06 **Azimuth Out:** 116.5 **STEERING:** 693 **% STEER** 89.7

Total Time: 20.9 **Total ROP:** 35.8
STRAIGHT Time: 2.0 **STRAIGHT ROP:** 39.3
STEERING Time: 18.9 **STEERING ROP:** 35.5

Comments:

Statistics:

Min	Max	Sum	None	Min	Max	Sum	None	Avg	Avg	Max	Avg	Avg	Avg	Avg	Avg	Avg	Max	Avg	Avg	Avg	None
	23/7/08 22:15	21.733		648	1427	779	0	-39.7	30.308	G	925	1962	1846	29.8	142	9.7	1408.27	17.5	125.57	1.64	

Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	Power Set (%)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	SPP Off Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)	Comment
21/7/08 9:00	21/7/08 9:10	0.167	STRAIGHT	648	652	4	24	120	0	M	700	1300	1200	15	75	6					Drill new 12.25" hole. Performed LOT.
21/7/08 11:40	21/7/08 12:20	0.667	STRAIGHT	652	666	14	21	120	0	M	800	1200	1100	30	100	6	660.03	0.52	130.06	0.5	
21/7/08 12:20	21/7/08 13:02	0.7	STRAIGHT	666	679	13	18.6	120	0	M	800	1200	1100	30	100	6					
21/7/08 13:20	21/7/08 13:45	0.417	STRAIGHT	679	709	30	72	120	0	M	1000	1750	1700	30	110	7					
21/7/08 13:57	21/7/08 14:02	0.083	STRAIGHT	709	728	19	228	120	0	M	800	1200	1100	30	140	6					
21/7/08 14:02	21/7/08 14:10	0.133	STEERING	728	737	9	67.5	120	60	M	825	1400	1350	30	140	7					D/L on btm SR=60% , start kick off @ 728m.
21/7/08 14:25	21/7/08 14:40	0.25	STEERING	737	766	29	116	120	60	M	800	1200	1100	30	140	7	745.23	2.31	160.81	0.66	
21/7/08 14:55	21/7/08 15:02	0.117	STEERING	766	777	11	94.3	120	60	M	800	1200	1100	30	140	7	773.5	4.27	158.54	2.08	
21/7/08 15:02	21/7/08 15:10	0.133	STEERING	777	795	18	135	120	30	G	800	1250	1200	30	140	7					D/L on btm, SR=30%
21/7/08 15:23	21/7/08 15:30	0.117	STEERING	795	805	10	85.7	120	30	G	800	1275	1200	30	140	7	801.23	5.89	157.85	1.75	
21/7/08 15:30	21/7/08 15:40	0.167	STEERING	805	823	18	108	-60	30	G	800	1300	1200	30	140	8					D/L on btm , TF= -60 deg
21/7/08 16:05	21/7/08 16:13	0.133	STEERING	823	829	6	45	-60	30	G	800	1300	1200	30	140	8					
21/7/08 16:13	21/7/08 16:24	0.183	STEERING	829	847	18	98.2	-60	60	G	800	1300	1200	30	140	9	831.45	7.57	152.25	1.79	D/L on btm, SR=60%
21/7/08 16:24	21/7/08 16:27	0.05	STEERING	847	852	5	100	-72	60	G	800	1300	1200	30	140	9					D/L on btm, TF = -72 deg
21/7/08 16:45	21/7/08 17:06	0.35	STEERING	852	882	30	85.7	-72	60	G	800	1350	1250	30	140	9	859.94	9.31	137.33	2.93	
21/7/08 17:20	21/7/08 17:27	0.117	STEERING	882	902	20	171.4	-72	60	G	800	1450	1350	30	140	10	889.7	11.19	126.87	2.66	
21/7/08 17:27	21/7/08 17:33	0.1	STEERING	902	911	9	90	-72	10	G	800	1450	1350	30	140	10					D/L on btm, SR = 10%
21/7/08 17:48	21/7/08 17:59	0.183	STEERING	911	940	29	158.2	-72	10	G	800	1450	1350	30	140	11	919.19	12.15	123.94	1.15	
21/7/08 18:10	21/7/08 18:20	0.167	STEERING	940	941	1	6	-72	10	G	800	1445	1385	30	140	10					
21/7/08 18:20	21/7/08 18:47	0.45	STEERING	941	968	27	60	-84	10	G	800	1445	1385	30	140	10	948.9	12.93	122.08	0.89	
21/7/08 19:56	21/7/08 20:39	0.717	STEERING	968	1000	32	44.7	-84	-10	G	1000	1900	1800	30	140	10	979.41	13.44	120.85	0.57	D/L failed
21/7/08 20:39	21/7/08 20:50	0.183	STEERING	1000	1009	9	49.1	-84	10	G	1000	2200	2050	30	140	11	1007.51	14.16	120.45	0.78	D/L Failed
21/7/08 20:50	21/7/08 21:15	0.417	STEERING	1009	1028	19	45.6	-84	10	G	1000	2300	2100	30	140	11					D/L Failed
21/7/08 21:30	21/7/08 22:24	0.9	STEERING	1028	1057	29	32.2	-84	10	G	1000	2340	2250	30	140	11	1036.14	14.55	118.54	0.64	D/L Failed
21/7/08 22:34	21/7/08 23:50	1.267	STEERING	1057	1086	29	22.9	-84	10	G	1000	2350	2250	30	140	10	1065.2	14.6	118.24	0.09	D/L 36 sec failed
21/7/08 23:59	22/7/08 0:30	0.517	STEERING	1086	1114	28	54.2	-84	10	G	1000	2380	2270	30	140	10	1096.08	14.09	118.27	0.5	
																	1124.66	14.01	116.68	0.41	
22/7/08 0:57	22/7/08 2:54	1.95	STEERING	1114	1165	51	26.2	0	70	G	1000	2380	2260	30	140	10	1153.5	15.82	116.95	1.88	D/L TF=0, accepted by altering the GPM from 1000 to 800. D/L SR=70%, accepted.
22/7/08 2:54	22/7/08 3:14	0.333	STEERING	1165	1172	7	21	0	100	G	1000	2380	2290	30	150	10					
22/7/08 3:30	22/7/08 3:55	0.417	STEERING	1172	1188	16	38.4	0	60	G	1000	2400	2300	30	150	10	1182.04	19.92	117.65	4.32	
22/7/08 3:55	22/7/08 4:05	0.167	STEERING	1188	1199	11	66	0	60	G	1000	2400	2300	30	150	10					
22/7/08 4:15	22/7/08 5:00	0.75	STEERING	1199	1230	31	41.3	-48	60	G	1000	2250	2121	30	150	10	1210.1	23.56	117.6	3.89	
22/7/08 5:16	22/7/08 6:51	1.583	STEERING	1230	1256	26	16.4	0	60	G	1000	2350	2300	30	150	10	1239.36	25.76	114.79	2.56	
22/7/08 6:51	22/7/08 8:30	1.65	STEERING	1256	1288	32	19.4	0	100	G	1000	2500	2400	30	160	12	1267.39	29.36	115.62	3.87	Torque increased.
22/7/08 8:55	22/7/08 9:00	0.083	STEERING	1288	1290	2	24	0	100	G	1000	2450	2350	30	160	12					

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Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	Power Set (%)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	SPP Off Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)	Comment
22/7/08 9:00	22/7/08 9:30	0.5	STEERING	1290	1299	9	18	0	60	G	1000	2500	2400	30	160	12	1294.27	33.74	116.12	4.9	D/L on btm SR=60%
22/7/08 9:30	22/7/08 10:12	0.7	STEERING	1299	1313	14	20	0	0	G	1000	2500	2400	30	160	12					D/L on btm SR=0%
22/7/08 10:35	22/7/08 11:00	0.417	STEERING	1313	1320	7	16.8	0	0	G	1000	2500	2400	30	160	12					
22/7/08 11:00	22/7/08 11:22	0.367	STEERING	1320	1337	17	46.4	0	0	G	1000	2550	2450	30	160	12	1322.42	33.97	116.49	0.33	D/L HIA : incl @ 34.1 deg, Az @ 116.3 deg
22/7/08 11:22	22/7/08 11:30	0.133	STEERING	1337	1342	5	37.5	0	0	G	1000	2550	2450	30	160	12					D/L HIA : Low incl Gain, 4 mins drill cycle, SR 100% at +/- 1.4 deg. D/L HIA : increase incl 0.4 to 34.5
22/7/08 11:55	22/7/08 12:57	1.033	STEERING	1342	1364	22	21.3	0	0	G	1000	2500	2400	30	160	12	1350.13	34.69	115.42	1.02	
22/7/08 12:57	22/7/08 13:15	0.3	STEERING	1364	1371	7	23.3	0	0	G	1000	2550	2450	30	160	12					D/L HIA: Increase Incl 0.4 deg to 34.9 deg.
22/7/08 13:35	22/7/08 13:55	0.333	STEERING	1371	1376	5	15	0	0	G	1000	2550	2450	30	145	11					
22/7/08 13:55	22/7/08 14:57	1.033	STEERING	1376	1400	24	23.2	0	0	G	1000	2550	2450	30	145	11	1379.95	34.59	115.6	0.14	D/L HIA, incr icl. 0.2 deg to 35.1 deg.
22/7/08 15:12	22/7/08 16:00	0.8	STEERING	1400	1421	21	26.3	0	0	G	1000	2550	2450	30	145	11	1408.27	35.05	116.5	0.73	POOH for bit trip

Schlumberger

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Slide Sheet

BHAs: 12 1/4" Xceed_LWD BHA 4 Run 3

Client: Santos Limited
Field: Netherby
Structure: Netherby

Well: Netherby-1DW
Borehole: Netherby-1 DW
UWI/API#:

Directional Driller: Agus Partono
Directional Driller: Andrew Stroud
Job #: 08ASQ0003

Depth In: 1421 **Depth Out:** 1870 **Tot Distance:** 449
Inclination In: 35.05 **Inclination Out:** 35.18 **ROTATE:** 0 **% ROTAT** 0
Azimuth In: 116.5 **Azimuth Out:** 119.41 **STEERING:** 449 **% STEER** 100

Total Time: 20.5 **Total ROP:** 21.9
Time: 0.0
Time: 20.5 **STEERING ROP:** 21.9

Comments: This run was to maintain the inclination angle at 35 deg and azimuth 118 deg till TD. The Xceed performed as expected and met the requirement.

Statistics:

Min	Max	Sum	None	Min	Max	Sum	None	Avg	Avg	Max	Avg	Avg	Avg	Avg	Avg	Avg	Max	Avg	Avg	Avg	None
	24/7/08 23:10	21.267		1400	1870	470	0	0	0	G	1000	3335	3167	22.1	160	14.9	1838.59	35.07	117.94	0.38	

Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	Power Set (%)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	SPP Off Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)	Comment
23/7/08 21:45	23/7/08 22:15	0.5	STEERING	1421	1427	6	12	0	0	G	1000	2800	2700	10	150	13					Start BHA #4, Xceed Run #2
23/7/08 22:15	23/7/08 22:18	0.05	STEERING	1427	1428	1	20	0	0	G	800	2065	2000	10	150	13					D/L tool in HIA
23/7/08 22:27	23/7/08 23:19	0.867	STEERING	1428	1457	29	33.5	0	0	G	1000	2900	2700	20	150	13	1436.16	34.88	116.15	0.28	
23/7/08 23:32	24/7/08 0:25	0.883	STEERING	1457	1486	29	32.8	0	0	G	1000	2880	2700	30	150	13	1465.63	35.16	116.1	0.29	
																	1494.27	35.09	116.37	0.18	
24/7/08 0:45	24/7/08 5:30	4.75	STEERING	1486	1524	38	8	0	0	G	1000	3050	2800	40	150	14	1523.47	35.39	116.22	0.32	D/L on btm incr Inc 0.2 deg to 35.2 deg, D/L incr az 2 deg to 118.3 deg
24/7/08 5:30	24/7/08 5:52	0.367	STEERING	1524	1525	1	2.7	0	0	G	1000	3300	3200	10	160	13					drilling thru chert/pyrite. D/L on btm to CM=0 with 15% thershold, failed
24/7/08 6:18	24/7/08 7:00	0.7	STEERING	1525	1535	10	14.3	0	0	G	1000	3300	3200	25	120	13					D/L on btm to CM=0 with 20% threshold, accepted.
24/7/08 7:00	24/7/08 7:20	0.333	STEERING	1535	1545	10	30	0	0	G	1000	3300	3200	25	160	15					
24/7/08 7:33	24/7/08 8:15	0.7	STEERING	1545	1573	28	40	0	0	G	1000	3300	3200	25	160	17	1552.94	35.14	115.95	0.3	
24/7/08 8:30	24/7/08 8:45	0.25	STEERING	1573	1580	7	28	0	0	G	1000	3400	3300	25	160	18					
24/7/08 8:45	24/7/08 9:20	0.583	STEERING	1580	1602	22	37.7	0	0	G	1000	3400	3300	20	200	15	1581.55	35.1	115.95	0.04	D/L on btm, incr Az 3 deg to 121.3 deg.
24/7/08 9:35	24/7/08 10:40	1.083	STEERING	1602	1631	29	26.8	0	0	G	1000	3450	3350	20	160	17	1610.85	35.09	116.84	0.52	
24/7/08 10:55	24/7/08 11:56	1.017	STEERING	1631	1660	29	28.5	0	0	G	1000	3450	3350	20	160	16	1639.13	35.01	117.96	0.69	
24/7/08 12:10	24/7/08 13:05	0.917	STEERING	1660	1688	28	30.5	0	0	G	1000	3450	3350	20	160	16	1668.08	34.91	118.18	0.17	
24/7/08 13:18	24/7/08 14:15	0.95	STEERING	1688	1717	29	30.5	0	0	G	1000	3500	3400	20	160	16	1695.83	34.89	119.39	0.75	
24/7/08 14:33	24/7/08 15:22	0.817	STEERING	1717	1746	29	35.5	0	0	G	1000	3550	3450	20	160	15	1725.28	34.9	120.32	0.54	
24/7/08 15:40	24/7/08 16:30	0.833	STEERING	1746	1775	29	34.8	0	0	G	1000	3600	3500	20	160	15	1753.73	34.99	120.9	0.36	D/L on btm decr Azimuth 3 deg to 118.3 deg.
24/7/08 16:45	24/7/08 18:05	1.333	STEERING	1775	1803	28	21	0	0	G	1000	3610	3500	25	160	14	1781.62	35.06	120.66	0.17	
24/7/08 18:19	24/7/08 18:40	0.35	STEERING	1803	1811	8	22.9	0	0	G	1000	3600	3520	10	160	14	1811.05	35.22	120.21	0.31	Flow check, 680 units gas+
24/7/08 18:53	24/7/08 19:45	0.867	STEERING	1811	1832	21	24.2	0	0	G	1000	3650	3550	10	180	15					
24/7/08 20:11	24/7/08 21:50	1.65	STEERING	1832	1861	29	17.6	0	0	G	1000	3650	3550	10	180	16	1838.59	35.18	119.41	0.5	
24/7/08 22:30	24/7/08 23:10	0.667	STEERING	1861	1870	9	13.5	0	0	G	1000	3700	3570	15	160	15					TD

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Slide Sheet

BHA: 12 1/4" Xceed_LWD BHA 8

Client: Santos Limited
Field: Netherby
Structure: Netherby

Well: Netherby-1DW
Borehole: Netherby-1DW HZ
UWI/API#:

Directional Driller: Agus Partono
Directional Driller: Andrew Stroud
Job #: 08ASQ0003

Depth In: 1421 **Depth Out:** 1944 **Tot Distance:** 523
Inclination In: 34.97 **Inclination Out:** 79.76 **ROTATE:** 0 **% ROTAT** 0
Azimuth In: 116.54 **Azimuth Out:** 122.5 **STEERING:** 523 **% STEER** 100

Total Time: 57.6 **Total ROP:** 9.1
Time: 0.0
Time: 57.6 **STEERING ROP:** 9.1

Comments:

Statistics:

None	None	Sum	None	Min	Max	Sum	Avg	Avg	Avg	Max	Avg	Avg	Avg	Avg	Avg	Max	Avg	Avg	None	None
		57.6		1421	1944	523	26.4	-16.5	77.4	G	894	3343	10.1	161	14.2	1919.55	52.02	116.43	0	

Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	Power Set (%)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)	Comment
2/8/08 6:15	3/8/08 6:30	24.25	STEERING	1421	1423	2	0.1	-108	100	G	800	2400	1	100	6					Tag Cement @ 1421m
2/8/08 8:50	2/8/08 9:20	0.5	STEERING	1423	1440	17	34	-108	100	G	800	2400	1	100	6	1429.41	34.97	116.54	0.12	
2/8/08 9:30	2/8/08 10:00	0.5	STEERING	1440	1451	11	22	-108	100	G	800	2400	1	120	6					
2/8/08 10:10	2/8/08 10:40	0.5	STEERING	1451	1454	3	6	-108	100	G	800	2450	1	120	6					
2/8/08 10:40	2/8/08 16:40	6	STEERING	1454	1460	6	1	-108	100	G	800	2450	1	120	6					Time Drill
2/8/08 16:40	2/8/08 19:00	2.333	STEERING	1460	1462	2	0.9	-108	100	G	800	2450	1	120	6					40% Formation
2/8/08 19:00	2/8/08 20:10	1.167	STEERING	1462	1470	8	6.9	-108	100	G	800	2450	1	120	6					0% Formation
2/8/08 20:15	2/8/08 20:55	0.667	STEERING	1470	1480	10	15	-108	100	G	800	2450	1	120	8					
2/8/08 21:01	2/8/08 22:40	1.65	STEERING	1480	1509	29	17.6	-108	100	G	800	2450	10	120	10	1487.9	35.17	112.27	1.26	
																1505	35.5	109.55	2.82	Kicked off
2/8/08 23:08	2/8/08 23:36	0.467	STEERING	1509	1519	10	21.4	-108	60	G	800	2500	10	120	10	1517.15	35.81	105.68	5.62	
2/8/08 23:36	3/8/08 1:07	1.517	STEERING	1519	1537	18	11.9	36	60	G	800	2700	10	120	12					
3/8/08 1:35	3/8/08 2:10	0.583	STEERING	1537	1557	20	34.3	36	60	G	920	3250	10	140	14	1543.44	37.54	107.13	2.21	
3/8/08 0:10	3/8/08 0:29	0.317	STEERING	1557	1566	9	28.4	12	60	G	920	3400	10	140	15					
3/8/08 0:43	3/8/08 1:03	0.333	STEERING	1566	1578	12	36	12	60	G	920	3400	10	140	15	1569.82	39.74	109.42	2.98	
3/8/08 1:14	3/8/08 1:40	0.433	STEERING	1578	1594	16	36.9	12	60	G	920	3400	10	140	15					
3/8/08 2:00	3/8/08 2:08	0.133	STEERING	1594	1596	2	15	12	60	G	920	3500	10	160	15					
3/8/08 2:08	3/8/08 2:45	0.617	STEERING	1596	1614	18	29.2	12	70	G	920	3500	10	200	15	1600.6	42.06	111.11	2.51	
3/8/08 3:50	3/8/08 4:25	0.583	STEERING	1614	1623	9	15.4	12	70	G	850	2900	10	200	18					
3/8/08 4:45	3/8/08 4:53	0.133	STEERING	1623	1626	3	22.5	12	70	G	800	2700	10	200	18					

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Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	Power Set (%)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	DLS (° / 30 m)	Comment
3/8/08 4:53	3/8/08 6:00	1.117	STEERING	1626	1652	26	23.3	12	80	G	850	3000	10	200	18	1629.46	44.65	112.85	2.96	
3/8/08 6:35	3/8/08 6:40	0.083	STEERING	1652	1655	3	36	12	80	G	930	3600	10	200	18					
3/8/08 6:40	3/8/08 6:45	0.083	STEERING	1655	1660	5	60	12	70	G	930	3600	10	200	18	1657.18	47.47	114.86	3.43	
3/8/08 6:45	3/8/08 7:27	0.7	STEERING	1660	1681	21	30	24	70	G	930	3600	10	200	18					
3/8/08 7:51	3/8/08 8:20	0.483	STEERING	1681	1700	19	39.3	24	70	G	930	3600	10	200	18	1686.89	50.14	117.99	3.59	
3/8/08 8:20	3/8/08 8:25	0.083	STEERING	1700	1703	3	36	24	80	G	930	3600	10	200	18					
3/8/08 8:25	3/8/08 8:40	0.25	STEERING	1703	1709	6	24	0	80	G	930	3600	10	200	18					
3/8/08 8:58	3/8/08 9:45	0.783	STEERING	1709	1739	30	38.3	0	80	G	930	3600	15	200	18	1715.23	52.55	119.95	3.02	
3/8/08 10:03	3/8/08 10:08	0.083	STEERING	1739	1741	2	24	0	80	G	930	3600	15	200	18					
3/8/08 10:08	3/8/08 10:35	0.45	STEERING	1741	1762	21	46.7	0	100	G	930	3650	15	200	18	1744.26	55.92	121.19	3.63	
3/8/08 10:35	3/8/08 10:40	0.083	STEERING	1762	1767	5	60	-12	100	G	930	3700	15	200	18					
3/8/08 10:55	3/8/08 11:45	0.833	STEERING	1767	1796	29	34.8	-12	100	G	930	3700	15	160	18	1773.52	59.64	122.89	4.09	
3/8/08 12:05	3/8/08 12:55	0.833	STEERING	1796	1815	19	22.8	-12	100	G	930	3750	15	160	18	1804.17	64.78	123.05	5.03	
3/8/08 12:55	3/8/08 13:12	0.283	STEERING	1815	1825	10	35.3	-12	80	G	930	3750	15	160	18					
3/8/08 13:37	3/8/08 14:38	1.017	STEERING	1825	1854	29	28.5	-12	90	G	930	3800	15	160	18	1832.79	69.15	123.3	4.59	
3/8/08 14:53	3/8/08 15:40	0.783	STEERING	1854	1875	21	26.8	-24	100	G	930	3850	15	160	18	1860.88	73.78	123.07	4.95	
3/8/08 15:40	3/8/08 16:12	0.533	STEERING	1875	1883	8	15	-24	80	G	930	3900	15	160	18					controlled drilling ROP 10 to 15
3/8/08 16:28	3/8/08 18:00	1.533	STEERING	1883	1899	16	10.4	-24	80	G	930	3900	5	160	7	1889.08	77.8	122.38	4.34	
3/8/08 18:00	3/8/08 19:09	1.15	STEERING	1899	1911	12	10.4	-24	10	G	930	3880	5	160	8					
3/8/08 19:28	3/8/08 19:40	0.2	STEERING	1911	1914	3	15	-36	20	G	930	3800	5	160	8					Circulate Bottoms Up
3/8/08 20:45	3/8/08 21:39	0.9	STEERING	1914	1927	13	14.4	-72	20	G	930	3780	5	160	7	1919.55	79.76	122.5	1.93	Circulate Bottoms Up
3/8/08 22:15	4/8/08 0:17	2.033	STEERING	1927	1937	10	4.9	-72	20	G	930	3780	5	160	7					Circulate Bottoms Up
4/8/08 1:18	4/8/08 1:40	0.367	STEERING	1937	1940	3	8.2	-72	20	G	930	3780	5	160	7					
4/8/08 2:05	4/8/08 2:20	0.25	STEERING	1940	1944	4	16	-72	20	G	930	3800	5	160	8					TD 12.25" section

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BHA: 8 1/2" Xceed_Ecoscope_ BHA #9

Client:	Santos Limited	**Well:**	Netherby-1DW	**Directional Driller:**	Agus Partono
Field:	Netherby	**Borehole:**	Netherby-1DWHZ	**Directional Driller:**	Andrew Stroud
Structure:	Netherby	**UWI/API#:**		**Job #:**	08ASQ0003

Depth In:	1935	**Depth Out:**	2517	**Tot Distance:**	582			**Total Time:**	36.2	**Total ROP:**	16.1
Inclination In:	80.97	**Inclination Out:**	98.42	**STRAIGHT:**	80	**% STRAI**	13.7	**STRAIGHT Time:**	5.1	**STRAIGHT ROP:**	15.8
Azimuth In:	122.53	**Azimuth Out:**	119.26	**STEERING:**	502	**% STEER**	86.3	**STEERING Time:**	31.1	**STEERING ROP:**	16.1

Comments:

Statistics:

Min	Max	Sum	None	Min	Max	Sum	None	Avg	Max	Avg	Avg	Avg	Avg	Avg	Max	Avg	Avg	None
	12/8/08 1:30	36.167		1935	2517	582	0	31.3	G	619	2049	18.3	135	24.3	2494.27	92.33	119.99	

Start Time (d/m/yy h:mm)	End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	Comment
9/8/08 21:15	9/8/08 21:40	0.417	STRAIGHT	1935	1944	9	21.6	0	G	600	1900	3	70	15				Work on rat hole
9/8/08 22:50	9/8/08 23:00	0.167	STRAIGHT	1944	1945	1	6	0	G	600	1800	5	140	15				
9/8/08 23:00	10/8/08 0:34	1.567	STEERING	1945	1969	24	15.3	0	G	600	1880	10	140	15	1946.54	80.97	122.53	D/L SR 40%
10/8/08 0:51	10/8/08 2:21	1.5	STEERING	1969	1998	29	19.3	-24	G	620	1900	15	160	20	1973.95	83.6	122.37	Incresaed RPM to mitigate Stickslip
10/8/08 3:30	10/8/08 3:53	0.383	STEERING	1998	2008	10	26.1	-24	G	620	2000	15	160	20				
10/8/08 3:53	10/8/08 4:35	0.7	STEERING	2008	2027	19	27.1	0	G	620	1900	15	160	25	2011.18	87.85	121.02	D/L 0 deg TF, 20% SR
10/8/08 5:05	10/8/08 6:40	1.583	STEERING	2027	2056	29	18.3	0	G	620	2000	15	160	25	2031.41	89.37	120.87	D/L HIA inc. 89.3 deg, Az 120.6 deg
10/8/08 7:03	10/8/08 8:06	1.05	STEERING	2056	2085	29	27.6	0	G	620	2000	15	130	25	2060	89.8	121.67	
															2089.29	89.46	120.38	
10/8/08 8:27	10/8/08 10:06	1.65	STEERING	2085	2113	28	17	0	G	620	2050	20	130	26	2112.91	89.48	119.43	
10/8/08 10:15	10/8/08 11:20	1.083	STEERING	2113	2123	10	9.2	0	G	620	2050	20	130	26				
10/8/08 11:20	10/8/08 12:24	1.067	STEERING	2123	2134	11	10.3	0	G	620	2050	20	130	26				D/L to SM=0, D/L to 0 TF, 40% SR
10/8/08 12:24	10/8/08 12:45	0.35	STEERING	2134	2142	8	22.9	0	G	620	2050	20	130	26				D/L to 20% SR. Work on backed off's top drive saver sub.
10/8/08 14:40	10/8/08 15:10	0.5	STEERING	2142	2162	20	40	0	G	620	2050	20	130	26	2148.38	93.04	121.22	Wor on back off top drive's saver sub
10/8/08 16:48	10/8/08 17:50	1.033	STEERING	2162	2173	11	10.6	0	G	620	2000	20	120	25				
10/8/08 19:00	10/8/08 19:56	0.933	STEERING	2173	2182	9	9.6	0	G	620	2000	20	140	25	2177.62	94.65	120.61	
10/8/08 19:56	10/8/08 22:15	2.317	STEERING	2182	2200	18	7.8	-12	G	620	2000	20	140	25				
10/8/08 22:45	10/8/08 23:30	0.75	STEERING	2200	2215	15	20	0	G	620	2000	20	140	25	2204.99	96.37	120.79	D/L to HIA inc. 96 deg, Az 119.7
10/8/08 23:35	11/8/08 0:30	0.917	STEERING	2215	2229	14	15.3	0	G	620	2000	20	140	25				
11/8/08 0:45	11/8/08 2:30	1.75	STEERING	2229	2258	29	16.6	0	G	620	2000	20	140	25	2234.16	96.29	119.97	

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End Time (d/m/yy h:mm)	Duration (hr)	Orienting Method	Md From (m)	Md To (m)	Course (m)	Calc ROP (m/hr)	TF Angle (°)	TF Mode (G/M)	Flow (gal/min)	SPP On Bot (psi)	WOB (1000 lbf)	RPM (c/min)	Torque (1000 ft.lbf)	Svy Md (m)	Incl (°)	Azmth (°)	Comment
11/8/08 5:35	0.167	STEERING	2258	2261	3	18	0	G	620	2100	20	140	25				D/L reduce incl -1 deg, to 95 deg hold
11/8/08 7:05	1.5	STEERING	2261	2287	26	17.3	0	G	620	2100	20	140	25	2262.23	94.85	119.65	SCR's
11/8/08 8:45	0.55	STEERING	2287	2293	6	10.9	0	G	620	2100	20	140	25	2291.13	95.36	119.68	
11/8/08 9:41	0.933	STEERING	2293	2313	20	21.4	95	G	620	2100	20	140	25				D/L to reduce Az -1 deg to 118.7 deg hold
11/8/08 10:40	0.45	STEERING	2313	2328	15	33.3	95.3	G	620	2100	20	120	26	2321.31	95.04	119.36	
11/8/08 12:00	1.333	STEERING	2328	2344	16	12	94.1	G	620	2100	20	120	26				D/L reduce Az -1 deg to 117.7deg, Incl increased 0.3 deg to 95.3 deg
11/8/08 14:34	2.217	STEERING	2344	2372	28	12.6	94.1	G	620	2100	20	140	26	2350.31	93.87	118.72	D/L reduce incl by 1.2 deg to 94.1 deg as per Geo instruction.
11/8/08 16:48	1.917	STEERING	2372	2401	29	15.1	94.1	G	620	2100	20	140	26	2378.82	94.18	118.17	
11/8/08 19:34	2.5	STRAIGHT	2401	2430	29	11.6	94.1	G	620	2100	20	120	24	2407.67	94.16	117.99	
11/8/08 21:36	1.633	STEERING	2430	2459	29	17.8	94.9	G	620	2120	20	120	24	2436.52	94.22	117.82	
																	Increased Incl to 96.5 deg start from 2450 m as per Geo instruction
11/8/08 22:29	0.617	STRAIGHT	2459	2471	12	19.5	95.7	G	620	2200	20	120	25	2465.68	95.68	118.34	
11/8/08 23:45	1.267	STEERING	2471	2488	17	13.4	96.5	G	620	2230	20	120	25				Increased incl to 98.5 deg as per Geo instruction
12/8/08 1:30	1.367	STRAIGHT	2488	2517	29	21.2	98.3	G	620	2230	20	120	26	2494.27	98.42	119.26	TD

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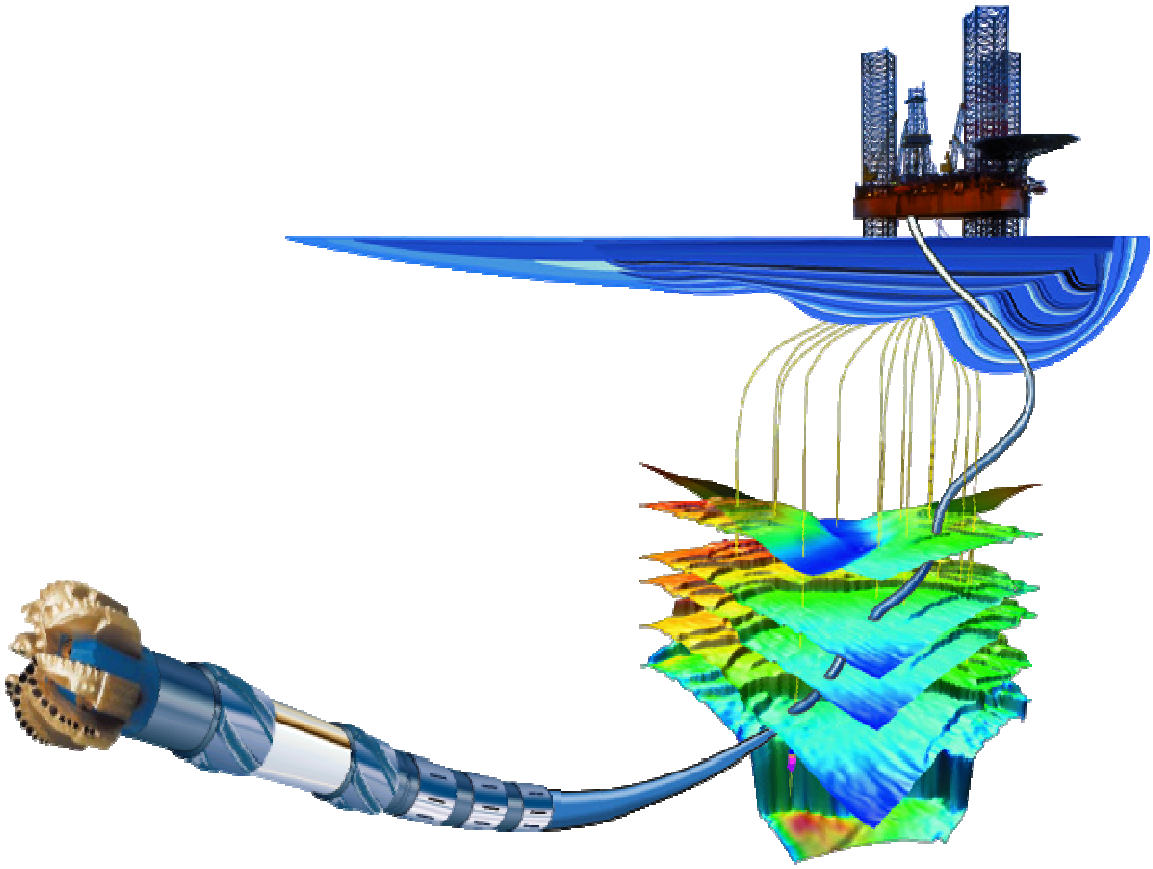
7. Drilling Tool Run Reports



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Equipment Run Summary Report

21-Jul-2008
10:48AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	1				

Run Information

	Date In		Date Out
	16-Jul-2008 4:00PM		18-Jul-2008 12:00AM
Depth (MD):	130.9 m	to	647.5 m
Depth (TVD):	130.9 m	to	647.5 m
Inclination:	0.00 deg	to	0.94 deg
Azimuth:	0.00 deg	to	124.68 deg

Drilling Distance:	516.60 m	Drilling Hours:	11.20 hrs
Rotary Drilling Distance:	516.60 m	Rotary Drilling Hrs:	11.20 hrs
Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Reaming Distance:	0.00 m	Reaming Hours:	0.00 hrs
		Hrs Below Rotary:	32.00 hrs
		Total Pumping Hrs:	18.40 hrs

Hole Size:	17.50 in		
Last Casing Size:	30.000 in		
Last Casing Depth:	130.9 m (MD)		
Tool Face Arc:			
Total Face Angle:	deg		
		Min DLS:	0.00 deg/30 m
North Ref Used:	Grid North	Max DLS:	0.00 deg/30 m
Magnetic Dec:	10.777 deg	Max DLS Depth:	0.0 m
Grid Correction:	-1.025 deg	Surface Screen:	No
Total Correction:	11.802 deg	DFS Used:	No
Est. Mag. Int:	0.00 deg	Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible	Pump Type:	Triplex
Water Depth:	66.10 m	Pulse Damp Press:	800 psi
Air Gap:	20.80 m	Number of Pumps:	3
RKB Height:	20.80 m	Pump Line ID:	6.00 in
Ground Elevation:	-66.10 m	Pump Output:	4.27 galUS/stroke
		Pump Stroke Len:	12.00 in

Run Objective

After drilling out the 20" swagged conductor shoe with a rotary BHA and 17-1/2" Milltooth bit, the hole will continue to be drilled riser-less to the 13-3/8" casing point at approximately 650 mRT MD, 35m above the prognosed Mepunga formation top.

No MWD/LWD tools will be used during drilling, however an Electronic Multi Shot (EMS) will be dropped at section TD. The EMS will land on a totco ring in the BHA above the ILS, and will be programmed to take inclination-only surveys every 20s.

Netherby-1 is a vertical pilot hole for the Netherby-1DW gas development well.

D&M Crew List:

Cell Manager:	John Oldridge
Crew:	John Oldridge, Cell Manager

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:		Int Tool Face Offset:	deg	Bit Rate:	bps	Slimpulse Pulser Config:	
Mod Gap:	in	Turbine Config:		Frequency:	Hz	Pred Sig Strength @ TD:	psi
SPT Type:							

Drilling Parameters

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Equipment Run Summary Report

21-Jul-2008
10:48AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 1

	Min	Max	Avg
BH Temperature:			
Surface RPM:	rpm	rpm	rpm
ROP:	15.37 m/hr	28.52 m/hr	46.13 m/hr
Surface Torque:			
Flow Rate:			
WOB Sliding:			

Total DH Shocks (k):	k
Max Shock Level:	
Max Shock Duration:	sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure: psi

Turbine RPM @ Min Flow Rate: rpm Min Flow Rate:
Turbine RPM @ Max Flow Rate: rpm Max Flow Rate:

SPP Off Bottom: psi
SPP On Bottom: psi

Mud Information

Mud Type:	Sea Water	Mud Clean:	No	pH:	9.80
Mud Company:	RheoChem	LCM Type:		Chlorides:	850.00 ppm
Mud Brand:	SWPH	LCM Size:		Sand Content:	0.00 %
Funnel Viscosity:	250.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	3.13 %
Plastic Viscosity:	3.00 cp	Weighting Material:	Bentonite	Percent Oil:	0.00 %
Yield Point:	80.00 lbm/100ft2	Mud Weight:	8.80 lbm/galUS		
Mud Resistivity:	ohm-m				

IADC Bit Grading

Manufacturer:	Hughes Christianson	Total Revs:		IADC Code:	1-1-7
Model:	MXL-1V	Stick/Slip:		Jets (/ 32 in'	4X18
Type:	Milltooth	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	0.99 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
0.00	0.00	WT	A	E	I	NO

End of Run - Summary

Sync Hours:	0.00 hrs	Downhole Noise:	No	Run Failed:	No
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Successfully drilled 17-1/2" section to TD of 647mMD. Electronic Multi Shot dropped shortly after, and surveys of the wellbore taken while tripping out. Once at surface, EMS survey data was processed indicating the hole was vertical as expected.

If not, why?:

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Equipment Run Summary Report

21-Jul-2008

10:48AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	1				

Equipment on the Run

	Pump Hours			
Equipment	Start	Cumulative	Software Version	Tool Size
NMDC-9I-6613	14.60 hrs	33.00 hrs		9.00 in
NMDC-9I-D173	0.00 hrs	0.00 hrs		9.00 in

Services on the Run

			Real Time			Recorded Mode			
Equipment	Service	Tool Name	Hours	Failed	Depth	Hours	Failed	Depth	CAF

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BHA Report

21-Jul-2008

10:48AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 1 **BHA Type:** Rotary

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hughes Christianson	Milltooth	6062681	0.41 m	17.50	3.88						7 5/8"	REG PIN	0.41 m
2	NEAR BIT STAB	Santos	17-1/4" Near Bit Stab	XM771	2.55 m	17.25	3.00				7 5/8"	REG BOX	7 5/8"	REG BOX	2.96 m
3	DRILL COLLAR	Pathfinder	Anderdrift	ADB995	3.00 m	9.58	3.00				7 5/8"	REG PIN	7 5/8"	REG BOX	5.96 m
4	STABILIZER	Santos	17-1/4" IBS w/ Totco	XM773	2.43 m	17.25	3.00				7 5/8"	REG PIN	7 5/8"	REG BOX	8.39 m
5	DRILL COLLAR - NONMAG	D&M	9" NMDC	6613	8.93 m	9.00	3.00				7 5/8"	REG PIN	7 5/8"	REG BOX	17.32 m
6	STABILIZER	Santos	17-1/4" IBS	XM775	2.43 m	9.50	3.00				7 5/8"	REG PIN	7 5/8"	REG BOX	19.75 m
7	DRILL COLLAR	Diamond Offshore	2 x 9-1/2" Drill Collar	186-00-0059, etc	18.61 m	9.50	3.00				7 5/8"	REG PIN	7 5/8"	REG BOX	38.36 m
8	CROSSOVER	Santos	Crossover	GUD-1231-5	1.09 m	9.50	3.00				7 5/8"	REG PIN	6 5/8"	REG BOX	39.45 m
9	DRILL COLLAR	Diamond Offshore	9 x 8" Drill Collar	18600062, etc	84.48 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	123.93 m
10	JAR	Smith	Hydraulic Jar	718096	10.11 m	8.25	3.00				6 5/8"	REG PIN	6 5/8"	REG BOX	134.04 m
11	DRILL COLLAR	Diamond Offshore	2 x 8" Drill Collar	18600046, etc	18.91 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	152.95 m
12	CROSSOVER	Santos	Crossover	GUD-1231-6	1.09 m	8.00	2.88				6 5/8"	REG PIN	4 1/2"	IF BOX	154.04 m
13	HWDP	Diamond Offshore	15 x 5" HWDP	186-068, etc	140.40 m	6.63	3.06				4 1/2"	IF PIN	4 1/2"	IF BOX	294.44 m

Predicted BHA Tendency: Vertical inclination

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out	Bit to Read Out Port	Bit to Measurement Port
17-1/4" Near Bit Stab									

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Daily Drilling Activity Report

21-Jul-2008
10:48AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	1				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
16-Jul-2008						
15:30	18:00	2.50	0.0	95.4	PU / LD BHA / Tripping	Pick up 17-1/2" bit and stab, RIH to 30" housing
18:00	19:00	1.00			Lubricate rig / Service	Service block and top drive
19:00	19:30	0.50	95.4	130.9	PU / LD BHA / Tripping	TIH and tag TOC
19:30	22:30	3.00	130.9	177.0	Drilling	Drill 17-1/2" hole to 177m
22:30	23:00	0.50	177.0	123.0	PU / LD BHA / Tripping	POOH to 123m
23:00	23:30	0.50			Other	Reconnect guideline #1 to PGB
23:30	00:00	0.50	123.0	177.0	PU / LD BHA / Tripping	Pick up jar stand RIH to 177m
17-Jul-2008						
00:00	16:30	16.50	177.0	647.5	Drilling	Drill ahead 17-1/2" hole
16:30	19:00	2.50			Circulate / Condition mud	Pump sweep, circulate. Displace hole with PHG. Drop EMS
19:00	00:00	5.00	647.5	0.0	PU / LD BHA / Tripping	POOH to surface. Recover EMS. Lay down some parts of BHA, break off bit.

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Equipment Run Summary Report

24-Jul-2008
9:23AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	2				

Run Information

	Date In		Date Out
	21-Jul-2008 1:00AM		23-Jul-2008 9:15AM
Depth (MD):	647.5 m	to	1421.0 m
Depth (TVD):	647.5 m	to	1376.9 m
Inclination:	0.94 deg	to	34.59 deg
Azimuth:	124.68 deg	to	115.60 deg

Drilling Distance:	773.50 m
Rotary Drilling Distance:	773.50 m
Sliding Distance:	0.00 m
Reaming Distance:	510.00 m

Drilling Hours:	19.10 hrs
Rotary Drilling Hrs:	19.10 hrs
Sliding Hours:	0.00 hrs
Reaming Hours:	3.50 hrs
Hrs Below Rotary:	56.25 hrs
Total Pumping Hrs:	35.10 hrs

Hole Size:	12.25 in
Last Casing Size:	13.375 in
Last Casing Depth:	642.2 m (MD)
Tool Face Arc:	.0 cm
Total Face Angle:	0.00 deg

North Ref Used:	Grid North
Magnetic Dec:	10.777 deg
Grid Correction:	-1.025 deg
Total Correction:	11.802 deg
Est. Mag. Int:	0.20 deg

Min DLS:	0.09 deg/30 m
Max DLS:	4.98 deg/30 m
Max DLS Depth:	1,294.3 m
Surface Screen:	No
DFS Used:	No
Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible
Water Depth:	66.10 m
Air Gap:	20.80 m
RKB Height:	20.80 m
Ground Elevation:	-66.10 m

Pump Type:	Triplex
Pulse Damp Press:	800 psi
Number of Pumps:	3
Pump Line ID:	6.00 in
Pump Output:	4.27 galUS/stroke
Pump Stroke Len:	12.00 in

Run Objective

After drilling out the 13-3/8" casing shoe, a deviated 12-1/4" pilot hole will be drilled with a Milltooth bit to total depth at approximately 1823mMD. Angle will be built at approximately 1.6deg/30m up to 35deg and held to TD. A bit trip is expected once through the top Paaratte formation at around 1337mMD.

The BHA will consist of a PowerDrive Xceed RSS, along with PowerPulse MWD and arcVISION LWD tools. The arcVISION will provide formation evaluation measurements in the form of Gamma Ray and Resistivity, along with Annular Pressure and Temperature.

Netherby-1 is a vertical pilot hole for the Netherby-1DW gas development well.

D&M Crew List:

Cell Manager:	John Oldridge
Crew:	John Oldridge, Cell Manager
	Agus Partono, DD
	Zachary Rudd, LWD
	Andrew Stroud, DD

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	D&M
RSS Type:	PowerDrive Xceed
RSS SN:	058
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	0.12000 in	Turbine Config:	600-1200 galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

Drilling Parameters

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Equipment Run Summary Report

24-Jul-2008
9:23AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 2

	Min	Max	Avg
BH Temperature:	25.00 degC	52.00 degC	36.00 degC
Surface RPM:	90.00 rpm	150.00 rpm	130.00 rpm
ROP:	1.00 m/hr	42.27 m/hr	40.50 m/hr
Surface Torque:	4.00 kft.lbf	12.00 kft.lbf	7.50 kft.lbf
Flow Rate:	750.00 galUS/min	1,020.00 galUS/min	916.25 galUS/min
WOB Sliding:			

Total DH Shocks (k): 0 k
Max Shock Level: 0
Max Shock Duration: 0 sec

Checkshot Type:
Checkshot Depth: m
Checkshot Incl: deg
Checkshot Azim: deg

H2S In Well: No

Average Pump Pressure: psi

Turbine RPM @ Min Flow Rate: 3,090 rpm Min Flow Rate: 750.00galUS/min SPP Off Bottom: psi
Turbine RPM @ Max Flow Rate: 3,555 rpm Max Flow Rate: 1,020.00galUS/min SPP On Bottom: 1,200.00 psi

Mud Information

Mud Type: Water Base
Mud Company: Rheochem
Mud Brand: KCl Glycol
Funnel Viscosity: 51.00 s/qt
Plastic Viscosity: 16.00 cp
Yield Point: 29.00 lbm/100ft2
Mud Resistivity: 0.10 ohm-m

Mud Clean: Yes
LCM Type:
LCM Size:
LCM Concentration: lbs/bbl
Weighting Material: Barite
Mud Weight: 9.30 lbm/galUS

pH: 9.00
Chlorides: 47,000.00 ppm
Sand Content: 1.20 %
Solids: 3.52 %
Percent Oil: 0.00 %

IADC Bit Grading

Manufacturer: Hughes Christianson
Model: MXL-1X
Type: Milltooth

Total Revs: 122.00
Stick/Slip:
Reason Pulled: Penetration Rate

IADC Code: 1-1-7
Jets (/ 32 in) 1X14 3X20
Bit TFA: 1.07 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
1.00	3.00	CT	M	E	2	ER

End of Run - Summary

Sync Hours: 28.76 hrs
Jamming: No 0.00 hrs
Surface Vibration: No
Trans Fail: No

Downhole Noise: No
Surface System Failure: No
Surface Noise: No
H2S in Well: No

Run Failed: No
D&M Trip: No
Low Oil Flag: No 0.00 hrs
Filter Screen/Plug Shear: No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Penetration Rate

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

A rotary steerable BHA containing a PowerDrive Xceed RSS, arcVISION and PowerPulse tools was run in hole and tagged top of cement at 614mMD. The cement and 4m of new formation was drilled before a LOT was performed. After which, drilling proceeded uninterrupted at an average ROP of 40m/hr to 1421mMD before decision was made to POOH and change to a PDC bit.

Minimal downhole shocks were observed while drilling, however stick slip severity exceeded 150% at times. Attempts to mitigate involved increasing the surface RPM and proved partially successful.

A brief period of difficulty obtaining surveys within Tool G FAC was observed, and attributed to the large rig heave. Despite this, the PowerPulse and arcVISION performed as expected throughout the run. Upon dumping the tools memory at surface, they were determined to be re-runnable.

If not, why?:

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Equipment Run Summary Report

24-Jul-2008

9:23AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 2

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ARC8D-BB-1106	0.00 hrs	35.10 hrs	9.3B13	8.25 in
CRSC-BA-058	0.00 hrs	35.10 hrs		9.00 in
H524743-e08154	0.00 hrs	0.00 hrs		8.25 in
H524743-e08181	0.00 hrs	35.10 hrs		8.25 in
H524743-e08182	0.00 hrs	0.00 hrs		8.25 in
H524743-e08183	0.00 hrs	35.10 hrs		8.25 in
MDCIX-GA-E1518	0.00 hrs	35.10 hrs	8.0C04	8.25 in
NMDC825L-SBD5552	0.00 hrs	35.10 hrs		8.25 in
NMDC825L-SBD5553	0.00 hrs	35.10 hrs		8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	35.10 hrs		773.5 m	56.25 hrs		773.5 m	
LWD	Gamma Ray	arcVision	35.10 hrs		773.5 m	56.25 hrs		773.5 m	
LWD	APWD	arcVision	35.10 hrs		773.5 m	56.25 hrs		773.5 m	
MWD	D&I	PowerPulse	35.10 hrs		773.5 m	hrs			
MWD	Cont D&I	PowerPulse	35.10 hrs		773.5 m	hrs			
RSS	PowerDrive Xceed	PowerDrive Xceed	35.10 hrs		773.5 m	hrs			

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BHA Report

24-Jul-2008

9:23AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 2 **BHA Type:** Rotary Steerable

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hughes Christianson	Milltooth	6066569	0.34 m	12.25							6 5/8"	REG PIN	0.34 m
2	RSS	D&M	PowerDrive Xceed	058	8.64 m	9.00	5.25				6 5/8"	REG BOX	6 5/8"	FH BOX	8.98 m
3	LWD	D&M	arcVISION	1106	5.84 m	8.44	4.25				6 5/8"	FH PIN	6 5/8"	FH BOX	14.82 m
4	MWD	D&M	PowerPulse	E1518	8.51 m	8.31	4.31				6 5/8"	FH PIN	6 5/8"	REG BOX	23.33 m
5	DRILL COLLAR - NONMAG	D&M	NMDC	SBD5552	9.30 m	8.38	3.25				6 5/8"	REG PIN	6 5/8"	REG BOX	32.63 m
6	DRILL COLLAR - NONMAG	D&M	NMDC	SBD5553	9.30 m	8.38	3.25				6 5/8"	REG PIN	6 5/8"	REG BOX	41.93 m
7	DRILL COLLAR	Diamond Offshore	7 x 8" Drill Collar	18600062, etc	65.65 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	107.58 m
8	JAR	Smith	Hydraulic Jar	718096	10.11 m	8.25	3.00				6 5/8"	REG PIN	6 5/8"	REG BOX	117.69 m
9	DRILL COLLAR	Diamond Offshore	2 x 8" Drill Collar	18600046, etc	18.91 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	136.60 m
10	CROSSOVER	Santos	Crossover	GUD-1231-6	1.09 m	8.00	2.88				6 5/8"	REG PIN	4 1/2"	IF BOX	137.69 m
11	HWDP	Diamond Offshore	15 x 5" HWDP	186-068, etc	140.40 m	6.63	3.06				4 1/2"	IF PIN	4 1/2"	IF BOX	278.09 m

Predicted BHA Tendency: Rotary Steerable. Build inclination to approx. 35deg, hold inclination.

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
RSS-PowerDrive Xceed	3.70	m
LWD-arcVISION	12.90	m
MWD-PowerPulse	16.60	m

Bit to Measurement Port		
arcVISION-Resistivity	11.80	m
arcVISION-APWD	11.09	m
arcVISION-Gamma Ray	11.85	m
PowerPulse-D&I	18.96	m

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Daily Drilling Activity Report

24-Jul-2008
9:23AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	2				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
21-Jul-2008						
01:00	02:30	1.50	0.0	147.0	PU / LD BHA / Tripping	Pick up BHA
02:30	03:30	1.00	147.0	147.0	MWD/LWD service quality	SHT
03:30	06:00	2.50	147.0	647.5	PU / LD BHA / Tripping	TIH to 614m
06:00	09:30	3.50	647.5	651.0	Drilling	Tag TOC at 614m, drill out cement and 4m new formation
09:30	10:00	0.50	651.0	651.0	Circulate / Condition mud	Circulate bottoms up
10:00	11:30	1.50	651.0	651.0	Test BOP	Perform LOT
11:30	19:00	7.50	651.0	968.0	Drilling	Drill ahead 12-1/4" hole
19:00	20:00	1.00	968.0	968.0	Circulate / Condition mud	Displace hole with 9.1ppg KCl mud
20:00	00:00	4.00	968.0	1084.0	Drilling	Drill ahead 12-1/4" hole
22-Jul-2008						
00:00	16:00	16.00	1084.0	1421.0	Drilling	Drill ahead 12-1/4" hole
16:00	17:00	1.00	1421.0	1421.0	Circulate / Condition mud	Circulate hole clean
17:00	18:30	1.50	1421.0	1220.0	PU / LD BHA / Tripping	Flow check, POOH to 1220m
18:30	20:00	1.50	1220.0	1028.0	Reaming / Hole opener / Unc	Back ream due to excessive drag
20:00	21:30	1.50	1028.0	1028.0	Circulate / Condition mud	Circulate hole clean
21:30	22:30	1.00	1028.0	1373.0	PU / LD BHA / Tripping	TIH to 1373m
22:30	23:00	0.50	1373.0	1421.0	Reaming / Hole opener / Unc	Wash and ream to bottom
23:00	00:00	1.00	1421.0	1421.0	Circulate / Condition mud	Circulate and condition mud. Weight up to 9.8ppg
23-Jul-2008						
00:00	01:30	1.50	1421.0	1421.0	Circulate / Condition mud	Continue circulating mud and weight up to 9.8ppg
01:30	04:30	3.00	1421.0	913.0	PU / LD BHA / Tripping	Flow check, POOH to 913m
04:30	06:00	1.50	913.0	643.0	Reaming / Hole opener / Unc	Back ream to 643m
06:00	07:00	1.00	643.0	643.0	Circulate / Condition mud	Circulate hole clean at shoe
07:00	09:00	2.00	643.0	0.0	PU / LD BHA / Tripping	Flow check, POOH to surface
09:00	10:00	1.00	0.0	0.0	PU / LD BHA / Tripping	Change out milltooth bit for PDC
10:00	10:30	0.50	0.0	0.0	Other	Dump arcVISION memory

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Time Description Report

24-Jul-2008

9:23AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	2				

Date/Time	Depth		Description
20-Jul-2008 10:31PM	0.0	m	Initialise ARC #1106
21-Jul-2008 1:00AM	0.0	m	TBRT
21-Jul-2008 2:25AM	0.0	m	Rmf = Rm = 0.189 @ 26.7 Rmc = 0.168 @ 27.1 Note : Mud is sea water and Flowzan mix.
21-Jul-2008 2:46AM	147.0	m	SHT - FLOW 650 GPM, SPT2 33psi, SPP 603 psi, TRPM 2344 MWDSTAT 4 (Casing) Recycled Pumps three times as TOOL G was out of FAC. Successful SHT
21-Jul-2008 5:30AM	550.0	m	Rig up Geolograph
21-Jul-2008 5:46AM	566.0	m	Set Bit Depth.
21-Jul-2008 5:59AM	614.0	m	Tagged Cement
21-Jul-2008 8:15AM	638.0	m	Began displacing mud back to Sea Water base (0% KCl)
21-Jul-2008 8:26AM	640.0	m	High stick slip severity (up to 175%) observed drilling through shoe
21-Jul-2008 8:40AM	645.0	m	Sharp temporary pressure and ROP spike. BHA stopped rotating, appears to be stuck in casing.
21-Jul-2008 8:55AM	645.0	m	BHA worked free, back on bottom drilling
21-Jul-2008 9:40AM	653.0	m	Pick off bottom to prepare for LOT
21-Jul-2008 11:27AM	653.0	m	LOT complete
21-Jul-2008 12:16PM	663.0	m	Stick slip severity dropped off significantly, now at under 100%.
21-Jul-2008 1:31PM	684.0	m	Mud losses at shakers, pump strokes varies several times to compensate
21-Jul-2008 1:42PM	684.0	m	Very fast drilling break (over 200m/hr) observed
21-Jul-2008 2:48PM	766.0	m	Experiencing difficulty getting a survey within Tool G FAC. Asked driller to work pipe, and make sure it was kept still. Had to recycle three times.
21-Jul-2008 3:23PM	797.0	m	ECD ramping up towards the end of every stand suggesting hole cleaning problem. Informed CoMan who said the mud quality is not adequate, and for us to keep an eye on it.
21-Jul-2008 3:55PM	823.0	m	Mechanical problems on rig floor. Circulating slowly while repairs made.
21-Jul-2008 4:05PM	823.0	m	Back on bottom drilling
21-Jul-2008 6:10PM	935.0	m	mwdstat = 32 (LTB retries over 3% in last power cycle)
21-Jul-2008 6:55PM	968.0	m	Stand Down, Displacing mud, adding KCL
21-Jul-2008 7:00PM	969.0	m	Whilst displacing two utility frames showed MWD stat of 32
21-Jul-2008 7:46PM	969.0	m	Introduced Potassium to MUD, 8%. Changed in Inits.
21-Jul-2008 8:36PM	1000.0	m	MWD stat 32, osc informed
21-Jul-2008 9:07PM	1019.0	m	Increase Potassium from 8 to 9 %
21-Jul-2008 9:22PM	1029.0	m	ltbrt reaching 256 and reseting frequently. Possible connection problem with exceed. Exceed cont azi and inclination is fluctuating in comparison to MWD. Also TFDES flucuating when should remain constant. EG TFDES from -90 degrees to 5 degrees for a couple of minutes and back.
21-Jul-2008 11:35PM	1082.0	m	Recycled pumps, MWD stat 36. LTB comms status with Stat word 4 which is magnatometers unstable with LTB power.
22-Jul-2008 12:30AM	1100.0	m	High SticknSlip approx 175% plus for approx 30 mins
22-Jul-2008 1:10AM	1120.0	m	Flow check. Off bottom pumps down.
22-Jul-2008 1:45AM	1126.0	m	High stick slip (> 150%), working with exceed before mitigation.
22-Jul-2008 2:00AM	1140.0	m	Increase RPM, SticknSlip dropped to 30%
22-Jul-2008 4:02AM	1199.0	m	Resitivity: Rmf 0.0837 @ 21.1 celcius Rm 0.0916 @ 20.6 c Rmc 0.0955 @ 20.2 c
22-Jul-2008 4:15AM			Restart V1, not writing to dm append in slips making and making a connection, no footage made.
22-Jul-2008 6:46AM	1254.0	m	MW 9.4, Vis 50
22-Jul-2008 7:43AM	1269.0	m	MW 9.3, Vis 59

Date/Time	Depth		Description
22-Jul-2008 7:48AM	1274.0	m	Noticed Potassium % in RT inits wrong. KCl in mud is 9% volume, however IDEAL input is Potassium % by weight. Corrected inits to 4.7% and recomputed MASTER.CS_DEPTH file from when Potassium added with new value.
22-Jul-2008 9:39AM	1300.0	m	Depth tracking suddenly jumping out by up to 2m. Adjusted hole depth accordingly when on bottom drilling. Checked both geolograph and heave sensor - both appear to be tracking as expected. Adjusted geolograph calibration after next tool joint.
22-Jul-2008 12:38PM	1361.0	m	MW 9.3, Vis 57
22-Jul-2008 2:34PM	1397.0	m	MW 9.2, Vis 54
22-Jul-2008 4:05PM	1421.8	m	Decision made to POOH to change bit
22-Jul-2008 4:08PM	1406.0	m	Downlink to Xceed - set to neutral
22-Jul-2008 6:00PM	1200.0	m	Pumping out/Reaming through high dogleg spots.
22-Jul-2008 8:10PM			Mud resistivity measured: Rmf = 0.095ohm.m @ 20.0degC, Rm = 0.0984ohm.m @ 19.5degC, Rmc = 0.100ohm.m @ 20.1degC
22-Jul-2008 9:29PM	1000.0	m	Pulling really tight. Recieving chunks across shakers. Weight up mud, maybe trip back to bottom.
23-Jul-2008 1:00AM			Restarted IDEAL, OP launcher failed
23-Jul-2008 1:11AM			MW weighted up to 9.8ppg
23-Jul-2008 1:16AM			Pumping on low flow
23-Jul-2008 1:21AM			POOH
23-Jul-2008 9:15AM	0.0	m	Bit ART
23-Jul-2008 10:15AM	0.0	m	Plugged into ARC8-1106, dumped memory. Re-initialised for RIH.

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Drilling Parameters Report

24-Jul-2008

09:23

Job Number: 08ASQ0003
Company: SANTOS LIMITED
Rig Name: Ocean_Patriot
Company Rep: C. Roots, N. Peri
Location: MEA-APG-ASQ
Well Name: Netherby-1
Run Number: 2

	22-Jul-2008 11:14 AM	21-Jul-2008 10:02 PM	21-Jul-2008 1:25 PM	21-Jul-2008 8:36 AM
Field Engineer	John Oldridge	Zachary Rudd	John Oldridge	John Oldridge
Depth	1,326.40 m	1,047.00 m	681.90 m	643.10 m
Avg ROP	14.04 m/hr	18.98 m/hr	18.98 m/hr	18.98 m/hr
On Bottom ROP	24.37 m/hr	82.83 m/hr	82.83 m/hr	82.83 m/hr
Flow Rate	1,020.00 galUS/min	1,000.00 galUS/min	895.00 galUS/min	750.00 galUS/min
Turbine RPM	3,555 rpm	3,516 rpm	3,008 rpm	3,090 rpm
Surface RPM	150 rpm	140 rpm	140 rpm	90 rpm
WOB Rotating	36.00 klbm	30.00 klbm	31.00 klbm	22.00 klbm
WOB Sliding				
DH WOB				
Surface Torque	12.00 kft.lbf	9.00 kft.lbf	4.00 kft.lbf	5.00 kft.lbf
DH Torque				
Hookload	230 klbm	202 klbm	200 klbm	200 klbm
PickUp Weight		240.00 klbm		
Slack Weight		230.00 klbm		
Friction				
SPP On Bottom	2,550.00 psi	2,294.00 psi	1,450.00 psi	1,200.00 psi
SPP Off Bottom				
Diff Pressure				
BH Temperature	52.00 degC	38.00 degC	29.00 degC	25.00 degC
Total Shocks (k)				
Max Shock Level				
Max Shock Duration				
Torsional Vib				
Lateral Vib				
Axial Vib				
CRPM	119 rpm	116 rpm	113 rpm	84 rpm
Stick/Slip			24	135
Formation		Sandstone	Sandstone	Cement
Signal Strength	36.00 psi	44.00 psi	45.00 psi	42.00 psi
Percent Signal Conf	82 %	95 %	95 %	95 %

Schlumberger

Equipment Run Summary Report

26-Jul-2008
11:12AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	3				

Run Information

	Date In		Date Out
	23-Jul-2008 10:00AM		25-Jul-2008 1:30PM
Depth (MD):	1421.0 m	to	1870.0 m
Depth (TVD):	1376.9 m	to	1744.2 m
Inclination:	34.59 deg	to	35.38 deg
Azimuth:	115.60 deg	to	119.23 deg

Hole Size:	12.25 in
Last Casing Size:	13.375 in
Last Casing Depth:	642.2 m (MD)
Tool Face Arc:	.0 cm
Total Face Angle:	0.00 deg

Drilling Distance:	449.00 m	Drilling Hours:	20.50 hrs
Rotary Drilling Distance:	449.00 m	Rotary Drilling Hrs:	20.50 hrs
Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Reaming Distance:	500.00 m	Reaming Hours:	4.10 hrs
		Hrs Below Rotary:	51.50 hrs
		Total Pumping Hrs:	30.60 hrs
		Min DLS:	0.04 deg/30 m
North Ref Used:	Grid North	Max DLS:	0.75 deg/30 m
Magnetic Dec:	10.777 deg	Max DLS Depth:	1,695.8 m
Grid Correction:	-1.025 deg	Surface Screen:	No
Total Correction:	11.802 deg	DFS Used:	No
Est. Mag. Int:	0.20 deg	Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible	Pump Type:	Triplex
Water Depth:	66.10 m	Pulse Damp Press:	800 psi
Air Gap:	20.80 m	Number of Pumps:	3
RKB Height:	20.80 m	Pump Line ID:	6.00 in
Ground Elevation:	-66.10 m	Pump Output:	4.27 galUS/stroke
		Pump Stroke Len:	12.00 in

Run Objective

A PDC bit will be used with the same BHA from the first 12-1/4" run, and drilling will resume from 1421mMD. Inclination and azimuth will be held to land the well within the target trying to avoid sharp dog legs. Drilling will continue to a projected TD of 1823mMD, once sufficiently through the Waarre A target formation.

The BHA will consist of a PowerDrive Xceed RSS, along with PowerPulse MWD and arcVISION LWD tools. The arcVISION will provide formation evaluation measurements in the form of Gamma Ray and Resistivity, along with Annular Pressure and Temperature.

Netherby-1 is a near-vertical pilot hole for the Netherby-1DW gas development well.

D&M Crew List:

Cell Manager: John Oldridge

Crew: John Oldridge, Cell Manager
Agus Partono, DD
Zachary Rudd, LWD
Andrew Stroud, DD

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	D&M
RSS Type:	PowerDrive Xceed
RSS SN:	058
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	0.12000 in	Turbine Config:	600-1200 galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

Drilling Parameters

Schlumberger

Equipment Run Summary Report

26-Jul-2008
11:12AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 3

	Min	Max	Avg
BH Temperature:	51.00 degC	77.00 degC	66.75 degC
Surface RPM:	150.00 rpm	160.00 rpm	152.50 rpm
ROP:	17.22 m/hr	26.50 m/hr	21.90 m/hr
Surface Torque:	10.00 kft.lbf	15.00 kft.lbf	12.75 kft.lbf
Flow Rate:	980.00 galUS/min	1,090.00 galUS/min	1,017.50 galUS/min
WOB Sliding:			

Total DH Shocks (k):	0 k
Max Shock Level:	0
Max Shock Duration:	0 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure: psi

Turbine RPM @ Min Flow Rate:	3,555 rpm	Min Flow Rate:	980.00galUS/min	SPP Off Bottom:	psi
Turbine RPM @ Max Flow Rate:	3,594 rpm	Max Flow Rate:	1,090.00galUS/min	SPP On Bottom:	2,932.00 psi

Mud Information

Mud Type:	Water Base	Mud Clean:	Yes	pH:	9.00
Mud Company:	Rheochem	LCM Type:	No LCM	Chlorides:	48,000.00 ppm
Mud Brand:	KCl Glycol	LCM Size:	0	Sand Content:	0.60 %
Funnel Viscosity:	53.00 s/qt	LCM Concentration:	0.00 lbs/bbl	Solids:	10.75 %
Plastic Viscosity:	26.00 cp	Weighting Material:	Barite	Percent Oil:	0.00 %
Yield Point:	41.00 lbm/100ft2	Mud Weight:	11.00 lbm/galUS		
Mud Resistivity:	0.10 ohm-m				

IADC Bit Grading

Manufacturer:	Hycalog	Total Revs:	196,800.00	IADC Code:	
Model:	RSX616M-A10	Stick/Slip:	Yes, severe than	Jets (/ 32 in'	6X16
Type:	PDC	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	1.18 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
2.00	3.00	CT	S	X	I	WT

End of Run - Summary

Sync Hours:	25.06 hrs	Downhole Noise:	No	Run Failed:	Yes
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

If not, why?:

Brief Run Summary:

After performing a bit trip, where a PDC replaced the previous Milltooth bit, the otherwise identical rotary steerable BHA was ran in hole and touched bottom at 1421mMD. Drilling proceeded uninterrupted at an ROP varying from 3 to 40m/hr before it was determined the bit was sufficiently through the target Waarre formation and TD was called at 1870mMD.

Minimal downhole shocks were observed while drilling, however stick slip severity exceeded 150% for extended periods. Mitigation involved both reducing the WOB and increasing the surface RPM. Working with the client and driller, attempts were made to find a balance between minimising stick slip severity and maximising ROP. For details refer to failure report 1.

The PowerPulse showed a status word 32 for entire run, with an associated high number of LTB retries. It is suspected that the link between the ARC and the Xceed was the problem. For details refer to failure report 2.

Both the PowerPulse and arcVISION tools performed as expected throughout the run. When attempting to lay down Schlumberger tools the

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	3				

threads between the PowerPulse and the ARC were found to be galled and the crew were unable to break this connection using the tongs. Consequently the PowerPulse and the ARC were laid down together and the batteries could not be removed. Tools will be sent back to base like this. For details refer to failure report 3. The ARC recorded memory was dumped. Data was found to be of good quality, and the electronics still functioning as expected.

Schlumberger

Equipment Run Summary Report

26-Jul-2008

11:12AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 3

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ARC8D-BB-1106	35.10 hrs	65.70 hrs	9.3B13	8.25 in
CRSC-BA-058	35.10 hrs	65.70 hrs		9.00 in
H524743-e08154	0.00 hrs	0.00 hrs		8.25 in
H524743-e08181	35.10 hrs	65.70 hrs		8.25 in
H524743-e08182	0.00 hrs	0.00 hrs		8.25 in
H524743-e08183	35.10 hrs	65.70 hrs		8.25 in
MDCIX-GA-E1518	35.10 hrs	65.70 hrs	8.0C04	8.25 in
NMDC825L-SBD5552	35.10 hrs	65.70 hrs		8.25 in
NMDC825L-SBD5553	35.10 hrs	65.70 hrs		8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	30.60 hrs		449.0 m	51.50 hrs		449.0 m	
LWD	Gamma Ray	arcVision	30.60 hrs		449.0 m	51.50 hrs		449.0 m	
LWD	APWD	arcVision	30.60 hrs		449.0 m	51.50 hrs		449.0 m	
MWD	D&I	PowerPulse	30.60 hrs		449.0 m	hrs			
MWD	Cont D&I	PowerPulse	30.60 hrs		449.0 m	hrs			
RSS	PowerDrive Xceed	PowerDrive Xceed	30.60 hrs		449.0 m	hrs			

Schlumberger

Failure Report

26-Jul-2008

11:12AM

Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 3

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Failure Number: 1

Fail Date: 24-Jul-2008
Severity: Near
CAF: NO
Lost Rig Time: hrs

Pump Hour @ Fail: 12.00 hrs
Drill Hours @ Fail: 5.00 hrs
Hours BRT @ Fail: 17.00 hrs
Depth @ Fail: 1500.0 m

Failed Services:

Failed Equipment:

ARC8D-BB - 1106, CRSC-BA - 058, MDCIX-GA - E1518

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 25-Jul-2008

BHA experienced SticknSlip in excess of 150% for 4-5 hrs of drilling.
ROP was very low around 3 - 5 m/hr. Very high torque was recorded during these periods of high sticknslip.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 25-Jul-2008

Company man was informed of the problem. Increasing ROP was also a focus due to how slow we were drilling. Working with driller and DD, the WOB was dropped from 45k down to 10k in increments. The RPMs were taken from 120 to 165 in increments. Eventually it was found that RPM = 150 and WOB = 18 k was the 'sweet spot' for SticknSlip and ROP. SticknSlip still remained above 100% until new formation was reached later in the day.

Schlumberger

Failure Report

26-Jul-2008

11:12AM

Job Number: 08ASQ0003
Company: SANTOS LIMITED
Rig Name: Ocean_Patriot
Company Rep: C. Roots, N. Peri
Location: MEA-APG-ASQ
Well Name: Netherby-1
Run Number: 3

Failure Number: 2

Fail Date: 25-Jul-2008
Pump Hour @ Fail: 5.00 **hrs**

Severity: Near
Drill Hours @ Fail: 4.00 **hrs**

CAF: NO
Hours BRT @ Fail: 15.00 **hrs**

Lost Rig Time: **hrs**
Depth @ Fail: 900.0 **m**

Failed Services:

Failed Equipment:

ARC8D-BB - 1106, CRSC-BA - 058

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 25-Jul-2008

Early in Run 2 the PowerPulse status word, mwdstat, showed 32 in the Utility Frame (a problem with the LTB power).
As we drilled foward ltbrt was monitored. It kept increasing and resetting every 10 repeating frames or so.
It was noticed that unexpected values were coming up from the Xceed leading to suspecting a problem in the LTB connection between the ARC and Xceed.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 25-Jul-2008

Pumps were recycled many times. Situation did not improve. As the problem wasn't affecting any of our measurements or the drilling process it was decided to drill ahead. Extenders will be rechecked when tools are on deck.

Schlumberger

Failure Report

26-Jul-2008

11:12AM

Job Number: 08ASQ0003
Company: SANTOS LIMITED
Rig Name: Ocean_Patriot
Company Rep: C. Roots, N. Peri
Location: MEA-APG-ASQ
Well Name: Netherby-1
Run Number: 3

Failure Number: 3

Fail Date: 25-Jul-2008
Pump Hour @ Fail: 30.60 **hrs**

Severity: Serious
Drill Hours @ Fail: 20.50 **hrs**

CAF: NO
Hours BRT @ Fail: 51.60 **hrs**

Lost Rig Time: **hrs**
Depth @ Fail: 1870.0 **m**

Failed Services:

Failed Equipment:

ARC8D-BB - 1106, MDCIX-GA - E1518

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 25-Jul-2008

When tools were brought above rotary table, attempts were made to untorque the connection between the top of the ARC and the lower saver sub of the PowerPulse. With 50k ftlb on the tongs the connection could not be broken. Tools were run under severe sticknslip conditions. See failure report 1.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 25-Jul-2008

The decision was made to try to break the connection with up to 80K ftlb. One whole turn was obtained but with great difficulty. The action was like tiny slip and grab movements. Upon consultation with the company man, tool pusher and DD it was decided to lay the tools down as one piece. In this configuration the lithium batteries were unable to be removed. ARC tool memory was dumped and a magnet switch placed on ROP so tool is off and batteries cannot be fully depleted. Tools to be shipped back to base in this configuration.

Schlumberger

BHA Report

26-Jul-2008

11:12AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 3 **BHA Type:** Rotary Steerable

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hycalog	PDC	215850	0.27 m	12.25							6 5/8"	REG BOX	0.27 m
2	RSS	D&M	PowerDrive Xceed	058	8.64 m	9.00	5.25				6 5/8"	REG BOX	6 5/8"	FH BOX	8.91 m
3	LWD	D&M	arcVISION	1106	5.84 m	8.44	4.25				6 5/8"	FH PIN	6 5/8"	FH BOX	14.75 m
4	MWD	D&M	PowerPulse	E1518	8.51 m	8.31	4.31				6 5/8"	FH PIN	6 5/8"	REG BOX	23.26 m
5	DRILL COLLAR - NONMAG	D&M	NMDC	SBD5552	9.30 m	8.38	3.25				6 5/8"	REG PIN	6 5/8"	REG BOX	32.56 m
6	DRILL COLLAR - NONMAG	D&M	NMDC	SBD5553	9.30 m	8.38	3.25				6 5/8"	REG PIN	6 5/8"	REG BOX	41.86 m
7	DRILL COLLAR	Diamond Offshore	7 x 8" Drill Collar	18600062, etc	65.65 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	107.51 m
8	JAR	Smith	Hydraulic Jar	718096	10.11 m	8.25	3.00				6 5/8"	REG PIN	6 5/8"	REG BOX	117.62 m
9	DRILL COLLAR	Diamond Offshore	2 x 8" Drill Collar	18600046, etc	18.91 m	8.00	2.88				6 5/8"	REG PIN	6 5/8"	REG BOX	136.53 m
10	CROSSOVER	Santos	Crossover	GUD-1231-6	1.09 m	8.00	2.88				6 5/8"	REG PIN	4 1/2"	IF BOX	137.62 m
11	HWDP	Diamond Offshore	15 x 5" HWDP	186-068, etc	140.40 m	6.63	3.06				4 1/2"	IF PIN	4 1/2"	IF BOX	278.02 m

Predicted BHA Tendency: Rotary Steerable. Build inclination to approx. 35deg, hold inclination.

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
RSS-PowerDrive Xceed	3.70	m
LWD-arcVISION	12.90	m
MWD-PowerPulse	16.60	m

Bit to Measurement Port		
arcVISION-Resistivity	11.80	m
arcVISION-APWD	11.09	m
arcVISION-Gamma Ray	11.85	m
PowerPulse-D&I	18.96	m

Schlumberger

Daily Drilling Activity Report

26-Jul-2008
11:12AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	3				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
23-Jul-2008						
10:30	11:30	1.00	0.0	90.0	PU / LD BHA / Tripping	Run in hole with new bit
11:30	13:00	1.50	90.0	90.0	PU / LD BHA / Tripping	Work pipe, unable to pass thru gasing swedge.
13:00	14:00	1.00	90.0	0.0	PU / LD BHA / Tripping	Pull up check bit, bit ok
14:00	15:00	1.00	0.0	90.0	PU / LD BHA / Tripping	Re-arrange BHA to enable pumps while tagging at well head.
15:00	17:00	2.00	90.0	90.0	PU / LD BHA / Tripping	TIH, tag at 91.25 m, wash past w/ 500 gpm
17:00	18:30	1.50	90.0	1057.0	PU / LD BHA / Tripping	Continue to trip in hole.
18:30	22:00	3.50	1057.0	1421.0	Reaming / Hole opener / Unc	Hit tight spots, wash and ream down. 800gpm
22:00	00:00	2.00	1421.0	1474.0	Drilling	Drill ahead.
24-Jul-2008						
00:00	23:00	23.00	1474.0	1870.0	Drilling	Drill ahead 12-1/4" hole to TD
23:00	00:00	1.00	1870.0	1870.0	Circulate / Condition mud	Circulate bottoms up
25-Jul-2008						
00:00	04:00	4.00	1870.0	1570.0	PU / LD BHA / Tripping	POOH
04:00	10:00	6.00	1570.0	600.0	Reaming / Hole opener / Unc	Ream out due to tight spots.
10:00	13:30	3.50	600.0	0.0	PU / LD BHA / Tripping	Trip remaing stands till bit above rotary table.

Schlumberger

Time Description Report

26-Jul-2008

11:12AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	C. Roots, N. Peri	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	3				

Date/Time	Depth		Description
23-Jul-2008 10:00AM	0.0	m	Bit BRT
23-Jul-2008 10:28AM	0.0	m	Plugged into ARC8-1106, dumped memory. Re-initialised tool.
23-Jul-2008 11:30AM	80.0	m	BHA getting hung up on wellhead while tripping in.
23-Jul-2008 1:15PM	80.0	m	Start POOH, to examine bit and stabilisers at surface.
23-Jul-2008 2:30PM	0.0	m	PDC cutters only slightly damaged. Start RIH again.
23-Jul-2008 6:49PM	1000.0	m	Hitting tight spots on the way down. Wash down hole on way in.
23-Jul-2008 9:44PM	1421.0	m	Tagged bottom
23-Jul-2008 10:45PM	1431.0	m	Increased flow 1000gpm, wob 15 - 20 k.
23-Jul-2008 11:41PM	1462.0	m	MW in 10.4
24-Jul-2008 1:14AM	1496.0	m	ECD increasing informed company man, wieghting mud up to 11ppg
24-Jul-2008 1:30AM	1496.0	m	Seeing periods of extreme sticknslip. Driller had taken RPM from 140 to 100 and increased WOB by 10k ppb. Returned to previous drilling parameters and stick was mitigated.
24-Jul-2008 2:35AM	1513.0	m	Noisy signal. MW @ 11 ppg, only change in parameters.
24-Jul-2008 2:38AM	1515.0	m	ROP from 5 m/hr to 50. SticknSlip still high.
24-Jul-2008 2:42AM	1516.0	m	Added SPT2 to Demod input and signal and demodulation good.
24-Jul-2008 3:48AM	1521.0	m	Rmf = 0.0929 @ 21.5 C Rm = 0.1059 @ 21.3 C Rmc = 0.1930 @ 21.4 C
24-Jul-2008 3:50AM	1521.0	m	Very Hard formation, slow ROP, High WOB. Excessive SticknSlip
24-Jul-2008 4:22AM	1522.0	m	Lower WOB from 40 to 30k due to high sticknslip.
24-Jul-2008 7:30AM	1544.0	m	An increase in ROP, and subsequent use of less WOB (now 10klbf), has resulted in stick slip decreasing to under 100%
24-Jul-2008 7:39AM	1551.0	m	MW 11, Vis 54
24-Jul-2008 8:43AM	1582.0	m	MW 11.1, Vis 52
24-Jul-2008 8:44AM	1582.0	m	Stick slip increased to level 3 again. Surface RPM increased from 150 to 200rpm to mitigate. Soon after, the stick slip was observed at level 1.
24-Jul-2008 9:45AM	1607.0	m	CoMan decided to decrease surface RPM back to 150, in hopes of increasing ROP (currently at 20m/hr)
24-Jul-2008 10:09AM	1618.0	m	Mud pump 3 offline temporarily
24-Jul-2008 10:15AM	1621.0	m	All three pumps back working
24-Jul-2008 2:05PM	1714.0	m	MW 11.0, Vis 55
24-Jul-2008 4:00PM	1758.0	m	MW 11.1, Vis 61
24-Jul-2008 5:35PM	1797.0	m	Picked off bottom to perform flow check
24-Jul-2008 5:48PM	1797.0	m	Back on bottom drilling
24-Jul-2008 10:00PM	1855.0	m	High SticknSlip observed, backed off on WOB stick slip remains high.
24-Jul-2008 11:09PM	1871.0	m	TD. FLOW 1000 gpm, SPP 3859, SPT1/2 - 15.8/24.2 psi
25-Jul-2008 1:00AM	1870.0	m	POOH
25-Jul-2008 1:48AM	1871.0	m	Rmf 0.0867 @ 21.7 C Rm 0.1103 @ 21.6 C Rmc 0.1289 @ 21.6 C
25-Jul-2008 3:10AM	1570.0	m	Hole really tight, dragging up cavings across shakers. Pumps up to ream out.
25-Jul-2008 1:05PM	0.0	m	Rack back two NMDCs
25-Jul-2008 1:30PM	0.0	m	Bit ART
25-Jul-2008 1:40PM	0.0	m	Break off PDC bit
25-Jul-2008 2:00PM	0.0	m	Attempted to break ARC8 - PP8 connection. Up to 80kftlbs applied with no luck. Suspected galling of threads. Decision made to lay down two tools together.
25-Jul-2008 2:15PM	0.0	m	Break ARC8 - Xceed connection
25-Jul-2008 2:40PM	0.0	m	Lay down ARC8 + PP8 together on pipe deck
25-Jul-2008 3:00PM	0.0	m	Lay down Xceed

Date/Time	Depth		Description
25-Jul-2008 3:20PM	0.0	m	Plug into ARC, download memory, run techlogs
25-Jul-2008 7:00PM	0.0	m	Took out ROP plug on ARC8-1106, replaced with magnet. Taped up outside to help waterproof port for transportation.

Schlumberger

Drilling Parameters Report

26-Jul-2008

11:12

Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 3

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

	24-Jul-2008 10:35 PM	24-Jul-2008 2:35 PM	24-Jul-2008 7:40 AM	23-Jul-2008 10:52 PM
Field Engineer	Zachary Rudd	John Oldridge	John Oldridge	Zachary Rudd
Depth	1,864.00 m	1,719.90 m	1,547.00 m	1,443.87 m
Avg ROP	16.50 m/hr	16.50 m/hr	16.50 m/hr	3.79 m/hr
On Bottom ROP	17.22 m/hr	17.22 m/hr	17.22 m/hr	26.50 m/hr
Flow Rate	1,000.00 galUS/min	1,090.00 galUS/min	980.00 galUS/min	1,000.00 galUS/min
Turbine RPM	3,633 rpm	3,594 rpm	3,555 rpm	3,555 rpm
Surface RPM	150 rpm	160 rpm	150 rpm	150 rpm
WOB Rotating	20.00 klbm	22.00 klbm	10.00 klbm	
WOB Sliding				
DH WOB				
Surface Torque	14.00 kft.lbf	15.00 kft.lbf	12.00 kft.lbf	10.00 kft.lbf
DH Torque				
Hookload	245 klbm	255 klbm	250 klbm	220 klbm
PickUp Weight	295.00 klbm			250.00 klbm
Slack Weight	250.00 klbm			240.00 klbm
Friction				
SPP On Bottom	3,850.00 psi	3,600.00 psi	3,400.00 psi	2,932.00 psi
SPP Off Bottom				
Diff Pressure				
BH Temperature	77.00 degC	72.00 degC	67.00 degC	51.00 degC
Total Shocks (k)				
Max Shock Level				
Max Shock Duration				
Torsional Vib				
Lateral Vib				
Axial Vib				
CRPM	155 rpm	145 rpm	122 rpm	120 rpm
Stick/Slip	261	105	117	93
Formation	Sandstone	Sandstone	Sandstone	Sandstone
Signal Strength	16.00 psi	21.00 psi	24.00 psi	23.00 psi
Percent Signal Conf	85 %	78 %	80 %	76 %

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Equipment Run Summary Report

4-Aug-2008
7:39AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Nathan Peri, Peter Devine	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	4				

Run Information

	Date In		Date Out
	30-Jul-2008 12:00PM		31-Jul-2008 11:00PM
Depth (MD):	1870.0 m	to	1875.0 m
Depth (TVD):	1744.2 m	to	1766.0 m
Inclination:	35.38 deg	to	35.38 deg
Azimuth:	119.23 deg	to	119.23 deg

Drilling Distance:	5.00 m
Rotary Drilling Distance:	5.00 m
Sliding Distance:	0.00 m
Reaming Distance:	158.00 m

Drilling Hours:	1.10 hrs
Rotary Drilling Hrs:	1.10 hrs
Sliding Hours:	0.00 hrs
Reaming Hours:	33.90 hrs
Hrs Below Rotary:	35.00 hrs
Total Pumping Hrs:	18.60 hrs

Hole Size:	12.25 in
Last Casing Size:	17.500 in
Last Casing Depth:	160.0 m (MD)
Tool Face Arc:	
Total Face Angle:	deg

North Ref Used:	Grid North
Magnetic Dec:	10.770 deg
Grid Correction:	-1.025 deg
Total Correction:	11.802 deg
Est. Mag. Int:	0.10 deg

Min DLS:	0.00 deg/30 m
Max DLS:	0.00 deg/30 m
Max DLS Depth:	0.0 m
Surface Screen:	No
DFS Used:	No
Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible
Water Depth:	66.10 m
Air Gap:	20.80 m
RKB Height:	20.80 m
Ground Elevation:	-66.10 m

Pump Type:	Triplex
Pulse Damp Press:	800 psi
Number of Pumps:	3
Pump Line ID:	6.00 in
Pump Output:	4.27 galUS/stroke
Pump Stroke Len:	12.00 in

Run Objective

To wash down hole whilst logging with Quad Combo in the BHA. Tag bottom and drill a futher 5 meters in order for ADN to see entire formation.

D&M Crew List:

Cell Manager: John Oldridge

Crew:
Julien Carboneil, LWD
Anagh Kohli, LWD
John Oldridge, Cell Manager
Agus Partono, DD
Zachary Rudd, LWD
Chris Skiba, DD
Andrew Stroud, DD

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	
RSS Type:	
RSS SN:	
RSS Size:	
Pulse Ht Threshold:	
Min Pulse Width:	
Max Pulse Width:	
Conn Phase Angle:	deg
Rise Time Const:	
Fall Time Const:	
Digit Time:	

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	0.12000 in	Turbine Config:	600-1200 galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	24.0 psi
SPT Type:	HA						

Drilling Parameters

Schlumberger

Equipment Run Summary Report

4-Aug-2008
7:39AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: Nathan Peri, Peter Devine **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 4

	Min	Max	Avg
BH Temperature:	60.00 degC	60.00 degC	60.00 degC
Surface RPM:	110.00 rpm	110.00 rpm	110.00 rpm
ROP:	5.00 m/hr	5.00 m/hr	4.55 m/hr
Surface Torque:	1.00 kft.lbf	1.00 kft.lbf	1.00 kft.lbf
Flow Rate:	1,000.00 galUS/min	1,000.00 galUS/min	1,000.00 galUS/min
WOB Sliding:			

Total DH Shocks (k):	0 k
Max Shock Level:	0
Max Shock Duration:	0 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure: psi

Turbine RPM @ Min Flow Rate:	3,233 rpm	Min Flow Rate:	1,000.00galUS/min	SPP Off Bottom:	2,282.00 psi
Turbine RPM @ Max Flow Rate:	3,233 rpm	Max Flow Rate:	1,000.00galUS/min	SPP On Bottom:	psi

Mud Information

Mud Type:	Water Base	Mud Clean:	No	pH:	8.50
Mud Company:	Rheochem	LCM Type:		Chlorides:	45,000.00 ppm
Mud Brand:	KCl Glycol	LCM Size:		Sand Content:	0.20 %
Funnel Viscosity:	59.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	10.75 %
Plastic Viscosity:	22.00 cp	Weighting Material:	Barite	Percent Oil:	0.00 %
Yield Point:	34.00 lbm/100ft2	Mud Weight:	11.00 lbm/galUS		
Mud Resistivity:	0.13 ohm-m				

IADC Bit Grading

Manufacturer:	Hughes Christianson	Total Revs:		IADC Code:	
Model:	MXL-1X	Stick/Slip:		Jets (/ 32 in'	1X14 3X20
Type:	Milltooth	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	1.07 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
0.00	0.00	NO	A	E	I	NO

End of Run - Summary

Sync Hours:	5.40 hrs	Downhole Noise:	No	Run Failed:	Yes
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Wash down logging section successfully. Drilled a further 5 meters to enable all tools to log formation. Pressure testing with the StethoScope took longer than usual due to problems with the tool. Exactly what the problem is a mystery, for more information see failure report.

If not, why?:

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Equipment Run Summary Report

4-Aug-2008
7:39AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: Nathan Peri, Peter Devine **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 4

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ARC8D-BB-2724	hrs	hrs		0.00 in
H524743-E-03482	hrs	hrs		0.00 in
H524743-e08154	0.00 hrs	18.60 hrs		8.25 in
H524743-e08155	hrs	hrs		0.00 in
H524743-e08156	hrs	hrs		0.00 in
H524743-e08182	0.00 hrs	18.60 hrs		8.25 in
H524743-e08184	hrs	hrs		0.00 in
MDC-DE-VA77	0.00 hrs	18.60 hrs		8.25 in
NDDC-CA-42730	0.00 hrs	18.60 hrs		8.25 in
SD8D-CA-34888	0.00 hrs	18.60 hrs		8.25 in
TSTDC-EA-AF82	0.00 hrs	18.60 hrs		8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
LWD	Gamma Ray	arcVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
LWD	Compressional DT	SonicVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
LWD	Formation Pressure	StethoScope	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
MWD	D&I	PowerPulse	18.60 hrs		5.0 m	hrs			
MWD	Cont D&I	PowerPulse	18.60 hrs		5.0 m	hrs			
LWD	Caliper	sadnVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
LWD	Density	sadnVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	
LWD	Neutron	sadnVision	18.60 hrs		5.0 m	35.00 hrs		5.0 m	

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BHA Report

4-Aug-2008

7:39AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Nathan Peri, Peter Devine **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 4 **BHA Type:** Other

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hughes Christianson	Milltooth	5119202	0.33 m	12.25							6 5/8"	API REG PIN	0.33 m
2	SUB	Rig	Bit Sub	058	0.90 m	8.00	2.50				6 5/8"	REG BOX	6 5/8"	API REG BOX	1.23 m
3	LWD	D&M	StethoScope	AF82	10.40 m	8.30	2.81				6 5/8"	API REG PIN	6 5/8"	FH BOX	11.63 m
4	MWD	D&M	PowerPulse	VA77	8.48 m	8.30	2.81				6 5/8"	FH PIN	6 5/8"	FH BOX	20.11 m
5	LWD	D&M	arcVISION	2724	5.87 m	8.30	2.81				6 5/8"	FH PIN	6 5/8"	FH BOX	25.98 m
6	LWD	D&M	SonicVISION	34888	8.08 m	8.30	4.25				6 5/8"	FH PIN	6 5/8"	FH PIN	34.06 m
7	LWD	D&M	sadnVISION	42730	8.87 m	8.30	3.25				6 5/8"	FH BOX	6 5/8"	API REG BOX	42.93 m
8	DRILL COLLAR	Rig	8" Drill Collar	RIg	9.44 m	8.00	2.50				6 5/8"	REG PIN	6 5/8"	REG BOX	52.37 m
9	JAR	Smith	Hydraulic Jar	989SE2	9.94 m	8.25	3.00				6 5/8"	REG PIN	6 5/8"	REG BOX	62.31 m
10	DRILL COLLAR	Rig	8" Drill Collar	Rig	9.45 m	8.00	2.50				6 5/8"	REG PIN	4 1/2"	IF BOX	71.76 m
11	CROSSOVER	Rig	Crossover	GUD1231-6	1.09 m	8.00	2.63				4 1/2"	IF PIN	4 1/2"	IF BOX	72.85 m
12	HWDP	Rig	5" HWDP	Rig	140.40 m	5.00	3.00								213.25 m

Predicted BHA Tendency: Rotary Steerable. Build inclination to approx. 35deg, hold inclination.

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
LWD-StethoScope	12.90	m
MWD-PowerPulse	16.60	m
LWD-arcVISION		
LWD-SonicVISION		
LWD-sadnVISION		

Bit to Measurement Port		
PowerPulse-D&I	15.55	m
StethoScope-Formation Press	5.55	m
arcVISION-Resistivity	22.58	m
arcVISION-Gamma Ray	22.63	m
SonicVISION-Compressional	31.12	m
sadnVISION-Caliper	36.55	m
sadnVISION-Density	37.03	m
sadnVISION-Neutron	38.85	m

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Time Description Report

4-Aug-2008

7:39AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Nathan Peri, Peter Devine	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	4				

Date/Time	Depth		Description
30-Jul-2008 8:00AM	0.0	m	Begin making up BHA, pick up StehoScope tool
30-Jul-2008 8:15AM	0.0	m	Pick up TeleScope tool
30-Jul-2008 8:30AM	0.0	m	Pick up arcVISION tool
30-Jul-2008 9:15AM	0.0	m	Bit BRT
30-Jul-2008 9:20AM	0.0	m	Mark StethoScope scribe line up to TeleScope. Arc = 37cm, Circumference = 67cm
30-Jul-2008 9:30AM	0.0	m	Pick up sonicVISION tool
30-Jul-2008 9:45AM	0.0	m	Picked up sadnVISION tool
30-Jul-2008 10:30AM	0.0	m	Plugged into TeleScope to test LTB connection between all LWD tools. All tools recognised in string.
30-Jul-2008 11:00AM	0.0	m	Rig floor and moonpool areas chained off. SADN source TF brought to rig floor.
30-Jul-2008 11:20AM	0.0	m	Rig PA announcement regarding radioactive source made. JSA held on rig floor, attended by Driller, AD, Air tugger operator, D&M crew. Risks identified and procedure stepped through so all on same page.
30-Jul-2008 11:45AM	0.0	m	Began source loading procedure.
30-Jul-2008 12:15PM	0.0	m	Source loading complete.
30-Jul-2008 12:20PM	0.0	m	Began picking up drill collar and one stand HWDP
30-Jul-2008 1:00PM	0.0	m	Shallow hole test performed @ 650gpm, 1010psi. Outcome: Good.
30-Jul-2008 3:00PM	0.0	m	Mud resistivity measured: Rmf = 0.1054ohm.m @ 15.2degC, Rm = 0.1285ohm.m @ 15.4degC, Rmc = 0.1490ohm.m @ 15.6degC
30-Jul-2008 5:50PM	1713.0	m	Geolograph hooked up and BD set.
30-Jul-2008 6:10PM	1741.0	m	Began reaming down. Average ROP 60 - 90m/hr, flow 850gpm, surface rpm 70.
30-Jul-2008 7:00PM	1760.0	m	Realised TNRB is sending up zeros. After investigation, found that TNRB is wrong datapoint for Neutron Porosity in SADN (need TNEAR and TFAR). Frames were QCed by OSC. Informed Geo there will be no Porosity in RT.
30-Jul-2008 9:17PM	1870.0	m	Tag Bottom, started drilling ahead another 5m new formation.
30-Jul-2008 10:46PM	1875.0	m	TD
30-Jul-2008 10:54PM	1875.0	m	Down link to Fast Configuration (Sonemode 2) Down link to wake up StethoScope
30-Jul-2008 11:10PM	1875.0	m	Begin back reaming.
31-Jul-2008 1:47AM	1875.0	m	StethoScope testing - possible problems with RT connection between tools.
31-Jul-2008 2:30AM	1875.0	m	Attempt pumps off test, tool takes successful test. Now getting help from StethoScope product champion.
31-Jul-2008 4:30AM	1875.0	m	Appears to be trouble with circuit board. Tool can only take one successful test at a time.
31-Jul-2008 6:30AM	1875.0	m	To get test tool must be shut down and batteries unlatched for each test.
31-Jul-2008 11:30AM	1875.0	m	Obtaining successful tests by above mentioned methods. Ardous but getting the job done.
31-Jul-2008 7:45PM	0.0	m	Radioactive source near safety datum. PA announcement made, barriers up.
31-Jul-2008 8:00PM	0.0	m	Transfer shield brought to rig floor. JSA performed with D&M crew, driller, AD and air tugger operator.
31-Jul-2008 8:35PM	0.0	m	Start radioactive source unloading.
31-Jul-2008 9:10PM	0.0	m	Source unloading complete, transfer shield moved from rig floor.
31-Jul-2008 10:00PM	0.0	m	Lay down SONIC tool
31-Jul-2008 10:30PM	0.0	m	Break PP out
31-Jul-2008 11:00PM	0.0	m	Bit ART

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Drilling Parameters Report

4-Aug-2008

7:39:15AM

Job Number: 08ASQ0003
Company Rep: Nathan Peri, Peter Devine
Run Number: 4

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

	30-Jul-2008 10:00 PM
Field Engineer	Zachary Rudd
Depth	1,800.00 m
Avg ROP	.42 m/hr
On Bottom ROP	5.00 m/hr
Flow Rate	1,000.00 galUS/min
Turbine RPM	3,233 rpm
Surface RPM	110 rpm
WOB Rotating	.00 klbm
WOB Sliding	
DH WOB	
Surface Torque	1.00 kft.lbf
DH Torque	
Hookload	233 klbm
PickUp Weight	285.00 klbm
Slack Weight	245.00 klbm
Friction	
SPP On Bottom	
SPP Off Bottom	2,282.00 psi
Diff Pressure	
BH Temperature	60.00 degC
Total Shocks (k)	
Max Shock Level	
Max Shock Duration	
Torsional Vib	
Lateral Vib	
Axial Vib	
CRPM	
Stick/Slip	120
Formation	Limestone
Signal Strength	25.00 psi
Percent Signal Conf	86 %

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Daily Drilling Activity Report

4-Aug-2008
7:39AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Nathan Peri, Peter Devine	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	4				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
30-Jul-2008						
07:30	12:30	5.00	0.0	42.0	PU / LD BHA / Tripping	Pick Up BHA, Test tools. Load SADN Nuclear Source
12:30	14:00	1.50	42.0	100.0	PU / LD BHA / Tripping	Picked up BHA SHT @ 650 gpm, good test.
14:00	18:00	4.00	100.0	1713.0	PU / LD BHA / Tripping	RIH
18:00	18:30	0.50	1712.0	1741.0	Reaming / Hole opener / Unc	Washed and reamed. Logging down hole.
18:30	21:30	3.00	1741.0	1870.0	Reaming / Hole opener / Unc	Washed and reamed. Logging down hole. Tight spot at 1790. Top drive stalled.
21:30	22:30	1.00	1870.0	1875.0	Drilling	Drilled ahead 12-1/4" hole to allow logging tools to see entire formation
22:30	23:30	1.00	1875.0	1835.0	Circulate / Condition mud	Downlink to fast configuration, and wake up StethoScope. Logged up to 1835.
23:30	00:00	0.50	1835.0	1835.0	Reaming / Hole opener / Unc	Washed and reamed stand till slick
31-Jul-2008						
00:00	14:30	14.50	1875.0	1875.0	Circulate / Condition mud	StethoScope Testing
14:30	23:00	8.50	1875.0	0.0	PU / LD BHA / Tripping	POOH TART. Tools Checked - OK

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Equipment Run Summary Report

5-Aug-2008
7:44PM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Peter Devine, Rowan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	5				

Run Information

	Date In		Date Out
	1-Aug-2008 10:30PM		6-Aug-2008 5:00AM
Depth (MD):	1421.0 m	to	1944.5 m
Depth (TVD):	1376.8 m	to	1681.8 m
Inclination:	35.05 deg	to	80.90 deg
Azimuth:	116.50 deg	to	122.70 deg

Hole Size:	12.25 in
Last Casing Size:	13.385 in
Last Casing Depth:	648.0 m (MD)
Tool Face Arc:	.0 cm
Total Face Angle:	0.00 deg

Drilling Distance:	523.50 m	Drilling Hours:	31.00 hrs
Rotary Drilling Distance:	523.50 m	Rotary Drilling Hrs:	39.08 hrs
Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Reaming Distance:	1,275.00 m	Reaming Hours:	26.18 hrs
		Hrs Below Rotary:	102.50 hrs
		Total Pumping Hrs:	79.20 hrs
		Min DLS:	0.12 deg/30 m
North Ref Used:	Grid North	Max DLS:	5.71 deg/30 m
Magnetic Dec:	10.780 deg	Max DLS Depth:	1,517.2 m
Grid Correction:	-1.025 deg	Surface Screen:	No
Total Correction:	11.902 deg	DFS Used:	No
Est. Mag. Int:	0.20 deg	Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible	Pump Type:	Triplex
Water Depth:	66.10 m	Pulse Damp Press:	800 psi
Air Gap:	20.80 m	Number of Pumps:	3
RKB Height:	20.80 m	Pump Line ID:	6.00 in
Ground Elevation:	-66.10 m	Pump Output:	4.27 galUS/stroke
		Pump Stroke Len:	12.00 in

Run Objective

To kick off at 1421mMD 252 degrees azimuth and build angle to 80 degrees. Surveys, annular pressure, gamma ray and resistivity to be provided in real time.

D&M Crew List:

Cell Manager: Anagh Kohli

Crew: Anagh Kohli, Cell Manager
Agus Partono, DD
Zachary Rudd, LWD
Chris Skiba, DD
Andrew Stroud, DD

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	D&M	
RSS Type:	PowerDrive Xceed	
RSS SN:	DN9-002	
RSS Size:		9.00
Pulse Ht Threshold:		
Min Pulse Width:		
Max Pulse Width:		
Conn Phase Angle:	deg	
Rise Time Const:		
Fall Time Const:		
Digit Time:		

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	0.12000 in	Turbine Config:	600-1200 galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	14.0 psi
SPT Type:	HA						

Drilling Parameters

Schlumberger

Equipment Run Summary Report

5-Aug-2008
7:44PM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: Peter Devine, Rowan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 5

	Min	Max	Avg
BH Temperature:	64.00 degC	79.00 degC	70.33 degC
Surface RPM:	150.00 rpm	157.00 rpm	152.33 rpm
ROP:	0.86 m/hr	26.53 m/hr	16.89 m/hr
Surface Torque:	10.00 kft.lbf	15.00 kft.lbf	12.67 kft.lbf
Flow Rate:	850.00 galUS/min	920.00 galUS/min	873.33 galUS/min
WOB Sliding:			

Total DH Shocks (k): 0 k
Max Shock Level: 0
Max Shock Duration: 0 sec
Checkshot Type:
Checkshot Depth: m
Checkshot Incl: deg
Checkshot Azim: deg
H2S In Well: No

Average Pump Pressure: -2 psi

Turbine RPM @ Min Flow Rate: 3,633 rpm Min Flow Rate: 850.00galUS/min SPP Off Bottom: 2,970.00 psi
Turbine RPM @ Max Flow Rate: 3,281 rpm Max Flow Rate: 920.00galUS/min SPP On Bottom: 2,930.00 psi

Mud Information

Mud Type: Water Base
Mud Company: Baker Hughes
Mud Brand: KCl Glycol
Funnel Viscosity: 61.00 s/qt
Plastic Viscosity: 30.00 cp
Yield Point: 41.00 lbm/100ft2
Mud Resistivity: 0.12 ohm-m

Mud Clean: Yes
LCM Type:
LCM Size:
LCM Concentration: lbs/bbl
Weighting Material: Barite
Mud Weight: 11.00 lbm/galUS

pH: 10.00
Chlorides: 48,000.00 ppm
Sand Content: 0.20 %
Solids: 10.96 %
Percent Oil: %

IADC Bit Grading

Manufacturer: Hycalog
Model:
Type: PDC

Total Revs: 12,000.00
Stick/Slip: Yes plenty
Reason Pulled: Total Depth/Casing Depth

IADC Code:
Jets (/ 32 in 6X15
Bit TFA: 1.04 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
1.00	1.00	CT	S		I	NO

End of Run - Summary

Sync Hours: 57.55 hrs
Jamming: No 0.00 hrs
Surface Vibration: No
Trans Fail: No

Downhole Noise: No
Surface System Failure: No
Surface Noise: No
H2S in Well: No

Run Failed: Yes
D&M Trip: No
Low Oil Flag: No 0.00 hrs
Filter Screen/Plug Shear: No

Client Inconvenience: **No** Lost Time: hrs
Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Some difficulties were encounted whilst trying to kick off due to green cement. Eventually the BHA grabbed and the direction of the well was smooth from there. The MWD tool had problems with MMA jamming for most of the run. At the beginning of the run it is suspected that something stuck in the tool was causing high stand pipe pressure and fluctuating TRPM in the PowerPulse and Xceed. The SPP dropped by 500psi in an instant giving reason to believe object had cleared, however Anti-Jam kept up for most of the run.

Tools experienced high to severe stick-slip for the majority of the run. For details see Failure Report.

If not, why?:

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Equipment Run Summary Report

5-Aug-2008

7:44PM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Peter Devine, Rowan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 5

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
ARC8D-BB-2724	33.00 hrs	112.20 hrs	9.3	8.25 in
CRSC-BA-DN9-002	0.00 hrs	79.20 hrs		9.00 in
H524743-e08154	hrs	hrs		8.25 in
H524743-e08182	hrs	hrs		8.25 in
MDC-DE-FB46	hrs	hrs		8.25 in
NMDC825L-SBD5552	hrs	hrs		8.25 in
NMDC825L-SBD5553	0.00 hrs	79.20 hrs	8.2	8.25 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
LWD	Resistivity	arcVision	79.20 hrs		523.5 m	102.50 hrs		523.5 m	
LWD	Gamma Ray	arcVision	79.20 hrs		523.5 m	102.50 hrs		523.5 m	
LWD	APWD	arcVision	79.20 hrs		523.5 m	102.50 hrs		523.5 m	
MWD	D&I	PowerPulse	79.20 hrs		523.5 m	hrs			
MWD	Cont D&I	PowerPulse	79.20 hrs		523.5 m	hrs			
RSS	D&I	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			
RSS	Stick/Slip risk	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			
RSS	Shock risk	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			
RSS	Cont D&I	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			
RSS	T/F	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			
RSS	PowerDrive Xceed	PowerDrive Xceed	79.20 hrs		523.5 m	hrs			

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BHA Report

5-Aug-2008

7:45PM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Peter Devine, Rowan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 5 **BHA Type:** Rotary Steerable

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hycalog	PDC	218712	0.29 m	12.25					6 5/8"		6 5/8"	API REG PIN	0.29 m
2	RSS	D&M	PowerDrive Xceed	DN9-002	8.60 m	9.00	5.25				6 5/8"	REG BOX	6 5/8"	FH BOX	8.89 m
3	LWD	D&M	arcVISION	2724	5.87 m	8.25	2.81				6 5/8"	FH PIN	6 5/8"	FH BOX	14.76 m
4	MWD	D&M	PowerPulse	FB46	8.49 m	8.33	4.31				6 5/8"	FH PIN	6 5/8"	API REG BOX	23.25 m
5	MONEL		2* 8"NMDC	SBD5552-3	18.60 m	8.00	2.81				6 5/8"	API REG PIN	6 5/8"	API REG BOX	41.85 m
6	CROSSOVER	Santos		GUD1231-6	1.09 m	8.00	2.81				6 5/8"	REG PIN	6 5/8"	IF BOX	42.94 m
7	HWDP	Diamond	9 joints 5" HWDP	rig	84.26 m	5.00	3.00				6 5/8"	IF PIN	6 5/8"	IF BOX	127.20 m
8	JAR	Daily		1	10.06 m	6.50	2.75				6 5/8"	IF PIN	4 1/2"	IF BOX	137.26 m
9	HWDP	Diamond	5 joints 5" HWDP	rig	46.60 m	5.00	3.00				4 1/2"	IF PIN	4 1/2"	IF BOX	183.86 m

Predicted BHA Tendency: Kick off and build to 80 degrees inclination.

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out

Bit to Read Out Port		
LWD-arcVISION	3.60	m
MWD-PowerPulse	16.50	m
RSS-PowerDrive Xceed	2.30	m

Bit to Measurement Port		
PowerPulse-D&I	18.87	m
PowerDrive Xceed-Cont D&I	5.38	m
PowerDrive Xceed-D&I	5.38	m
PowerDrive Xceed-Shock risk	53.00	m
PowerDrive Xceed-Stick/Slip	5.38	m
PowerDrive Xceed-T/F	538.00	m
arcVISION-APWD	10.65	m
arcVISION-Gamma Ray	11.41	m
arcVISION-Resistivity	11.36	m

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Time Description Report

5-Aug-2008

7:45PM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Peter Devine, Rowan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	5				

Date/Time	Depth		Description
1-Aug-2008 7:05PM	0.0	m	Initialised ARC-2724
1-Aug-2008 8:30PM	0.0	m	Picked up Xceed-002 tool
1-Aug-2008 8:50PM	0.0	m	Piceked up ARC-2724 tool
1-Aug-2008 9:15PM	0.0	m	Picked up PP-FB46 tool
1-Aug-2008 10:30PM	0.0	m	BRT
2-Aug-2008 12:30AM	96.0	m	SHT - GOOD FLOW - 650 GPM, SPP 639, SPT1 15, TRP- 2227
2-Aug-2008 4:46AM	1404.0	m	Tagged cement.
2-Aug-2008 5:07AM	1338.0	m	Set BD with driller. Begin washing down to cement plug.
2-Aug-2008 5:13AM	1362.8	m	Calibrate Hook load.
2-Aug-2008 9:02AM	1454.0	m	MW 11.3, Vis 89
2-Aug-2008 10:00AM	1455.0	m	Increase in stick slip observed, around 100% (no higher than level 2)
2-Aug-2008 12:59PM	1457.0	m	MW 11.1, Vis 75
2-Aug-2008 3:00PM	1459.0	m	Noticed ltbrt increasing throughout frame as in previous runs, then resetting after 256. Suspected cause is the Xceed tool. Has not affected performance of any tool thus far.
2-Aug-2008 4:46PM	1462.0	m	Brief jamming of MWD tool. Signal lost for two minutes. No change in pump harmonics or drilling parameters. a_jam value of 1 shown for three frames prior to tool shutdown, then 3 for subsequent frames once signal returned. Pressure trace taken.
2-Aug-2008 4:59PM	1462.0	m	a_jam returned to 0
2-Aug-2008 5:31PM	1466.0	m	70% formation observed at shakers, suggesting BHA is starting to kick-off. Stick slip persisting up to level 2, informed DD.
2-Aug-2008 5:46PM	1468.0	m	ROP has been increased to around 5-10m/hr. 50% formation now seen at shakers (less than earlier).
2-Aug-2008 7:00PM	1505.0	m	Sidetrack well
2-Aug-2008 9:04PM	1510.0	m	BHA change in ideal new offsets, missing real time data at this point.
2-Aug-2008 10:00PM	1523.0	m	Anti-Jam no demod. lost data.
2-Aug-2008 10:31PM	1531.0	m	Rmf 0.1003 @ 22.1 C Rm 0.1276 @ 22.1 C Rmc 0.185 @ 22.4 C
2-Aug-2008 11:13PM	1537.0	m	Low flow check
3-Aug-2008 1:00AM	1578.0	m	MMA is Jamming. Demod is affected as tool slips into anti jam mode once every hour for the past 4 hrs.
3-Aug-2008 2:50AM	1610.0	m	SPP dropped 500 psi instantly Anti Jam stopped Pumps down and flow check Suspect wash out After looking at historical data it was found that TRPM and SPP was back to normal and was above normal due to something stuck in the MMA.
3-Aug-2008 7:23AM	1680.0	m	Anti Jamming count zero, Continue to drill ahead with good signal
3-Aug-2008 9:23AM	1728.0	m	Drilling ahead with good signal and no issues.
3-Aug-2008 12:37PM	1806.0	m	Drilling ahead with good signal, building @ 3 deg per stand
3-Aug-2008 3:40PM	1876.0	m	Ajam =3, Jamming counts seen again , controlled drilling at 15 m/hr
3-Aug-2008 3:43PM	1877.0	m	Controlled Drilling, Ajam=2, counts coming down.
3-Aug-2008 4:30PM	1882.0	m	MWDStat=33, MMA jamming and LTB com,
3-Aug-2008 6:28PM	1904.0	m	Drilling ahead to TD, controlled ROP
3-Aug-2008 9:41PM	1927.0	m	Begin drilling in 5 m intervals. CBU between each interval. Aim is to stop at the bed boundry.
4-Aug-2008 2:36AM	1944.0	m	TD, CBU and ream.
4-Aug-2008 11:00PM	1400.0	m	Difficulties coming out of the hole
5-Aug-2008 10:24AM	1500.0	m	Goign back to bottom after circulating high vis pill.

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Drilling Parameters Report

5-Aug-2008

7:45:07PM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Peter Devine, Rowan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 5

	03-Aug-2008 7:58 AM	03-Aug-2008 7:26 AM	02-Aug-2008 1:26 PM
Field Engineer	Zachary Rudd	Anagh Kohli	Zachary Rudd
Depth	1,932.00 m	1,670.00 m	1,623.00 m
Avg ROP	16.69 m/hr	16.69 m/hr	5.13 m/hr
On Bottom ROP	22.25 m/hr	22.25 m/hr	7.94 m/hr
Flow Rate	920.00 galUS/min	850.00 galUS/min	850.00 galUS/min
Turbine RPM	3,281 rpm	3,633 rpm	3,359 rpm
Surface RPM	150 rpm	157 rpm	150 rpm
WOB Rotating	7.00 klbm	10.00 klbm	10.00 klbm
WOB Sliding			
DH WOB			
Surface Torque	10.00 kft.lbf	13.00 kft.lbf	15.00 kft.lbf
DH Torque			
Hookload	222 klbm	237 klbm	230 klbm
PickUp Weight	240.00 klbm	245.00 klbm	240.00 klbm
Slack Weight	220.00 klbm	225.00 klbm	220.00 klbm
Friction			
SPP On Bottom	3,874.00 psi	3,600.00 psi	2,930.00 psi
SPP Off Bottom	3,841.00 psi	3,600.00 psi	2,970.00 psi
Diff Pressure	33 psi		-40 psi
BH Temperature	79.00 degC	68.00 degC	64.00 degC
Total Shocks (k)			
Max Shock Level			
Max Shock Duration			
Torsional Vib			
Lateral Vib			
Axial Vib			
CRPM	117 rpm	150 rpm	159 rpm
Stick/Slip	258	260	264
Formation	Limestone	Limestone	Pyrite
Signal Strength	13.00 psi	14.00 psi	25.00 psi
Percent Signal Conf	79 %	86 %	86 %

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Daily Drilling Activity Report

5-Aug-2008
7:45PM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Peter Devine, Rowan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	5				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
1-Aug-2008						
20:00	23:45	3.75	0.0	96.0	PU / LD BHA / Tripping	Pick up 12-1/4" BHA for sidetrack. Bit BRT at 22:30
23:45	00:00	0.25	96.0	96.0	Circulate / Condition mud	SHT - Good Flow - 650 gpm SPP - 630 psi SPT1 - 25psi TRPM - 2227
2-Aug-2008						
00:00	05:00	5.00	96.0	1400.0	PU / LD BHA / Tripping	RIH
05:00	06:00	1.00	1338.0	1421.0	Reaming / Hole opener / Unc	Wash Down to cement plug 600 gpm
06:00	08:30	2.50	1421.0	1454.0	Drilling	Ream down through green cement.
08:30	12:00	3.50	1454.0	1457.0	Drilling	Attempt kick off at 1 m/hr.
12:00	21:00	9.00	1457.0	1505.0	Drilling	Cont to kick off at 1m/hr
21:00	00:00	3.00	1505.0	1544.0	Drilling	Commence drilling 12-1/4" hole.
3-Aug-2008						
00:00	06:00	6.00	1544.0	1650.0	Drilling	Drill ahead
06:00	07:30	1.50	1650.0	1681.0	Drilling	Drill ahead with WOB 10
07:30	07:45	0.25	1681.0	1681.0	Circulate / Condition mud	SCR's
07:45	09:25	1.67	1681.0	1722.0	Drilling	Drill Ahead, Ajam=0
09:25	12:35	3.17	1722.0	1806.0	Drilling	Drill ahead
12:35	13:20	0.75	1806.0	1825.0	Drilling	Drill ahead
13:20	13:30	0.17	1825.0	1825.0	Circulate / Condition mud	SCR's
13:30	15:35	2.08	1825.0	1876.0	Drilling	Drill ahead
15:35	21:41	6.10	1876.0	1927.0	Drilling	Controlled drilling
21:41	00:00	2.32	1927.0	1944.5	Drilling	Drilling and CBU at 5m increments looking for bed boundry
4-Aug-2008						
00:00	08:00	8.00	1944.5	1934.0	Circulate / Condition mud	Circulating and conditioning mud.
08:00	08:30	0.50	1934.0	1915.0	PU / LD BHA / Tripping	Begin POOH
08:30	00:00	15.50	1915.0	1400.0	Reaming / Hole opener / Unc	Difficulties coming out of hole. Hole really tight, ream slowly out of hole.
5-Aug-2008						
00:00	06:00	6.00	1400.0	1200.0	Circulate / Condition mud	POOH,circulating every stand
06:00	10:30	4.50	1200.0	1500.0	Circulate / Condition mud	Pumped high vis, going back to bottom
10:30	11:30	1.00	1500.0	1944.0	Circulate / Condition mud	Circulate on bottom
11:30	18:41	7.18	1944.0	1300.0	Reaming / Hole opener / Unc	Ream out
18:41	00:00	5.32	1300.0	800.0	PU / LD BHA / Tripping	POOH

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Equipment Run Summary Report

13-Aug-2008
4:14AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Rohan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	6				

Run Information

	Date In		Date Out
	9-Aug-2008 12:50AM		12-Aug-2008 8:00PM
Depth (MD):	1944.5 m	to	2517.0 m
Depth (TVD):	1681.8 m	to	1655.3 m
Inclination:	80.90 deg	to	98.30 deg
Azimuth:	122.70 deg	to	119.30 deg

Drilling Distance:	572.50 m
Rotary Drilling Distance:	572.50 m
Sliding Distance:	0.00 m
Reaming Distance:	20.00 m

Drilling Hours:	36.20 hrs
Rotary Drilling Hrs:	36.20 hrs
Sliding Hours:	0.00 hrs
Reaming Hours:	0.93 hrs
Hrs Below Rotary:	91.17 hrs
Total Pumping Hrs:	65.20 hrs

Hole Size:	8.50 in
Last Casing Size:	9.625 in
Last Casing Depth:	1944.5 m (MD)
Tool Face Arc:	
Total Face Angle:	deg

North Ref Used:	Grid North
Magnetic Dec:	10.777 deg
Grid Correction:	-1.025 deg
Total Correction:	11.802 deg
Est. Mag. Int:	0.10 deg

Min DLS:	0.19 deg/30 m
Max DLS:	3.42 deg/30 m
Max DLS Depth:	2,148.4 m
Surface Screen:	No
DFS Used:	No
Inline Filter:	No

Rig Information

Rig Type:	Semi-Submersible
Water Depth:	66.10 m
Air Gap:	20.80 m
RKB Height:	20.80 m
Ground Elevation:	-66.10 m

Pump Type:	Triplex
Pulse Damp Press:	800 psi
Number of Pumps:	3
Pump Line ID:	6.00 in
Pump Output:	4.27 galUS/stroke
Pump Stroke Len:	12.00 in

Run Objective

To drill into 'Skull Creek' and then geo steer horizontally through it. Firstly build from 80 degrees inclination to 89 degrees and holding tangent untill we see bottom boundary of zone. Finally increasing inclination to 97 degrees untill we touch top of zone at which point we will call TD.

D&M Crew List:

Cell Manager: Anagh Kohli

Crew:
- Uzma Hassan, LWD
- Anagh Kohli, Cell Manager
- Agus Partono, DD
- Zachary Rudd, LWD
- Chris Skiba, DD
- Andrew Stroud, DD

DH Motor Information

Manufacturer:		Bit to Bend Dist:	m
Motor Type:		Bearing Play In:	in
Motor Size:		Bearing Play Out:	in
Serial No.:		Bent Sub Angle:	deg
Lobe Config:		Bent HSG Angle:	deg
Stage Length:	m		
Rubber:			
Sleeve Position:			
Sleeve Size:	in		
Bearing Type:			

RSS Information

RSS Manufacturer:	D&M	
RSS Type:	PowerDrive Xceed	
RSS SN:	266	
RSS Size:		675.00
Pulse Ht Threshold:		
Min Pulse Width:		
Max Pulse Width:		
Conn Phase Angle:	deg	
Rise Time Const:		
Fall Time Const:		
Digit Time:		

MWD Configuration

Mod Type:	QPSK	Int Tool Face Offset:	deg	Bit Rate:	6 bps	Slimpulse Pulser Config:	
Mod Gap:	in	Turbine Config:	galUS/min	Frequency:	12 Hz	Pred Sig Strength @ TD:	psi
SPT Type:	HA						

Drilling Parameters

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Equipment Run Summary Report

13-Aug-2008
4:14AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Rohan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	6				

	Min	Max	Avg
BH Temperature:	54.00 degC	66.00 degC	59.60 degC
Surface RPM:	120.00 rpm	160.00 rpm	129.00 rpm
ROP:	7.14 m/hr	33.50 m/hr	15.81 m/hr
Surface Torque:	23.00 kft.lbf	26.00 kft.lbf	24.90 kft.lbf
Flow Rate:	620.00 galUS/min	650.00 galUS/min	626.00 galUS/min
WOB Sliding:	0.00 klbm	0.00 klbm	0.00 klbm

Total DH Shocks (k):	0 k
Max Shock Level:	0
Max Shock Duration:	0 sec
Checkshot Type:	
Checkshot Depth:	m
Checkshot Incl:	deg
Checkshot Azim:	deg
H2S In Well:	No

Average Pump Pressure:	0 psi				
Turbine RPM @ Min Flow Rate:	4,000 rpm	Min Flow Rate:	620.00galUS/min	SPP Off Bottom:	2,050.00 psi
Turbine RPM @ Max Flow Rate:	3,984 rpm	Max Flow Rate:	650.00galUS/min	SPP On Bottom:	2,050.00 psi

Mud Information

Mud Type:	Water Base	Mud Clean:	Yes	pH:	9.00
Mud Company:	Mi Swaco	LCM Type:	Granules - Calcium Carbonate	Chlorides:	88,000.00 ppm
Mud Brand:	Rheochem	LCM Size:	Medium	Sand Content:	0.20 %
Funnel Viscosity:	45.00 s/qt	LCM Concentration:	28.00 lbs/bbl	Solids:	2.59 %
Plastic Viscosity:	11.00 cp	Weighting Material:	Calcium Carbonate	Percent Oil:	0.00 %
Yield Point:	34.00 lbm/100ft2	Mud Weight:	9.60 lbm/galUS		
Mud Resistivity:	0.08 ohm-m				

IADC Bit Grading

Manufacturer:	Hycalog	Total Revs:	266,400.00	IADC Code:	222
Model:	Smith International	Stick/Slip:		Jets (/ 32 in'	5X13 2X12
Type:	PDC	Reason Pulled:	Total Depth/Casing Depth	Bit TFA:	0.87 in2

Inner Row	Outer Row	Dull Char	Location	Bearings/Seals	Gauge	Other Chars
1.00	3.00	BT	G		I	WT

End of Run - Summary

Sync Hours:	41.80 hrs	Downhole Noise:	No	Run Failed:	No
Jamming:	No 0.00 hrs	Surface System Failure:	No	D&M Trip:	No
Surface Vibration:	No	Surface Noise:	No	Low Oil Flag:	No 0.00 hrs
Trans Fail:	No	H2S in Well:	No	Filter Screen/Plug Shear:	No

Client Inconvenience: **No** Lost Time: hrs

Reason for POOH: Total Depth/Casing Depth

D&M Run Obj Met? [DD and MWD/LWD]: **Yes**

Brief Run Summary:

Very good D&M run. Real time data was all good and tools behaved as planned. Whilst geo steering the geologists made many on the spot direction changes and these new targets were acheived with ease.

Some problems occured with real time data as drilling comenced whilst we were fixing the geolograph. We then had to ream this section (20m) as we had no depth data. Logs were spliced and all was OK in the end.

If not, why?:

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Equipment Run Summary Report

13-Aug-2008
4:14AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot
Company Rep: Rohan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1
Run Number: 6

Equipment on the Run

Equipment	Pump Hours Start	Pump Hours Cumulative	Software Version	Tool Size
CRSC-AA-266	0.00 hrs	65.20 hrs		6.75 in
DV6MT-AB-979	0.00 hrs	65.20 hrs	KarlV2.2	6.75 in
H524743-e08155	56.00 hrs	121.20 hrs		6.75 in
H524743-e08156	24.00 hrs	89.20 hrs		6.75 in
H524743-e08184	24.00 hrs	89.20 hrs		6.75 in
H524743-e08185	0.00 hrs	65.20 hrs		6.75 in
MDC-AE-FA27	0.00 hrs	65.20 hrs	V9.2C02	6.75 in
MSSA-CC-OSS061159G	0.00 hrs	65.20 hrs		6.75 in
NMDC675L-M364	0.00 hrs	65.20 hrs		6.75 in
NMFC-675-OSS 0611112A	0.00 hrs	65.20 hrs		6.75 in

Services on the Run

Equipment	Service	Tool Name	Real Time Hours	Real Time Failed	Real Time Depth	Recorded Mode Hours	Recorded Mode Failed	Recorded Mode Depth	CAF
MWD	D&I	TeleScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
MWD	Cont D&I	TeleScope	65.20 hrs		572.5 m	hrs			
MWD	Shock and Vibration	TeleScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
RSS	D&I	PowerDrive Xceed	65.20 hrs		572.5 m	hrs			
RSS	Stick/Slip risk	PowerDrive Xceed	65.20 hrs		572.5 m	hrs			
RSS	Cont D&I	PowerDrive Xceed	65.20 hrs		572.5 m	hrs			
RSS	T/F	PowerDrive Xceed	65.20 hrs		572.5 m	hrs			
RSS	PowerDrive Xceed	PowerDrive Xceed	65.20 hrs		572.5 m	hrs			
LWD	Ultrasonic Caliper	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
LWD	Neutron	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
LWD	APWD	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
LWD	Gamma Ray	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
LWD	Resistivity	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	
LWD	Density	EcoScope	65.20 hrs		572.5 m	91.17 hrs		572.5 m	

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BHA Report

13-Aug-2008

4:14AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Rohan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 6 **BHA Type:** Rotary Steerable

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck OD	Fishing Neck Len, m	Stab OD	Bottom Connection Size	Bottom Connection Type	Top Connection Size	Top Connection Type	Cumul Len
1	BIT	Hycalog	PDC	JX0574	0.24 m	8.50	2.25				4 1/2"	REG PIN			0.24 m
2	RSS	D&M	PowerDrive Xceed	266	7.66 m	6.75	2.00				4 1/2"	REG BOX	6 5/8"	FH BOX	7.90 m
3	LWD	D&M	EcoScope	979	8.04 m	6.75	2.00				5 1/2"	FH PIN	6 5/8"	FH BOX	15.94 m
4	STABILIZER	D&M		OSS051299B	1.08 m	8.33	4.31				5 1/2"	FH PIN	6 5/8"	API REG BOX	17.02 m
5	MWD	D&M	TeleScope	FA27	7.53 m	6.75	5.10				5 1/2"	FH PIN	6 5/8"	API REG BOX	24.55 m
6	SUB	D&M	Saver Sub	OSS061159G	0.50 m	6.75	3.00				5 1/2"	FH PIN	6 5/8"	IF BOX	25.05 m
7	DRILL COLLAR - NONMAG	D&M		M364	9.09 m	6.75	2.75				4 1/2"	IF PIN	6 5/8"	IF BOX	34.14 m
8	DRILL COLLAR - NONMAG			OSS0611112A	9.48 m	6.75	2.88				4 1/2"	IF PIN	4 1/2"	IF BOX	43.62 m
9	HWDP	Diamond	5 joints 5" HWDP	Rig	96.00 m	5.00	3.00				4 1/2"	IF PIN	4 1/2"	IF BOX	139.62 m
10	JAR	D&M		21449E	9.89 m	6.50	2.75				4 1/2"	IF PIN			149.51 m
11	HWDP	D&M	5 joints 5" HW	RIG	38.40 m	5.00	3.00				4 1/2"	IF PIN			187.91 m
12	DRILLPIPE			Rig	1.00 m	4.93	4.28				4 1/2"	IF PIN			188.91 m

Predicted BHA Tendency: Kick off and build to 80 degrees inclination.

Hookload Out:

Pickup Out:

Slack Weight:

Wt Below Jars:

Wt Above Jars:

Total Air Wt:

Stab Description	Mid Pt to Bit	Blade Type	Blade Len	Blade Width	Gauge Len	Gauge In	Gauge Out
	16.42 m	ILS	13.80	3.00	8.00	8.00	

Bit to Read Out Port		
LWD-EcoScope	10.00	m
RSS-PowerDrive Xceed	3.10	m
MWD-TeleScope	18.30	m

Bit to Measurement Port		
PowerDrive Xceed-Cont D&I	4.12	m
PowerDrive Xceed-D&I	4.12	m
TeleScope-D&I	20.68	m
EcoScope-Ultrasonic Caliper	11.35	m
EcoScope-Neutron	13.02	m
EcoScope-APWD	9.89	m
EcoScope-Gamma Ray	9.73	m
EcoScope-Resistivity	12.77	m
EcoScope-Density	10.93	m

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Time Description Report

13-Aug-2008

4:14AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Rohan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run Number:	6				

Date/Time	Depth		Description
9-Aug-2008 1:00AM	0.0	m	Bit BRT.
9-Aug-2008 1:30AM	30.0	m	SHT without radio active source. Good test.
9-Aug-2008 1:45AM	0.0	m	Load Radio active source.
9-Aug-2008 3:00AM	60.0	m	SHT with radioactive source. Flow 450 GPM, SPP 760 psi, SPT1 - 23 psi, TRPM - 2677
9-Aug-2008 9:54AM	1200.0	m	Circulating every 10 stands
9-Aug-2008 3:04PM	1911.0	m	Drilling the cement shoe
9-Aug-2008 5:45PM	1933.0	m	Change the mud
9-Aug-2008 10:50PM	1944.5	m	Tag bottom, Making new hole
10-Aug-2008 1:14AM	1969.0	m	change of potassium content to 0.
10-Aug-2008 1:16AM	1969.0	m	Out of sync went off bottom and recycled pumps. got back the signal.
10-Aug-2008 2:40AM	1998.0	m	Off Bottom fixing Gas Equipment
10-Aug-2008 2:48AM	1998.0	m	Flow test.
10-Aug-2008 6:15AM	2163.9	m	We start relogging again.
10-Aug-2008 6:15AM	2163.9	m	We started relogging again
10-Aug-2008 10:13AM	2113.0	m	SCR's
10-Aug-2008 1:32PM	2142.0	m	Changing singles from the stand
10-Aug-2008 4:16PM	2162.0	m	TD repair
10-Aug-2008 4:48PM	2162.0	m	Back Drilling
10-Aug-2008 5:00PM	2162.0	m	Geolograph cable broke
10-Aug-2008 6:15PM	2163.9	m	Rack back one stand to relog missed section due to broken geolograph
10-Aug-2008 7:00PM	2165.0	m	Begin reaming down to relog section. Activated formation so gamma is not correct here. Ream from Resitivity Sensor depth : 2143.96. Spliced this to Data from before geolograph cable broke. Missing data at beginning of ream section due to reaming while utility frame was pumped up.
10-Aug-2008 7:56PM	2182.0	m	Begin Drilling new hole.
11-Aug-2008 2:30AM	2258.0	m	Broken monkey board arm, circulate while fixing.
11-Aug-2008 5:19AM	2258.0	m	Making connection preparing to drill ahead.
11-Aug-2008 7:35AM	2287.0	m	SCR's
11-Aug-2008 4:43PM	2400.0	m	Drilling Ahead
12-Aug-2008 2:00AM	2517.0	m	TD well. CBU
12-Aug-2008 4:35AM	2517.0	m	Short Trip to the shoe.
12-Aug-2008 7:00AM	1936.0	m	Trip Back to Bottom
12-Aug-2008 11:30AM	2517.0	m	CBU change mud
12-Aug-2008 1:30PM	2517.0	m	POOH
12-Aug-2008 8:00PM	0.0	m	Bit ART

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Drilling Parameters Report

13-Aug-2008

4:14:15AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Rohan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 6

	11-Aug-2008 11:42 PM	11-Aug-2008 8:51 AM	10-Aug-2008 10:08 PM	10-Aug-2008 7:37 AM	10-Aug-2008 3:56 AM
Field Engineer	Uzma Hassan	Anagh Kohli	Uzma Hassan	Anagh Kohli	Uzma Hassan
Depth	2,487.33 m	2,298.00 m	2,199.00 m	2,074.00 m	2,010.00 m
Avg ROP	9.51 m/hr	9.51 m/hr	10.90 m/hr	10.90 m/hr	10.90 m/hr
On Bottom ROP	10.79 m/hr	10.79 m/hr	13.34 m/hr	13.34 m/hr	13.34 m/hr
Flow Rate	620.00 galUS/min	620.00 galUS/min	620.00 galUS/min	620.00 galUS/min	650.00 galUS/min
Turbine RPM	4,000 rpm	3,398 rpm	3,398 rpm	3,398 rpm	3,984 rpm
Surface RPM	120 rpm	120 rpm	120 rpm	125 rpm	160 rpm
WOB Rotating	15.00 klbm	15.00 klbm	15.00 klbm	20.00 klbm	28.00 klbm
WOB Sliding					.00 klbm
DH WOB					
Surface Torque	25.00 kft.lbf	24.50 kft.lbf	23.00 kft.lbf	26.00 kft.lbf	26.00 kft.lbf
DH Torque					
Hookload	232 klbm	237 klbm	229 klbm	258 klbm	242 klbm
PickUp Weight		250.00 klbm	240.00 klbm	260.00 klbm	255.00 klbm
Slack Weight		160.00 klbm	170.00 klbm	190.00 klbm	210.00 klbm
Friction					
SPP On Bottom	2,300.00 psi	2,218.00 psi	2,224.00 psi	2,085.00 psi	2,050.00 psi
SPP Off Bottom	2,300.00 psi	2,218.00 psi	2,224.00 psi	2,085.00 psi	2,050.00 psi
Diff Pressure					
BH Temperature	66.00 degC	60.00 degC	58.00 degC	60.00 degC	54.00 degC
Total Shocks (k)					
Max Shock Level					
Max Shock Duration					
Torsional Vib					
Lateral Vib					
Axial Vib					
CRPM	104 rpm	96 rpm	107 rpm	89 rpm	112 rpm
Stick/Slip	204	219	24	51	48
Formation	Sandstone	Sandstone	Sandstone	Sandstone	Sandstone
Signal Strength	5.00 psi	3.00 psi	5.00 psi	4.30 psi	6.00 psi
Percent Signal Conf	70 %	72 %	70 %	77 %	65 %

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Daily Drilling Activity Report

13-Aug-2008
4:14AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Rohan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	6				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
9-Aug-2008						
00:00	01:30	1.50	0.0	0.0	PU / LD BHA / Tripping	Pick up BHA
01:30	01:35	0.08	0.0	30.0	Circulate / Condition mud	SHT without radio active source
01:35	02:00	0.42	30.0	30.0	Other	Load radio active source
02:00	03:00	1.00	30.0	60.0	PU / LD BHA / Tripping	Conitnue making BHA
03:00	03:06	0.10	60.0	60.0	Circulate / Condition mud	SHT with radio active source. Flow 450gpm SPP 760 SPT 23 TRPM 2788
03:06	10:00	6.90	60.0	1200.0	PU / LD BHA / Tripping	RIH
10:00	13:50	3.83	1200.0	1900.0	PU / LD BHA / Tripping	RIH
13:50	17:05	3.25	1900.0	1912.0	PU / LD BHA / Tripping	Tag cement
17:05	17:45	0.67	1912.0	1933.0	Reaming / Hole opener / Unc	Drill past cement float
17:45	18:15	0.50	1933.0	1933.0	Circulate / Condition mud	CBU & displacing mud
18:15	21:05	2.83	1933.0	1933.0	Other	Cleaning Pits etc
21:05	21:49	0.73	1933.0	1941.0	Reaming / Hole opener / Unc	drill through the shoe
21:49	22:23	0.57	1941.0	1944.5	Reaming / Hole opener / Unc	SCR & Choke Tests
22:23	00:00	1.62	1944.5	1960.0	Drilling	Drilling Ahead
10-Aug-2008						
00:00	02:41	2.68	1960.0	1998.0	Drilling	Drilling Ahead
02:41	03:00	0.32	1998.0	1998.0	Other	gas equipment testing
03:00	10:00	7.00	1998.0	2113.0	Drilling	Drill ahead
10:00	10:20	0.33	2113.0	2113.0	Circulate / Condition mud	SCR's
10:20	13:20	3.00	2113.0	2142.0	Drilling	Drill ahead
13:20	14:00	0.67	2142.0	2142.0	Repair rig	Repair the saver sub
14:00	15:30	1.50	2142.0	2162.0	Drilling	Drill 2 singles
15:30	16:48	1.30	2162.0	2162.0	Repair rig	TD saver sub problems
16:48	18:10	1.37	2162.0	2182.0	Drilling	drill ahead
18:10	19:00	0.83	2182.0	2162.0	Other	rack back to prepare for logging
19:00	19:56	0.93	2162.0	2182.0	Reaming / Hole opener / Unc	
19:56	00:00	4.07	2182.0	2221.7	Drilling	drilled ahead
11-Aug-2008						
00:00	02:30	2.50	2221.7	2258.0	Drilling	Drilling ahead 8.5" section, no shocks, low sticknslip.
02:30	05:00	2.50	2258.0	2258.0	Circulate / Condition mud	Rig Repairs on Monkey Board arm. Circulating while fixing this problem.
05:00	07:30	2.50	2258.0	2287.0	Drilling	Drill one stand
07:30	07:50	0.33	2287.0	2287.0	Circulate / Condition mud	SCR's
07:50	17:00	9.17	2287.0	2400.0	Drilling	Drill Ahead
17:00	00:00	7.00	2400.0	2450.0	Drilling	
12-Aug-2008						
00:00	02:00	2.00	2450.0	2517.0	Drilling	Drilling towards TD
02:00	04:35	2.58	2517.0	2517.0	Circulate / Condition mud	CBU
04:35	07:00	2.42	2517.0	1936.0	PU / LD BHA / Tripping	Short Tiip To Casing Shoe
07:00	11:30	4.50	1936.0	2517.0	PU / LD BHA / Tripping	Trip back to bottom
11:30	13:30	2.00	2517.0	2517.0	Circulate / Condition mud	CBU

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Daily Drilling Activity Report

13-Aug-2008

4:14AM

Job Number:	08ASQ0003	**Company:**	SANTOS LIMITED	**Rig Name:**	Ocean_Patriot
Company Rep:	Rohan	**Location:**	MEA-APG-ASQ	**Well Name:**	Netherby-1
Run No:	6				

From	To	Elapsed	Depth in m From	Depth in m To	IADC Activity	Description
13:30	20:00	6.50	2517.0	0.0	PU / LD BHA / Tripping	Bit above rotary table

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PowerDrive Xceed Summary

Xceed Rev 1 Please do not make any changes to this form !!!

PowerDrive
The new direction in rotary drilling

JOB NUMBER	COMPANY REP.	DATE IN	DATE OUT	PowerDrive Run #	MWD Run #	Rig Bit Run #	PD Engineer
08ASQ0003	Chris Roots / Nathan	21-Jul-08	23-Jul-08	1	2	3	AP / AS

CLIENT	Hole Depth - FROM	TO	CRSC BA	CRSSA-BA	CRSEM-BA
Santos	648 m	1421 m	058	016	060

RIG NAME	Inclination - FROM	TO	CRSDA AA	CRSPA BA
Ocean Patriot	0.52 deg	35.10 deg	181	9-015

WELL NAME	Azimuth - FROM	TO	Bit Mfg	Bit Type	Bit SN
Netherby-1	130.06 deg	115.42 deg	HC	M XL-1X	6066569

LOCATION	Hole Size	Bit to D&I	Bit to PD D&I	Dull Grade - IADC Cutting Structure
Otway Basin	12.25 inches	18.96 m	4.80 m	1-3-CT-1/2-E-2-ER-PR

Map file name	Mag Dec / Grid Cor / Total Corr.			Resolver Offset	Downlink response ?	On Bottom Hours	Last Casing size/wt / depth
Fast Downlink	10.777	-1.0254	11.802	860	Good	19.10	13 3/8"@ 648 m

Bit-Midpoint Lower Szr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX		Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	ft / M Drilled this run
0.73 m	4.18	0m	5	45	150	30	16.00	773.0m

PD MIN/MAX		Battery Voltage	Date Due	RPM MIN / MAX		MWD Min/Max Flow Rating		Below Rotary Table Hours	PD ft/M Drilled (Operating)
600	1200	3.3	8/8/8	75	160	600	1200	56.25	773.0m

Fast Downlink		Pulse height	Used	Actual Flow MIN / MAX		Pump Output / Type		PowerDrive Operating Hours	On Btm ROP	Ave ROP
18 sec	60 sec	20%	18 sec	800	1000	4.28 GPS	Triplex	35.10	37.9	37.9

Tool Response

Max DLS	Max BUR	Max Turn Rt
4.9	4.89	-15.71

Stab gauge before/after run: 12.125 | 12.125

Run Objective: Directional drill as directed.

SOFTWARE VERSION

Acq	CPU	Comm	MWD	IDEAL
9.1A-70 (3)	37b05	6.1A45 (00)	V80C04	13_0c_08

Reason for POOH: PR

Bit Hydraulics Calculations

Enter data in blue areas

Pump Flow	1000
Mud Weight	9.4
Bit Diameter	12.25
Bit Flow	1000
Bit Pressure Drop	755
Hydraulic HP	441
HSI	3.7
Impact Press.	1365

Bit Nozzle Size and TFA

Nozzle	/ 32	TFA
1	14	0.150
2	20	0.307
3	20	0.307
4	20	0.307
5		
6		
7		
8		
9		
10		
Bit TFA =		1.071

PowerDrive Serial No.

PART	PFIX	SN	START	CUM
Electronics	CRSEM-BA	060	0.00	35.10
Steering Section	CRSSA-BA	016	0.00	35.10
Collar	CRSC BA	058	0.00	35.10
Power Generation	CRSDA AA	181	0.00	35.10
Sub	CRSPA BA	9-015	0.00	35.10
Motor		N/A		

Motor Run Information

Motor type	Seiral number
N/A	N/A
Bend type	**Bend Angle**
N/A	N/A
Stab type	**Stab Gauge**
N/A	N/A
Off Bottom pressure	**On Bottom pressure**
N/A	N/A
Backreaming Hours	**Total Reaming Hours**
N/A	N/A
Bearing Play after run (mm)	N/A

Mud properties

Mud Company	Rheochem
Mud Type	WBM
MW at **start** of run	9.0 ppg
MW at **end** of run	9.4 ppg
Funnel Viscosity	56 sec
Plastic Viscosity	16
Yeild Point	29
Maximum DH Temp. deg C	56 degC
Sand %	0.25 %
Soild %	3.52 %

Run Summary

The Xceed was able to kick off from vertical to 35 deg and hold it the angle easily with 120 deg MTF and 60% steering ratio only. The Kick off point was in unconsolidated sand formation which is easily to be washed out, but this wasn't a problem for Xceed. It maintained building the angle up to 35.2 deg and hold the inclination and azimuth using HIA Steering Mode. With the setting of "Low Inc Gain. 4 Min Drill Cycle. 100% SR at +/- 1.4 deg", it avoided rapid response of the tool, keeping the hole smooth with proportional steering response (10-20%). Several times the D/L couldn't be accepted by the tool, but after altering the flow rate from 1000 GPM to 800 GPM, the problem disappeared. The BHA was pulled out of the hole at the dept of 1421m for bit trip. However, it experienced a tight spot from 1000m up to the shoe depth at 648m, most probably caused by hole cavings in the unconsolidated sand. The tool was physically checked and given OK to be RIH.

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PowerDrive Xceed Summary

Xceed Rev 1: Please do not make any changes to this form !!!

PowerDrive
The new direction in rotary drilling

JOB NUMBER	COMPANY REP.	DATE IN	DATE OUT	PowerDrive Run #	MWD Run #	Rig Bit Run #	PD Engineer
08ASQ0003	Chris Roots / Nathan / Peter	23-Jul-08	25-Jul-08	2	3	4	AP / AS

CLIENT	Hole Depth - FROM	TO	CRSC BA	CRSSA-BA	CRSEM-BA
Santos	1421 m	1870 m	058	016	060

RIG NAME	Inclination - FROM	TO	CRSDA AA	CRSPA BA
Ocean Patriot	35.05 deg	35.18 deg	181	9-015

WELL NAME	Azimuth - FROM	TO	Bit Mfg	Bit Type	Bit SN
Netherby-1	116.50 deg	119.41 deg	Reed Hycalog	RSX616MA10	215850

LOCATION	Hole Size	Bit to D&I	Bit to PD D&I	Dull Grade - IADC Cutting Structure
Otway Basin	12.25 inches	18.96 m	4.80 m	2-3-CT-S-X-I-WT-TD

Map file name	Mag Dec / Grid Cor / Total Corr.			Resolver Offset	Downlink response ?	On Bottom Hours	Last Casing size/wt / depth
Fast Downlink	10.777	-1.0254	11.802	860	Good	20.50	13 3/8"@ 648 m

Bit-Midpoint Lower Szr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX		Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	ft / M Drilled this run
0.73 m	4.18	0m	5	28			10.10	449.0m

PD MIN/MAX		Battery Voltage	Date Due	RPM MIN / MAX		MWD Min/Max Flow Rating		Below Rotary Table Hours	PD ft/M Drilled (Operating)
600	1200	3.3	8/8/8	145	200	600	1200	51.50	449.0m

Fast Downlink		Pulse height	Used	Actual Flow MIN / MAX		Pump Output / Type		PowerDrive Operating Hours	On Btm ROP	Ave ROP
18 sec	60 sec	20%	18 sec	950	1000	4.28 GPS	Triplex	30.60	21.9	21.9

Tool Response

Max DLS	Max BUR	Max Turn Rt
4.9	4.89	-15.71

Stab gauge before/after run: 12.125 | 12.125

Run Objective: Directional drill as directed.

SOFTWARE VERSION

Acq	CPU	Comm	MWD	IDEAL
9.1A-70 (3)	37b05	6.1A45 (00)	V80C04	13_0c_08

Reason for POOH: TD

Bit Hydraulics Calculations

Enter data in blue areas

Pump Flow	1000
Mud Weight	11
Bit Diameter	12.25
Bit Flow	1000
Bit Pressure Drop	730
Hydraulic HP	426
HSI	3.6
Impact Press.	1320

Bit Nozzle Size and TFA

Nozzle	/ 32	TFA
1	16	0.196
2	16	0.196
3	16	0.196
4	16	0.196
5	16	0.196
6	16	0.196
7		
8		
9		
10		
Bit TFA =		1.178

PowerDrive Serial No.

PART	PFIX	SN	PUMP HOURS START	PUMP HOURS CUM
Electronics	CRSEM-BA	060	35.10	65.70
Steering Section	CRSSA-BA	016	35.10	65.70
Collar	CRSC BA	058	35.10	65.70
Power Generation	CRSDA AA	181	35.10	65.70
Sub	CRSPA BA	9-015	35.10	65.70
Motor		N/A		

Motor Run Information

Motor type	N/A
Seiral number	N/A
Bend type	N/A
Bend Angle	N/A
Stab type	N/A
Stab Gauge	N/A
Off Bottom pressure	N/A
On Bottom pressure	N/A
Backreaming Hours	N/A
Total Reaming Hours	N/A
Bearing Play after run (mm)	N/A

Mud properties

Mud Company	Rheochem
Mud Type	WBM
MW at **start** of run	10.0 ppg
MW at **end** of run	11.0 ppg
Funnel Viscosity	57 sec
Plastic Viscosity	23
Yeild Point	37
Maximum DH Temp. deg C	77 degC
Sand %	0.50 %
Soild %	10.75 %

Run Summary

The Xceed was run for the second time after bit change. The seond run was in tangent section, so the tool was set on Steering Mode 3 : HIA. The option of how the tool response in HIA mode in aggressive, moderate, or less help us a lot drilling through the tangent section with much better control. There were no excessive doglegs for the whole course till TD at 1870m. For sure the latest software (v37) given a better options than previous one (v36), especially in HIA mode.

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PowerDrive Xceed Summary

PowerDrive
The new direction in rotary drilling

Xceed Rev 1 Please do not make any changes to this form !!!

JOB NUMBER	COMPANY REP.	DATE IN	DATE OUT	PowerDrive Run #	MWD Run #	Rig Bit Run #	PD Engineer
08ASQ0003	Peter Devine	1-Aug-08	6-Aug-08	1	5	8	AP / AS

CLIENT	Hole Depth - FROM	TO	CRSC BA	CRSSA-BA	CRSEM-BA
Santos	1421 m	1944.5 m	002	003	014

RIG NAME	Inclination - FROM	TO	CRSDA AA	CRSPA BA
Ocean Patriot	35.05 deg	80.90 deg	151	003

WELL NAME	Azimuth - FROM	TO	Bit Mfg	Bit Type	Bit SN
Netherby-1DW1	116.50 deg	119.41 deg	Reed Hycalog	RSX616MA16	218712

LOCATION	Hole Size	Bit to D&I	Bit to PD D&I	Dull Grade - IADC Cutting Structure
Otway Basin	12.25 inches	18.96 m	4.80 m	1-1-CT-S-X-I-NO-TD

Map file name	Mag Dec / Grid Cor / Total Corr.			Resolver Offset	Downlink response ?	On Bottom Hours	Last Casing size/wt / depth
Fast Downlink	10.777	-1.0254	11.802	969	Good	31.00	13 3/8"@ 648 m

Bit-Midpoint Lower Szr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX		Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	ft / M Drilled this run
0.73 m	4.18	0m	5	28	160	10	48.20	523.5m

PD MIN/MAX		Battery Voltage	Date Due	RPM MIN / MAX		MWD Min/Max Flow Rating		Below Rotary Table Hours	PD ft/M Drilled (Operating)
600	1200	3.3	8/8/8	145	200	600	1200	102.50	523.5m

Fast Downlink		Pulse height	Used	Actual Flow MIN / MAX		Pump Output / Type		PowerDrive Operating Hours	On Btm ROP	Ave ROP
18 sec	60 sec	20%	18 sec	800	950	4.28 GPS	Triplex	79.20	21.9	21.9

Tool Response

Max DLS	Max BUR	Max Turn Rt
4.9	4.89	-15.71

Stab gauge before/after run: 12.125 | 12.125

Run Objective: Directional drill as directed.

SOFTWARE VERSION

Acq	CPU	Comm	MWD	IDEAL
9.1A-70 (3) MTC 70(	37b05	6.1A45 (00)	V80C04	13_0c_08

Reason for POOH: TD

Bit Hydraulics Calculations

Enter data in blue areas

Pump Flow	930
Mud Weight	11
Bit Diameter	12.25
Bit Flow	1000
Bit Pressure Drop	730
Hydraulic HP	426
HSI	3.6
Impact Press.	1320

Bit Nozzle Size and TFA

Nozzle	/ 32	TFA
1	16	0.196
2	16	0.196
3	16	0.196
4	16	0.196
5	16	0.196
6	16	0.196
7		
8		
9		
10		
Bit TFA =		1.178

PowerDrive Serial No.

PART	PFIX	SN	PUMP HOURS START	PUMP HOURS CUM
Electronics	CRSEM-BA	014	0.00	79.20
Steering Section	CRSSA-BA	003	0.00	79.20
Collar	CRSC BA	002	0.00	79.20
Power Generation	CRSDA AA	151	0.00	79.20
Sub	CRSPA BA	003	0.00	79.20
Motor		N/A		

Motor Run Information

Motor type	Seiral number
N/A	N/A
Bend type	**Bend Angle**
N/A	N/A
Stab type	**Stab Gauge**
N/A	N/A
Off Bottom pressure	**On Bottom pressure**
N/A	N/A
Backreaming Hours	**Total Reaming Hours**
N/A	N/A
Bearing Play after run (mm)	N/A

Mud properties

Mud Company	Rheochem
Mud Type	WBM
MW at **start** of run	110 ppg
MW at **end** of run	110 ppg
Funnel Viscosity	49 sec
Plastic Viscosity	23
Yeild Point	30
Maximum DH Temp. deg C	75 degC
Sand %	0.20 %
Soild %	10.82 %

Run Summary

The Xceed was able to sidetrack the well from 35 deg inclination tangent section. The cement plug was not hard enough, and the top of cement was tagged lower than we expected. Both combination made a difficulty in sidetracking the pilot hole. Performing a time drilling for 8 m with 1 m/hr didn't help much as there were no support from the cement plug at all. After time drilling has been finished, tried to speed up the ROP and this ended up back to the original hole. Anyhow, catching the weight was more important than just set back for time drilling again. And we did got a support weight from a quite firm cement, and only that made our sidetrack operation was successfully. Continued drilling with lower KOP made we have to turn and build with higher DLS from the planned in order to hit the target at Waarre Formation with 80 deg inclination. Xceed delivered maximum 5.6 deg DLS during the course. Excellent response in 18 sec bit periond downlink.

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PowerDrive Xceed Summary

Xceed Rev 1: Please do not make any changes to this form !!!

PowerDrive
The new direction in rotary drilling

JOB NUMBER	COMPANY REP.	DATE IN	DATE OUT	PowerDrive Run #	MWD Run #	Rig Bit Run #	PD Engineer
08ASQ0003	Peter Devine	9-Aug-08	12-Aug-08	1	6	9	AP / AS

CLIENT	Hole Depth - FROM	TO	CRSC BA	CRSSA-AB	CRSEM-AB
Santos	1944.5 m	2517.0 m	266	238	244

RIG NAME	Inclination - FROM	TO	CRSDA AA	CRSPA AA
Ocean Patriot	80.90 deg	98.30 deg	360	236

WELL NAME	Azimuth - FROM	TO	Bit Mfg	Bit Type	Bit SN
Netherby-1DW1	119.41 deg	119.30 deg	Reed Hycalog	RSX519M-A4	119583

LOCATION	Hole Size	Bit to D&I	Bit to PD D&I	Dull Grade - IADC Cutting Structure
Otway Basin	8.50 inches	20.68 m	4.14 m	1-3-BT-G-X-I-WT-TD

Map file name	Mag Dec / Grid Cor / Total Corr.			Resolver Offset	Downlink response ?	On Bottom Hours	Last Casing size/wt / depth
Fast Downlink	10.777	-1.0254	11.802	498	Good	36.20	9 5/8 @ 1936md

Bit-Midpoint Lower Szr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX		Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	ft / M Drilled this run
0.57	3.62	0m	5	30	120	15	29.10	572.5m

PD MIN/MAX		Battery Voltage	Date Due	RPM MIN / MAX		MWD Min/Max	Flow Rating	Below Rotary Table Hours	PD ft/M Drilled (Operating)
475	800	3.3	1/9/08	120	160	400	800	91.20	572.5m

Fast Downlink		Pulse height	Used	Actual Flow MIN / MAX		Pump Output / Type		PowerDrive Operating Hours	On Btm ROP	Ave ROP
18 sec	60 sec	20%	18 sec	500	620	4.28 GPS	Triplex	65.30	16.1	16.1

Tool Response

Max DLS	Max BUR	Max Turn Rt
3.59	3.42	1.51

Stab gauge before/after run: 8.375 | 8.375

Run Objective: Directional drill as directed.

SOFTWARE VERSION

Acq	CPU	Comm	MWD	IDEAL
9.1A-70 (3) MTC 70(	37b05	6.1A45 (00)	V80C04	13_0c_08

Reason for POOH: TD

Bit Hydraulics Calculations

Enter data in blue areas

Pump Flow	620
Mud Weight	9.7
Bit Diameter	8.5
Bit Flow	1000
Bit Pressure Drop	2127
Hydraulic HP	1241
HSI	21.9
Impact Press.	3845

Bit Nozzle Size and TFA

Nozzle	/ 32	TFA
1	13	0.130
2	13	0.130
3	13	0.130
4	13	0.130
5	13	0.130
6		
7		
8		
9		
10		
Bit TFA =		0.648

PowerDrive Serial No.

PART	PFIX	SN	PUMP HOURS START	PUMP HOURS CUM
Electronics	CRSEM-AB	244	0.00	65.30
Steering Section	CRSSA-AB	238	0.00	65.30
Collar	CRSC BA	266	0.00	65.30
Power Generation	CRSDA AA	360	0.00	65.30
Sub	CRSPA AA	236	0.00	65.30
Motor		N/A		

Motor Run Information

Motor type	Seiral number
N/A	N/A
Bend type	**Bend Angle**
N/A	N/A
Stab type	**Stab Gauge**
N/A	N/A
Off Bottom pressure	**On Bottom pressure**
N/A	N/A
Backreaming Hours	**Total Reaming Hours**
N/A	N/A
Bearing Play after run (mm)	N/A

Mud properties

Mud Company	Rheochem
Mud Type	*KCL
MW at **start** of run	9.5 ppg
MW at **end** of run	9.7 ppg
Funnel Viscosity	45 sec
Plastic Viscosity	22
Yeild Point	36
Maximum DH Temp. deg C	64 degC
Sand %	0.20 %
Soild %	10.82 %

Run Summary

The plan was to build the angle with 3 deg DLS right out of the shoe. The Xceed was set to highside with 40% power setting. This setting produced 2.4°to 3°DLS. The flow rate used was 620gpm. The build was continued to 89.3°inc at 2029md RT. The Xceed was Downlinked to HIA for the tangent section to 2148md RT. The plan was then to build again at 3°DLS to 97° inc. the Xceed was downlinked to 40% highside initially but reduced to 20% as the build was greater than expected. As we were high of the plan by 1meter then plan was altered with Geologist to hold 96°inc for this tangent section which put us back on plan. 96°inc. was held to 2293md RT. From this point directionally controlled with instruction from geologist. Inc was reduced to 95°to 2328md RT. Then reduced to 94°to 2450md RT. The next instruction from geology was to build to 96.5°at a 3°Build rate. This was achieved. As soon as the inc reached 96.5°then next instruction was to build another 2° to 98.5°. TD was called at 2517md RT.

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PowerDrive Xceed Summary

Xceed Rev 1: Please do not make any changes to this form !!!

PowerDrive
The new direction in rotary drilling

JOB NUMBER	COMPANY REP.	DATE IN	DATE OUT	PowerDrive Run #	MWD Run #	Rig Bit Run #	PD Engineer
08ASQ0003	Peter Devine	9-Aug-08	12-Aug-08	1	6	9	AP / AS

CLIENT	Hole Depth - FROM	TO	CRSC BA	CRSSA-AB	CRSEM-AB
Santos	1944.5 m	2517.0 m	266	238	244

RIG NAME	Inclination - FROM	TO	CRSDA AA	CRSPA AA
Ocean Patriot	80.90 deg	98.30 deg	360	236

WELL NAME	Azimuth - FROM	TO	Bit Mfg	Bit Type	Bit SN
Netherby-1DW1	119.41 deg	119.30 deg	Reed Hycalog	RSX519M-A4	119583

LOCATION	Hole Size	Bit to D&I	Bit to PD D&I	Dull Grade - IADC Cutting Structure
Otway Basin	8.50 inches	20.68 m	4.14 m	1-3-BT-G-X-I-WT-TD

Map file name	Mag Dec / Grid Cor / Total Corr.			Resolver Offset	Downlink response ?	On Bottom Hours	Last Casing size/wt / depth
Fast Downlink	10.777	-1.0254	11.802	498	Good	36.20	9 5/8 @ 1936md

Bit-Midpoint Lower Szr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX		Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	ft / M Drilled this run
0.57	3.62	0m	5	30	120	15	29.10	572.5m

PD MIN/MAX		Battery Voltage	Date Due	RPM MIN / MAX		MWD Min/Max	Flow Rating	Below Rotary Table Hours	PD ft/M Drilled (Operating)
475	800	3.3	1/9/08	120	160	400	800	91.20	572.5m

Fast Downlink		Pulse height	Used	Actual Flow MIN / MAX		Pump Output / Type		PowerDrive Operating Hours	On Btm ROP	Ave ROP
18 sec	60 sec	20%	18 sec	500	620	4.28 GPS	Triplex	65.30	16.1	16.1

Tool Response

Max DLS	Max BUR	Max Turn Rt
3.59	3.42	1.51

Stab gauge before/after run: 8.375 | 8.375

Run Objective: Directional drill as directed.

SOFTWARE VERSION

Acq	CPU	Comm	MWD	IDEAL
9.1A-70 (3) MTC 70(	37b05	6.1A45 (00)	V80C04	13_0c_08

Reason for POOH: TD

Bit Hydraulics Calculations

Enter data in blue areas

Pump Flow	620
Mud Weight	9.7
Bit Diameter	8.5
Bit Flow	1000
Bit Pressure Drop	2127
Hydraulic HP	1241
HSI	21.9
Impact Press.	3845

Bit Nozzle Size and TFA

Nozzle	/ 32	TFA
1	13	0.130
2	13	0.130
3	13	0.130
4	13	0.130
5	13	0.130
6		
7		
8		
9		
10		
Bit TFA =		0.648

PowerDrive Serial No.

PART	PFIX	SN	PUMP HOURS START	PUMP HOURS CUM
Electronics	CRSEM-AB	244	0.00	65.30
Steering Section	CRSSA-AB	238	0.00	65.30
Collar	CRSC BA	266	0.00	65.30
Power Generation	CRSDA AA	360	0.00	65.30
Sub	CRSPA AA	236	0.00	65.30
Motor		N/A		

Motor Run Information

Motor type	Seiral number
N/A	N/A
Bend type	**Bend Angle**
N/A	N/A
Stab type	**Stab Gauge**
N/A	N/A
Off Bottom pressure	**On Bottom pressure**
N/A	N/A
Backreaming Hours	**Total Reaming Hours**
N/A	N/A
Bearing Play after run (mm)	N/A

Mud properties

Mud Company	Rheochem
Mud Type	*KCL
MW at **start** of run	9.5 ppg
MW at **end** of run	9.7 ppg
Funnel Viscosity	45 sec
Plastic Viscosity	22
Yeild Point	36
Maximum DH Temp. deg C	64 degC
Sand %	0.20 %
Soild %	10.82 %

Run Summary

The plan was to build the angle with 3 deg DLS right out of the shoe. The Xceed was set to highside with 40% power setting. This setting produced 2.4°to 3°DLS. The flow rate used was 620gpm. The build was continued to 89.3°inc at 2029md RT. The Xceed was Downlinked to HIA for the tangent section to 2148md RT. The plan was then to build again at 3°DLS to 97° inc. the Xceed was downlinked to 40% highside initially but reduced to 20% as the build was greater than expected. As we were high of the plan by 1meter then plan was altered with Geologist to hold 96°inc for this tangent section which put us back on plan. 96°inc. was held to 2293md RT. From this point directionally controlled with instruction from geologist. Inc was reduced to 95°to 2328md RT. Then reduced to 94°to 2450md RT. The next instruction from geology was to build to 96.5°at a 3°Build rate. This was achieved. As soon as the inc reached 96.5°then next instruction was to build another 2° to 98.5°. TD was called at 2517md RT.

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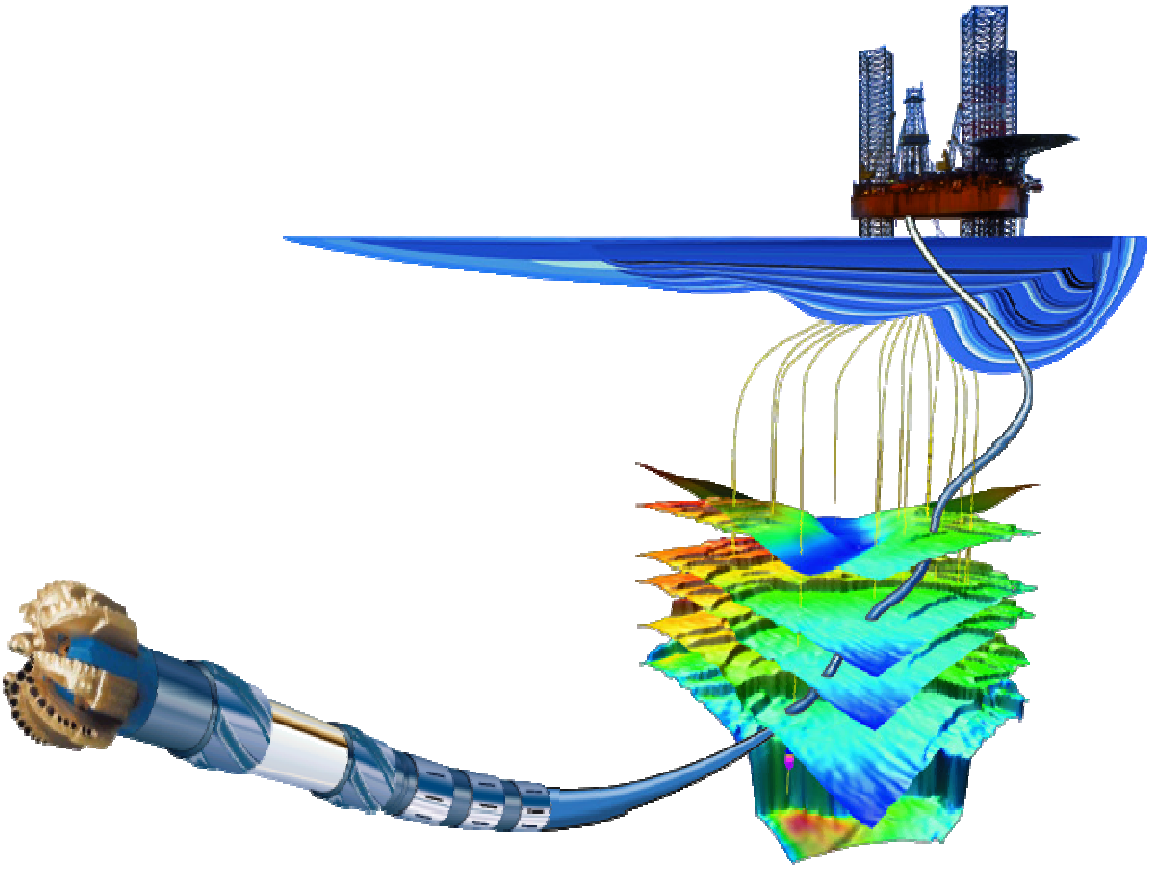
8. Drill Bit Grading



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BIT GRADING CHART

BIT RUN Data

BHA #	3
Bit Size:	12 1/4
Manufacturer:	Hughes Christensen
Bit Type:	Mill Tooth
Serial Number:	6066569
New Bit:	yes
Number of Nozzles:	4
Size of Nozzles:	1x14 3x20
Number of Blades:	
Number of Cutters:	
Size of Cutters:	
T.F.A. (sq ins):	1.070
W.O.B. :	20-40
Depth Out:	1422
Depth In:	648
Distance Drilled:	774
Rotating Hours:	3.3
Steering Hours:	15.80
Distance Rotary:	106
Distance Steered:	617
Drilling Hours:	19.10
Average R.O.P Slide :	39.10
Average R.O.P Rotary :	32.3
Circulation Rate (GPM):	1000
R.P.M. at Bit:	150
K. Revs	171900
Motor Used:	no
Motor Size:	no
Good for Rerun:	no
IADC Pumping Hours	35.00

WELL DATA

Date:	23-Jul-08
Drilling Supervisor:	Chris Roots
Rig:	Ocean Patriot
Well Number:	Netherby-1
Rig Contractor:	Diamond Offshore
Average Hole Angle:	35.00
Date in:	21-Jul-08
Date Out:	23-Jul-08

MUD AND LITHOLOGY DATA

Formation name	-
Majority Formation:	Shale
Other Formation:	Sand
% Formation:	70%
Mud Type:	WBM
Mud Weight:	9.4
PV:	16
YP:	29
% Solids:	3.52
PH (meter):	9.0

COMMENTS:

BIT GRADING (THIS BIT RUN)

(A)	(A)	(B)	(C)	(D)	(E)	(B)	(F)
1	3	CT	1-2	E	2	ER	PR

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BIT GRADING CHART

BIT RUN Data

BHA #	4	
Bit Size:	12 1/4	
Manufacturer:	Hughes Christensen	
Bit Type:	PDC / M432 IADC	
Serial Number:	215850	
New Bit:	yes	
Number of Nozzles:	6	
Size of Nozzles:	16	
Number of Blades:	6	
Number of Cutters:	45	12
Size of Cutters:	16mm	13mm
T.F.A. (sq ins):	1.180	
W.O.B. :	10-25 Klbs	
Depth Out:	1870	
Depth In:	1421	
Distance Drilled:	449	
Rotating Hours:	0.0	
Steering Hours:	20.50	
Distance Rotary:	0	
Distance Steered:	449	
Drilling Hours:	20.50	
Average R.O.P Slide :	0.00	
Average R.O.P Rotary :	21.9	
Circulation Rate (GPM):	1000	
R.P.M. at Bit:	160	
K. Revs	196800	
Motor Used:	no	
Motor Size:	no	
Good for Rerun:	no	
IADC Pumping Hours	30.60	

WELL DATA

Date:	25-Jul-08
Drilling Supervisor:	Chris/Peter Devine
Rig:	Ocean Patriot
Well Number:	Netherby-1
Rig Contractor:	Diamond Offshore
Average Hole Angle:	35.00
Date in:	23-Jul-08
Date Out:	25-Jul-08

MUD AND LITHOLOGY DATA

Formation name	-
Majority Formation:	Shale
Other Formation:	Sand
% Formation:	70%
Mud Type:	WBM
Mud Weight:	11
PV:	23
YP:	37
% Solids:	10.75
PH (meter):	9.0

COMMENTS:

BIT GRADING (THIS BIT RUN)

(A)	(A)	(B)	(C)	(D)	(E)	(B)	(F)
2	3	CT	S	X	I	WT	TD

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BIT GRADING CHART

BIT RUN Data

BHA #	8
Bit Size:	12 1/4
Manufacturer:	Reed Hycalog
Bit Type:	PDC / M422 IADC
Serial Number:	218712
New Bit:	yes
Number of Nozzles:	6
Size of Nozzles:	15
Number of Blades:	6
Number of Cutters:	45
Size of Cutters:	16mm
T.F.A. (sq ins):	1.035
W.O.B. :	5 - 15
Depth Out:	1944.5
Depth In:	1421
Distance Drilled:	523.5
Rotating Hours:	0.0
Steering Hours:	31.00
Distance Rotary:	540
Distance Steered:	524
Drilling Hours:	31.00
Average R.O.P Slide :	0.00
Average R.O.P Rotary :	17.4
Circulation Rate (GPM):	930
R.P.M. at Bit:	160
K. Revs	297600
Motor Used:	no
Motor Size:	no
Good for Rerun:	no
IADC Pumping Hours	79.20

WELL DATA

Date:	6-Aug-08
Drilling Supervisor:	Peter Devine
Rig:	Ocean Patriot
Well Number:	Netherby-1DW1
Rig Contractor:	Diamond Offshore
Average Hole Angle:	80.00
Date in:	1-Aug-08
Date Out:	6-Aug-08

MUD AND LITHOLOGY DATA

Formation name	Waarre
Majority Formation:	Shale
Other Formation:	Sand
% Formation:	70%
Mud Type:	WBM
Mud Weight:	11
PV:	22
YP:	36
% Solids:	10.68
PH (meter):	9.0

COMMENTS:

BIT GRADING (THIS BIT RUN)

(A)	(A)	(B)	(C)	(D)	(E)	(B)	(F)
1	1	CT	S	X	I	NO	TD

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BIT GRADING CHART

BIT RUN Data

BHA #	9
Bit Size:	8 1/2
Manufacturer:	Reed Hycalog
Bit Type:	PDC- RSX519M-A4
Serial Number:	119583
New Bit:	yes
Number of Nozzles:	5
Size of Nozzles:	13
Number of Blades:	6
Number of Cutters:	45
Size of Cutters:	16mm
T.F.A. (sq ins):	0.648
W.O.B. :	15
Depth Out:	2517.0
Depth In:	1944.5
Distance Drilled:	572.5
Rotating Hours:	36.1
Steering Hours:	36.10
Distance Rotary:	573
Distance Steered:	573
Drilling Hours:	36.10
Average R.O.P Slide :	na
Average R.O.P Rotary :	16.1
Circulation Rate (GPM):	600
R.P.M. at Bit:	120
K. Revs	259920
Motor Used:	no
Motor Size:	no
Good for Rerun:	no
IADC Pumping Hours	65.30

WELL DATA

Date:	12-Aug-08
Drilling Supervisor:	Peter Devine
Rig:	Ocean Patriot
Well Number:	Netherby-1DW1
Rig Contractor:	Diamond Offshore
Final Hole Angle:	98.30
Date in:	9-Aug-08
Date Out:	12-Aug-08

MUD AND LITHOLOGY DATA

Formation name	Skull Creek
Majority Formation:	Sand
Other Formation:	Sand
% Formation:	100%
Mud Type:	KCL
Mud Weight:	9.7
PV:	22
YP:	36
% Solids:	10.68
PH (meter):	10.0

COMMENTS:

BIT GRADING (THIS BIT RUN)

(A)	(A)	(B)	(C)	(D)	(E)	(B)	(F)
1	3	BT	G	X	I	WT	TD

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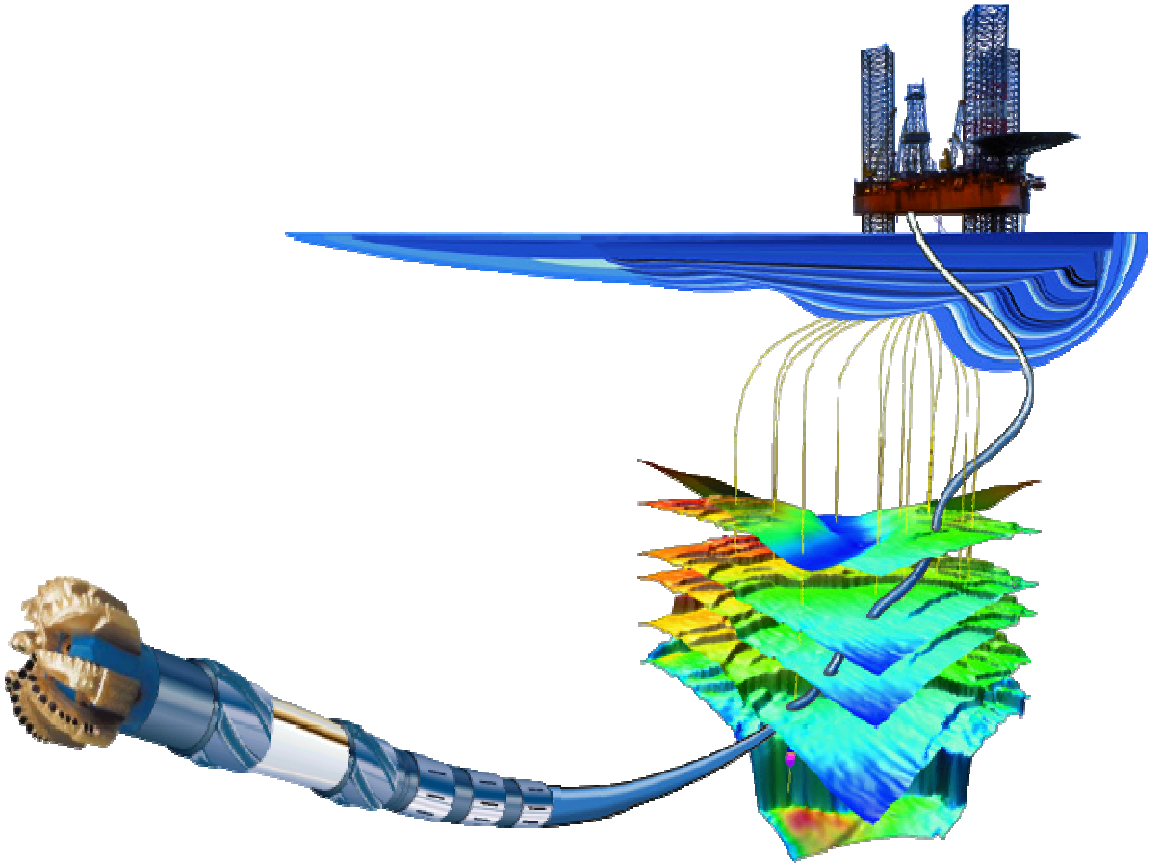
9. Service Quality



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Failure Report

4-Aug-2008

7:39AM

Job Number: 08ASQ0003
Company: SANTOS LIMITED
Rig Name: Ocean_Patriot
Company Rep: Nathan Peri, Peter Devine
Location: MEA-APG-ASQ
Well Name: Netherby-1
Run Number: 4

Failure Number: 1

Fail Date: 31-Jul-2008
Pump Hour @ Fail: 18.60 **hrs**

Severity: Near
Drill Hours @ Fail: 1.10 **hrs**

CAF: NO
Hours BRT @ Fail: 20.00 **hrs**

Lost Rig Time: **hrs**
Depth @ Fail: 1875.0 **m**

Failed Services:

Failed Equipment:

TSTDC-EA - AF82

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 1-Aug-2008

Problems with the StethoScope were encounted when attempting pressure testing. After downlinking the tool to latch the battery, wake up, standby and finally test mode tool would take a successful test. The very next test the tool would not respond. The tool would have to be shut down, and have the battery unlatched and pumps shut down before another test could be taken. In effect 8 downlinks per test.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 1-Aug-2008

Pumps were recycled. Tool was put in sleep mode and woken back up. These measures were unsuccessful.

At one point it was thought that the probe was not working so a test was attempted with the probe pointing at bottom of hole.

Schlumberger

Failure Report

4-Aug-2008

7:39AM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Nathan Peri, Peter Devine **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 4

Failure Number: 2

Fail Date: 31-Jul-2008 **Pump Hour @ Fail:** 0.00 **hrs**

Severity: Near **Drill Hours @ Fail:** 0.00 **hrs**

CAF: NO **Hours BRT @ Fail:** 0.00 **hrs**

Lost Rig Time: **hrs** **Depth @ Fail:** 0.0 **m**

Failed Services:

Failed Equipment:

TSTDC-EA - AF82

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 1-Aug-2008

When removing the Top hole extender from the StethoScope tool the C clip broke and the cord was pulled from behind the dry stab out of the extender.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 1-Aug-2008

A new C clip was obtained from the rig mechanic. The cord was pushed back into the extender and the dry stab was replaced. The real time connection was working in the hole, however a high number of ltbrt (LTB resets) was seen in the frames.

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Failure Report

5-Aug-2008

7:45PM

Job Number: 08ASQ0003 **Company:** SANTOS LIMITED **Rig Name:** Ocean_Patriot

Company Rep: Peter Devine, Rowan **Location:** MEA-APG-ASQ **Well Name:** Netherby-1

Run Number: 5

Failure Number: 1

Fail Date: 3-Aug-2008 **Pump Hour @ Fail:** 45.00 **hrs**

Severity: Near **Drill Hours @ Fail:** 31.00 **hrs**

CAF: NO **Hours BRT @ Fail:** 55.00 **hrs**

Lost Rig Time: **hrs** **Depth @ Fail:**

Failed Services:

Failed Equipment:

ARC8D-BB - 2724, CRSC-BA - DN9-002, MDC-DE - FB46

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 3-Aug-2008

Tools experienced high to severe sticknslip (approx 150%) for majority of run.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 3-Aug-2008

Various WOB were tried from 5 kftlb to 25kftlb. The average WOB for the run was 5 - 10 Kftlb.
RPMs were varied from 160 to 200 with the average at 165. Even when WOB was 5 and RPM was 200 stick slip was still severe. Could not get a sweet spot no matter what we tried. Even when we picked up off bottom, circulated and reamed stick slip would be high as soon as we went back on bottom.

Schlumberger

Failure Report

5-Aug-2008

7:45PM

Job Number: 08ASQ0003
Company: SANTOS LIMITED
Rig Name: Ocean_Patriot
Company Rep: Peter Devine, Rowan
Location: MEA-APG-ASQ
Well Name: Netherby-1
Run Number: 5

Failure Number: 2

Fail Date: 3-Aug-2008
Pump Hour @ Fail: 45.00 **hrs**

Severity: Light
Drill Hours @ Fail: 31.00 **hrs**

CAF: NO
Hours BRT @ Fail: 55.00 **hrs**

Lost Rig Time: **hrs**
Depth @ Fail: 1944.0 **m**

Failed Services:

Failed Equipment:

MDC-DE - FB46

Failure Description and Symptoms

Completed By: Zachary Rudd

Date: 3-Aug-2008

MMA anti jam was continuously on from 2 hrs after we kicked off for side track well. The ajam word showed one most of the time but also showed 3 every now and again. This affected demodulation. mwdstat showed 1 in the Utility Frame

Associated with this was Higher than normal stand pipe pressure (SPP), and flucutaing TRPM in the Xceed and the PowerPulse. At 1610mMD (105mMD after kick off) the SPP dropped 500psi instantly. To be sure all checks were made on the possibilty of a wash out in the drill pipe, but it was decided that whatever was causing our tool to jam had suddenly cleared. We drilled on with a SPP and TRPM more normal for flow rate. However tool kept showing ajam 1 for the rest of the run.

Remedial Action Attempted on Location

Completed By: Zachary Rudd

Date: 3-Aug-2008

Recycled pumps to with no change.

Spoke with mud engineer regarding LCM and other mud properties. No LCM being run in mud.

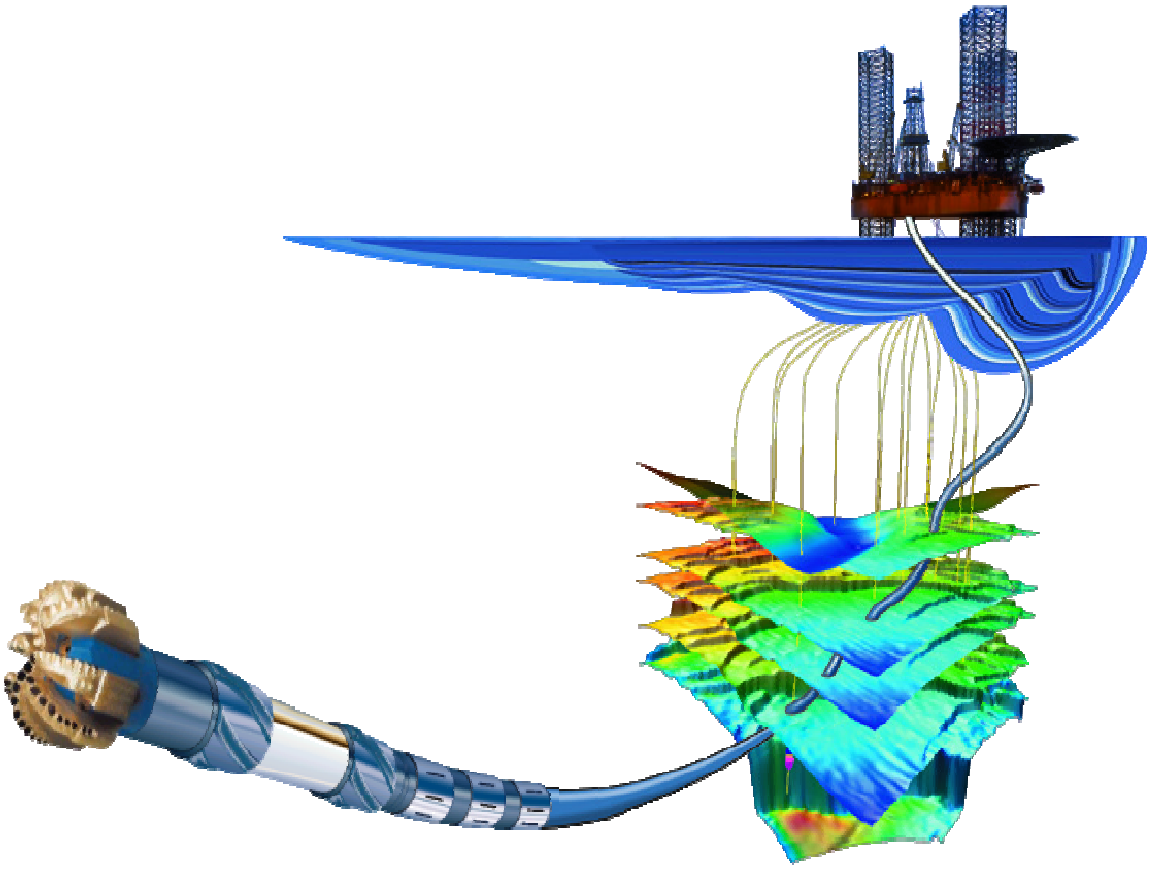
Checked with crew working shakers to see if anything unusual got washed across. Nothing to report.

Rig crew checked and replaced pump filters.

Schlumberger

Santos

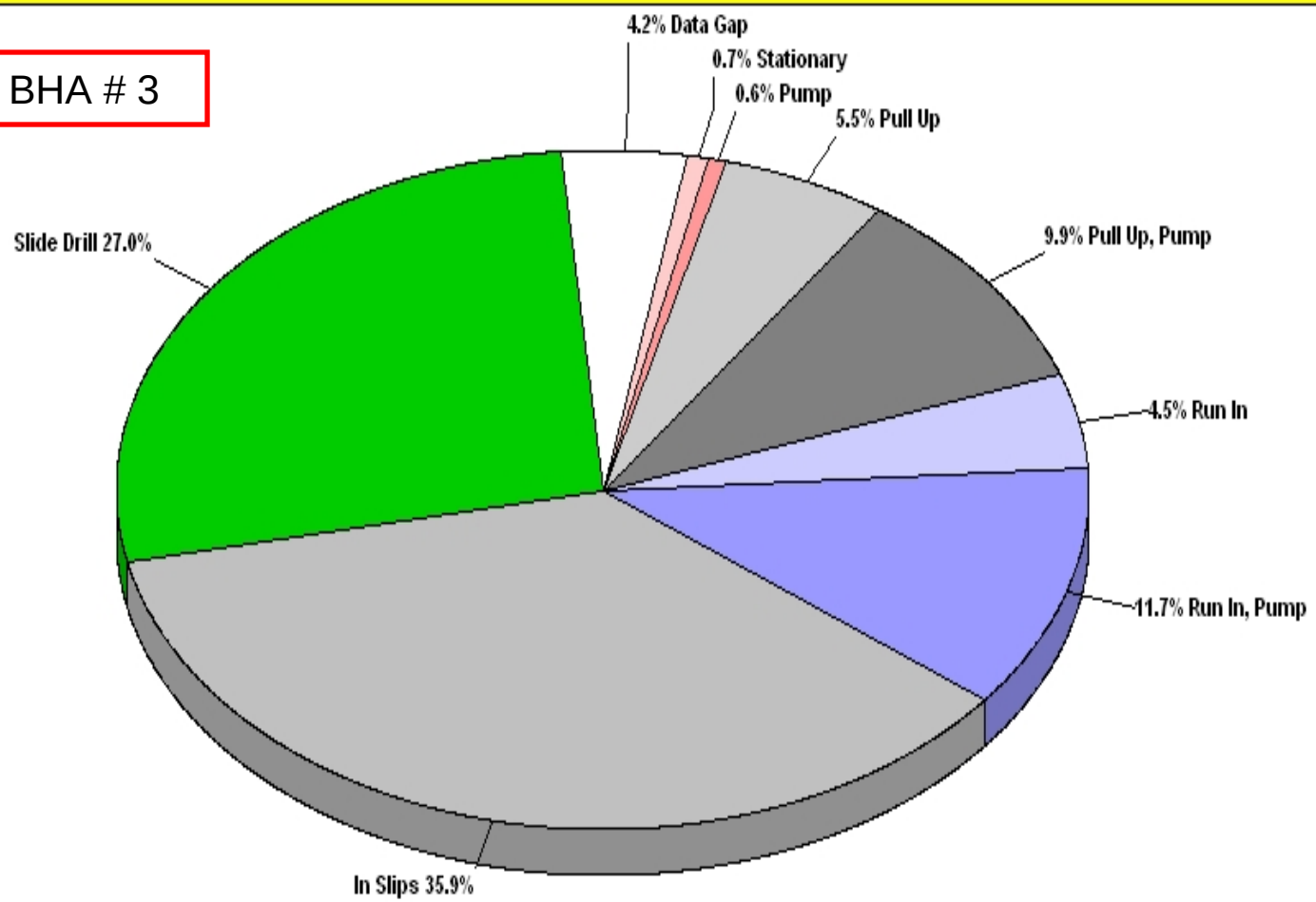
10. Drilling Mechanics



Netherby-1 - 12.25

Section

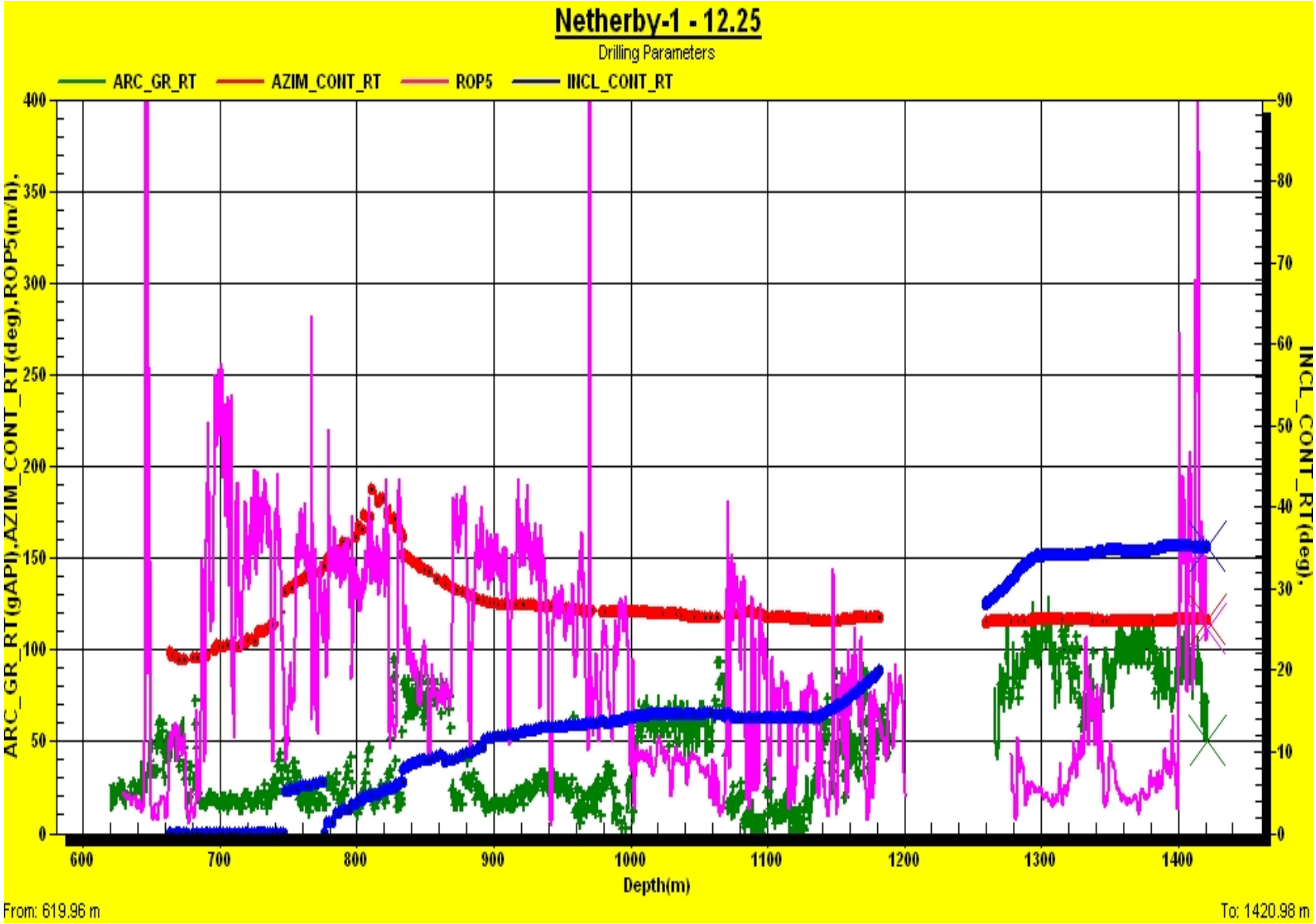
12 ¼" BHA # 3

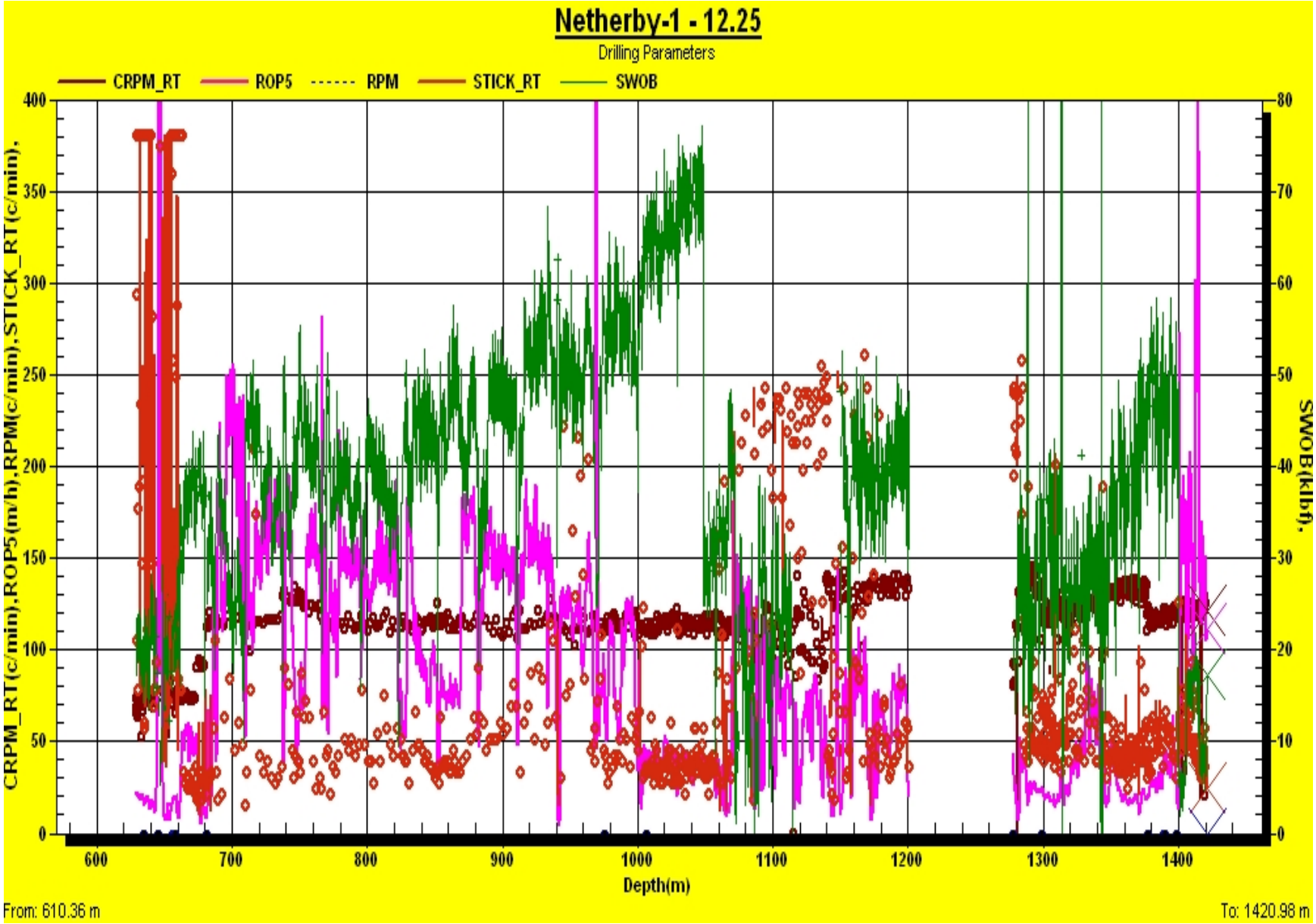


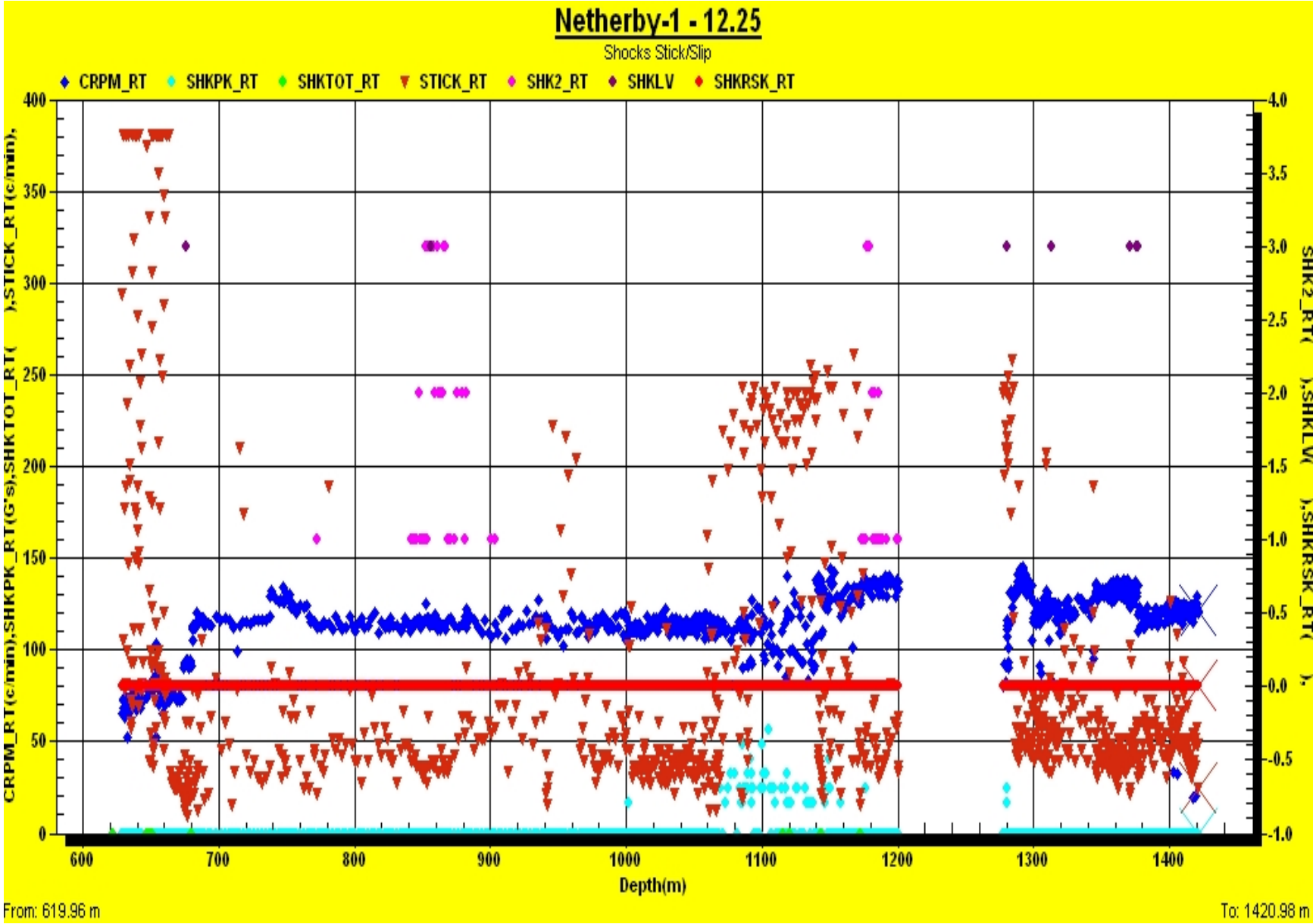
* Zero Data, Rotary Drill, Ream, Run In, Rotate, Back Ream, Pull Up, Rotate, Rotate, Pump, Rotate, Unknown, Absent

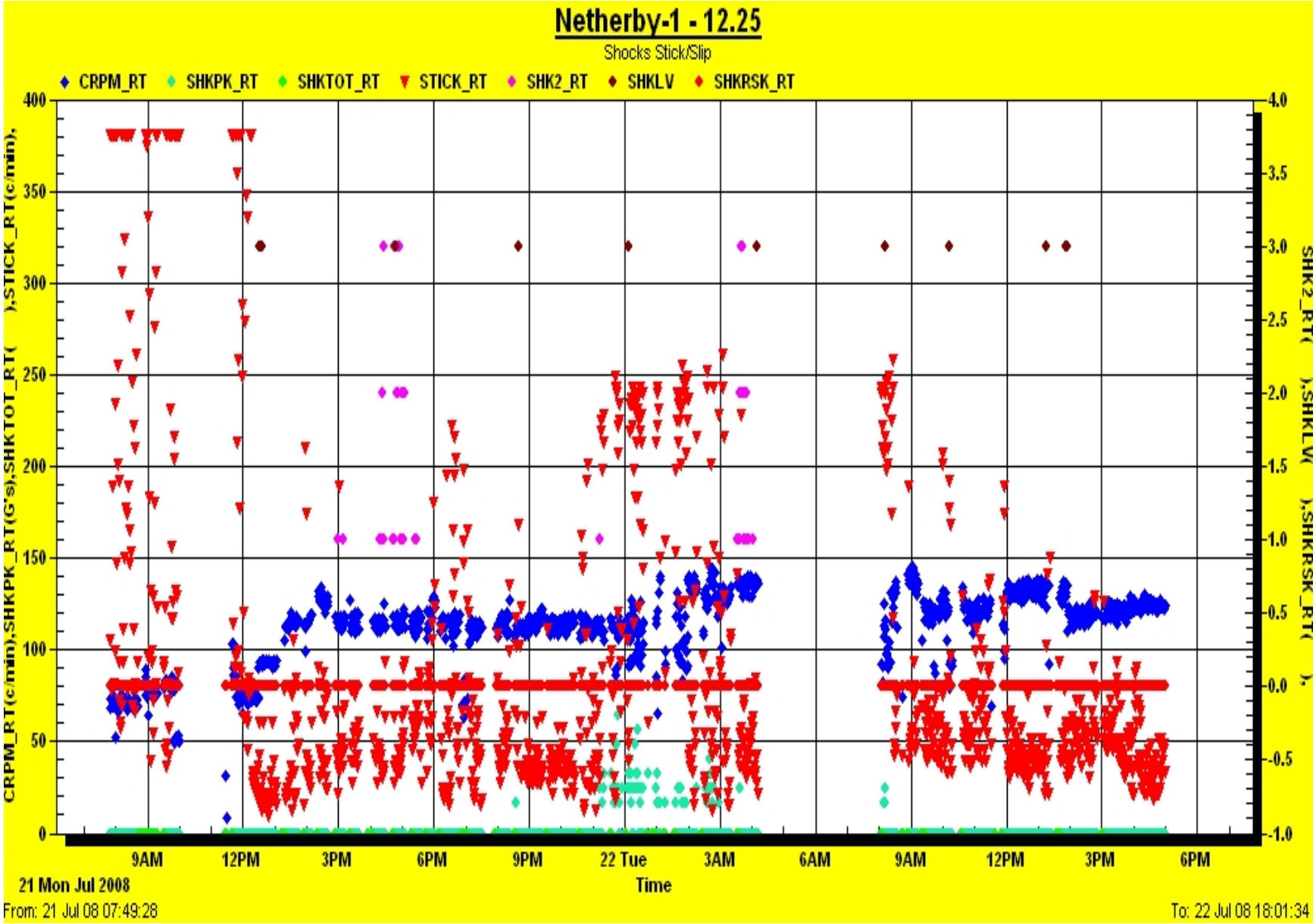
From: 01 Aug 08 23:33:11

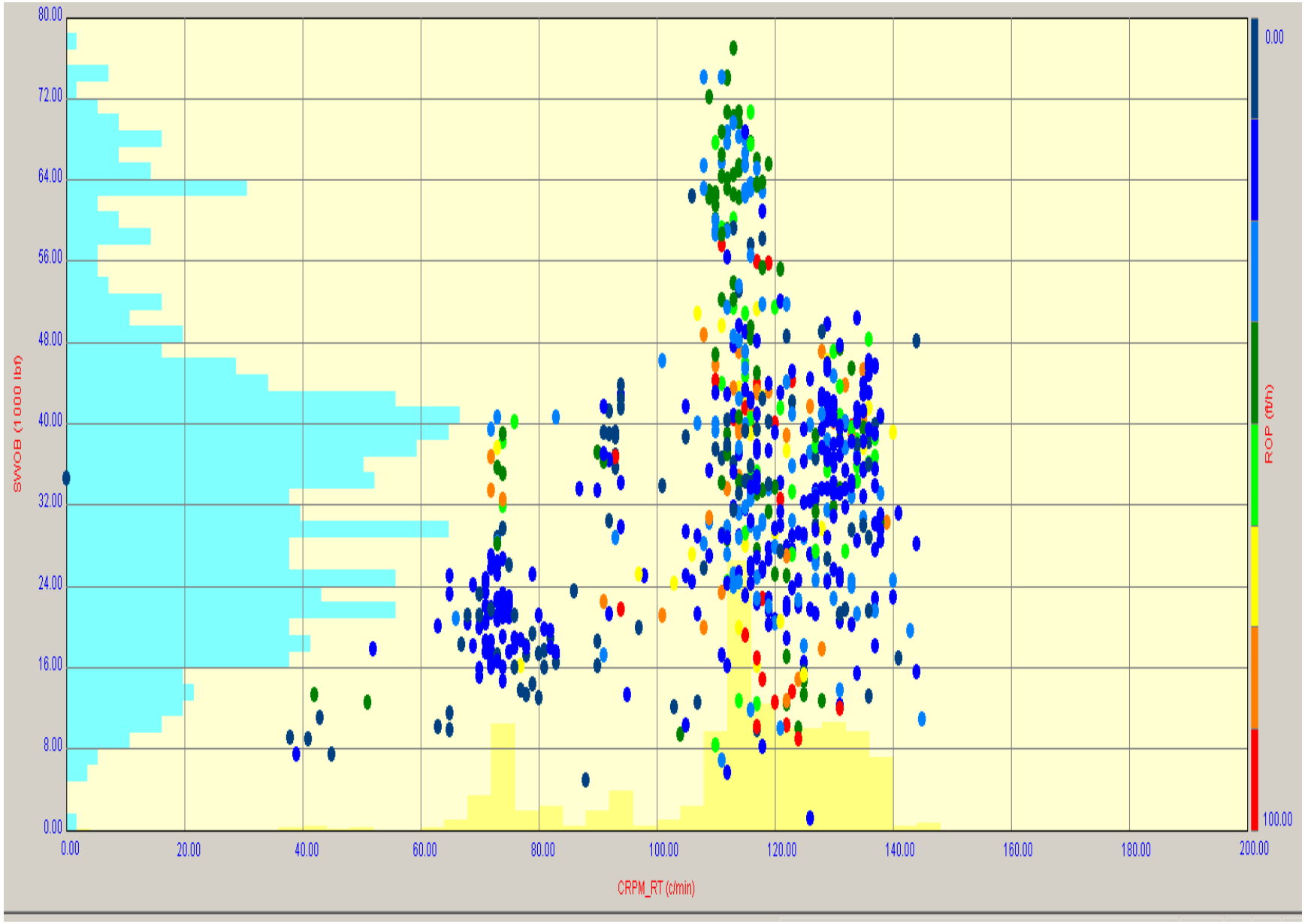
To: 06 Aug 08 19:45:01


Netherby-1 - 12.25
Drilling Parameters
ARC_GR_RT
AZIM_CONT_RT
ROP5
INCL_CONT_RT
ARC_GR_RT(gAPI),AZIM_CONT_RT(deg),ROP5(m/h),
INCL_CONT_RT(deg),
Depth(m)
From: 619.96 m
To: 1420.98 m


Netherby-1 - 12.25
Drilling Parameters
CRPM_RT
ROP5
RPM
STICK_RT
SWOB
CRPM_RT(c/min),ROP5(m/h),RPM(c/min),STICK_RT(c/min),
SWOB(klbf),
Depth(m)
From: 610.36 m
To: 1420.98 m


Netherby-1 - 12.25
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHK2_RT
SHKLV
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHK2_RT( ),SHKLV( ),SHKRSK_RT( ),
Depth(m)
From: 619.96 m
To: 1420.98 m


Netherby-1 - 12.25
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHK2_RT
SHKLV
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHK2_RT( ),SHKLV( ),SHKRSK_RT( ),
400
350
300
250
200
150
100
50
0
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
9AM
12PM
3PM
6PM
9PM
22 Tue
3AM
6AM
9AM
12PM
3PM
6PM
21 Mon Jul 2008
Time
From: 21 Jul 08 07:49:28
To: 22 Jul 08 18:01:34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56.00
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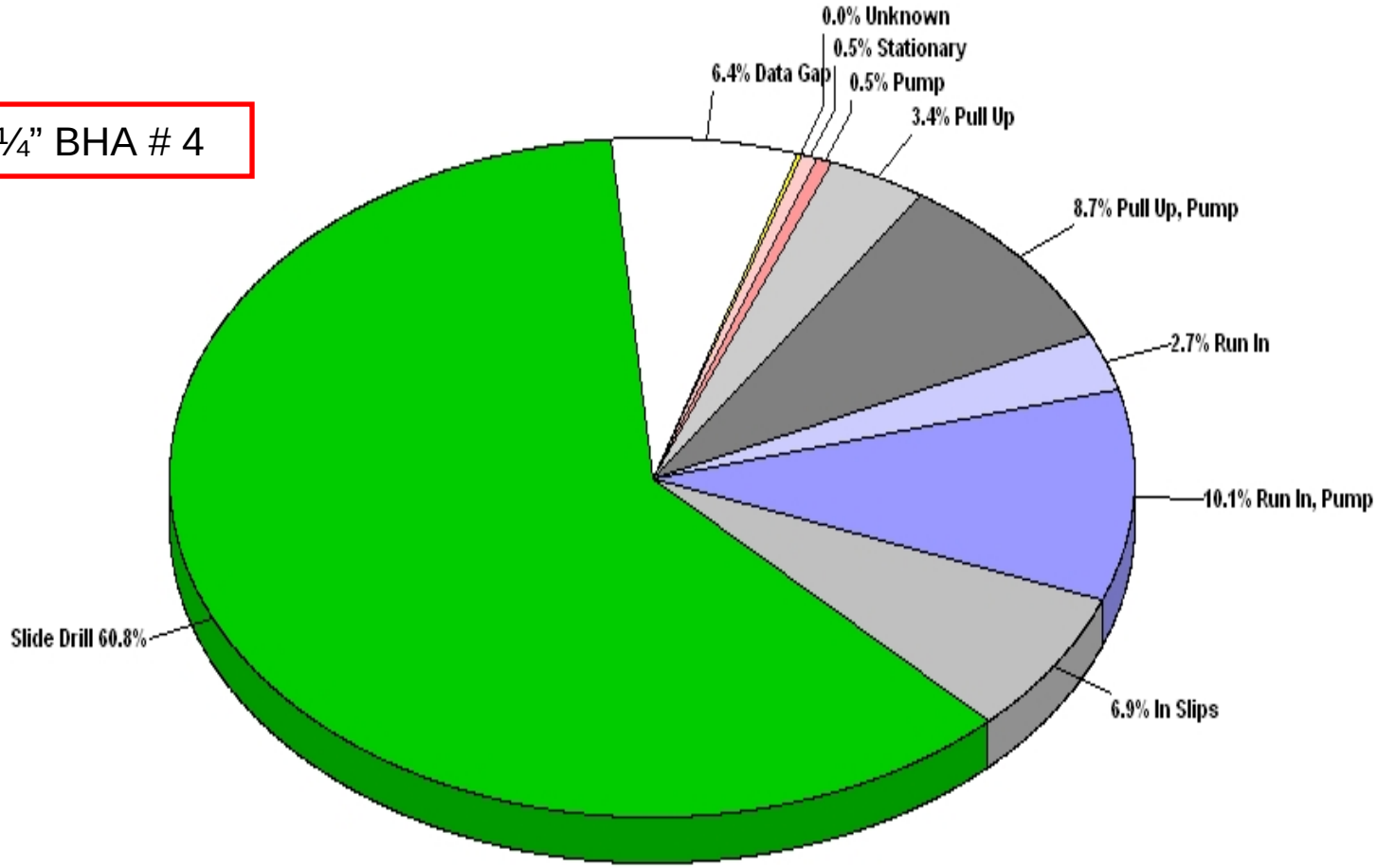
32.00
24.00
16.00
8.00
0.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
CRPM_RT (c/min)
ROP (ft/h)
0.00
100.00

Netherby-1 - 12.25

Section

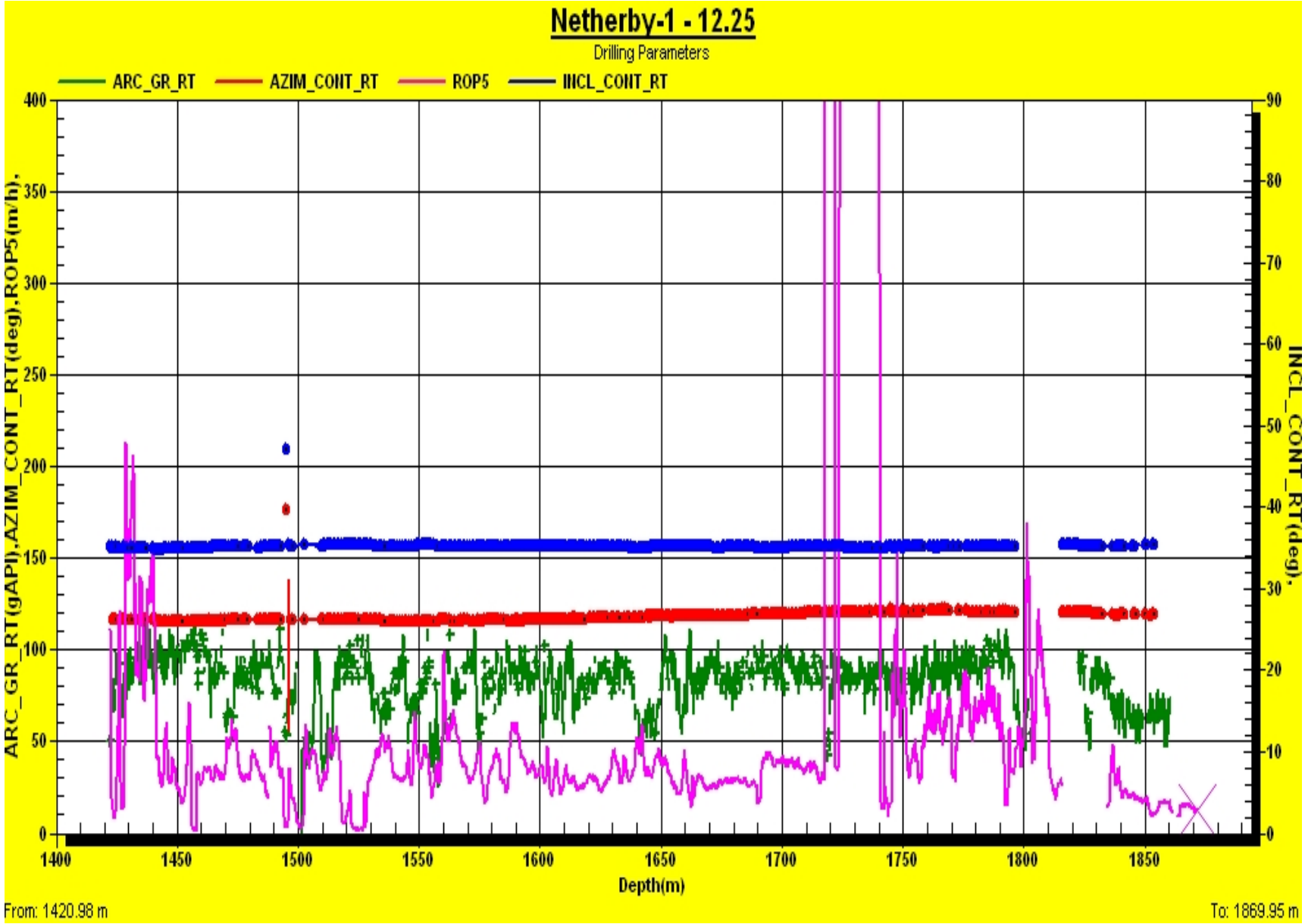
12 ¼" BHA # 4



* Zero Data, Rotary Drill, Ream, Run In, Rotate, Back Ream, Pull Up, Rotate, Rotate, Pump, Rotate, Absent

From: 23 Jul 08 20:29:31

To: 25 Jul 08 02:00:00


Netherby-1 - 12.25
Drilling Parameters
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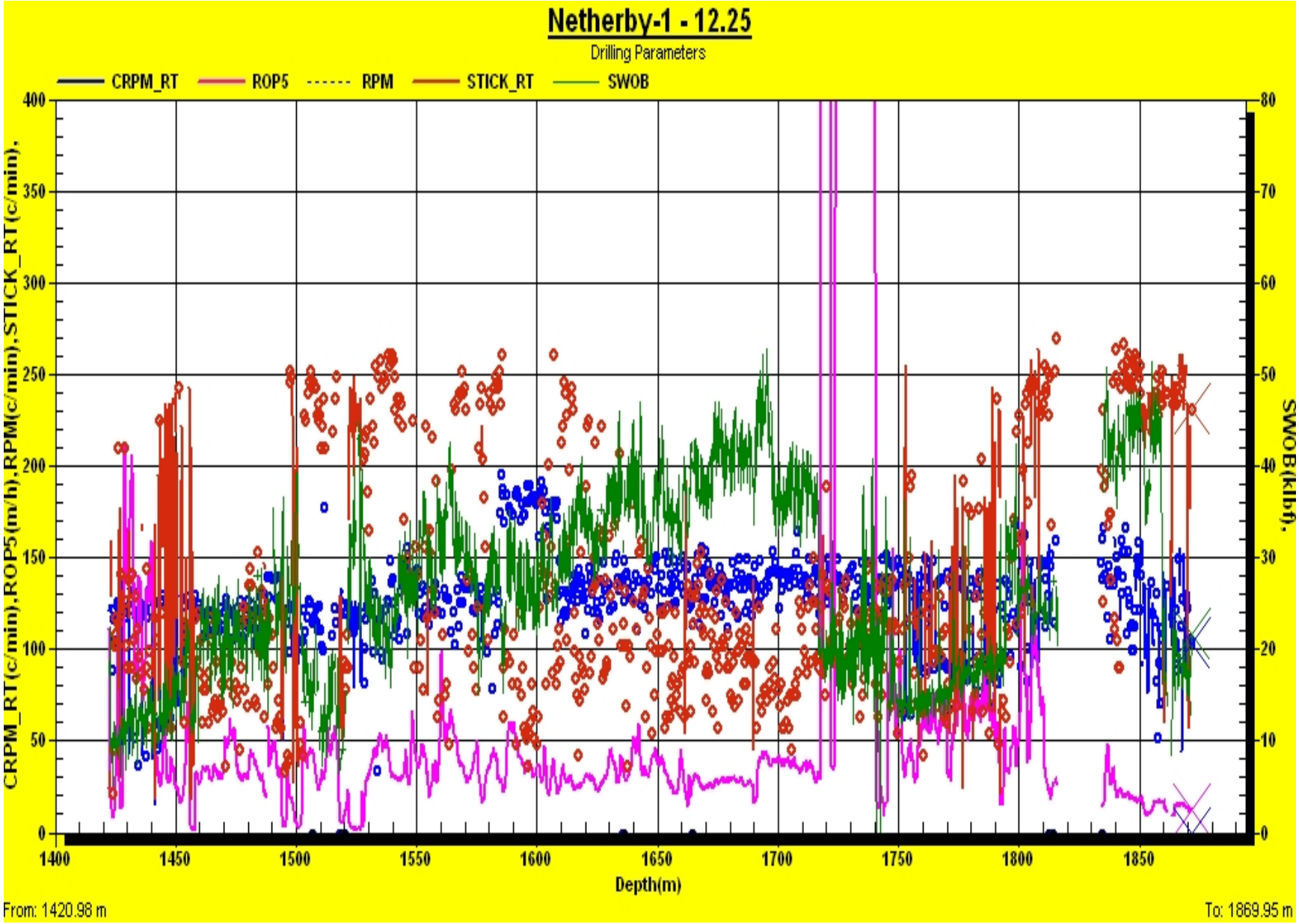
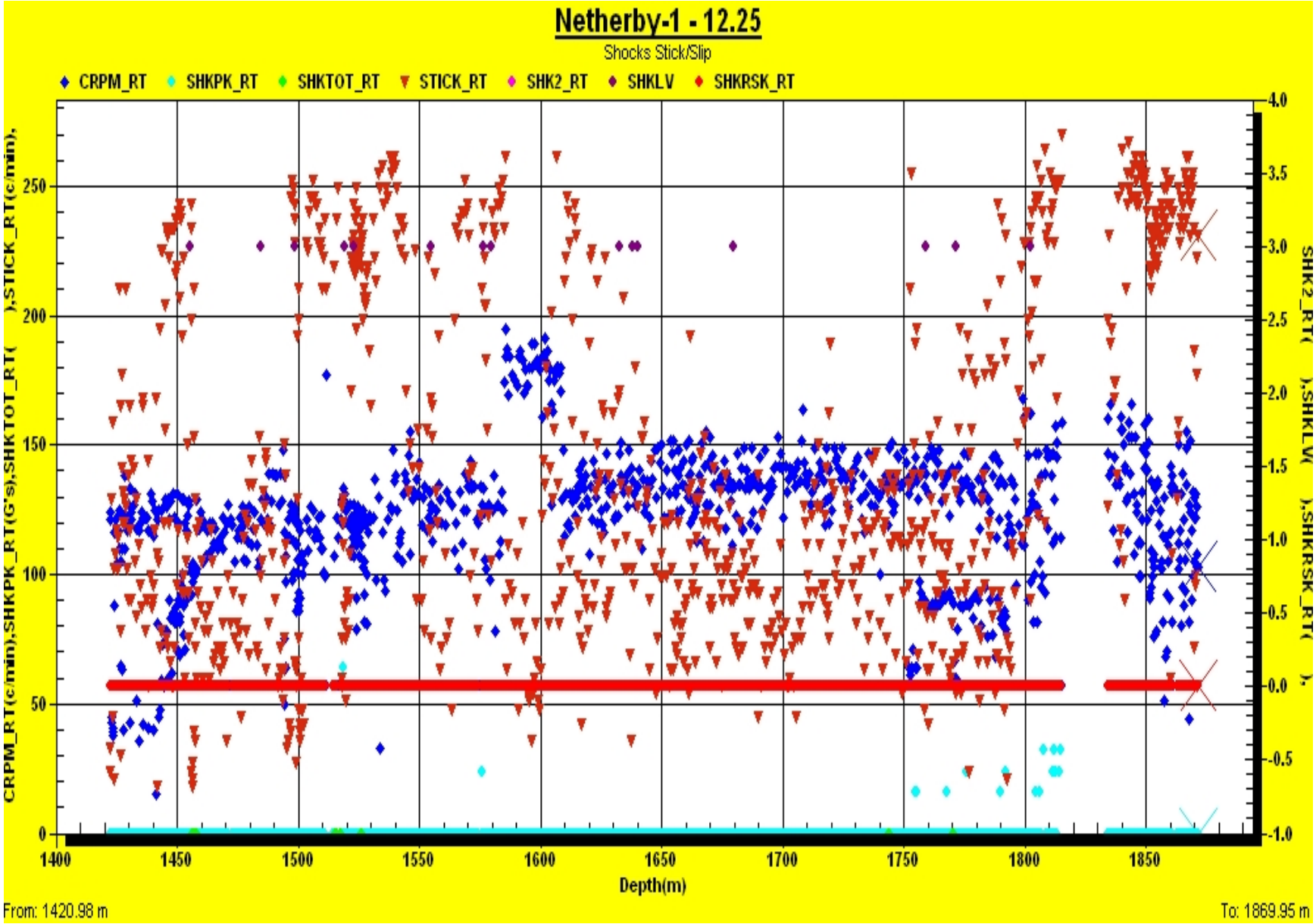
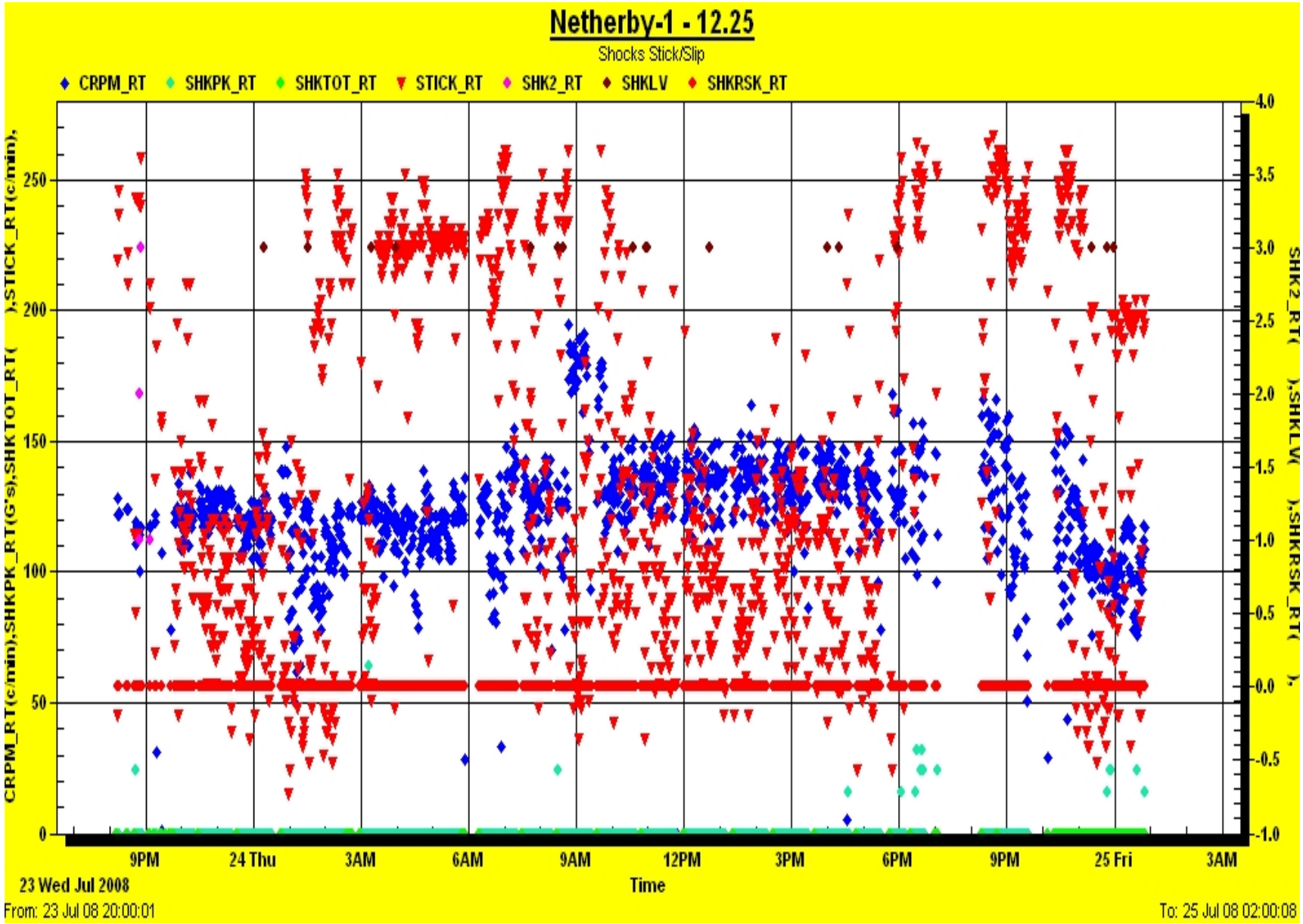
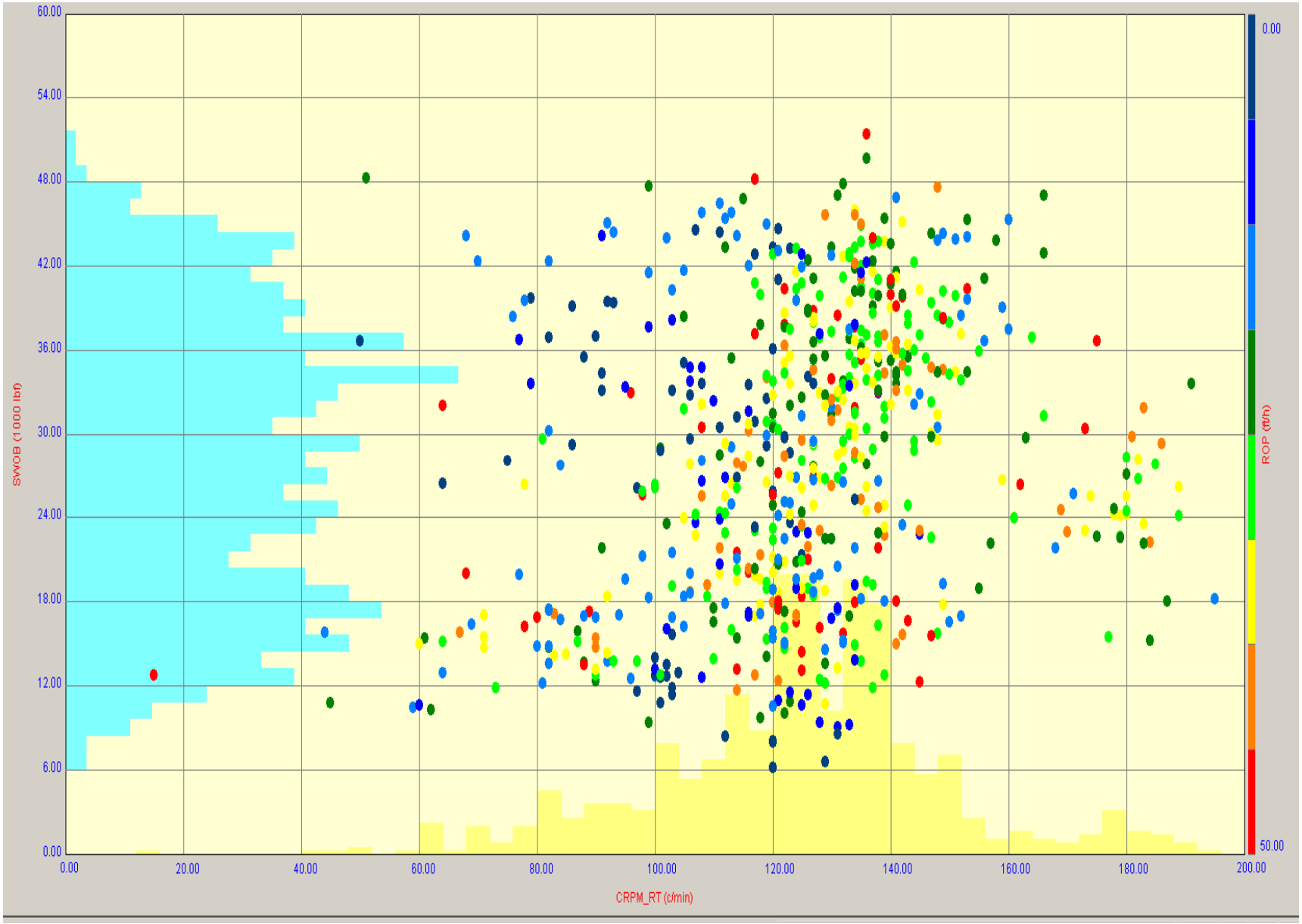
AZIM_CONT_RT
ROP5
INCL_CONT_RT
ARC_GR_RT(gAPI),AZIM_CONT_RT(deg),ROP5(m/h),
INCL_CONT_RT(deg),
Depth(m)
From: 1420.98 m
To: 1869.95 m


Netherby-1 - 12.25
Drilling Parameters
CRPM_RT
ROP5
RPM
STICK_RT
SWOB
CRPM_RT(c/min),ROP5(m/h),RPM(c/min),STICK_RT(c/min),
SWOB(klbf),
Depth(m)
From: 1420.98 m
To: 1869.95 m


Netherby-1 - 12.25
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHK2_RT
SHKLV
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHK2_RT( ),SHKLV( ),SHKRSK_RT( ),
Depth(m)
From: 1420.98 m
To: 1869.95 m


Netherby-1 - 12.25
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHK2_RT
SHKLV
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHK2_RT( ),SHKLV( ),SHKRSK_RT( ),
250
200
150
100
50
0
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
9PM
24 Thu
3AM
6AM
9AM
12PM
3PM
6PM
9PM
25 Fri
3AM
23 Wed Jul 2008
Time
From: 23 Jul 08 20:00:01
To: 25 Jul 08 02:00:08


SWOB (1000 lbf)
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36.00
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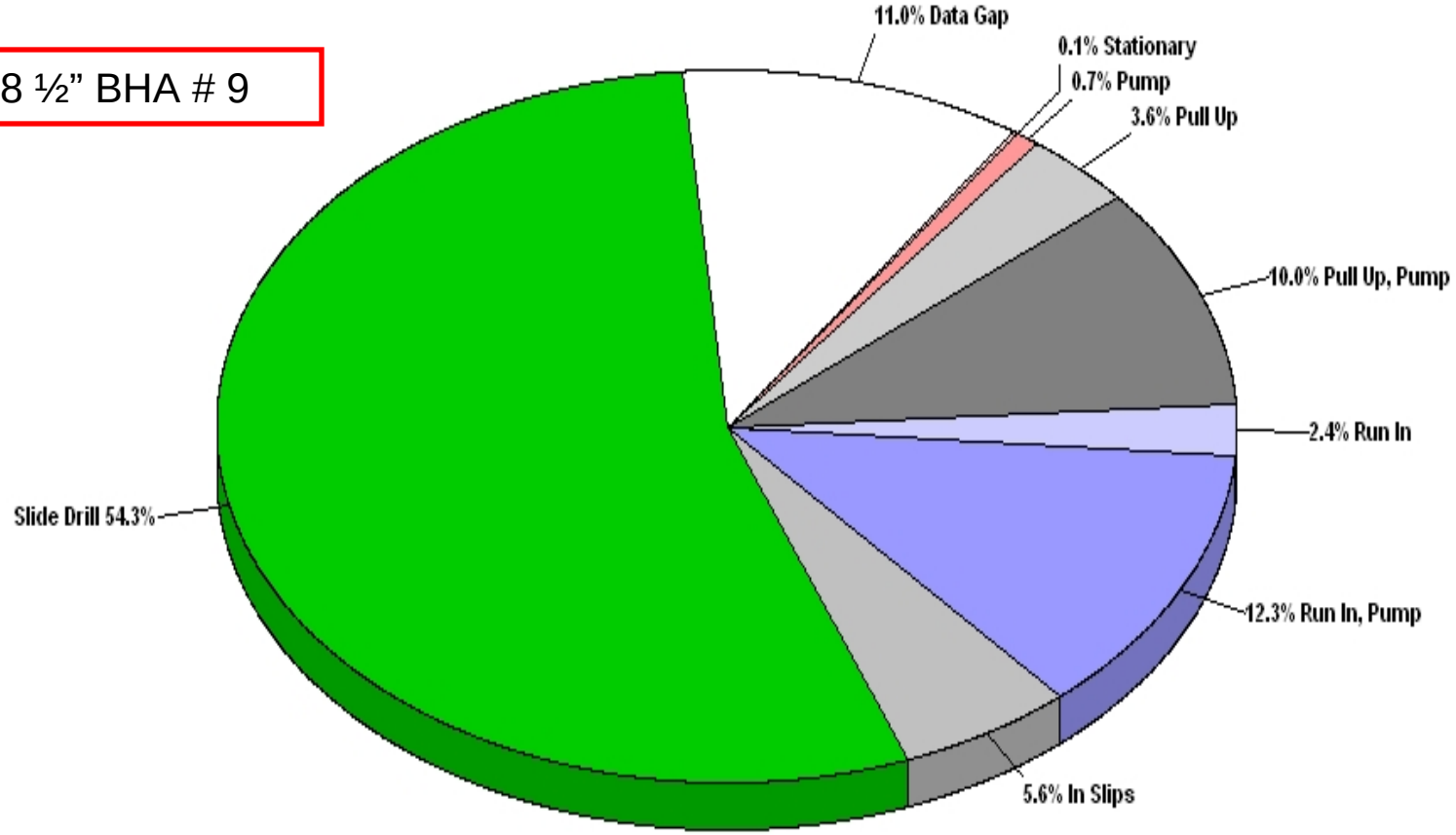
18.00
12.00
6.00
0.00
0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
CRPM_RT (c/min)
ROP (ft/h)
0.00
50.00

Netherby-1 - 8.5" Section

Section

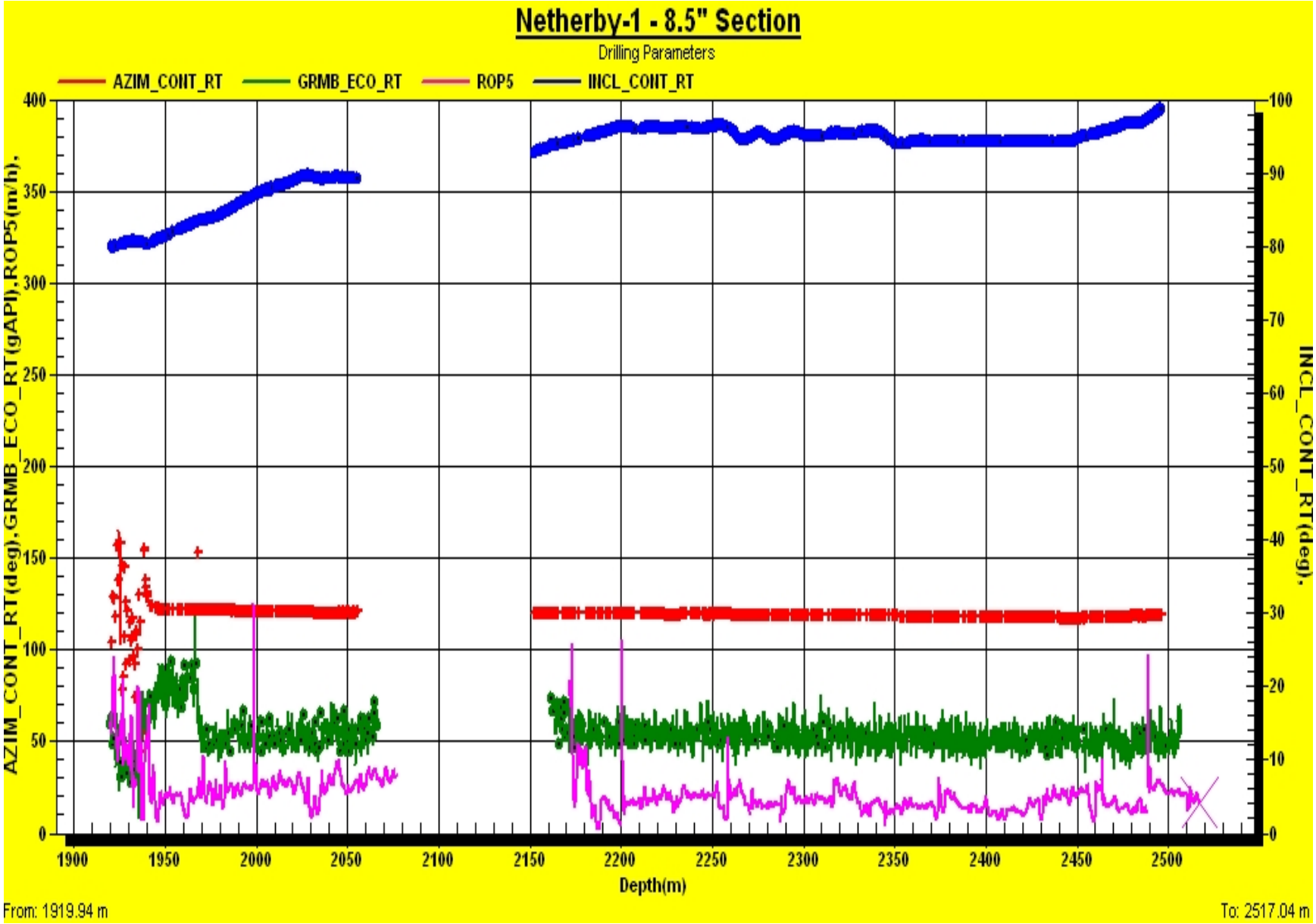
8 ½" BHA # 9



* Zero Data, Rotary Drill, Ream, Run In, Rotate, Back Ream, Pull Up, Rotate, Rotate, Pump, Rotate, Unknown, Absent

From: 10 Aug 08 12:41:09

To: 12 Aug 08 05:58:32


Netherby-1 - 8.5" Section
Drilling Parameters
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ROP5
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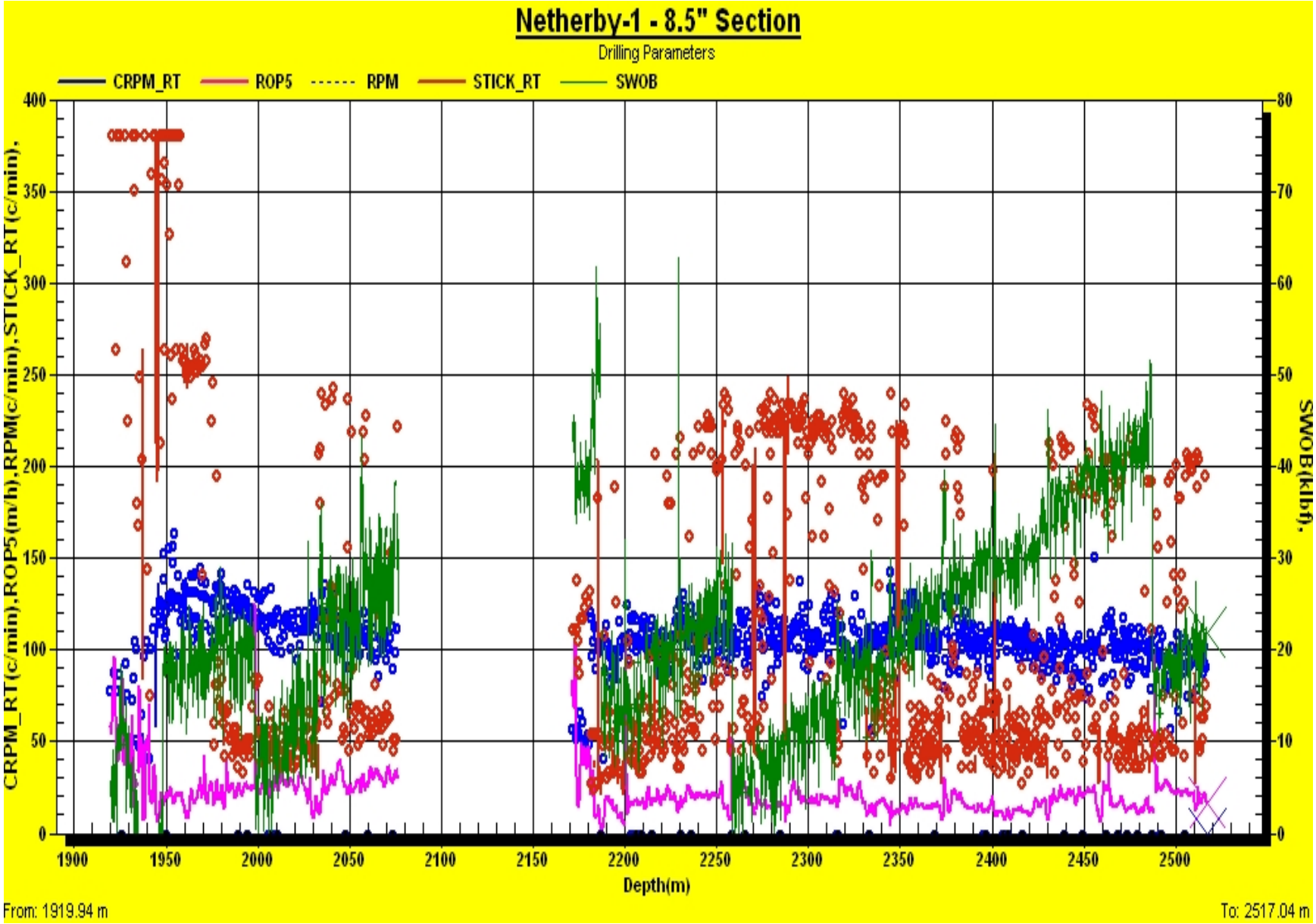
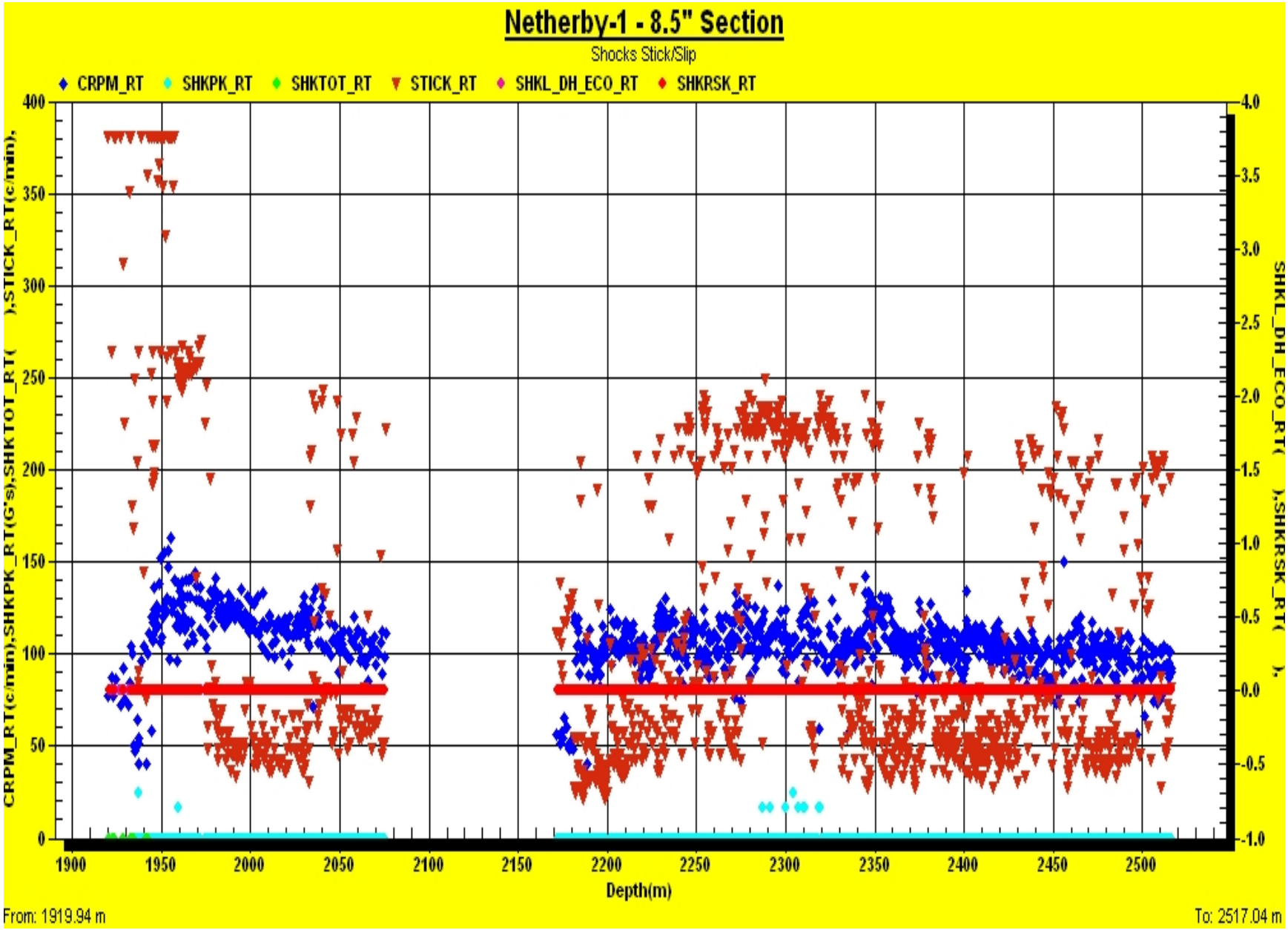
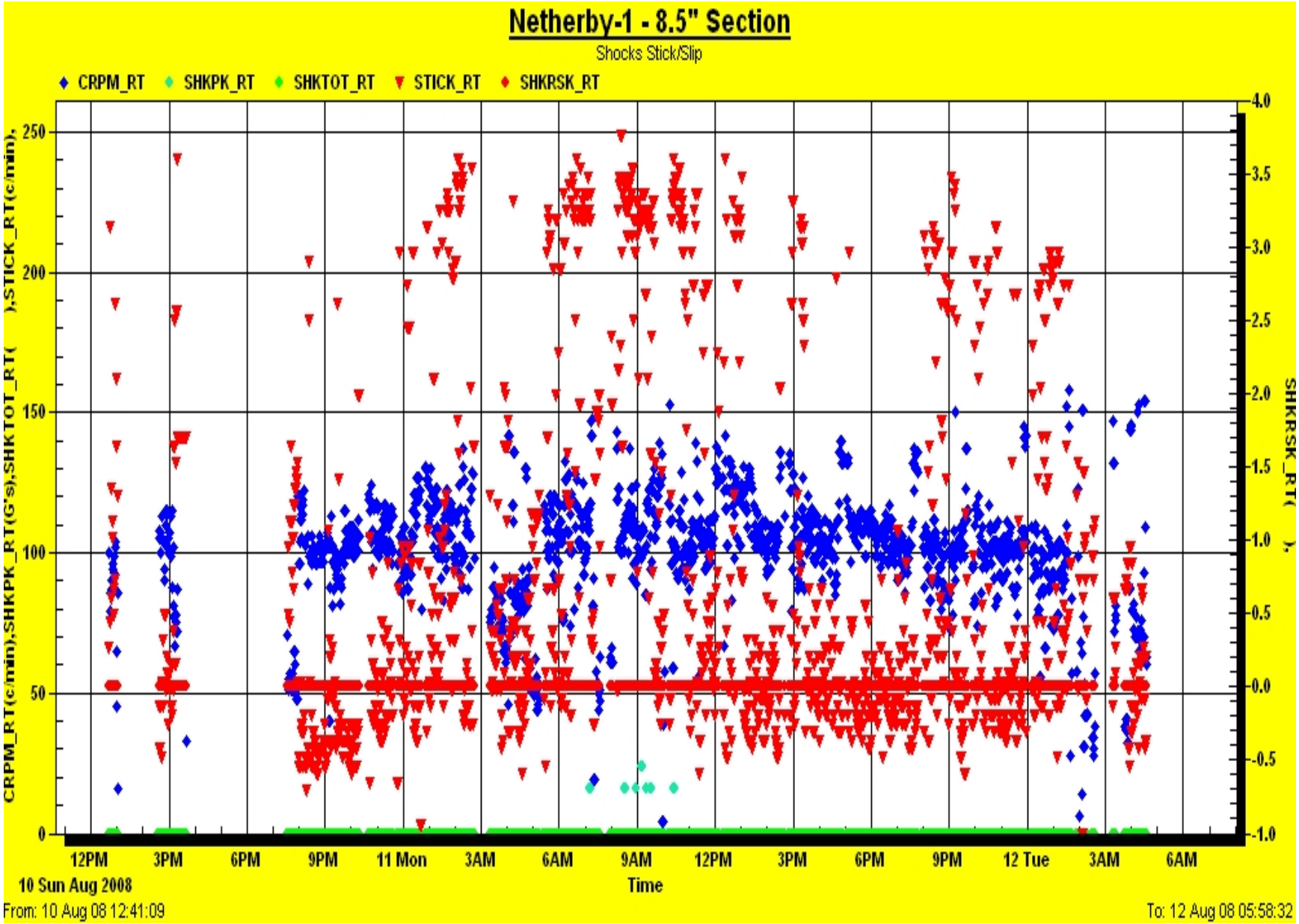
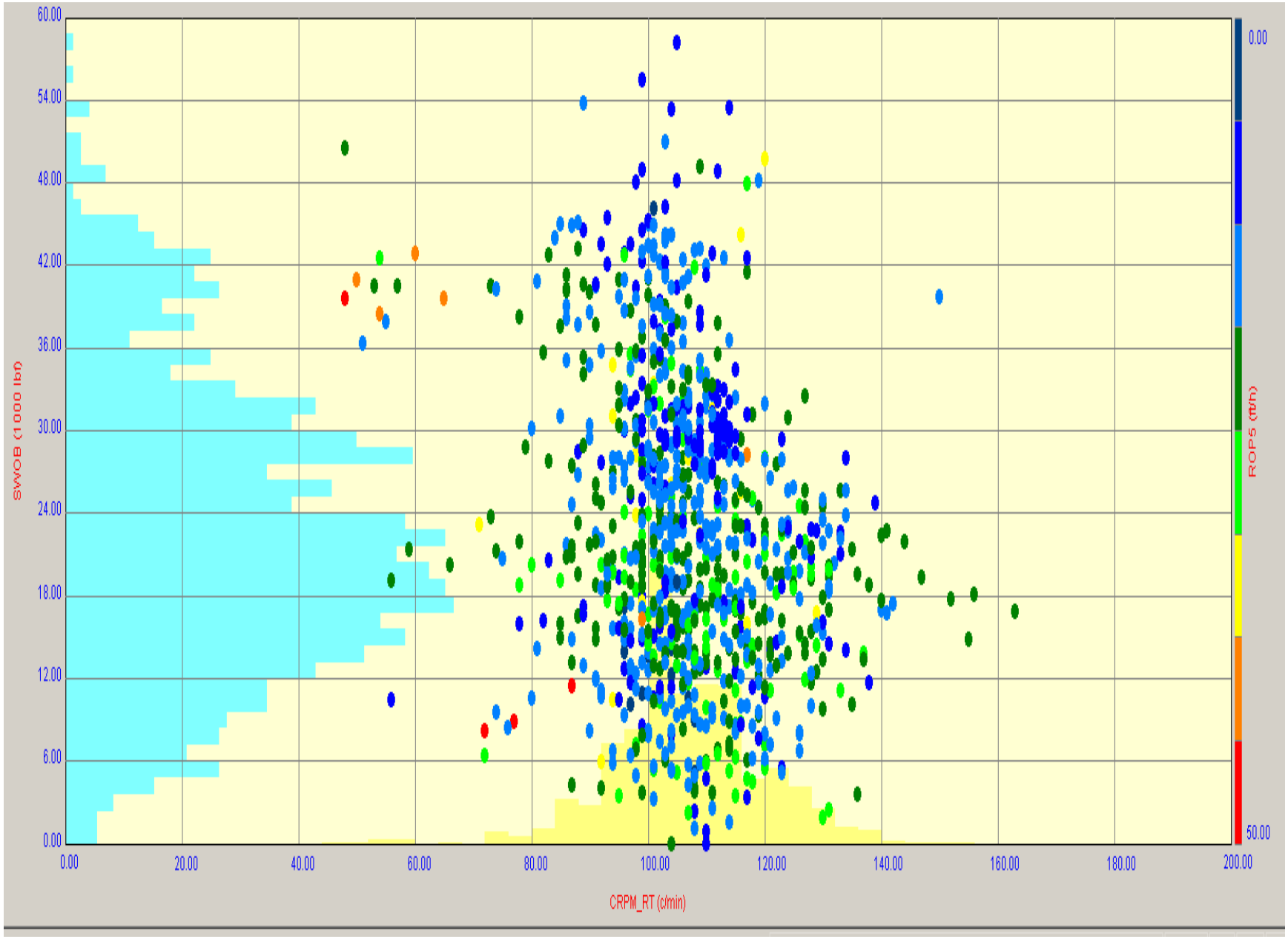
AZIM_CONT_RT(deg),GRMB_ECO_RT(gAPI),ROP5(m/h),
INCL_CONT_RT(deg),
Depth(m)
From: 1919.94 m
To: 2517.04 m


Netherby-1 - 8.5" Section
Drilling Parameters
CRPM_RT
ROP5
RPM
STICK_RT
SWOB
CRPM_RT(c/min),ROP5(m/h),RPM(c/min),STICK_RT(c/min),
SWOB(klbf),
Depth(m)
From: 1919.94 m
To: 2517.04 m


Netherby-1 - 8.5" Section
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHKL_DH_ECO_RT
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHKL_DH_ECO_RT( ),SHKRSK_RT( ),
Depth(m)
From: 1919.94 m
To: 2517.04 m


Netherby-1 - 8.5" Section
Shocks Stick/Slip
CRPM_RT
SHKPK_RT
SHKTOT_RT
STICK_RT
SHKRSK_RT
CRPM_RT(c/min),SHKPK_RT(G's),SHKTOT_RT( ),STICK_RT(c/min),
SHKRSK_RT( ),
250
200
150
100
50
0
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
12PM
3PM
6PM
9PM
11 Mon
3AM
6AM
9AM
12PM
3PM
6PM
9PM
12 Tue
3AM
6AM
10 Sun Aug 2008
Time
From: 10 Aug 08 12:41:09
To: 12 Aug 08 05:58:32


SWOB (1000 lbf)
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42.00
36.00
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18.00
12.00
6.00
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0.00
20.00
40.00
60.00
80.00
100.00
120.00
140.00
160.00
180.00
200.00
CRPM_RT (c/min)
ROPS (ft/h)
0.00
50.00

SECTION 4 : DAILY GEOLOGICAL REPORTS

Date:	3rd August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	01	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1650m MDRT 1555.9m TVDRT -1535.1m SS MSL	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	145m		

Current Operation: Drilling 311mm (12¼") directional hole at 20 m/hr.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")		244mm (9 5/8")	70 kg/m (47lb/ft)			
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	54	7.4	12.0	8.3	45k	21/36	0.100Ωm @ 22.1˚C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	1	Reed	PDC	RSX616	311mm (12¼")	4.4	145	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1569.8	40	109	1497.0	296	117
	LWD	1600.6	42	111	1520.3	316	117

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Netherby 1DW1 sidetracked from the Netherby 1 wellbore from 1505m at 21:00hrs on 2nd August 2008. Drill 311mm (12¼") hole sidetracking the well from 1505m to 1608m. Trouble shoot problem with mud pump 3. Drill ahead from 1608m to 1652m.

Anticipated Operations:

Drill 311mm (12¼") directional hole to 244mm (9 5/8") casing depth at +/- 1895m.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1505 – 1561m 1 – 90 m/hr Av: 30 m/hr	SILTSTONE WITH OCCASIONAL INTERBEDDED FINE GRAINED SANDSTONE. SILTSTONE: medium dark brownish grey, dark grey, very finely arenaceous, argillaceous in part, minor fine grained glauconite, trace very fine lithics, soft, dispersive with argillaceous content easily washed from samples, locally moderately hard, blocky. SANDSTONE: translucent, clear, very fine to fine grained, minor medium loose quartz grains, sub angular to predominately sub rounded, moderately well sorted, common grey silty / argillaceous matrix, minor very fine glauconite, trace fine grained lithics, predominately loose quartz grains, poor inferred porosity, no fluorescence.	2 - 5 U 100/-
1561 – 1650m 3 – 75 m/hr Av: 20 m/hr	SILTSTONE WITH MINOR INTERBEDDED SANDSTONE SILTSTONE: pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, soft to firm, occasionally hard, sub-blocky, amorphous. SANDSTONE: clear to translucent, off white, generally medium, minor coarse, moderately sorted, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.	1 - 10 U 100/-

REMARKS:

LWD Sensor Offsets from the Bit:

GR: 11.41m
Res: 11.36m
D&I: 18.87m

Date:	4th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	02	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: **06:00 – 06:00 EST**	294m		

Current Operation: Preparing to pull out of hole at 311mm (12¼") hole section Total Depth.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")		244mm (9 5/8")	70 kg/m (47lb/ft)			
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	68	4.4	10.0	9.0	47k	22/36	0.092Ωm @ 23.5˚C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	1	Reed	PDC	RSX616	311mm (12¼")	15.6	294	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill 311mm (12¼") deviated hole from 1650m to 1915m. Circulate sample. Continue to directional drill 311mm (12¼") hole from 1915 to 1927m. Circulate sample. Continue to drill 311mm (12¼") hole from 1927m to 1932m. Circulate sample. Continue to drill 311mm (12¼") hole from 1932m to 1937m. Drill 311mm (12¼") hole from 1937m to 1944m for casing rat hole. Circulate hole clean. Prepare to pull out of hole.

Anticipated Operations:

Pull out of hole and run 244mm (9 5/8") casing.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1650 – 1810m 10 – 62 m/hr Av: 25 m/hr	SILTSTONE WITH MINOR INTERBEDDED SANDSTONE. SILTSTONE: medium brownish grey, grey brown, locally arenaceous, minor fine carbonaceous specks, rare calcareous fragments, rare fine grained glauconite, trace nodular pyrite, soft to firm, moderately hard in part, blocky to sub blocky. SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, minor off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, trace fine grained glauconite, friable, poor visual porosity, no fluorescence.	1 – 3 U 99/1/tr
1810 – 1898m 8 – 30 m/hr Av: 15 m/hr Controlled drilling from 1874m MDRT	SILTSTONE WITH MINOR INTERBEDDED FINE GRAINED SANDSTONE. SILTSTONE: medium to dark greenish grey, medium to dark brownish grey, locally arenaceous, minor fine carbonaceous specks, abundant fine grained glauconite, trace LIMESTONE fragments, firm to moderately hard, blocky to sub blocky SANDSTONE: translucent, light grey, very light brown, very fine to fine grained, sub angular to sub rounded, well sorted, weak calcareous cement, common off white argillaceous matrix, trace very fine lithics, trace nodular pyrite, common fine grained glauconite, friable, poor visual porosity, no fluorescence.	1 - 5 U chrom. data unreliable
1898 – 1929m 6 – 16 m/hr Av: 12 m/hr Control drilled	SILTSTONE. SILTSTONE: dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky.	5 U chrom. data unreliable
1929 – 1944m 5 – 19 m/hr Av: 11 m/hr Control drilled	SANDSTONE WITH MINOR INTERBEDDED SILTSTONE. SANDSTONE: off white, clear to translucent, very fine to fine, moderately well sorted, sub-round, weak siliceous cement, common to abundant off white argillaceous matrix, occasional carbonaceous specks and minor micro laminations, firm to friable, minor loose, trace fine glauconite grains, common rock flour, very poor visual porosity, poor inferred porosity, no fluorescence. SILTSTONE: pale brown, medium brown grey in part, argillaceous to minor arenaceous, occasional glauconite grains and carbonaceous specks, very soft to dispersive, occasionally firm to moderately hard, amorphous, sub-blocky.	5 U chrom. data unreliable Peak: 1944m 29U 99/1/tr

REMARKS:

LWD Sensor Offsets from the Bit:

GR: 11.41m
Res: 11.36m
D&I: 18.87m

Date:	5th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	03	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	0m		

Current Operation: Performing a wiper trip, back reaming out of tight hole at 1420m.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)			
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	8% KCl	11.0	61	4.5	10.0	8.6	48k	30/41	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	1	Reed	PDC	RSX616	311mm (12¼")	15.6	294	In Hole

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pull out of hole from total depth at 1944m to 1904m. Back ream and pump out of tight hole from 1904m to 1420m, pumping a hi-vis sweep at 1620m.

Anticipated Operations:

Continue wiper trip and run in hole. Circulate hole clean. Pull out of hole and run 244mm (9 5/8") / 273mm (10¾") casing.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

LWD Sensor Offsets from the Bit:

GR: 11.41m
Res: 11.36m
D&I: 18.87m

Date:	6th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	04	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	0m		

Current Operation: Racking back 311mm (12¼") Bottom Hole Assembly.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)			
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	8% KCl	11.0	70	4.2	9.5	9.0	49k	28/49	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	1	Reed	PDC	RSX616	311mm (12¼")	15.6	294	In Hole

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Continue back reaming and pumping out of hole from 1420m to 1135m. Pump a hi-vis sweep and circulate the hole clean. Run in hole, take weight at 1337m. Wash and ream to bottom. Pump a hi-vis sweep and circulate the hole clean. Pull out of hole working tight hole as required. Rack back 311mm (12¼") Bottom Hole Assembly.

Anticipated Operations:

Run and cement 244mm (9 5/8") / 273mm (10¾") casing.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip gas	1944m	92 U		97/2/1/trace

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

Date:	7th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	05	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	0m		

Current Operation: Running 244mm (9 5/8") casing at 1319m (93 of 136 joints run).

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)			
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	8% KCl	11.0	85	3.8	9.5	9.0	48k	30/47	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	1	Reed	PDC	RSX616	311mm (12¼")	15.6	294	1-5-BT-G-X-IN-CT-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Make up casing running tool and rack back. Retrieve wear bushing. Rig up and run 244mm (9 5/8") L80 70kg/m (47 lb/ft) casing (93 of 136 joints run).

Anticipated Operations:

Run and cement 244mm (9 5/8") / 273mm (10¾") casing. Pressure test Blow Out Preventers. Make up 216mm (8 ½") Bottom Hole Assembly and run in hole.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

Santos — NETHERBY 1DW1

DAILY GEOLOGICAL REPORT

DGR 06

Date:	8th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	06	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	311mm (12 ¼")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2504m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	0m		

Current Operation: Pressure testing Blow Out Preventers.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	8% KCl	11.1	86	4.2	9.5	9.0	47k	30/46	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	1	Reed	PDC	RSX616	311mm (12¼")	15.6	294	1-5-BT-G-X-IN-CT-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Continue running 244mm (9 5/8") / 273mm (10¾") casing (157 joints run). Land out casing on drill pipe. **244mm (9 5/8") casing shoe set at 1936m.** Perform casing cement job as per program. Pressure test Blow Out Preventers.

Anticipated Operations:

Pressure test Blow Out Preventers. Make up 216mm (8 ½") Bottom Hole Assembly and run in hole.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

Date:	9th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	07	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	216mm (8 ½")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1944m MDRT 1681.7m TVDRT (-1660.9m SS MSL)	**PTD:**	2510m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: **06:00 – 06:00 EST**	0m		

Current Operation: Running in hole with 216mm (8 ½") directional assembly (currently 800m).

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	WFW	9.5	60	3.8	9.0	-	85k	10/27	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Reed	PDC	RSX519M	216mm (8 ½")	-	-	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1919.6	80	123	1677.6	585	118
Projected	LWD	1944.5	81	123	1681.8	609	118

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Continue pressure testing the Blow Out Preventers. Lay out the 311mm (12¼") bottom hole assembly. Make up 216mm (8½") directional Bottom Hole Assembly. Shallow test LWD tools and run in hole.

Anticipated Operations:

Run in hole, drill out cement and shoe track. Drill ahead 216mm (8½") directional hole to total depth at +/- 2510m.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

Date:	10th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	08	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	216mm (8 ½")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	2040m MDRT 1689.3m TVDRT (-1668.5m SS MSL)	**PTD:**	2510m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	96m		

Current Operation: Drilling ahead 216mm (8 ½") directional hole at 20m/hr.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	WFW	9.5	48	3.6	9.5	-	89k	10/24	0.075Ωm @ 15.7˚C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Reed	PDC	RSX519M	216mm (8 ½")	4.4	96	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	1974.0	84	122	1685.8	638	119
	LWD	2011.2	88	121	1688.6	675	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Run in hole with the 216mm (8½") directional assembly. Wash down from 1830m to the top of cement at 1900m. Drill cement and plugs to 1934m. Displace well to DIF mud system cleaning surface pits and lines as required. Drill the casing shoe, clean the rat hole to 1944m. Drill ahead 216mm (8½") directional production hole from 1944m to 1998m. Flow check and test gas system. Drill ahead from 1998m to 2040m.

Anticipated Operations:

Drill ahead 216mm (8½") directional production hole to total depth at +/- 2510m.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1966 – 1970m 12 – 39 m/hr Av: 24 m/hr	SANDSTONE: off white to pale grey, clear to translucent, medium to coarse, rare fine to very coarse, angular to occasionally sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional to common carbonaceous specks, minor lithics, rare pyrite nodules, generally loose clean grains, minor friable, fair visual & inferred porosity, no fluorescence.	70 U 97/2/1/- Peak: 1969m 223U Chrom. not recorded.

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1944 – 2040m 7 – 49 m/hr Av: 24 m/hr	SANDSTONE WITH MINOR SILTSTONE. SANDSTONE: clear to translucent, minor pale grey, fine to medium, rare coarse, moderately to well sorted, angular to sub-round, minor sub-round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and fragments, minor lithics, loose clean grains, fair to good inferred porosity, no fluorescence. SILTSTONE: pale grey, arenaceous, occasional carbonaceous specks and minor fragments, locally micro mica, firm to occasionally moderately hard, blocky to sub-blocky.	70 U 97/2/1/- Peak: 1969m 223U Chrom. not recorded.

REMARKS:

LWD Sensor Offsets from the Bit: (216mm (8½") hole section)
Xceed-Ecoscope-MWD

GR:	9.73m
Res:	12.77m
D&I:	20.68m
HeFar:	13.02m
Den:	10.93m
Caliper:	11.35
PWD:	9.98m

Date:	11th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	09	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	216mm (8 ½")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	2270m MDRT 1677.3m TVDRT (-1656.5m SS MSL)	**PTD:**	2510m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	230m		

Current Operation: Drilling ahead 216mm (8 ½") directional hole at 15m/hr.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	WFW	9.6	44	3.5	9.5	-	88k	11/28	0.077Ωm @ 15.7˚C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Reed	PDC	RSX519M	216mm (8 ½")	15.4	326	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	2205.0	96	121	1684.3	869	119
	LWD	2234.2	96	120	1681.1	898	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 216mm (8½") directional production hole from 2040m to 2142m. Work on top drive saver sub. Drill ahead 216mm (8½") directional production hole from 2142m to 2165m. Rack back 1 stand and replace top drive saver sub. LWD geolograph cable broken. Circulate and repair. Continue to directional drill 216mm (8½") production hole from 2165m to 2182m while repairing geolograph cable. Ream down for LWD data. Drill ahead 216mm (8½") production hole from 2182m to 2257m. Circulate while repairing hydraulic problem with pipe handling equipment. Drill ahead 216mm (8½") production hole from 2257m to 2270m.

Anticipated Operations:

Drill ahead 216mm (8½") directional production hole to total depth at +/- 2510m.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Peak Gas	2153m	897 U	60 U	97/2/1/trace

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
2040 – 2120m 6 – 40 m/hr Av: 20 m/hr	MASSIVE SANDSTONE. SANDSTONE: clear, translucent, minor pale grey, fine to medium grained, well sorted, dominantly sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor lithics, minor carbonaceous specks, rare pale orange quartz grains, loose, minor friable, poor visual porosity, fair inferred porosity, no fluorescence.	100-150 U 97/2/1 Peak: 2076m 234 U 97/2/1
2120 – 2140m 4 – 35 m/hr Av: 24 m/hr	CALCAREOUS SANDSTONE WITH TRACE INTERBEDDED SILTSTONE. SANDSTONE: white, light grey, translucent, clear in part, fine to predominately medium grained, sub angular to sub rounded, moderately sorted, abundant white calcareous cement, minor light grey argillaceous matrix, trace fine pyrite nodules, trace orange and light green lithics, minor carbonaceous flecks, friable to occasionally moderately hard aggregates, poor visual porosity, 90% dull orange mineral fluorescence. SILTSTONE: medium to dark brownish grey, dark grey, common carbonaceous flecks, trace micro mica, moderately hard, sub blocky to sub fissile.	60 U 97/2/1/trace Peak: 2132m 176 U 97/2/1/trace/trace
2140 – 2180m 10 – 70 m/hr Av: 25 m/hr	SANDSTONE: light grey, translucent, clear, fine to predominately medium occasionally coarse, poor too fair sorting, sub angular to predominately sub rounded, rare weak siliceous cement, minor light grey argillaceous matrix, trace red lithics, common carbonaceous flecks, loose to friable aggregates, fair inferred porosity, no fluorescence.	100 U 97/2/1/trace Peak: 2145-2162m 300-900 U 97/2/1/trace
2180 – 2199m 6 – 25 m/hr Av: 15 m/hr	CALCAREOUS SANDSTONE WITH TRACE INTERBEDDED SILTSTONE. SANDSTONE: light grey, translucent, clear, fine to medium grained, sub angular to sub rounded, well sorted, rare weak siliceous cement, common calcareous cement, minor light grey argillaceous matrix, common carbonaceous fragments, trace nodular pyrite, trace light green and red lithics, rare biotite flecks, loose to friable aggregates, minor moderately hard, fair visual and fair to good inferred porosity, 30% dull orange mineral fluorescence. SILTSTONE: medium to dark brownish grey, carbonaceous in part, dark grey, common carbonaceous flecks, trace disseminated pyrite, moderately hard, sub blocky to sub fissile.	10 U 97/2/1

2199 – 2270m 11 – 68 m/hr Av: 23 m/hr	SANDSTONE WITH TRACE INTERBEDDED SILTSTONE. SANDSTONE: clear to translucent, off white, fine to medium grains, occasionally very fine, well sorted, sub-angular to sub-round, weak siliceous cement, occasional to common off white argillaceous matrix, occasional carbonaceous specks and fragments, minor orange lithics, generally loose clean grains, rare friable aggregates, poor to fair visual porosity, fair to good inferred porosity, no fluorescence. SILTSTONE: pale grey, argillaceous, minor carbonaceous specks, dispersive to firm, amorphous, occasionally sub-blocky.	50 U 97/2/1/trace

REMARKS:

LWD Sensor Offsets from the Bit: (216mm (8½") hole section)
Xceed-Ecoscope-MWD

GR:	9.73m
Res:	12.77m
D&I:	20.68m
HeFar:	13.02m
Den:	10.93m
Caliper:	11.35
PWD:	9.98m

Date:	12th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	10	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	216mm (8 ½")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	2517m MDRT 1655.3m TVDRT (-1634.5m SS MSL)	**PTD:**	2510m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	247m		

Current Operation: Pulling out of hole for a wiper trip (currently at 2317m).

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")	2517m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	WFW	9.6	45	3.6	9.0	-	88k	11/34	0.073Ωm @ 18.7˚C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Reed	PDC	RSX519M	216mm (8 ½")	30.7	573	In Hole
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	2494.3	98	119	1658.6	1157	119
Projected	LWD	2517.0	98	119	1655.3	1179	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 216mm (8½") directional production hole from 2270m to 2287m. Circulate while repairing hydraulic problem with pipe handling equipment. Drill ahead 216mm (8½") production hole from 2287m to total depth at 2517m. **Total depth reached at 01:30hrs 12-08-08.** Circulate hole clean. Pull out of hole for a wiper trip.

Anticipated Operations:

Perform wiper trip to casing shoe. Run in hole to bottom. Circulate and condition mud system.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Peak Gas	2321m	143 U	60 U	97/2/1

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
2270 – 2505m 15 – 52 m/hr Av: 18 m/hr	SANDSTONE. SANDSTONE: clear to translucent, pale grey, fine to occasionally very fine, minor medium to coarse, moderately well sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, rare off white argillaceous matrix, occasional carbonaceous specks and rare laminations, minor lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.	10 - 60 U 97/2/1 Peak: 2321m 143 U 97/2/1 CO2: 0 ppm
2505 – 2517m 10 – 30 m/hr Av: 20 m/hr	SANDSTONE WITH MINOR SILTSTONE. SANDSTONE: clear to translucent, pale grey, fine to occasionally medium, moderately well sorted, sub-angular to sub-round, weak siliceous cement, rare pale grey argillaceous matrix, common carbonaceous specks and fragments, rare pyrite nodules, rare lithics, occasional orange grains, generally loose clean grains, good inferred porosity, no fluorescence. SILTSTONE: pale grey, minor medium grey, argillaceous, rare arenaceous, occasional to common carbonaceous specks and fragments, soft to dispersive, amorphous, rare sub-blocky. Note: dispersive silts washing out of samples.	30 U 97/2/1 CO2: 8 ppm

REMARKS:

LWD Sensor Offsets from the Bit: (216mm (8½") hole section)
Xceed-Ecoscope-MWD
GR: 9.73m
Res: 12.77m
D&I: 20.68m
HeFar: 13.02m
Den: 10.93m
Caliper: 11.35
PWD: 9.98m

Date:	13th August 2008 – 06:00 EST	**Licence / State:**	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	**Rig:**	OCEAN PATRIOT
Days From Sidetrack:	11	**RT - SEAFLOOR:**	86.9m
Current Hole Size:	216mm (8 ½")	**WATER DEPTH**	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	2517m MDRT 1655.3m TVDRT (-1634.5m SS MSL)	**PTD:**	2510m MDRT
		Sidetrack from Netherby 1:	21:00 hrs on 2nd August 2008
24 Hr Progress: 06:00 – 06:00 EST	0m		

Current Operation: Conducting casing scraper and clean out run.

Casing Data	Hole Size	Depth	Casing Size	Wt:	Type	Shoe Depth	LOT
	914 mm (36")	130.9m	762mm (30")	461 kg/m (310 lb/ft)	Conductor	130.9m	
	445mm (17.5")	647.5m	340mm (13.375")	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")	1944m	244mm (9 5/8") / 273mm (10 ¾")	70 kg/m (47lb/ft)	L80	1936.0m	
	216mm (8½")	2517m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	WFW	9.6	50	3.6	9.0	-	84k	12/35	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	2	Reed	PDC	RSX519M	216mm (8 ½")	30.7	573	1-3-BT-G-X-I-WT-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	LWD	2494.3	98	119	1658.6	1157	119
Projected	LWD	2517.0	98	119	1655.3	1179	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pull out of hole to the casing shoe. Run in hole to total depth. Circulate and condition mud system utilising 325 mesh shaker screens. Pull out of the hole. Hole in good condition. Lay out the LWD tools. Make up the casing scraper assembly and run in hole. Circulate and clean casing.

Anticipated Operations:

Conduct casing scraper / clean out trip. Run the lower completion, sand screens, 6 5/8" tubing. Continue completions program.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition

REMARKS:

SECTION 5 : DAILY DRILLING REPORTS

Santos

DRILLING MORNING REPORT # 1
Netherby-1 Netherby-1DW (02 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1544.0m	Current Hole Size	311mm		
Field		TVD	1496.0m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	39.0m	Shoe MD	642.0m		
Rig	Ocean Patriot	Days from spud	0.12	Shoe TVD	642.0m		
Water Depth (LAT)	65.4m	Days on well	0.13	F.I.T. / L.O.T.	/ 2.12sg	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Drill ahead 311 mm (12 1/4") production hole from 1650 m MD.				
RT-ML	86.9m	Planned Op	Drill ahead 311 mm (12 1/4") production hole.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Commenced Netherby-1DW sidetrack at 21:00 hrs and drilled ahead from 1505 m to 1544 m.

Operations For Period 0000 Hrs to 2400 Hrs on 02 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	2100	2400	3.00	1544.0m	Drilled ahead 311 mm (12 1/4") production hole from 1505 m to 1544 m.

Operations For Period 0000 Hrs to 0600 Hrs on 03 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0230	2.50	1608.0m	Continued to drill production hole from 1544 m to 1608 m MD.
PH	TP (DFC)	RO	0230	0330	1.00	1608.0m	Observed 4.1 MPa (600 psi) pressure drop, then 3.4 MPa (500 psi) pressure drop. Shut down pumps and flow checked well, ok. Tested surface equipment and MWD tools, ok. Pressure normal with pumps #2 and #1 running. Trouble shoot pump #3 and continued to drill ahead.
PH	P	DA	0330	0600	2.50	1915.0m	(IN PROGRESS) Drilled ahead production hole from 1608 m to 1915 m MD with 3527 l/min (932 gpm), 160 RPM and 6.7-51.7 kdaN (15-23 klbs) WOB. Back reamed as required and took surveys every connection.

WBM Data

Mud Type:	KGLY	API FL:	6cm³/30m	KCl:	8%	Solids:	11.17	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	1160	H2O:	89%	PV:	0.021Pa/s
Time:	15:00	HTHP-FL:		MBT:	0.8	Oil:		YP:	0.177MPa
Weight:	1.33sg	HTHP-Cake:		PM:	5	Sand:	0.2	Gels 10s:	0.053
Temp:	130.0C°			PF:	0.6	pH:	12	Gels 10m:	0.101
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	36
								Fann 200:	49
								Fann 300:	58
								Fann 600:	79

Comment: Prepared surface pits with 0.5 ppb powdered PHPA. Treated hardness with sodium bicarb and reduced PH with citric acid. Run centrifuge to reduce MW and cement particles.

Bit # 1

Wear	I	O1	D	L	B	G	O2	R

Size:	311mm	IADC#	M422	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED	WOB(avg)	5.44mt	No.	Size	Progress	39.0m	Cum. Progress	39.0m
Type:	PDC	RPM(avg)	120	6	15/32nd"	On Bottom Hrs	1.70h	Cum. On Btm Hrs	1.70h
Serial No.:	218712	F.Rate	3066lpm			IADC Drill Hrs	3.00h	Cum IADC Drill Hrs	3.00h
Bit Model	RSX616M-A16	SPP	23442kPa			Total Revs		Cum Total Revs	0
Depth In	1421.0m	TFA	1.035			ROP(avg)	22.94 m/hr	ROP(avg)	22.94 m/hr
Depth Out									

Run Comment: Used to side track Netherby-1DW for production section from pilot hole.

BHA # 1

Weight(Wet)	18.14mt	Length	183.1m	Torque(max)	29.9Nm	D.C. (1) Ann Velocity	70.31mpm
Wt Below Jar(Wet)	14.74mt	String	104.33mt	Torque(Off.Btm)	6.8Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	16.3Nm	H.W.D.P. Ann Velocity	53.05mpm
		Slack-Off	102.06mt			D.P. Ann Velocity	48.39mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	311mm	76mm	218712	
Powerdrive 900	8.60m	308mm	133mm	2	
ARC-8	5.87m	230mm	108mm	2724	
Power Pulse	8.47m	211mm	95mm	FB46	
NMDC	18.60m	213mm	83mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	84.26m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	46.60m	168mm	70mm		

Survey

MD (m)	Incl Deg (deg)	Corr. Az (deg)	TVD (m)	'V' Sect (m)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
1517.00	35.0	105.0	1455.00	264.00	3.98	-124.65	232.80	MWD
1543.00	37.0	107.0	1476.03	279.00	2.21	-128.87	247.49	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	7	0	-7.0
Gel	MT	0	0	0	0.0
Cement	MT	0	0	0	0.0
Fuel	M3	0	18.4	0	-18.4
Potable Water	M3	34	26	0	8.0
Drill Water	M3	0	30	0	-30.0

Personnel On Board

Company	Pax
Santos	4
Santos	2
DOGC	45
ESS	8
BHI	6
Dowell	2
Rheochem	2
TMT	3
Anadrill	2
Anadrill	3
Schlumberger Wireline	4
MI Swaco	1
Cameron	1
DOGC Service	7
Total	90

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	27 Jul 2008	6 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Additional Supervision	1	02 Aug 2008	0 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	27 Jul 2008	6 Days	Simulated a fire on the stbd crane at 10:22. Fire under control at 10:30 (full lifeboat muster also completed).
First Aid	1	31 Jul 2008	2 Days	IP was bending down to pick up his shoes in his room when he hit his head on the desk. Very minor laceration under his left eye.
First Aid	1	31 Jul 2008	2 Days	IP was working on making up well test gear when the piece he was tightening slipped and caught his finger. Very minor laceration.
JHA	32	02 Aug 2008	0 Days	Drill crew - 15 Deck Crew - 10 Welder - 4 Mechanic - 3
Lost Time Incident	1	30 May 2008	64 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	9 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	02 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	4	02 Aug 2008	0 Days	2 x hot work permits 2 x cold work permits
Safety Audit	1	30 Jul 2008	3 Days	EHSMS audit conducted onboard.
Safety Meeting	3	27 Jul 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card to Tim Stone. Discussed fire and abandonment drill and muster times. Reviewed open water Rescue techiques.
Santos Induction	0	02 Aug 2008	0 Days	No new personal to site
Stop Observations	66	02 Aug 2008	0 Days	39 - Safe 27- Corrective Actions
STOP Tour	1	31 Jul 2008	2 Days	Diamond supervisor audits.
Trip/Pit Drill	1	31 Jul 2008	2 Days	Sounded the alram on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**391.6m³**	**Losses**	**19.5m³**
Active	95.7m³	Downhole	
Mixing	0.0m³	Surf+ Equip	19.5m³
Hole	147.7m³	Dumped	0.0m³
Slug		De-Sander	
Reserve	96.7m³	De-Silter	
Kill		Centrifuge	0.0m³
Storage	51.5m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 4	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 5	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	18

Comment #2 Centrifuge repaired and back in the system.

Marine

Weather check on 02 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	28km/h	263.0deg	1018.00bar	12.0C°	0.5m	263.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.4deg	0.70m	3.0m	248.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	1015.14mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	94.80
2	1382.9	97.07
3	1399.9	120.20
4	1376.8	102.06
5	1410.9	135.17
6	1421.0	133.81
7	1410.9	125.19
8	1414.0	120.20

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	18:00 hrs 02.08.08		Standby Ocean Patriot
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot

Bulks		
Item	**Unit**	**Quantity**
Item	**Unit**	**Quantity**

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ		Ocean Patriot	No Helicopter to site	
GYJ		Essendon	No Helicopter to site	

Santos

DRILLING MORNING REPORT # 2
Netherby-1 Netherby-1DW (03 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1934.0m	Current Hole Size	311mm		
Field		TVD	1680.0m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	384.0m	Shoe MD	642.0m		
Rig	Ocean Patriot	Days from spud	1.12	Shoe TVD	642.0m		
Water Depth (LAT)	65.4m	Days on well	1.13	F.I.T. / L.O.T.	/ 2.12sg	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to POOH from 1944 m				
RT-ML	86.9m	Planned Op	POOH and rack back BHA. Make up CSHART tool and cement head and rack back same. Rig up to and run 273 mm x 244 mm (10.75" x 9.625") casing.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Drilled 311 mm (12 1/4") hole from 1544 m to 1934 m. Control drilled for evaluation from 1915 m, circulating bottoms up for samples every 5 m from 1927 m.

Operations For Period 0000 Hrs to 2400 Hrs on 03 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0230	2.50	1608.0m	Continued to drill production hole from 1544 m to 1608 m MD.
PH	TP (DFC)	RO	0230	0330	1.00	1608.0m	Observed 4.1 MPa (600 psi) pressure drop, then 3.4 MPa (500 psi) pressure drop. Shut down pumps and flow checked well, ok. Tested surface equipment and MWD tools, ok. Pressure normal with pumps #2 and #1 running. Trouble shoot pump #3 and continued to drill ahead.
PH	P	DA	0330	1930	16.00	1915.0m	Drilled ahead production hole from 1608 m to 1915 m MD with 3527 l/min (932 gpm), 160 RPM and 6.7-51.7 kdaN (15-23 klbs) WOB. Back reamed as required and took surveys every connection.
PH	P	CS	1930	2000	0.50	1915.0m	Circulated bottoms up for samples, 100 % siltstone, 0 units gas count
PH	P	CDE	2000	2130	1.50	1927.0m	Continued to control drill ahead at 10 m/hr from 1915 m to 1927 m MD
PH	P	CS	2130	2200	0.50	1927.0m	Circulated bottoms up for samples, 100 % siltstone, 4 units gas count
PH	P	CDE	2200	2300	1.00	1932.0m	Continued to control drill ahead at 10 m/hr from 1927 m to 1932 m MD (1680 m TVD RT LAT).
PH	P	CS	2300	2400	1.00	1932.0m	Circulated bottoms up for samples, 10 % sand / 90 % siltstone, 16 units gas count

Operations For Period 0000 Hrs to 0600 Hrs on 04 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	CDE	0000	0045	0.75	1937.0m	Continued to control drill at 10 m/hr from 1934 m to 1937 m MD (1680.7 m TVD LAT)
PH	P	CS	0045	0130	0.75	1937.0m	Circulated bottoms up for geology samples, 60% sand / 40% siltstone, 24 units gas count.
PH	P	CDE	0130	0230	1.00	1944.0m	Continued to control drill at 10 m/hr from 1937 m to 1944 m MD (1681.8 m TVD LAT)
PH	P	CHC	0230	0530	3.00	1944.0m	Circulated bottoms up for geology samples, 80% sand / 20% siltstone, 29 units gas count. Continued to circulate hole clean with 4.5 times bottoms up.
PH	P	TO	0530	0600	0.50	1944.0m	Flow check well, ok. Commenced POOH from 1944 m.

WBM Data

Mud Type:	8KCL	API FL:	4cm³/30m	KCl:	9%	Solids:	10.68	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	1200	H2O:	89%	PV:	0.022Pa/s
Time:	22:30	HTHP-FL:		MBT:	7.5	Oil:		YP:	0.172MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.4	Sand:	0.2	Gels 10s:	0.048
Temp:	145.0C°			PF:	0.26	pH:	10	Gels 10m:	0.091
						PHPA:	2ppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	36
								Fann 200:	47
								Fann 300:	58
								Fann 600:	80

Comment: Treated active system to reduce PH, alkalinity values and hardness. Added powdered PHPA to premix pit.

Bit # 1

Wear	I	O1	D	L	B	G	O2	R

Size:	311mm	IADC#	M422	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED	WOB(avg)	8.16mt	No.	Size	Progress 384.0m	Cum. Progress 423.0m
Type:	PDC	RPM(avg)	175	6	15/32nd"	On Bottom Hrs 13.00h	Cum. On Btm Hrs 14.70h
Serial No.:	218712	F.Rate	3471lpm			IADC Drill Hrs 19.50h	Cum IADC Drill Hrs 22.50h
Bit Model	RSX616M-A16	SPP	23856kPa			Total Revs	Cum Total Revs 0
Depth In	1421.0m	TFA	1.035			ROP(avg) 29.54 m/hr	ROP(avg) 28.78 m/hr
Depth Out							

Run Comment: Used to side track Netherby-1DW for production section from pilot hole.

BHA # 1

Weight(Wet)	18.14mt	Length	183.1m	Torque(max)	34.8Nm	D.C. (1) Ann Velocity	79.6mpm
Wt Below Jar(Wet)	14.74mt	String	106.59mt	Torque(Off.Btm)	6.8Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	111.13mt	Torque(On.Btm)	16.9Nm	H.W.D.P. Ann Velocity	60.06mpm
		Slack-Off	99.79mt			D.P. Ann Velocity	54.78mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	311mm	76mm	218712	
Powerdrive 900	8.60m	308mm	133mm	2	
ARC-8	5.87m	230mm	108mm	2724	
Power Pulse	8.47m	211mm	95mm	FB46	
NMDC	18.60m	213mm	83mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	84.26m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	46.60m	168mm	70mm		

Survey

MD (m)	Incl Deg (deg)	Corr. Az (deg)	TVD (m)	'V' Sect (m)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
1804.00	64.0	123.0	1644.00	474.00	5.03	-217.00	422.00	MWD
1832.00	69.0	123.0	1655.00	501.00	4.59	-231.00	444.00	MWD
1860.00	73.0	123.0	1664.00	527.00	4.95	-246.00	466.00	MWD
1889.00	77.0	122.0	1671.00	554.00	4.34	-261.00	489.00	MWD
1919.00	79.0	122.0	1677.00	584.00	1.93	-277.00	514.00	MWD
1944.00	80.0	122.0	1681.00	609.00	1.39	-290.00	535.00	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Fuel	M3	0	0	505.5	487.1
Drill Water	MT	0	0	698	698.0
Potable Water	MT	0	0	375	375.0
Gel	sx	0	0	53	53.0
Cement	sx	0	0	90	90.0
Barite	sx	0	0	86	86.0

Personnel On Board

Company	Pax
Santos	4
Santos	2
DOGC	45
ESS	8
BHI	7
Dowell	2
Rheochem	2
TMT	3
Subsea 7	2
Anadrill	2
Anadrill	3
Premium Casing Services	6
MI Swaco	1
Cameron	2
DOGC Service	7
Total	96

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	0 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	1 Day	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	0 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	31 Jul 2008	3 Days	IP was bending down to pick up his shoes in his room when he hit his head on the desk. Very minor laceration under his left eye.
First Aid	1	31 Jul 2008	3 Days	IP was working on making up well test gear when the piece he was tightening slipped and caught his finger. Very minor laceration.
JHA	18	03 Aug 2008	0 Days	Drill crew - 9 Deck Crew - 6 Mechanic - 3
Lost Time Incident	1	30 May 2008	65 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	10 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	03 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	10	03 Aug 2008	0 Days	6 x hot work permits 4 x cold work permits
Safety Audit	1	30 Jul 2008	4 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Jul 2008	31 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	03 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	60	03 Aug 2008	0 Days	34 - Safe 26- Corrective Actions
STOP Tour	1	03 Aug 2008	0 Days	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	3 Days	Sounded the alram on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**329.6m³**	**Losses**	**44.4m³**
Active	83.3m³	Downhole	
Mixing	0.0m³	Surf+ Equip	31.0m³
Hole	140.7m³	Dumped	0.0m³
Slug		De-Sander	
Reserve	85.7m³	De-Silter	
Kill		Centrifuge	13.4m³
Storage	19.9m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		11
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		11
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24

Marine

Weather check on 03 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
14.8km	30km/h	0.0deg	1015.00bar	13.0C°	0.5m	0.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.3deg	0.50m	3.0m	225.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	951.64mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	93.89
2	1382.9	97.98
3	1399.9	117.93
4	1376.8	104.78
5	1410.9	137.89
6	1421.0	130.18
7	1410.9	128.82
8	1414.0	117.93

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		14:25 hrs 03.08.08	Released to Portland with logging tools
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	489
Potable Water	m3	132
Drill Water	m3	450
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	250
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	475
Potable Water	m3	345
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	84

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:37	Ocean Patriot		10
GYJ	11:50	Essendon		4

Santos

DRILLING MORNING REPORT # 3

Netherby-1 Netherby-1DW (04 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1944.0m	Current Hole Size	311mm		
Field		TVD	1681.0m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	10.0m	Shoe MD	642.0m		
Rig	Ocean Patriot	Days from spud	2.12	Shoe TVD	642.0m		
Water Depth (LAT)	65.4m	Days on well	2.13	F.I.T. / L.O.T.	/ 2.12sg	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to POOH from 1420 m				
RT-ML	86.9m	Planned Op	POOH to 1400 m, circulate well clean and rig up to RIH. RIH to 1944 m and pump 15.9 m3 (100 bbl) hi-vis sweep. POOH and rack back BHA. Rig up to and run casing.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Drilled 311 mm (12 1/4") production hole from 1934 m to 1944 m, circulated hole clean. Flow checked well and POOH from 1944 m to 1520 m back reaming and pumping continually.

Operations For Period 0000 Hrs to 2400 Hrs on 04 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	CDE	0000	0045	0.75	1937.0m	Continued to control drill at 10 m/hr from 1934 m to 1937 m MD (1680.7 m TVD LAT)
PH	P	CS	0045	0130	0.75	1937.0m	Circulated bottoms up for geology samples, 60% poor quality sand / 40% siltstone, 24 units gas count.
PH	P	CDE	0130	0230	1.00	1944.0m	Continued to control drill at 10 m/hr from 1937 m to 1944 m MD (1681.8 m TVD LAT)
PH	P	CHC	0230	0530	3.00	1944.0m	Circulated bottoms up for geology samples, 80% poor quality sand / 20% siltstone, 29 units gas count. Continued to circulate hole clean with 4.5 times bottoms up.
PH	P	FC	0530	0545	0.25	1944.0m	Flow check well, ok.
PH	P	TO	0545	0630	0.75	1944.0m	POOH from 1944 m to 1904 m.
PH	P	RW	0630	2400	17.50	1944.0m	Experienced tight hole at 1904 m with max overpull 22 t (50 klbs). Commenced back reaming and pumping out of hole from 1904 m to 1520 m, working each stand before connections. Pumped a 15.9 m3 (100 bbl) hi-vis sweep at 1620 m when working stand.

Operations For Period 0000 Hrs to 0600 Hrs on 05 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	RW	0000	0600	6.00	1944.0m	Continued to backream and pump out of hole from 1520 m to 1420 m working a stand each connection.

WBM Data

Mud Type:	8KCL	API FL:	5cm³/30m	KCl:	9%	Solids:	10.96	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	1400	H2O:	89%	PV:	0.030Pa/s
Time:	22:30	HTHP-FL:		MBT:	1.2	Oil:		YP:	0.196MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.3	Sand:	0.2	Gels 10s:	0.048
Temp:	160.0C°			PF:	0.27	pH:	10	Gels 10m:	0.115
						PHPA:	1ppb	Fann 003:	9
								Fann 006:	12
								Fann 100:	40
								Fann 200:	57
								Fann 300:	71
								Fann 600:	101

Comment: Treated active system with idcide and sodium sulphite before POOH. Built 2 by 100 bbl Hi-vis sweeps and incresed KCL content to aid with inhibition of clays.

Bit # 1

Wear	I	O1	D	L	B	G	O2	R

Size:	311mm	IADC#	M422	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED	WOB(avg)	6.80mt	No.	Size	Progress 10.0m	Cum. Progress 433.0m
Type:	PDC	RPM(avg)	175	6	15/32nd"	On Bottom Hrs 1.20h	Cum. On Btm Hrs 15.90h
Serial No.:	218712	F.Rate	3471lpm			IADC Drill Hrs 1.50h	Cum IADC Drill Hrs 24.00h
Bit Model	RSX616M-A16	SPP	23856kPa			Total Revs	Cum Total Revs 0
Depth In	1421.0m	TFA	1.035			ROP(avg) 8.33 m/hr	ROP(avg) 27.23 m/hr
Depth Out							

Run Comment: Used to side track Netherby-1DW for production section from pilot hole.

BHA # 1

Weight(Wet)	18.14mt	Length	183.1m	Torque(max)	35.4Nm	D.C. (1) Ann Velocity	79.6mpm
Wt Below Jar(Wet)	14.74mt	String	106.59mt	Torque(Off.Btm)	6.8Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	111.13mt	Torque(On.Btm)	16.3Nm	H.W.D.P. Ann Velocity	60.06mpm
		Slack-Off	99.79mt			D.P. Ann Velocity	54.78mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	311mm	76mm	218712	
Powerdrive 900	8.60m	308mm	133mm	2	
ARC-8	5.87m	230mm	108mm	2724	
Power Pulse	8.47m	211mm	95mm	FB46	
NMDC	18.60m	213mm	83mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	84.26m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	46.60m	168mm	70mm		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	mT	56	31	93	111.0
Gel	mT	0	0	53	53.0
Cement	mT	0	0	90	90.0
Fuel	m3	0	21.7	0	465.4
Potable Water	m3	34	28	367	381.0
Drill Water	m3	0	66	727	631.0

Personnel On Board

Company	Pax
Santos	4
Santos	2
DOGC	45
ESS	8
BHI	6
Dowell	2
Rheochem	2
TMT	6
Subsea 7	2
Anadrill	2
Anadrill	3
Premium Casing Services	6
MI Swaco	1
Cameron	2
DOGC Service	7
Marcomm	1
Total	99

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	2 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	1 Day	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	0 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	0 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	26	04 Aug 2008	0 Days	Drill crew - 11 Deck Crew - 6 Mechanic - 3 Welder - 7
Lost Time Incident	1	30 May 2008	66 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	11 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	04 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	8	04 Aug 2008	0 Days	5 x hot work permits 3 x cold work permits
Safety Audit	1	30 Jul 2008	5 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Jul 2008	32 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	04 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	82	04 Aug 2008	0 Days	53 - Safe 29- Corrective Actions
STOP Tour	1	03 Aug 2008	1 Day	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	4 Days	Sounded the alram on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**303.9m³**	**Losses**	**47.4m³**
Active	77.7m³	Downhole	
Mixing	0.0m³	Surf+ Equip	38.5m³
Hole	143.1m³	Dumped	0.0m³
Slug		De-Sander	
Reserve	46.1m³	De-Silter	
Kill		Centrifuge	8.9m³
Storage	37.0m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		11
Centrifuge 1	MI SW FVS 518		11
Centrifuge 2	MI SW FVS 518		11
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24

Marine

Weather check on 04 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
22.2km	15km/h	75.0deg	1023.00bar	12.0C°	0.2m	75.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.3deg	0.50m	2.0m	225.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	962.07mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	96.16
2	1382.9	101.15
3	1399.9	115.21
4	1376.8	106.14
5	1410.9	132.90
6	1421.0	135.17
7	1410.9	136.08
8	1414.0	117.03

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		14:25 hrs 03.08.08	ETA Ocaean Patriot: 05/08/08 pm.
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	488
Potable Water	m3	324
Drill Water	m3	450
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	250
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	465.5
Potable Water	m3	340
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	10:50	Ocean Patriot		6
GYJ	11:02	Essendon		3

Santos

DRILLING MORNING REPORT # 4

Netherby-1 Netherby-1DW (05 Aug 2008)

From :	**Peter Devine / Rohan Richardson**
OIM :	**Rod Dotson**

Well Data

Country	Australia	Measured Depth	1944.0m	Current Hole Size	311mm		
Field		TVD	1681.0m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.0m		
Rig	Ocean Patriot	Days from spud	3.12	Shoe TVD	642.0m		
Water Depth (LAT)	65.4m	Days on well	3.13	F.I.T. / L.O.T.	/ 2.12sg	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Pick up and make up cement head and rack back in derrick				
RT-ML	86.9m	Planned Op	Pick up casing running tool, make up to stand and rack back. Retrieve wear bushing. Rig up to and run 244 mm (9 5/8") by 273 mm (10 3/4") casing string.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

POOH from 1520 m to 1135 m, back reaming and pumping out of hole continually. Pumped hi-vis sweep and circulated hole clean. RIH for wiper trip to TD and pumped hi-vis sweep and circulated hole clean. POOH from 1944 m to 1625 m working pipe as required.

Operations For Period 0000 Hrs to 2400 Hrs on 05 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	RW	0000	0830	8.50	1944.0m	Continued to backream and pump out of hole from 1520 m to 1135 m working a stand each connection.
PH	P	CHC	0830	0930	1.00	1944.0m	Pumped 15.9 m3 (100 bbl) hi-vis sweep and circulated hole clean
PH	U	WT	0930	1000	0.50	1944.0m	RIH for wiper trip from 1135 m to 1337 m.
PH	U	WT	1000	1200	2.00	1944.0m	String held up 13 t (30 klbs), made up TDS and washed in hole from 1337 m to 1539 m.
PH	U	WT	1200	1600	4.00	1944.0m	String held up 13 t (30 klbs), commenced reaming and washing in hole from 1539 m to 1944 m.
PH	U	WT	1600	1830	2.50	1944.0m	Pumped 15.9 m3 (100 bbl) hi-vis sweep and circulated hole clean with 3236 l/min (855 gpm) and 190 rpm.
PH	U	WT	1830	1845	0.25	1944.0m	Flow checked well on trip tank
PH	U	WT	1845	2130	2.75	1944.0m	POOH from 1942 m to 1798 m working pipe as required and at each connection, max O/P 31 t (70 klbs), minimal resistance seen on second run.
PH	U	WT	2130	2300	1.50	1944.0m	Made up TDS to DP and pumped out of hole with 757 l/min (200gpm) from 1798 m to 1740 m, max O/P 31 t (70 klbs). Worked pipe as required and at each connection, minimal resistance seen on second run.
PH	U	WT	2300	2400	1.00	1944.0m	Continued to POOH from 1740 m to 1625 m.

Operations For Period 0000 Hrs to 0600 Hrs on 06 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	TO	0000	0330	3.50	1944.0m	Continued to POOH from 1625 m to 183 m, flow checking at 1308 m, 615 m and 183 m.
PH	P	HBHA	0330	0530	2.00	1944.0m	POOH and racked back BHA, downloaded MWD tools and broke off bit.
IC	P	HT	0530	0600	0.50	1944.0m	Made up pup joint to TIW valve and cement head on catwalk. Picked up and made up to 2 joints HWDP in slips, racked back same.

General Comments

Comments	Rig Requirements	Lessons Learnt
	Starboard side crane has been repaired and load tested with 37 ton against X Tree. Completions office is in place and wired up with internet and phone lines.	

WBM Data

Mud Type:	8KCL	API FL:	4cm³/30m	KCl:	9%	Solids:	10.82	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	800	H2O:	89%	PV:	0.028Pa/s
Time:	22:00	HTHP-FL:		MBT:	1.2	Oil:		YP:	0.235MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.3	Sand:	0.2	Gels 10s:	0.048
Temp:	152.0C°			PF:	0.12	pH:	9.5	Gels 10m:	0.125
						PHPA:	1ppb	Fann 003:	10
								Fann 006:	14
								Fann 100:	42
								Fann 200:	57
								Fann 300:	77
								Fann 600:	105

Comment: Continued to weight up premix in pit 2 with barite. Transferred premix into active as required to maintain volume while back reaming. Made 130 bbls 11 ppg hi-vis in pit 5. Added liquid PHPA into active while circulating to maintain concentration. Pumped 100 bbl hi-vis sweep at TD before POOH. Built 200 bbl 9% KCL premix in pit 1 to maintain volume in active.

Bit # 1

Wear	I	O1	D	L	B	G	O2	R

Size:	311mm	IADC#	M422	**Nozzles**		**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED	WOB(avg)		No.	Size	Progress	0.0m	Cum. Progress	433.0m
Type:	PDC	RPM(avg)		6	15/32nd"	On Bottom Hrs	0.00h	Cum. On Btm Hrs	15.90h
Serial No.:	218712	F.Rate				IADC Drill Hrs	0.00h	Cum IADC Drill Hrs	24.00h
Bit Model	RSX616M-A16	SPP				Total Revs		Cum Total Revs	0
Depth In	1421.0m	TFA	1.035			ROP(avg)	N/A	ROP(avg)	27.23 m/hr
Depth Out									

Run Comment: Used to side track Netherby-1DW for production section from pilot hole.

BHA # 1

Weight(Wet)	18.14mt	Length	183.1m	Torque(max)		D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	14.74mt	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0mpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0mpm
		Slack-Off				D.P. Ann Velocity	0mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	311mm	76mm	218712	
Powerdrive 900	8.60m	308mm	133mm	2	
ARC-8	5.87m	230mm	108mm	2724	
Power Pulse	8.47m	211mm	95mm	FB46	
NMDC	18.60m	213mm	83mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	84.26m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	46.60m	168mm	70mm		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	mT	0	0	0	111.0
Gel	mT	0	0	0	53.0
Cement	mT	0	0	0	90.0
Fuel	m3	0	18.3	0	447.1
Potable Water	m3	36	29	0	388.0
Drill Water	m3	0	30	0	601.0

Personnel On Board

Company	Pax
Santos	4
Santos	2
DOGC	45
ESS	8
BHI	6
Dowell	2
Rheochem	2
TMT	6
Anadrill	2
Anadrill	3
Premium Casing Services	6
MI Swaco	1
Cameron	2
DOGC Service	7
Marcomm	1
Total	97

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	2 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	3 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	2 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	1 Day	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	1 Day	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	30	05 Aug 2008	0 Days	Drill crew - 11 Deck Crew - 19
Lost Time Incident	1	30 May 2008	67 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	12 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	05 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	7	05 Aug 2008	0 Days	3 x hot work permits 4 x cold work permits
Safety Audit	1	30 Jul 2008	6 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Jul 2008	33 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	05 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	68	05 Aug 2008	0 Days	40 - Safe 28- Corrective Actions
STOP Tour	1	03 Aug 2008	2 Days	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	5 Days	Sounded the alram on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**299.5m³**	**Losses**	**39.1m³**
Active	83.6m³	Downhole	3.5m³
Mixing	0.0m³	Surf+ Equip	27.5m³
Hole	142.8m³	Dumped	0.0m³
Slug		De-Sander	
Reserve	58.0m³	De-Silter	
Kill		Centrifuge	8.1m³
Storage	15.1m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		11
Centrifuge 1	MI SW FVS 518		11
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		11
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24

Marine

Weather check on 05 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
22.2km	11km/h	220.0deg	1026.00bar	13.0C°	0.5m	220.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.3deg	0.50m	2.0m	225.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	963.88mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	94.80
2	1382.9	104.78
3	1399.9	118.84
4	1376.8	115.21
5	1410.9	140.16
6	1421.0	141.97
7	1410.9	130.18
8	1414.0	120.20

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	03.00 hrs 06.08.08		Portside Ocean Patriot
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	484
Potable Water	m3	316
Drill Water	m3	450
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	250
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	455.1
Potable Water	m3	335
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	10:47	Ocean Patriot		11
GYJ	11:00	Essendon		13

Santos

DRILLING MORNING REPORT # 5
Netherby-1 Netherby-1DW (06 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1944.0m	Current Hole Size	311mm		
Field		TVD	1681.0m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.0m		
Rig	Ocean Patriot	Days from spud	4.12	Shoe TVD	642.0m		
Water Depth (LAT)	65.4m	Days on well	4.13	F.I.T. / L.O.T.	/ 2.12sg	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to run 244 mm (9 5/8") casing from 1319 m.				
RT-ML	86.9m	Planned Op	Run casing and land out casing hanger in wellhead. Cement casing, set slips and P/Test BOP's.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

POOH from 1625 m and racked back BHA. Made up cement head and racked back same. Made up CSHART stand to hanger pup joint and racked back same. Retrieved wear bushing. Rigged up to and run casing as per tally to 642 m.

Operations For Period 0000 Hrs to 2400 Hrs on 06 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	TO	0000	0330	3.50	1944.0m	Continued to POOH from 1625 m to 183 m, flow checking at 1308 m, 615 m and 183 m.
PH	P	HBHA	0330	0530	2.00	1944.0m	POOH and racked back BHA, downloaded MWD tools and broke off bit.
IC	P	HT	0530	0600	0.50	1944.0m	Made up pup joint to TIW valve and cement head on catwalk. Picked up and made up to 2 joints HWDP in slips, racked back same.
IC	TP (VE)	HT	0600	0830	2.50	1944.0m	Landed casing hanger pup joint in slips and made up CSHART stand to hanger. Attempted to install shear pins in CSHART and prepare for running, unsuccessful. Racked back stand in derrick.
IC	P	WH	0830	1200	3.50	1944.0m	Picked up and made up wear bushing tool. RIH and jetted wellhead, latched wear bushing and closed LPR for indication marks to confirm space out. Retrieved wear bushing with 4.4 t (10 klbs) over pull. POOH and laid out same. Index line reset at 85.4 m.
IC	P	SM	1200	1215	0.25	1944.0m	Held pre job safety meeting with drill crew, deck crew and casing running hands.
IC	P	RRC	1215	1430	2.25	1944.0m	Rigged up to run 244 mm (9 5/8") casing.
IC	TP (VE)	RRC	1430	1530	1.00	1944.0m	Troubleshoot and repaired 500 T slip type elevators.
IC	P	CRN	1530	2200	6.50	1944.0m	Ran 244 mm (9 5/8") casing as per casing tally to 528 m.
IC	TP (VE)	HT	2200	2230	0.50	1944.0m	Set CSHART stand in mouse hole and installed shear pins, racked back same.
IC	P	CRN	2230	2400	1.50	1944.0m	Continued to run 244 mm (9 5/8") casing from 528 m to 642 m. Flow checked for 15 min, ok.

Operations For Period 0000 Hrs to 0600 Hrs on 07 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
IC	P	CRN	0000	0600	6.00	1944.0m	Continued to run 244 mm (9 5/8") casing from 642 m to 1319 m.

WBM Data

Mud Type:	8KCL	API FL:	4cm³/30m	KCl:	9%	Solids:	10.82	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	904	H2O:	89%	PV:	0.030Pa/s
Time:	22:00	HTHP-FL:		MBT:	1.1	Oil:		YP:	0.225MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.3	Sand:	0.15	Gels 10s:	0.048
Temp:				PF:	0.12	pH:	9.5	Gels 10m:	0.125
						PHPA:	1ppb	Fann 003:	9
								Fann 006:	12
								Fann 100:	42
								Fann 200:	62
								Fann 300:	77
								Fann 600:	107

Comment: No treatment to active system. Clean pit 4 and 5. Flush red mixing line in preparatio0n for DIF. Received 8 1/2" mud chemicals from Far Grip. 63 bbls discharged from pit 4 and 5 during pit cleaning.

Bit # 1

Wear	I	O1	D	L	B	G	O2	R
	1	5	BT	G	X	I	CT	TD

Size:	311mm	IADC#	M422	**Nozzles**		**Drilled over last 24 hrs**	**Calculated over Bit Run**
Mfr:	REED	WOB(avg)		No.	Size	Progress 0.0m	Cum. Progress 433.0m
Type:	PDC	RPM(avg)		6	15/32nd"	On Bottom Hrs 0.00h	Cum. On Btm Hrs 15.90h
Serial No.:	218712	F.Rate				IADC Drill Hrs 0.00h	Cum IADC Drill Hrs 24.00h
Bit Model	RSX616M-A16	SPP				Total Revs	Cum Total Revs 0
Depth In	1421.0m	TFA	1.035			ROP(avg) N/A	ROP(avg) 27.23 m/hr
Depth Out	1944.0m						

Run Comment: Used to side track Netherby-1DW for production section from pilot hole.

BHA # 1

Weight(Wet)	18.14mt	Length	183.1m	Torque(max)		D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	14.74mt	String		Torque(Off.Btm)		D.C. (2) Ann Velocity	0mpm
		Pick-Up		Torque(On.Btm)		H.W.D.P. Ann Velocity	0mpm
		Slack-Off				D.P. Ann Velocity	0mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.29m	311mm	76mm	218712	
Powerdrive 900	8.60m	308mm	133mm	2	
ARC-8	5.87m	230mm	108mm	2724	
Power Pulse	8.47m	211mm	95mm	FB46	
NMDC	18.60m	213mm	83mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	84.26m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	46.60m	168mm	70mm		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	27	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	90.0	
Fuel	m3	0	14.2	0	432.9	
Potable Water	m3	9	30	0	367.0	
Drill Water	m3	248	13	0	836.0	

Personnel On Board

Company	Comment	Pax
Santos		4
Santos		2
DOGC		45
ESS		8
BHI		7
Dowell		2
Rheochem		2
TMT		6
Anadrill		2
Anadrill		3
Premium Casing Services		6
MI Swaco		1
Cameron		3
DOGC Service		7
	Total	98

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	4 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	3 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	2 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	2 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	17	06 Aug 2008	0 Days	Drill crew - 8 Deck Crew - 8 Mechanic - 1
Lost Time Incident	1	30 May 2008	68 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	13 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	06 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	12	06 Aug 2008	0 Days	7 x hot work permits 5 x cold work permits
Safety Audit	1	30 Jul 2008	7 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Aug 2008	3 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	06 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	52	06 Aug 2008	0 Days	31 - Safe 21- Corrective Actions
STOP Tour	1	03 Aug 2008	3 Days	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	6 Days	Sounded the alram on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**284.9m³**	**Losses**	**19.5m³**
Active	78.2m³	Downhole	9.5m³
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	144.4m³	Dumped	10.0m³
Slug		De-Sander	
Reserve	62.3m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		11
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		11
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	15
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	15
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	15
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	15

Marine

Weather check on 06 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	26km/h	18.0deg	1014.00bar	12.0C°	0.0m	0.0deg	0sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.3deg	0.3deg	0.80m	2.0m	250.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	951.18mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	117.93
2	1382.9	118.84
3	1399.9	145.15
4	1376.8	161.93
5	1410.9	98.88
6	1421.0	96.16
7	1410.9	110.22
8	1414.0	140.16

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	03.00 hrs 06.08.08		Standby Ocean Patriot
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	469
Potable Water	m3	308
Drill Water	m3	220
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	250
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	455.9
Potable Water	m3	330
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	10:58	Ocean Patriot		3
GYJ	11:08	Essendon		3
GYJ	15:56	Ocean Patriot		1
GYJ	16:06	Essendon		0

Santos

DRILLING MORNING REPORT # 6

Netherby-1 Netherby-1DW (07 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1944.0m	Current Hole Size	311mm		
Field		TVD	1681.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	5.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	5.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to p/t BOP's.				
RT-ML	86.9m	Planned Op	P/t BOP's, layout cement head and POOH. Layout CSHART stand and 311 mm (12 1/4") BHA. Pick up 216 mm (8 1/2") BHA and RIH, tag cement. Drillout shoe track. Drill production hole.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Ran 244 mm (9 5/8") by 273 mm (10 3/4") casing from 642 m to 1936 m and cemented same.

Operations For Period 0000 Hrs to 2400 Hrs on 07 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
IC	P	CRN	0000	0730	7.50	1944.0m	Continued to run 244 mm (9 5/8") casing from 642 m to 1434 m, filling every joint and breaking circulation after every 10.
IC	P	CIC	0730	0745	0.25	1944.0m	Worked casing and circulated clean.
IC	P	RRC	0745	0930	1.75	1944.0m	Changed out casing handling gear from 244 mm (9 5/8") to 273 mm (10 3/4").
IC	P	CRN	0930	1600	6.50	1944.0m	Continued to run 273 mm (10 3/4") casing from 1434 m to 1849 m. Washed down casing from 1528 m to 1540 m and 1770 m to 1795 m with TAM Packer at 1100 l/min (290gpm).
IC	P	RRC	1600	1630	0.50	1944.0m	Rigged down casing handling gear and rigged up to run drill pipe.
IC	P	HT	1630	1700	0.50	1944.0m	Landed out plug basket and SST tool in casing stump and make up to CSHART stand. Made up casing hanger on CSHART tool to casing.
IC	P	CRN	1700	2000	3.00	1944.0m	Washed down casing on drill pipe from 1849 m to 1936 m at 1100 l/min (290gpm).
IC	P	RUC	2000	2030	0.50	1944.0m	Made up cement lines to cement head
IC	P	CRN	2030	2100	0.50	1944.0m	Landed out casing hanger in wellhead with 630 t (280 klbs). Confirmed with index line, ok.
IC	P	CIC	2100	2200	1.00	1944.0m	Circulated bottoms up and hole clean with 1100 l/min (290gpm). Held pre job safety meeting with crew and third party on cementing operations and P/Testing.
IC	P	CMC	2200	2400	2.00	1944.0m	Lined up cement unit and pumped 0.5 m3 (3 bbls) of sea water. Closed low torque valve and p/t surface lines to 27.6 MPa (4000 psi) for 10 min, ok. Pumped 5.5 m3 (35 bbls) of sea water and released lower drill pipe dart. Pumped 0.6 m3 (4 bbls) of sea water and sheared bottom wiper plug with 27.6 MPa (4000 psi). Mixed and pumped 12.2 (77 bbls) of 1.5 sg (12.5 ppg) Class G cement lead slurry, 193 sx. Mixed and pumped 6.9 m3 (44 bbls) of 1.9 sg (15.8 ppg) Class G cement tail slurry, 214 sx. Released upper drill pipe dart and pumped 0.8 m3 (5 bbls) of cement. Top wiper plug sheared with 24.1 MPa (3500 psi). Pumped 2.2 m3 (14 bbls) of drill water from cement unit and changed over to rig pumps. Commenced displacement with 1.3 sg (11.1 ppg) mud.

Operations For Period 0000 Hrs to 0600 Hrs on 08 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
IC	P	CMC	0000	0100	1.00	1944.0m	Continued to displace casing, pumped total 712 m3 (448 bbls) of 1.3 sg (11.1 ppg) mud, bumped plug with 6.9 MPa (1000 psi). Changed over to cement unit and p/t casing to 27.6 MPa (4000 psi) for 10 min, ok. Bled back 0.3 m3 (1.75 bbls) of mud, floats holding.
IC	P	WH	0100	0300	2.00	1944.0m	Set casing hanger seal assembly. Close LPR's and p/t to 34.5 MPa (5000 psi) down kill line to confirm seat, ok.
IC	P	BOP	0300	0600	3.00	1944.0m	Commenced p/t BOPs as per program.

WBM Data

Mud Type:	8KCL	API FL:	4cm³/30m	KCl:	9%	Solids:	11.31	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	900	H2O:	89%	PV:	0.030Pa/s
Time:	22:00	HTHP-FL:		MBT:	1.2	Oil:		YP:	0.220MPa
Weight:	1.33sg	HTHP-Cake:		PM:	0.3	Sand:	0.2	Gels 10s:	0.048
Temp:				PF:	0.15	pH:	9.5	Gels 10m:	0.120
						PHPA:	1ppb	Fann 003:	10
								Fann 006:	12
								Fann 100:	44
								Fann 200:	57
								Fann 300:	76
								Fann 600:	106

Comment: Cleaned pit 4 and 5 ready for DIF. Recieved 937 bbls of 9.5 ppg wellflow DIF from Far Grip. Treated DIF with 0.5 ppb Xanvis. Backloaded 399 bbls of 11 ppg KCL / Gly / PHPA mud to Nor Captain.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	90.0	
Fuel	m3	0	10.8	0	422.1	
Potable Water	m3	28	26	0	369.0	
Drill Water	m3	0	60	0	776.0	

Personnel On Board

Company	Comment	Pax
Santos		4
Santos		2
DOGC		45
ESS		8
BHI		7
Dowell		2
Rheochem		2
TMT		6
Anadrill		2
Anadrill		3
Premium Casing Services		6
MI Swaco		1
Cameron		3
DOGC Service		7
Schlumberger Testing		2
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	5 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	4 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	3 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	3 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	26	07 Aug 2008	0 Days	Drill crew - 9 Deck Crew - 13 Mechanic - 1 Electrician - 3
Lost Time Incident	1	30 May 2008	69 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	14 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	07 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	11	07 Aug 2008	0 Days	5 x hot work permits 6 x cold work permits
Safety Audit	1	30 Jul 2008	8 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Aug 2008	4 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	07 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	47	07 Aug 2008	0 Days	27 - Safe 20 - Corrective Actions
STOP Tour	1	03 Aug 2008	4 Days	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	7 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**359.4m³**	**Losses**	**11.0m³**
Active	52.9m³	Downhole	4.5m³
Mixing	0.0m³	Surf+ Equip	0.6m³
Hole	114.3m³	Dumped	5.1m³
Slug		De-Sander	
Reserve	43.2m³	De-Silter	
Kill		Centrifuge	0.8m³
Storage	149.0m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		1
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		1
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	15
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	15
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	15
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	15
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24

Marine

Weather check on 07 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
14.8km	44km/h	240.0deg	1018.00bar	10.0C°	0.8m	240.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.6deg	0.5deg	0.80m	2.5m	250.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	953.91mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	118.84
2	1382.9	120.20
3	1399.9	140.16
4	1376.8	155.13
5	1410.9	104.78
6	1421.0	102.97
7	1410.9	117.93
8	1414.0	137.89

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	03.00 hrs 06.08.08		Standby Ocean Patriot
Nor Captain		22:30 hrs 07.08.08	On sail to Portland

Far Grip Bulks

Item	Unit	Quantity
Fuel	m3	458
Potable Water	m3	300
Drill Water	m3	220
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	101
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Nor Captain Bulks

Item	Unit	Quantity
Fuel	m3	436.3
Potable Water	m3	325
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:19	Ocean Patriot		7
GYJ	11:33	Essendon		5

Santos

DRILLING MORNING REPORT # 7

Netherby-1 Netherby-1DW (08 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1944.0m	Current Hole Size	216mm		
Field		TVD	1681.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	6.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	6.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to RIH from 800 m.				
RT-ML	86.9m	Planned Op	RIH, drill out plugs and float collar, displace well to DIF mud and drill out shoe. Drill ahead 216 mm (8 1/2") hole as per directional programme.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Cemented casing and p/t same. Set 273 mm (10 3/4") casing hanger seal assembly and completed p/t on BOP's. Unlatched CHSART tool from casing hanger and POOH. Laid out CHSART stand, cement head stand and 311 mm (12 1/4") BHA. Picked up and commenced running BHA.

Operations For Period 0000 Hrs to 2400 Hrs on 08 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
IC	P	CMC	0000	0100	1.00	1944.0m	Continued to displace casing, pumped total 712 m3 (448 bbls) of 1.3 sg (11.1 ppg) mud, bumped plug with 6.9 MPa (1000 psi). Changed over to cement unit and p/t casing to 27.6 MPa (4000 psi) for 10 min, ok. Bled back 0.3 m3 (1.75 bbls) of mud, floats holding.
IC	P	WH	0100	0300	2.00	1944.0m	Set 273 mm (10 3/4") casing hanger seal assembly. Close LPR's and p/t to 34.5 MPa (5000 psi) down kill line to confirm seat, ok.
IC	P	BOP	0300	0730	4.50	1944.0m	P/t BOPs and function tested both pods as below: Test #1 - LPR, seal ass, CMV #8, 15, 16 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #2 - UPR, OC, CMV #7, 19, 20 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #3 - UPR, IC, CMV # 14, 27, 28 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #4 - UPR, CMV #1, CMV #31, 32 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #5 - UPR, CMV #3 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #6 - UPR, LIK, CMV # 5, 7, 11, 12 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #7 - UPR, CMV #2, 6, 8, 17, 18 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #8 - UPR, CMV #4, 25, 26 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #9 - UPR, LIK, CMV# 29, 30 for 5/10 min to 1.4/27.6 MPa (200/4000 psi) Test #10 - LA, UOK for 5/10 min to 1.4/20.7 MPa (200/3000 psi) Test #11 - UA, UIKfor 5/10 min to 1.4/20.7 MPa (200/3000 psi)
IC	P	TO	0730	0830	1.00	1944.0m	Unlatched CHSART tool from casing hanger and pulled free with, 2.2 t (5 klbs) overpull. Racked back cement stand and POOH CHSART.
IC	P	HT	0830	0900	0.50	1944.0m	Broke and laid out cement basket, subsea tool and CHSART.
IC	P	HT	0900	0930	0.50	1944.0m	Rigged down 500 T bails, rigged up 350 T bails and DP elevators.
IC	P	HT	0930	1030	1.00	1944.0m	Laid out cement head.
IC	P	HBHA	1030	1800	7.50	1944.0m	RIH 311 mm (12 1/4") BHA, 241 mm (9 1/2") DC and 203 mm (8") DC from derrick, POOH and laid out same.
PH	P	PT	1800	2230	4.50	1944.0m	Rigged up and p/t surface equipment TDS, upper I-BOP, lower I-BOP, kelly hose, grey valve and TIW valve for 5/10 min to 1.75/34.5 MPa (250/5000 psi). P/t shear rams and casing for 5/10 min to 1.75/27.6 MPa (250/4000 psi).
PH	P	HBHA	2230	2400	1.50	1944.0m	Picked up and made up 216 mm (8 1/2") BHA and RIH to 25 m.

Operations For Period 0000 Hrs to 0600 Hrs on 09 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	HBHA	0000	0330	3.50	1944.0m	Continued to pick up and make up 216 mm (8 1/2") BHA from 25 m to 183 m. Conducted shallow hole test on HWDP, pulled back to LWD tool and loaded source. RIH and performed shallow hole test at HWDP, ok.
PH	P	TI	0330	0430	1.00	1944.0m	Continued to RIH from 183 m to 529 m.
PH	P	RS	0430	0500	0.50	1944.0m	Serviced TDS, blocks and dolly.
PH	P	TI	0500	0600	1.00	1944.0m	(IN PROGRESS) Continued to RIH from 529 m to 1830 m. Broke each joint and cleaned out cement contamination. Broke circulation every 10 joints to confirm MWD tool signal and serviceability. Cement contamination on tool joints from 847 m to 1482 m.

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	1.62	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	200	H2O:	98%	PV:	0.010Pa/s
Time:	21:00	HTHP-FL:		MBT:	0	Oil:		YP:	0.129MPa
Weight:	1.14sg	HTHP-Cake:		PM:	0.3	Sand:	0.2	Gels 10s:	0.048
Temp:				PF:	0.13	pH:	9.5	Gels 10m:	0.057
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	12
								Fann 100:	24
								Fann 200:	31
								Fann 300:	37
								Fann 600:	47

Comment: Transferred vol from pit 3 to pit 1 and 2. Cleaned and flushed pit 3 in preparation for DIF fluid. Received 450 bbls of 9.5 ppg Wellflow DIF from Far Grip. Treated with 0.5 ppb Xanvis. Treated KCL mud with Idcide in preparation for back loading.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	20	0	70.0	
Fuel	m3	0	8.6	0	413.5	
Potable Water	m3	31	39	0	361.0	
Drill Water	m3	0	12	0	764.0	

Personnel On Board

Company	Comment	Pax
Santos		5
Santos		2
DOGC		43
ESS		8
BHI		9
Dowell		2
Rheochem		2
TMT		6
Anadrill		3
Anadrill		3
Weatherford		2
MI Swaco		1
Cameron		2
DOGC Service		7
Schlumberger Testing		2
	Total	97

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	5 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	6 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	5 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	4 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	4 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	30	08 Aug 2008	0 Days	Drill crew - 13 Deck Crew - 13 Mechanic - 1 Electrician - 3
Lost Time Incident	1	30 May 2008	70 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	15 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	08 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	15	08 Aug 2008	0 Days	6 x hot work permits 9 x cold work permits
Safety Audit	1	30 Jul 2008	9 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Aug 2008	5 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	08 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	39	08 Aug 2008	0 Days	21 - Safe 18 - Corrective Actions
STOP Tour	1	03 Aug 2008	5 Days	Conducted STOP audit on the starboard crane repairs, housekeeping good, excellent communication and clear understanding of work scope.
Trip/Pit Drill	1	31 Jul 2008	8 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 35 seconds.

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**391.1m³**	**Losses**	**40.1m³**
Active	95.9m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	89.0m³	Dumped	2.2m³
Slug		De-Sander	
Reserve	57.1m³	De-Silter	
Kill		Centrifuge	12.6m³
Storage	149.1m³	Left downhole behind casing	25.3m³

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		1
Centrifuge 1	MI SW FVS 518		10
Centrifuge 2	MI SW FVS 518		1
Centrifuge 2	MI SW FVS 518		10
Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 6	Bem 650 - MI SW	20 / 20 230 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	2

Marine

Weather check on 08 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	33km/h	240.0deg	1018.00bar	9.0C°	0.5m	240.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.7deg	0.4deg	1.00m	2.3m	280.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	922.61mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	118.84
2	1382.9	125.19
3	1399.9	138.80
4	1376.8	150.14
5	1410.9	155.13
6	1421.0	120.20
7	1410.9	120.20
8	1414.0	135.17

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	03.00 hrs 06.08.08		Standby Ocean Patriot
Nor Captain	16:30 hrs 08.08.08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	447
Potable Water	m3	292
Drill Water	m3	220
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	30
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	424.5
Potable Water	m3	320
Drill Water		293
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:46	Ocean Patriot		11
GYJ	12:00	Essendon		14

Santos

DRILLING MORNING REPORT # 8

Netherby-1 Netherby-1DW (09 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	1960.0m	Current Hole Size	216mm		
Field		TVD	1684.1m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	16.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	7.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	7.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Drilling ahead 216 mm (8 1/2") hole from 2040 m.				
RT-ML	86.9m	Planned Op	Continue to drill 216 mm (8 1/2") production hole as per directional plan.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Made up and RIH 216 mm (8 1/2") BHA to 1910 m and drilled out cement, plugs and float collar. Drilled cement shoe track to 1933 m and displaced KCL mud to DIF. Drilled float shoe and new formation to 1960 m.

Operations For Period 0000 Hrs to 2400 Hrs on 09 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	HBHA	0000	0330	3.50	1944.0m	Continued to pick up and make up 216 mm (8 1/2") BHA from 25 m to 183 m. Conducted shallow hole test on HWDP, pulled back to LWD tools and loaded source. RIH and performed shallow hole test at HWDP, ok.
PH	P	TI	0330	0430	1.00	1944.0m	Continued to RIH from 183 m to 529 m.
PH	P	RS	0430	0500	0.50	1944.0m	Serviced TDS, blocks and dolly.
PH	P	TI	0500	1300	8.00	1944.0m	Continued to RIH from 529 m to 1830 m. Broke each joint and cleaned out cement contamination. Broke circulation every 10 joints to confirm MWD tool signal and serviceability. Cement contamination on tool joints from 847 m to 1482 m.
PH	P	TI	1300	1330	0.50	1944.0m	Made up TDS and washed in from 1830 m to 1900 m. Tagged TOC at 1900 m with 4.4 t (10 klbs) WOB.
PH	P	SM	1330	1400	0.50	1944.0m	Performed well control drill, spaced out and shut in well. Conducted choke manifold drill by circulating through manifold while maintaining back pressure with chokes.
PH	P	DFS	1400	1430	0.50	1944.0m	Drilled out cement from 1900 m to 1911 m, tagged plugs and drilled out same.
PH	TP (JNK)	DFS	1430	1630	2.00	1944.0m	Experienced high torque and circulating pressures due to rubber from plugs and plastic from Shark Bite sleeve packing off around stabilisers. Worked BHA with rotation and circulation to clear debris from stabilisers.
PH	P	DFS	1630	1700	0.50	1944.0m	Continued to drill float collar and cement shoe track to 1933 m.
PH	P	CHC	1700	1730	0.50	1944.0m	Circulated bottoms up while holding pre job meeting with crews on displacing KCL mud to Drill In Fluid mud.
PH	P	DIS	1730	1930	2.00	1944.0m	Pumped 9.5 m3 (60 bbl) Hi-vis spacer, displaced booster, choke and kill lines to 1.15 sg (9.6 ppg) Drill In Fluid mud. Continued displacing hole with same.
PH	P	OA	1930	2100	1.50	1944.0m	Dumped and cleaned sand traps and trip tank, flushed all surface lines, header box and shakers.
PH	P	DFS	2100	2200	1.00	1944.0m	Continued to drill shoe track from 1933 m to 1936 m, back reamed over shoe 3 times and pulled back inside shoe for SCR's and CLF rates. Calibrated geolograph line on TDS with mud loggers.
PH	P	DFS	2200	2300	1.00	1945.0m	Cleaned out rat hole from 1936 m to 1944 m. Drilled 1 m of new hole to 1945 m and performed downlink to DD tools.
PH	P	DA	2300	2400	1.00	1960.0m	Drilled ahead 216 mm (8 1/2") hole from 1945 m to 1960 m MD, 1684 m TVD, 81.2 deg, 122.5 Azm.

Operations For Period 0000 Hrs to 0600 Hrs on 10 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0230	2.50	1998.0m	Continued to drill ahead from 1960 m to 1998 m.
PH	P	FC	0230	0300	0.50	1998.0m	Flow checked well, ok. Calibrated mud loggers gas instrumentation.
PH	P	DA	0300	0600	3.00	2144.0m	(IN PROGRESS) Continued to drill ahead from 1998 m to 2144 m MD, average gas 69 units (1.38%). Changed gears on TDS from high to low to reduce drilling torque from 33.9 kNm (25 kft.lbs) to 23 kNm (17 kft.lbs).

General Comments

Comments	Rig Requirements	Lessons Learnt
Commenced rigging up completions equipment. Spotted 4 by compressors, port side. Well test 85% complete. Completions 35% complete.		

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	1.62	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	280	H2O:	98%	PV:	0.010Pa/s
Time:	23:00	HTHP-FL:		MBT:	0	Oil:		YP:	0.115MPa
Weight:	1.14sg	HTHP-Cake:		PM:	0.4	Sand:	0	Gels 10s:	0.043
Temp:	110.0C°			PF:	0.08	pH:	9.5	Gels 10m:	0.057
						PHPA:	0ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	23
								Fann 200:	29
								Fann 300:	34
								Fann 600:	44

Comment: Run two centrifuges when drilling out shoe track and displacing KCL mud to DIF. Treated KCL mud with Idcide when backloading to Nor Captain.

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Size:	216mm	IADC#		Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Mfr:	REED	WOB(avg)	4.54mt	No.	Size	Progress	16.0m	Cum. Progress	16.0m
Type:		RPM(avg)	135	5	13/32nd"	On Bottom Hrs	1.10h	Cum. On Btm Hrs	1.10h
Serial No.:	119583	F.Rate	2461lpm			IADC Drill Hrs	2.50h	Cum IADC Drill Hrs	2.50h
Bit Model	RSX519M-A4	SPP	12617kPa			Total Revs		Cum Total Revs	0
Depth In	1944.0m	TFA	0.648			ROP(avg)	14.55 m/hr	ROP(avg)	14.55 m/hr
Depth Out									

BHA # 1

Weight(Wet)	13458.10mt	Length	183.7m	Torque(max)	34.0Nm	D.C. (1) Ann Velocity	NaNmpm
Wt Below Jar(Wet)	10807.30mt	String	106.59mt	Torque(Off.Btm)	20.4Nm	D.C. (2) Ann Velocity	NaNmpm
		Pick-Up	108.86mt	Torque(On.Btm)	27.2Nm	H.W.D.P. Ann Velocity	NaNmpm
		Slack-Off	95.25mt			D.P. Ann Velocity	NaNmpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.24m	216mm	51mm	119583	
Powerdrive 645	7.66m	213mm	51mm	266	
LWD Tools	8.04m	210mm	51mm	987	
Telescope HF	9.10m	171mm	127mm	FA27	
NMDC	18.55m	171mm	74mm		
HWDP	93.42m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	34.47m	168mm	70mm		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	13	0	400.5	
Potable Water	m3	37	34	0	364.0	
Drill Water	m3	0	0	0	764.0	

Personnel On Board

Company	Comment	Pax
Santos		7
Santos		2
DOGC		44
ESS		8
BHI		9
Dowell		1
Rheochem		2
TMT		6
Anadrill		3
Anadrill		3
Weatherford		2
MI Swaco		2
Cameron		2
DOGC Service		7
Schlumberger Testing		2
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	03 Aug 2008	6 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 13 minutes.
Additional Supervision	1	02 Aug 2008	7 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	6 Days	Simulated a fire in the cement room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	5 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	5 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	26	09 Aug 2008	0 Days	Drill crew - 9 Deck Crew - 12 Mechanic - 5
Lost Time Incident	1	30 May 2008	71 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	16 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	09 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	9	09 Aug 2008	0 Days	7 x hot work permits 2 x cold work permits
Safety Audit	1	30 Jul 2008	10 Days	EHSMS audit conducted onboard.
Safety Meeting	3	03 Aug 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities.
Santos Induction	1	09 Aug 2008	0 Days	Inducted new personnel to site
Stop Observations	53	09 Aug 2008	0 Days	35 - Safe 18 - Corrective Actions
STOP Tour	1	09 Aug 2008	0 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	0 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**208.6m³**	**Losses**	**37.7m³**
Active	77.9m³	Downhole	
Mixing	0.0m³	Surf+ Equip	1.1m³
Hole	79.7m³	Dumped	32.3m³
Slug		De-Sander	
Reserve		De-Silter	
Kill		Centrifuge	4.3m³
Storage	51.0m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		10
Centrifuge 1	MI SW FVS 518		4
Centrifuge 2	MI SW FVS 518		10
Centrifuge 2	MI SW FVS 518		4
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	16
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	2
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	16

Marine

Weather check on 09 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
9.3km	28km/h	220.0deg	1012.00bar	8.0C°	1.0m	220.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.3deg	1.00m	2.0m	230.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	868.18mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	120.20
2	1382.9	123.83
3	1399.9	145.15
4	1376.8	145.15
5	1410.9	150.14
6	1421.0	130.18
7	1410.9	120.20
8	1414.0	132.00

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		24:00 hrs 09.08.08	On steam to Portland ETA 06:00 hrs. Pilot booked for 07:00 hrs.
Nor Captain	16:30 hrs 08.08.08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	431
Potable Water	m3	284
Drill Water	m3	220
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	413
Potable Water	m3	315
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	10:00	Ocean Patriot		4
GYJ	10:05	Essendon		1

Santos

DRILLING MORNING REPORT # 9
Netherby-1 Netherby-1DW (10 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2215.0m	Current Hole Size	216mm		
Field		TVD	1683.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	260.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	8.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	8.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Drilling ahead 216 mm (8 1/2") hole from 2269 m as per directional plan.				
RT-ML	86.9m	Planned Op	Continue to drill 216 mm (8 1/2") hole to TD, circulate and condition mud for running sand screens as per programme.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Drilled 216 mm (8 1/2") hole from 1960 m to 2215 m, as per directional plan.

Operations For Period 0000 Hrs to 2400 Hrs on 10 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0230	2.50	1998.0m	Continued to drill ahead from 1960 m to 1998 m.
PH	P	FC	0230	0300	0.50	1998.0m	Flow checked well, ok. Calibrated mud loggers gas instrumentation.
PH	P	DA	0300	1300	10.00	2144.0m	Continued to drill ahead from 1998 m to 2144 m MD, average gas 69 units (1.38%). Changed TDS from high gear to low gear due to 33 kN-m (25kf-lbs) torque.
PH	TP (RE)	RR	1300	1430	1.50	2144.0m	Saver sub on TDS broke out when backing out connection. Torque gauge showed expected torque when drilling and 40.68 kNm (30 kft.lbs) on connections. Troubleshoot high torque, broke and laid out single with saver sub. Made up new saver sub to TDS and prepared to drill ahead.
PH	P	DA	1430	1530	1.00	2164.0m	Continued to drill ahead from 2144 m to 2164 m.
PH	TP (RE)	RR	1530	1700	1.50	2164.0m	Saver sub on TDS broke out when backing out connection due to being over torqued. Gauges showed expected torque readings when drilling and on connections. Troubleshoot, broke off and laid out two joints drill pipe, re-torqued saver sub to TDS. Changed from low gear to high gear on TDS and prepared to drill ahead.
PH	P	DA	1700	1900	2.00	2182.0m	Continued drilling from 2164 m to 2182 m.
PH	TP (VE)	RO	1900	1930	0.50	2182.0m	Geolograph line on TDS broke due to high winds. Both MWD and mud logging units were running off the same line. Racked back 1 stand DP, made up new geolograph line and calibrated same.
PH	P	DA	1930	2400	4.50	2215.0m	Continued drilling from 2182 m to 2215 m MD, 1683.21 m TVD. Max gas 897 units (17.94%).

Operations For Period 0000 Hrs to 0600 Hrs on 11 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0300	3.00	2258.0m	Continued to drill 216 mm (8 1/2") hole from 2215 m to 2258 m.
PH	TP (VE)	RR	0300	0500	2.00	2258.0m	Upper racking arm hydraulic hose burst while moving stand prior to making connection. Removed hose and replaced same.
PH	P	DA	0500	0600	1.00	2269.0m	Continued to drill ahead from 2258 m to 2269 m.

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.52	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	400	H2O:	97%	PV:	0.011Pa/s
Time:	23:00	HTHP-FL:		MBT:	0.2	Oil:		YP:	0.134MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.3	Sand:	0.25	Gels 10s:	0.043
Temp:	120.0C°			PF:	0.05	pH:	9.5	Gels 10m:	0.057
						PHPA:	0ppb	Fann 003:	8
								Fann 006:	10
								Fann 100:	26
								Fann 200:	33
								Fann 300:	39
								Fann 600:	50

Comment: Build 400 bbls DIF premix in pit 5. Added Xanvis to active system to maintain and increase 6 rpm. Screened up to 230 mesh while montioring mud weight, ok. Commenced adding 1 bbl/hr to the flow line to compensate for evaporation as flow line temp increases.

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Size:	216mm	IADC#		**Nozzles**	**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED	WOB(avg)	6.80mt	No. / Size	Progress	260.0m	Cum. Progress	276.0m
Type:		RPM(avg)	141	5 / 13/32nd"	On Bottom Hrs	11.60h	Cum. On Btm Hrs	12.70h
Serial No.:	119583	F.Rate	1893lpm		IADC Drill Hrs	20.50h	Cum IADC Drill Hrs	23.00h
Bit Model	RSX519M-A4	SPP	13445kPa		Total Revs		Cum Total Revs	0
Depth In	1944.0m	TFA	0.648		ROP(avg)	22.41 m/hr	ROP(avg)	21.73 m/hr
Depth Out								

BHA # 1

Weight(Wet)	13458.10mt	Length	183.7m	Torque(max)	35.4Nm	D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	10807.30mt	String	108.86mt	Torque(Off.Btm)	21.8Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	117.93mt	Torque(On.Btm)	31.3Nm	H.W.D.P. Ann Velocity	103.04mpm
		Slack-Off	86.18mt			D.P. Ann Velocity	79.05mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.24m	216mm	51mm	119583	
Powerdrive 645	7.66m	213mm	51mm	266	
LWD Tools	8.04m	210mm	51mm	987	
Telescope HF	9.10m	171mm	127mm	FA27	
NMDC	18.55m	171mm	74mm		
HWDP	93.42m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	34.47m	168mm	70mm		

Survey

MD (m)	Incl Deg (deg)	Corr. Az (deg)	TVD (m)	'V' Sect (m)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2060.00	89.8	121.7	1689.28	724.23	0.95	-350.86	633.57	MWD
2089.29	89.5	120.4	1689.47	753.49	1.37	-365.95	658.67	MWD
2112.91	89.5	119.4	1689.69	777.11	1.21	-377.73	679.14	MWD
2148.38	93.0	121.2	1688.91	812.55	3.37	-395.63	709.75	MWD
2177.62	94.7	120.6	1686.95	841.70	1.77	-410.62	734.78	MWD
2204.99	96.4	121.0	1684.32	868.92	1.93	-424.56	758.18	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	13	0	387.5	
Potable Water	m3	12	31	0	345.0	
Drill Water	m3	21	99	0	686.0	

Personnel On Board

Company	Comment	Pax
Santos		7
Santos		2
DOGC		44
ESS		8
BHI		9
Dowell		1
Rheochem		2
TMT		6
Anadrill		3
Anadrill		3
Weatherford		2
MI Swaco		2
Cameron		2
DOGC Service		7
Schlumberger Testing		2
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	0 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	02 Aug 2008	8 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	7 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	6 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	6 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	25	10 Aug 2008	0 Days	Drill crew - 9 Deck Crew - 12 Mechanic - 3 Electrician - 1
Lost Time Incident	1	30 May 2008	72 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	17 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	10 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	11	10 Aug 2008	0 Days	6 x hot work permits 5 x cold work permits
Safety Audit	1	30 Jul 2008	11 Days	EHSMS audit conducted onboard.
Safety Meeting	3	10 Aug 2008	0 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Santos Induction	0	10 Aug 2008	0 Days	No new personnel to site
Stop Observations	46	10 Aug 2008	0 Days	24 - Safe 22 - Corrective Actions
STOP Tour	1	10 Aug 2008	0 Days	Conducted STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Trip/Pit Drill	1	09 Aug 2008	1 Day	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	**258.9m³**	**Losses**	**20.1m³**
Active	80.9m³	Downhole	
Mixing	0.0m³	Surf+ Equip	16.9m³
Hole	88.2m³	Dumped	
Slug		De-Sander	
Reserve		De-Silter	
Kill		Centrifuge	3.2m³
Storage	89.8m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		4
Centrifuge 1	MI SW FVS 518		12
Centrifuge 2	MI SW FVS 518		4
Centrifuge 2	MI SW FVS 518		12
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	16
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	16
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	12

Marine

Weather check on 10 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	65km/h	215.0deg	1018.00bar	9.0C°	3.0m	215.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
1.0deg	0.8deg	1.50m	4.0m	225.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	881.78mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	125.19
2	1382.9	128.82
3	1399.9	140.16
4	1376.8	147.87
5	1410.9	145.15
6	1421.0	138.80
7	1410.9	110.22
8	1414.0	127.91

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	01.30 hrs 11.08.08		Standby Ocean Patriot.	

Item	Unit	Quantity
Fuel	m3	423
Potable Water	m3	276
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Boats	Arrived (date/time)	Departed (date/time)	Status
Nor Captain	16:30 hrs 08.08.08		Standby Ocean Patriot

Item	Unit	Quantity
Fuel	m3	401.7
Potable Water	m3	315
Drill Water		193
Cement	mT	38
Gel	mT	42
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ		Essendon	No Helicopter	
GYJ		Ocean Patriot	No Helicopter	

Santos

DRILLING MORNING REPORT # 10
Netherby-1 Netherby-1DW (11 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2488.0m	Current Hole Size	216mm		
Field		TVD	1660.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	267.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	9.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	9.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to POOH from, 2317 m.				
RT-ML	86.9m	Planned Op	POOH to shoe at 1936 m, RIH to TD & perform check run for sand screens, screen up to 325 mesh and circulate and condition mud. POOH, rack back BHA.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Drilled 216 mm (8 1/2") production hole from 2215 m to 2488 m.

Operations For Period 0000 Hrs to 2400 Hrs on 11 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0300	3.00	2258.0m	Continued to drill 216 mm (8 1/2") hole from 2215 m to 2258 m.
PH	TP (VE)	RR	0300	0500	2.00	2258.0m	Upper racking arm hydraulic hose burst while moving stand prior to making connection. Removed hose and replaced same.
PH	P	DA	0500	0730	2.50	2287.0m	Continued to drill ahead from 2258 m to 2287 m.
PH	P	SCR	0730	0800	0.50	2287.0m	Upper racking arm hydraulic hose failed again due to fitting not being clamped correctly. Repaired and refitted same. During repair, recorded SCR's, CLF rates and flushed booster, choke and kill lines.
PH	P	DA	0800	2400	16.00	2488.0m	Continued to drill ahead from 2287 m to 2488 m MD, 1660 m TVD. Max gas 26 units (0.52%) at 2390 m, average gas reading 12 units, (0.24%).

Operations For Period 0000 Hrs to 0600 Hrs on 12 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0130	1.50	2517.0m	Continued to drill 216 mm (8 1/2") production hole from 2488 m to TD at 2517 m MD, 1655 m TVD.
PH	P	CHC	0130	0430	3.00	2517.0m	Pumped 11.1 m3 (70 bbl) hi-vis sweep at TD and circulated hole clean with 4 by bottoms up. Ran booster pumps for the last circulation to clean riser.
PH	P	FC	0430	0445	0.25	2517.0m	Flow checked well for 15 min, ok
PH	P	TO	0445	0600	1.25	2517.0m	Pulled out of hole from 2517 m to 2317 m. Max overpull 4.4 t (10 klbs). Pick up weight 111 t (250 klbs), slack off weight 89 t (200 klbs), string weight 97.8 t (220 klbs).

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.52	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	0mm	Hard/Ca:	420	H2O:	97%	PV:	0.011Pa/s
Time:	22:00	HTHP-FL:		MBT:	0.2	Oil:		YP:	0.163MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.3	Sand:	0.25	Gels 10s:	0.048
Temp:	125.0C°			PF:	0.04	pH:	9	Gels 10m:	0.067
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	12
								Fann 100:	31
								Fann 200:	39
								Fann 300:	45
								Fann 600:	56

Comment: Continued to add water to flow line and increased to 2-3 bbls/hr.Added starch to maintain fluid loss.

Bit # 2

Wear	I	O1	D	L	B	G	O2	R

Size:	216mm	IADC#		**Nozzles**	**Drilled over last 24 hrs**		**Calculated over Bit Run**	
Mfr:	REED	WOB(avg)	6.80mt	No. / Size	Progress	267.0m	Cum. Progress	543.0m
Type:		RPM(avg)	121	5 / 13/32nd"	On Bottom Hrs	17.80h	Cum. On Btm Hrs	30.50h
Serial No.:	119583	F.Rate	2328lpm		IADC Drill Hrs	21.50h	Cum IADC Drill Hrs	44.50h
Bit Model	RSX519M-A4	SPP	14824kPa		Total Revs		Cum Total Revs	0
Depth In	1944.0m	TFA	0.648		ROP(avg)	15.00 m/hr	ROP(avg)	17.80 m/hr
Depth Out	2517.0m							

BHA # 1

Weight(Wet)	13458.10mt	Length	183.7m	Torque(max)	35.4Nm	D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	10807.30mt	String	102.06mt	Torque(Off.Btm)	34.5Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	115.67mt	Torque(On.Btm)	31.1Nm	H.W.D.P. Ann Velocity	126.74mpm
		Slack-Off	83.91mt			D.P. Ann Velocity	97.24mpm

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.24m	216mm	51mm	119583	
Powerdrive 645	7.66m	213mm	51mm	266	
LWD Tools	8.04m	210mm	51mm	987	
Telescope HF	9.10m	171mm	127mm	FA27	
NMDC	18.55m	171mm	74mm		
HWDP	93.42m	168mm	78mm		
Jar	9.32m	165mm	70mm	24670G	
HWDP	34.47m	168mm	70mm		

Survey

MD (m)	Incl Deg (deg)	Corr. Az (deg)	TVD (m)	'V' Sect (m)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2378.82	94.2	118.2	1668.82	1042.02	0.66	-509.71	908.90	MWD
2407.67	94.2	118.0	1666.72	1070.79	0.19	-523.25	934.29	MWD
2436.52	94.2	117.8	1664.61	1099.56	0.19	-536.72	959.72	MWD
2465.68	95.7	118.3	1662.10	1128.61	1.59	-550.39	985.35	MWD
2494.27	98.4	119.3	1658.59	1156.98	3.03	-564.06	1010.21	MWD
2517.00	98.3	119.3	1655.29	1179.47	0.17	-575.06	1029.82	MWD

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	150	25.5	0	512.0	
Potable Water	m3	0	30	0	315.0	
Drill Water	m3	35	35	0	686.0	

Personnel On Board

Company	Comment	Pax
Santos		7
Santos		2
DOGC		44
ESS		8
BHI		6
Dowell		1
Rheochem		2
TMT		6
Premium Casing Services		1
Expro		2
Baker Oil Tools		1
Anadrill		3
Anadrill		2
Weatherford		2
MI Swaco		2
Cameron		2
DOGC Service		5
Schlumberger Testing		4
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	02 Aug 2008	9 Days	No night SOC on rig, unable to get a firm commitment from DODI to fill position.
Fire Drill	1	03 Aug 2008	8 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	04 Aug 2008	7 Days	IP presented with slightly swollen finger tip and black finger nail. He was assisting the electrician fit new batteries for the crane when it moved suddenly causing his finger to become caught between the framework and battery. The pressure was released from behind the fingernail, pain relief given and he returned to work.
First Aid	1	04 Aug 2008	7 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	27	11 Aug 2008	0 Days	Drill crew - 6 Deck Crew - 14 Mechanic - 6 Sub Sea - 1
Lost Time Incident	1	30 May 2008	73 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	18 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Pre-Tour Meeting	4	11 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	18	11 Aug 2008	0 Days	7 x hot work permits 11 x cold work permits
Safety Audit	1	30 Jul 2008	12 Days	EHSMS audit conducted onboard.
Safety Meeting	3	10 Aug 2008	1 Day	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Santos Induction	1	11 Aug 2008	0 Days	Inducted new personnel to site after Diamond rig wide induction and walk around.
Stop Observations	70	11 Aug 2008	0 Days	45 - Safe 25 - Corrective Actions
STOP Tour	1	10 Aug 2008	1 Day	Conducted STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Trip/Pit Drill	1	09 Aug 2008	2 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	222.2m³	Losses	46.7m³
Active	81.9m³	Downhole	3.7m³
Mixing	0.0m³	Surf+ Equip	33.0m³
Hole	97.1m³	Dumped	
Slug		De-Sander	
Reserve		De-Silter	
Kill		Centrifuge	10.0m³
Storage	43.2m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		12
Centrifuge 1	MI SW FVS 518		24
Centrifuge 2	MI SW FVS 518		12
Centrifuge 2	MI SW FVS 518		24
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	24

Marine

Weather check on 11 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	67km/h	255.0deg	1017.00bar	10.0C°	1.5m	255.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.3deg	0.50m	2.5m	240.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	866.36mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	127.91
2	1382.9	135.17
3	1399.9	135.17
4	1376.8	140.16
5	1410.9	137.89
6	1421.0	125.19
7	1410.9	115.21
8	1414.0	130.18

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	01.30 hrs 11.08.08		Standby Ocean Patriot.
Nor Captain		07:25 hrs 11.08.08	Portland

Far Grip — Bulks

Item	Unit	Quantity
Fuel	m3	267
Potable Water	m3	268
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	185
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Nor Captain — Bulks

Item	Unit	Quantity
Fuel	m3	399
Potable Water	m3	310
Drill Water		293
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	16:20	Essendon		9
GYJ	16:34	Ocean Patriot		9

Santos

DRILLING MORNING REPORT # 11

Netherby-1 Netherby-1DW (12 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	29.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	10.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	10.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to scrape casing from 1830 m				
RT-ML	86.9m	Planned Op	Function BOP rams and annular preventers, flush and clean same with jetting sub. Drop second CCV ball to close jetting sub tool, pump hi-vis sweep and circulate hole clean through bit. POOH and rig up to run lower (sand screen) completion string.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Drilled 216 mm (8 1/2") production hole from 2488 m to TD at 2517 m. Circulated and conditioned mud, POOH to 1923 m and RIH for check trip to TD. Circulated and conditioned mud with 325 mesh screens and POOH, laid out BHA. Picked up and made up casing scraper assembly and RIH to 236 m.

Operations For Period 0000 Hrs to 2400 Hrs on 12 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0130	1.50	2517.0m	Continued to drill 216 mm (8 1/2") production hole from 2488 m to TD at 2517 m MD, 1655 m TVD. Samples at TD showed 5% siltstone.
PH	P	CHC	0130	0430	3.00	2517.0m	Pumped 11.1 m3 (70 bbl) hi-vis sweep at TD and circulated hole clean with 4 by bottoms up. Ran booster pumps for the last circulation to clean riser. Simultaneous Operations: Mud Test Carried out 12 sec for 1L Flow with 175mm Screens.
PH	P	FC	0430	0445	0.25	2517.0m	Flow checked well for 15 min, ok
PH	P	TO	0445	0800	3.25	2517.0m	Pulled out of hole from 2517 m to 1923 m. Max overpull 4.4 t (10 klbs). Pick up weight 115 t (260 klbs), slack off weight 84 t (190 klbs), string weight 97.8 t (220 klbs).
PH	P	TI	0800	1000	2.00	2517.0m	RIH from 1923 m to 2517 m on check trip for sand screen run, ok. Max drag 13.6 t (30 kips)
PH	P	CMD	1000	1200	2.00	2517.0m	Circulated and conditioned mud. Screened up to 325 mesh shaker screens and circulated 3 by bottoms up, minimal returns observed at shakers by end of circulation.
PH	P	FC	1200	1215	0.25	2517.0m	Conducted flow check prior to POOH and held pre job safety meeting.
PH	P	TO	1215	1230	0.25	2517.0m	POOH from 2517 m to 2375 m. Pumped a 4.7 m3 (30 bbl) heavy weight slug and displaced into drillpipe.
PH	P	TO	1230	1400	1.50	2517.0m	Continued to POOH from 2375 m to 1914 m with no hole problems.
PH	P	RS	1400	1430	0.50	2517.0m	Serviced TDS, blocks and sheaves. Flow checked well on trip tank at shoe, ok.
PH	P	TO	1430	1830	4.00	2517.0m	Dropped hollow pump-through drift in drillpipe and continued to POOH from 1914 m to 43.59 m.
PH	P	HBHA	1830	2130	3.00	2517.0m	Laid out 216 mm (8 1/2") BHA from 43 m, removed LWD source and broke off bit.
CTB	P	CRF	2130	2200	0.50	2517.0m	Pulled diverter bag and master bushings, cleaned housing in preparation for completions. Functioned shear rams at a reduced hydraulic pressure to remove debris from cavity.
CTB	P	SM	2200	2215	0.25	2517.0m	Held pre job safety meeting with drill crew, deck crew and third party on casing scraper make up and running operations.
CTB	P	HT	2215	2230	0.25	2517.0m	Rigged up to run clean up / scraper run.
CTB	P	TI	2230	2245	0.25	2517.0m	Made up 216 mm (8 1/2") drill bit to bit sub with non ported float.
CTB	P	TI	2245	2300	0.25	2517.0m	RIH to 58 m on drillpipe.
CTB	P	HT	2300	2330	0.50	2517.0m	Made up 244 mm (9 5/8") casing scraper and 244 mm (9 5/8") Magno Back Magnet tool to drillpipe.
CTB	P	TI	2330	2400	0.50	2517.0m	Continued to RIH from 63 m to 236 m on drillpipe.

Operations For Period 0000 Hrs to 0600 Hrs on 13 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	TI	0000	0245	2.75	2517.0m	Continued to RIH from 236 m to 1476 m. Filled pipe and broke circulation.
CTB	P	SM	0245	0300	0.25	2517.0m	Held pre job safety meeting with rig crew, deck crew and third party on handling, making up and running 273 mm (10 3/4") Well Patroller.
CTB	P	HT	0300	0315	0.25	2517.0m	Picked up and made up 273 mm (10 3/4") Well Patroller tool.
CTB	P	TI	0315	0330	0.25	2517.0m	Continued to RIH on drillpipe from 1480 m to 1625 m.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	HT	0330	0345	0.25	2517.0m	Picked up and made up CCV tool and Ball Catcher
CTB	P	TI	0345	0415	0.50	2517.0m	Continued to RIH from 1629 m to 1745 m on drillpipe.
CTB	P	HT	0415	0430	0.25	2517.0m	Picked up and made up 476 mm (18 3/4") Riser Brush to drillpipe.
CTB	P	WCU	0430	0600	1.50	2517.0m	Commenced casing scraper run from 1746 m to 1804 m with 3218 l/min (850 gpm) flow rate, 15.2 MPa (2 200 psi). Total volume pumped 237 m3 (1495 bbls). Simultaneous Operations: Changed out shaker screens for 230 mesh. Loaded completion equipment from NOR Captain to port side pipe deck.

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.52	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	480	H2O:	97%	PV:	0.012Pa/s
Time:	22:00	HTHP-FL:		MBT:	0.2	Oil:		YP:	0.168MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.2	Sand:	0.25	Gels 10s:	0.048
Temp:				PF:	0.02	pH:	9	Gels 10m:	0.067
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	33
								Fann 200:	40
								Fann 300:	47
								Fann 600:	59

Comment: Build hi-vis pill in slug pit to sweep post casing scraper run. Added starch to maintain fluid loss while continually adding drill water at 3 bbls/hr.

Bit # 2

Wear	I	O1	D	L	B	G	O2	R
	1	3	BT	G	X	I	WT	TD

				Nozzles		Drilled over last 24 hrs		Calculated over Bit Run	
Size:	216mm	IADC#		No.	Size	Progress	29.0m	Cum. Progress	572.0m
Mfr:	REED	WOB(avg)	6.80mt	5	13/32nd"	On Bottom Hrs	1.30h	Cum. On Btm Hrs	31.80h
Type:		RPM(avg)	121			IADC Drill Hrs	1.50h	Cum IADC Drill Hrs	46.00h
Serial No.:	119583	F.Rate	2328lpm			Total Revs		Cum Total Revs	0
Bit Model	RSX519M-A4	SPP	14824kPa			ROP(avg)	22.31 m/hr	ROP(avg)	17.99 m/hr
Depth In	1944.0m	TFA	0.648						
Depth Out	2517.0m								

BHA # 1

Weight(Wet)	13.15mt	Length	183.7m	Torque(max)		D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	10.43mt	String	102.06mt	Torque(Off.Btm)		D.C. (2) Ann Velocity	0mpm
		Pick-Up	115.67mt	Torque(On.Btm)		H.W.D.P. Ann Velocity	126.74mpm
		Slack-Off	88.45mt			D.P. Ann Velocity	97.24mpm

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Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	25	0	487.0	
Potable Water	m3	31	34	0	312.0	
Drill Water	m3	0	66	0	620.0	

Personnel On Board

Company	Comment	Pax
Santos		7
Santos		2
DOGC		44
ESS		8
SPS		1
BHI		3
Dowell		1
Rheochem		2
TMT		6
Premium Casing Services		4
Expro		2
Baker Oil Tools		2
Anadrill		2
Anadrill		1
Weatherford		2
MI Swaco		1
Cameron		3
DOGC Service		5
Schlumberger Testing		4
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

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First Aid	1	04 Aug 2008	8 Days	IP was walking on non skid walkway when he stepped on a small amount of mud. This caused his foot to slip which resulted in a 5 cm by 0.5 cm loss of skin from his shin when it came in contact with some framework.
JHA	33	12 Aug 2008	0 Days	Drill crew - 11 Deck Crew - 20 Electrician - 2
Lost Time Incident	1	30 May 2008	74 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	19 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
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PTW Issued	13	12 Aug 2008	0 Days	4 x hot work permits 9 x cold work permits
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Safety Meeting	3	10 Aug 2008	2 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Santos Induction	1	12 Aug 2008	0 Days	Inducted new personnel to site after Diamond rig wide induction and walk around.
Stop Observations	34	12 Aug 2008	0 Days	19 - Safe 15 - Corrective Actions
STOP Tour	1	10 Aug 2008	2 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Trip/Pit Drill	1	09 Aug 2008	3 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Carissa Thompson / Fius Siregar

Available	383.5m³	Losses	8.2m³
Active	74.7m³	Downhole	
Mixing	0.0m³	Surf+ Equip	2.2m³
Hole	109.1m³	Dumped	2.7m³
Slug		De-Sander	
Reserve	39.4m³	De-Silter	
Kill		Centrifuge	3.3m³
Storage	160.3m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		24
Centrifuge 1	MI SW FVS 518		6
Centrifuge 2	MI SW FVS 518		24
Centrifuge 2	MI SW FVS 518		6
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	24
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	12

Marine

Weather check on 12 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	69km/h	245.0deg	1024.00bar	9.0C°	2.0m	245.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
1.5deg	0.5deg	1.50m	3.0m	225.0deg	12sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	972.96mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	125.19
2	1382.9	130.18
3	1399.9	137.89
4	1376.8	137.89
5	1410.9	136.08
6	1421.0	130.18
7	1410.9	117.93
8	1414.0	125.19

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		19:50 hrs 12.08.08	On sail to Portland. Pilot booked for 07:00 hrs.
Nor Captain	19:30 hrs 12.08.08		Standby Ocean Patriot

Bulks

Far Grip Item	Unit	Quantity
Fuel	m3	251
Potable Water	m3	260
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	19
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Nor Captain Item	Unit	Quantity
Fuel	m3	382
Potable Water	m3	388
Drill Water		193
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	12:01	Essendon		11
GYJ	12:12	Ocean Patriot		11

Santos

DRILLING MORNING REPORT # 12

Netherby-1 Netherby-1DW (13 Aug 2008)

From :	**Peter Devine / Rohan Richardson**
OIM :	**Rod Dotson**

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	11.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	11.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to RIH 168 mm (6 5/8") sand screens from 70 m.				
RT-ML	86.9m	Planned Op	Run lower completion to setting depth and set packer. P/t same and POOH running string.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

RIH with casing scraper assembly and scraped casing over packer setting depths. Dropped CCV opening ball and jetted BOP's. Dropped closing CCV ball and circulated through bit to clean up well. POOH and laid out cleanout assembly. Rigged up completion and umbilical sheaves in derrick. Installed co-flexip hose and secured same.

Operations For Period 0000 Hrs to 2400 Hrs on 13 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	TI	0000	0245	2.75	2517.0m	Continued to RIH from 236 m to 1476 m. Filled pipe and broke circulation.
CTB	P	SM	0245	0300	0.25	2517.0m	Held pre job safety meeting with rig crew, deck crew and third party on handling, making up and running 273 mm (10 3/4") Well Patroller tool.
CTB	P	HT	0300	0315	0.25	2517.0m	Picked up and made up 273 mm (10 3/4") Well Patroller tool.
CTB	P	TI	0315	0330	0.25	2517.0m	Continued to RIH on drillpipe from 1480 m to 1625 m.
CTB	P	HT	0330	0345	0.25	2517.0m	Picked up and made up CCV tool and Ball Catcher.
CTB	P	TI	0345	0415	0.50	2517.0m	Continued to RIH from 1629 m to 1745 m on drillpipe.
CTB	P	HT	0415	0430	0.25	2517.0m	Picked up and made up 476 mm (18 3/4") Riser Brush to drillpipe.
CTB	P	WCU	0430	0600	1.50	2517.0m	Commenced casing scraper run from 1746 m to 1804 m with 3218 l/min (850 gpm) flow rate, 15.2 MPa (2 200 psi). Total volume pumped 237 m3 (1495 bbls). Simultaneous Operations: Changed out shaker screens for 230 mesh. Off loaded completion equipment from NOR Captain to port side pipe deck.
CTB	P	TO	0600	0615	0.25	2517.0m	POOH from 1804 m to 1745 m, broke out and laid out riser brush.
CTB	P	WCU	0615	0700	0.75	2517.0m	Spaced out and functioned BOP rams and annular preventers.
CTB	P	WCU	0700	0745	0.75	2517.0m	Dropped CCV opening ball and pumped down at 3218 l/min (850 gpm). Sheared tool with 11 MPa (1600 psi). Picked up and jetted BOP's at 1272 l/min (8 bpm).
CTB	P	CHC	0745	0900	1.25	2517.0m	Dropped CCV closing ball and pumped down at 3218 l/min (850 gpm). Sheared tool with 11 MPa (1600 psi). RIH and circulated hi-vis pill with 2 times bottoms up.
CTB	P	TO	0900	1500	6.00	2517.0m	POOH casing cleanout string and laid out same. Recovered 3 kg of scale scrapings from Magnet Back tool.
CTB	P	RCM	1500	2100	6.00	2517.0m	Rigged up umbilical and TEC sheaves in derrick. Fed umbilical hose through sheave and secured same on rig floor.
CTB	P	SM	2100	2115	0.25	2517.0m	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
CTB	P	RCM	2115	2130	0.25	2517.0m	Held pre job safety meeting for Co-Flexip installation.
CTB	P	RCM	2130	2400	2.50	2517.0m	Rigged up Co-Flexip to stand pipe with flowhead end secured to the derrick.

Operations For Period 0000 Hrs to 0600 Hrs on 14 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RCM	0000	0100	1.00	2517.0m	Rigged up to run 168 mm (6 5/8") sand screens.
CTB	P	RCM	0100	0200	1.00	2517.0m	Picked up and made up bull nose to single joint of 168 mm (6 5/8") sand screen and landed out in rotary.
CTB	TP (OTH)	RIC	0200	0430	2.50	2517.0m	Unable to set slips due to insufficent pipe between screens and collar to fit slip type elevators and hand slips. Troubleshoot, layout single joint and shoe. Rig up to RIH with 168 mm (6 5/8") by 114 mm (4 1/2") IF xover made up to pick up sub on drill pipe elevators.
CTB	P	RIC	0430	0600	1.50	2517.0m	RIH bull nose shoe joint and 168 mm (6 5/8") sand screens to 70 m.

General Comments

Comments	Rig Requirements	Lessons Learnt
Well Test 95% Complete Upper Completion 85% complete.		

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.68	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	320	H2O:	97%	PV:	0.011Pa/s
Time:	18:30	HTHP-FL:		MBT:	0.3	Oil:		YP:	0.158MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.2	Sand:	0.1	Gels 10s:	0.048
Temp:				PF:	0.05	pH:	8.5	Gels 10m:	0.062
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	30
								Fann 200:	38
								Fann 300:	44
								Fann 600:	55

Comment: Screen down shakers to 230 mesh in preparation for scraper run.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	7.5	0	479.5	
Potable Water	m3	30	38	0	304.0	
Drill Water	m3	0	12	0	608.0	

Personnel On Board

Company	Comment	Pax
Santos		6
Santos		2
DOGC		41
ESS		8
SPS		1
BHI		2
Dowell		1
Rheochem		1
TMT		6
Premium Casing Services		4
Expro		4
Baker Oil Tools		2
Other		1
Anadrill		1
Weatherford		2
Other		2
Cameron		3
DOGC Service		5
Schlumberger Testing		6
Other		1
	Total	99

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	14 Aug 2008	-1 Days	Night SOC confirmed to arrive on site Friday 15.08.08
Fire Drill	1	03 Aug 2008	10 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	13 Aug 2008	0 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	34	13 Aug 2008	0 Days	Drill crew - 11 Deck Crew - 15 Electrician - 1 Mechanic - 7
Lost Time Incident	1	30 May 2008	75 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	20 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Medical Treatment Incident	1	13 Aug 2008	0 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	13 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	9	13 Aug 2008	0 Days	4 x hot work permits 5 x cold work permits
Rig Inspection	1	10 Aug 2008	3 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	14 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	0 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Santos Induction	1	13 Aug 2008	0 Days	Inducted new personnel to site after Diamond rig wide induction and walk around.
Stop Observations	36	13 Aug 2008	0 Days	18 - Safe 18 - Corrective Actions
STOP Tour	1	09 Aug 2008	4 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	4 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	381.8m³	Losses	1.7m³
Active	80.8m³	Downhole	1.7m³
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	109.7m³	Dumped	
Slug		De-Sander	
Reserve	31.0m³	De-Silter	
Kill		Centrifuge	
Storage	160.3m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		6
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		6
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 4	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 5	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 6	Bem 650 - MI SW	20 / 20 200 HC x 4	12
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	5

Marine

Weather check on 13 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
22.2km	48km/h	225.0deg	1026.00bar	10.0C°	1.0m	225.0deg	7sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.7deg	0.5deg	1.50m	4.0m	203.0deg	14sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	993.37mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	127.91
2	1382.9	127.91
3	1399.9	140.16
4	1376.8	136.08
5	1410.9	135.17
6	1421.0	132.00
7	1410.9	120.20
8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		19:50 hrs 12.08.08	Portland
Nor Captain	19:30 hrs 12.08.08		Standby Ocean Patriot

Far Grip — Bulks

Item	Unit	Quantity
Fuel	m3	466
Potable Water	m3	255
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	19
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Nor Captain — Bulks

Item	Unit	Quantity
Fuel	m3	367.4
Potable Water	m3	380
Drill Water		193
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:16	Essendon		12
GYJ	11:33	Ocean Patriot		12
HEMS	12:22	Ocean Patriot	Medivac.	0
HEMS	13:10	Essendon		1

Santos

DRILLING MORNING REPORT # 13

Netherby-1 Netherby-1DW (14 Aug 2008)

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	12.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	12.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to circulate and pressure up on packer to set.				
RT-ML	86.9m	Planned Op	Set lower completion packer, displace well to brine and POOH. Rig up to run upper completion.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Rigged up and ran lower completion assembly and sand screens on drill pipe to 1382 m.

Operations For Period 0000 Hrs to 2400 Hrs on 14 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RCM	0000	0100	1.00	2517.0m	Rigged up to run 168 mm (6 5/8") sand screens.
CTB	P	RCM	0100	0200	1.00	2517.0m	Held pre job safety meeting, picked up and made up bull nose to single joint of 168 mm (6 5/8") sand screen and landed out in rotary.
CTB	TP (OTH)	RIC	0200	0400	2.00	2517.0m	Unable to set slips due to insufficent pipe between screens and collar to fit slip type elevators and hand slips. Troubleshoot, layout single joint and shoe. Rig up to RIH with 168 mm (6 5/8") by 114 mm (4 1/2") IF xover made up to pick up sub on drill pipe elevators.
CTB	P	SM	0400	0415	0.25	2517.0m	Held pre job safety meeting for new running procedure.
CTB	P	RIC	0415	0545	1.50	2517.0m	RIH bull nose shoe joint and 168 mm (6 5/8") sand screens to 70 m.
CTB	TP (OTH)	RIC	0545	0600	0.25	2517.0m	High shoulder torque experienced when making up joint #98. Backed out and attempted to re-torque to manufacture's spec, unsuccessful. Backed out and observed pin and box damaged.
CTB	TP (OTH)	RIC	0600	0630	0.50	2517.0m	Laid out joint #98
CTB	TP (OTH)	RIC	0630	0700	0.50	2517.0m	Attempted to back out collar on joint #99, unsuccessful due to insufficient neck room between collar and screens. Laid out same.
CTB	P	RIC	0700	0845	1.75	2517.0m	Picked up and made up joint #97, continued to RIH from 59 m to 127 m.
CTB	TP (VE)	RIC	0845	0900	0.25	2517.0m	Split ring broke on dog collar slip element. Picked up spares from deck and repaired same.
CTB	P	RIC	0900	1130	2.50	2517.0m	Continued to RIH sand screens from 127 m to 254 m.
CTB	U (OTH)	RIC	1130	1215	0.75	2517.0m	Shut down operations due to helicopter on deck, unable to operate cranes. Held pre job safety meeting with crew change and completed housekeeping on rig floor and choke manifold.
CTB	P	RIC	1215	1730	5.25	2517.0m	Continued to RIH sand screens from 265 m to 542 m.
CTB	P	RIC	1730	2045	3.25	2517.0m	Picked up 194 mm (7 5/8") base pipe and commenced RIH from 542 m to 762 m. Laid out joint #8 due to damaged coupling. P/U weight 77.8 t (175 klbs), set down weight 80 t (180 klbs).
CTB	P	RIC	2045	2100	0.25	2517.0m	Changed out elevators for 127 mm (5") DP. Picked up LC packer / FLCV assembly.
CTB	P	RIC	2100	2130	0.50	2517.0m	Made up LC packer / FLCV assembly.
CTB	P	RIC	2130	2145	0.25	2517.0m	Picked up and made up SABS tool.
CTB	P	RIC	2145	2200	0.25	2517.0m	Held pre job safety meeting for running lower completion on DP.
CTB	P	RIC	2200	2400	2.00	2517.0m	Continued to RIH lower completion on drill pipe from 776 m to 1382 m. One hang up of 4.4 t (10 klbs) running through stack. Pulled back and re-ran, completion through previous hang up point without issue.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RIC	0000	0345	3.75	2517.0m	Continued to RIH sand screens on drill pipe from 1382 m to setting depth at 2506 m
CTB	P	RIC	0345	0415	0.50	2517.0m	Made up single joint of drill pipe for space out. Weights on final stand: P/U weight of 115 t (260 klbs), slack off weight of 80 t (180 klbs), string weight of 106 t (240 klbs)
CTB	P	RIC	0415	0430	0.25	2517.0m	Held pre job safety meeting for setting packer.
CTB	TP	RIC	0430	0530	1.00	2517.0m	Attempted to break circulation with cement unit via cement line. High and inconsistent

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
	(RE)						pressures observed due to potential cement contamination. Lined up cement unit to test line and broke circulation, ok.
CTB	P	RIC	0530	0545	0.25	2517.0m	Dropped SC-1R setting ball
CTB	P	RIC	0545	0600	0.25	2517.0m	Spaced out to packer setting depth compensating TDS. String weight of 106 t (240 klbs). Commenced circulating with cement unit.

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.68	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	320	H2O:	97%	PV:	0.010Pa/s
Time:	18:00	HTHP-FL:		MBT:	0.3	Oil:		YP:	0.158MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.2	Sand:	0.1	Gels 10s:	0.048
Temp:				PF:	0.5	pH:	8.5	Gels 10m:	0.062
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	12
								Fann 100:	31
								Fann 200:	39
								Fann 300:	43
								Fann 600:	54

Comment: Treated surface DIF fluid with Idcide. Dumped and flushed solids control pits. Cleaned header box, possum bellies and under the shakers. Dumped slug pit. Transferred DIF mud from pit #5 to the solids control pit to allow pit #5 to be cleaned and used to build more brine for the Hi-vis and detergent pill.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	8.7	0	470.8	
Potable Water	m3	33	30	0	307.0	
Drill Water	m3	0	13	0	595.0	

Personnel On Board

Company	Comment	Pax
Santos		9
DOGC		42
ESS		8
BHI		2
Dowell		1
Rheochem		1
TMT		6
Premium Casing Services		4
Expro		4
Baker Oil Tools		2
Other		1
Halliburton		1
Weatherford		1
Other		3
Cameron		3
DOGC Service		5
Schlumberger Testing		6
Other		1
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	14 Aug 2008	0 Days	Night SOC confirmed to arrive on site Friday 15.08.08
Fire Drill	1	03 Aug 2008	11 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	13 Aug 2008	1 Day	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	18	14 Aug 2008	0 Days	Drill crew - 8 Deck Crew - 6 Electrician - 1 Mechanic - 1 Welder - 2
Lost Time Incident	1	30 May 2008	76 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	1 Day	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	14 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	10	14 Aug 2008	0 Days	5 x hot work permits 5 x cold work permits
Rig Inspection	1	10 Aug 2008	4 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	15 Days	EHSMS audit conducted onboard.
Safety Meeting	3	10 Aug 2008	4 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Safety Meeting	1	13 Aug 2008	1 Day	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Santos Induction	1	14 Aug 2008	0 Days	Inducted new personnel to site after Diamond rig wide induction and walk around.
Stop Observations	47	14 Aug 2008	0 Days	22 - Safe 25 - Corrective Actions
STOP Tour	1	09 Aug 2008	5 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	5 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	358.2m³	Losses	23.5m³
Active	61.2m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	106.5m³	Dumped	23.5m³
Slug		De-Sander	
Reserve	30.2m³	De-Silter	
Kill		Centrifuge	
Storage	160.3m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 3	Bem 650 - MI SW		0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 4	Bem 650 - MI SW		0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 5	Bem 650 - MI SW		0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 6	Bem 650 - MI SW		0

Marine

Weather check on 14 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	56km/h	240.0deg	1017.00bar	12.0C°	2.5m	240.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.8deg	0.4deg	1.50m	4.0m	220.0deg	14sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	994.28mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2	1382.9	132.00
3	1399.9	140.16
4	1376.8	133.81
5	1410.9	132.90
6	1421.0	127.91
7	1410.9	117.93
8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	15:30 hrs 14.08.08		Portside Ocean Patriot offloading cargo.
Nor Captain		21:00 hrs 14.08.08	On sail to Portland, ETA 06:00 hrs. Pilot booked for 07:00 hrs.

Bulks

Item	Unit	Quantity
Fuel	m3	460
Potable Water	m3	250
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	19
Mud	m3	14
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	353
Potable Water	m3	375
Drill Water		193
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	28

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:28	Essendon		14
GYJ	11:43	Ocean Patriot		13

From :	Chris Roots / Rohan Richardson
OIM :	Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	13.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	13.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Pick up and make up upper completion sub assembly.				
RT-ML	86.9m	Planned Op	RIH upper completion and land out tubing hanger in XT.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Ran lower completion on drill pipe from 1382 m to setting depth. Set packer, pressure test same and dropped ball to open circulating sub. Displaced well to brine and POOH, laid out running tools. Made up and ran XT bore protector retrieval tool and RIH to 91 m.

Operations For Period 0000 Hrs to 2400 Hrs on 15 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RIC	0000	0345	3.75	2517.0m	Continued to RIH sand screens on drill pipe from 1382 m to setting depth at 2506 m
CTB	P	RIC	0345	0415	0.50	2517.0m	Made up single joint of drill pipe for space out. Weights on final stand: Pick up 115 t (260 klbs), slack off 80 t (180 klbs), string weight 106 t (240 klbs)
CTB	P	RIC	0415	0430	0.25	2517.0m	Held pre job safety meeting for setting packer.
CTB	TP (RE)	RIC	0430	0530	1.00	2517.0m	Attempted to break circulation with cement unit via cement line. High and inconsistent pressures observed due to potential cement blockage in line. Lined up cement unit to test line and broke circulation, ok.
CTB	P	RIC	0530	0545	0.25	2517.0m	Dropped SC-1R setting ball
CTB	P	RIC	0545	0600	0.25	2517.0m	Spaced out to packer setting depth compensating TDS. String weight of 106 t (240 klbs).
CTB	P	RIC	0600	0630	0.50	2517.0m	Commenced circulating with cement unit at 318 l/min (2 bpm) with 1.7 MPa (240 psi).
CTB	TP (OTH)	RIC	0630	0730	1.00	2517.0m	Unable to seat ball. Attempted to pick up and drop Bakelite ball, unsuccessful with 17.8 t (40 klbs) overpull. Set back down to neutral and attempted to work string free, unsuccessful.
CTB	TP (OTH)	RIC	0730	0745	0.25	2517.0m	Troubleshoot forward plan with drilling department.
CTB	TP (OTH)	RIC	0745	0830	0.75	2517.0m	Set slips with 35.5 t (80 klbs) slack off to allow slips to be pulled. Broke connection and dropped Bakelite setting ball.
CTB	TP (OTH)	RIC	0830	0915	0.75	2517.0m	Commenced chasing Bakelite ball with cement unit, immediate pressure increase observed indicating first ball seated pumped 0.3 m3 (2 bbls) and pressured up to 17.2 MPa (2500 psi), packer setting pressure.
CTB	P	RIC	0915	0930	0.25	2517.0m	Picked up and set down to confirm packer setting.
CTB	P	RIC	0930	0945	0.25	2517.0m	Lined up cement unit to casing annulus via kill line. Closed annular preventer and pressured up annulus as per procedure to unlatch running tool.
CTB	TP (OTH)	RIC	0945	1045	1.00	2517.0m	Attempted to release running tools unsuccessful with 22 t (50 klbs) overpull. Attempted to release running tools through changing release parameters, (pressure and slack off), unsuccessful. Attempted secondary release method, (pick up and rotate to right). Torque immediately spiked to 13.6 Nm (10 kft.lbs).
CTB	P	RIC	1045	1100	0.25	2517.0m	Released running tools with 33 t (75 klbs) overpull. 89 t (200 klbs) slack off weight, 17.2 MPa (2500 psi) observed indicating unlatch.
CTB	P	RIC	1100	1115	0.25	2517.0m	Laid out stand and spaced out for pipe ram closure.
CTB	TP (OTH)	RIC	1115	1145	0.50	2517.0m	Waited on cementer - crew change.
CTB	TP (OTH)	RIC	1145	1230	0.75	2517.0m	Attempted to shear ball seat to 31 MPa (4500 psi), unsuccessful. Cycled pressure in attempt to shear ball seat, unsuccessful.
CTB	TP (OTH)	RIC	1230	1315	0.75	2517.0m	Lined up cement unit to reverse circulate and attempted to dislodge ball and clean seat. Returns observed, 2 m3 (13 bbls) pumped at 556 l/min (3.5 bbls/min).
CTB	P	RIC	1315	1330	0.25	2517.0m	Lined up cement unit to string, commenced pumping and seated ball with 26 MPa (3700 psi).
CTB	P	RIC	1330	1415	0.75	2517.0m	Pressure test lower completion packer to 4000 psi.
CTB	P	RIC	1415	1430	0.25	2517.0m	Opened pipe rams, broke connection, dropped SABS opening ball and remade connection.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RIC	1430	1445	0.25	2517.0m	Pumped ball to seat with 397 l/min (2 bpm). Ball seat sheared at 5.5 MPa (800 psi)
CTB	P	SM	1445	1500	0.25	2517.0m	Held pre job safety meeting for brine displacement.
CTB	P	DIS	1500	1530	0.50	2517.0m	Pumped 6.4 m3 (40 bbls) hi-vis sweep, 7.9 m3 (50 bbls) detergent sweep, 9.5 m3 (60 bbls) hi-vis sweep.
CTB	P	DIS	1530	1645	1.25	2517.0m	Continued to circulate out sweep with completion brine. Displace choke line, kill line and booster to brine. Final NTU reading 538.
CTB	P	DIS	1645	1730	0.75	2517.0m	Brine to surface, shut down Brine pumps and flushed surface lines.
CTB	P	TO	1730	2200	4.50	2517.0m	POOH lower completion work string
CTB	P	HT	2200	2215	0.25	2517.0m	SABS tool, SC-1R tool at surface. Observed ringing and slight burr, approx 0.75 m into tail pipe.
CTB	P	HT	2215	2230	0.25	2517.0m	Rigged up to pull XT bore protector.
CTB	P	HT	2230	2300	0.50	2517.0m	Picked up and made up Well Protector tool and RIH.
CTB	P	HT	2300	2315	0.25	2517.0m	Picked up and made up XT bore protector retrieval tool.
CTB	P	HT	2315	2330	0.25	2517.0m	Pulled diverter bag to allow running tool passage.
CTB	P	TI	2330	2400	0.50	2517.0m	Continued to RIH to 91 m.

Operations For Period 0000 Hrs to 0600 Hrs on 16 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	WCU	0000	0015	0.25	2517.0m	Dropped 63.5 mm (2.5") DABS open activation ball,
CTB	P	WCU	0015	0045	0.50	2517.0m	Made up TDS and pumped ball to seat, sheared at 16.5 MPa (2400 psi).
CTB	P	WCU	0045	0100	0.25	2517.0m	Commenced jetting bore protector with 1590 l/min (10 bpm).
CTB	P	HT	0100	0115	0.25	2517.0m	Land out bore protector. Set down with 4.5 t (10 klbs) and marked index line on pipe.
CTB	P	HT	0115	0130	0.25	2517.0m	Picked up 4.5 t (10 klbs) increments to 71 t (160 klbs). Bore protector released with 11 t (25 klbs) overpull.
CTB	P	WCU	0130	0145	0.25	2517.0m	Commenced jetting XT hanger seating profile and stack at 1271 l/min (8 bpm).
CTB	P	RRC	0145	0230	0.75	2517.0m	POOH XT bore protector retrieval string
CTB	P	RCM	0230	0245	0.25	2517.0m	Broke and laid out XT bore protector, running tool and DABS tool.
CTB	P	RCM	0245	0315	0.50	2517.0m	Pull Expro umbilical down to deck and connect to LLSA.
CTB	P	RS	0315	0345	0.50	2517.0m	Serviced TDS and blocks.
CTB	P	RCM	0345	0415	0.50	2517.0m	Rigged up to run upper completion assembly.
CTB	P	SM	0415	0515	1.00	2517.0m	Held pre job safety meeting prior running completions.
CTB	P	RIC	0515	0530	0.25	2517.0m	Picked up and made up mule shoe in rotary.
CTB	TP (VE)	TI	0530	0600	0.50	2517.0m	(IN PROGRESS) Picked up and made up 178 mm (7") JFE to mule shoe. Tongs slipped, minimum torque on shoulder not achieved. Attempted to back out and re-make, unable to back out. Troubleshoot power tong, insufficient pressure supplied by power unit, max torque available 28.5 kNm (21, 000 ft.lbs). Changed out power pack for back up, unable to start same. Reconnected primary, substituted Easy Glide type thread lubricant for Jet Lube Seal Guard ECF and lowered friction factor for make up torque.

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.76	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	440	H2O:	97%	PV:	0.011Pa/s
Time:	15:30	HTHP-FL:		MBT:	0.3	Oil:		YP:	0.144MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.2	Sand:	0.2	Gels 10s:	0.043
Temp:				PF:	0.1	pH:	8.5	Gels 10m:	0.057
						PHPA:	0ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	29
								Fann 200:	36
								Fann 300:	41
								Fann 600:	52

Comment: Built 150 bbls of 9.6 ppg NaCl brine. Transferred 100 bbls of brine to pit #1 and built 100 bbls of hi-vis with 2.9 ppb Flowzan. Transferred 70 bbls of brine to the slug pit and built 70 bbls of detergent pill with Dirtmagnet. NTU on pit 4 and 5 prior to displacement were 48 and 140 respectively. Transferred 290 bbls of DIF fluids from solids control pits to the boat. Final NTU reading on the brine was 538.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	10.8	0	460.0	
Potable Water	m3	33	33	0	307.0	
Drill Water	m3	0	54	0	541.0	

Personnel On Board

Company	Comment	Pax
Santos		8
DOGC		41
ESS		8
BHI		2
Dowell		1
Rheochem		1
TMT		6
Premium Casing Services		4
Expro		4
Baker Oil Tools		2
Other		1
Halliburton		1
Other		1
Other		3
Cameron		4
DOGC Service		5
Schlumberger Testing		6
Other		1
	Total	99

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	5 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	15 Aug 2008	0 Days	Night SOC positioned filled by Phil Dennis on the 15.08.08.
Fire Drill	1	03 Aug 2008	12 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	13 Aug 2008	2 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	38	15 Aug 2008	0 Days	Drill crew - 16 Deck Crew - 19 Welder - 3
Lost Time Incident	1	30 May 2008	77 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	2 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	15 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	17	15 Aug 2008	0 Days	8 x hot work permits 9 x cold work permits
Rig Inspection	1	10 Aug 2008	5 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	16 Days	EHSMS audit conducted onboard.
Safety Meeting	3	10 Aug 2008	5 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Safety Meeting	1	13 Aug 2008	2 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Santos Induction	1	15 Aug 2008	0 Days	Inducted new personnel to site after Diamond rig wide induction and walk around.
Stop Observations	45	15 Aug 2008	0 Days	25 - Safe 20 - Corrective Actions
STOP Tour	1	09 Aug 2008	6 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	6 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	**239.5m³**	**Losses**	**100.5m³**
Active	58.0m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	105.4m³	Dumped	100.5m³
Slug		De-Sander	
Reserve	28.9m³	De-Silter	
Kill		Centrifuge	
Storage	47.2m³		

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	5
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	5

Marine

Weather check on 15 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	46km/h	210.0deg	1015.00bar	11.0C°	1.5m	210.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.4deg	1.00m	3.5m	220.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	906.28mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	127.91
2	1382.9	130.18
3	1399.9	136.08
4	1376.8	132.00
5	1410.9	135.17
6	1421.0	130.18
7	1410.9	120.20
8	1414.0	123.83

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	15:30 hrs 14.08.08		Standby Ocean Patriot
Nor Captain		21:00 hrs 14.08.08	Portland. ETA Ocean Patriot, 19:00 hrs 16/08/08

Bulks

Item	Unit	Quantity
Fuel	m3	449
Potable Water	m3	245
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	19
Mud	m3	95.5
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Item	Unit	Quantity
Fuel	m3	345.5
Potable Water	m3	370
Drill Water		193
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	70

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:21	Ocean Patriot		11
GYJ	11:34	Essendon		10

Santos

DRILLING MORNING REPORT # 15
Netherby-1 Netherby-1DW (16 Aug 2008)

From : Chris Roots / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm
Field		TVD	1655.0m	Casing OD	244mm
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m
Rig	Ocean Patriot	Days from spud	14.12	Shoe TVD	1680.0m
Water Depth (LAT)	65.4m	Days on well	14.13	F.I.T. / L.O.T.	/
RT-SL(LAT)	21.5m	Current Op @ 0600	Continued to run upper completion from 1577 m.		
RT-ML	86.9m	Planned Op	Run and set tubing hanger in wellhead, lock and test same.		
Rig Heading	215.0deg				

Summary of Period 0000 to 2400 Hrs

Jetted XT bore protector recess and BOP's, recovered bore protector and laid out same. Rigged up and ran upper completion to TRSV and p/t same.

Operations For Period 0000 Hrs to 2400 Hrs on 16 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	WCU	0000	0015	0.25	2517.0m	Dropped 63.5 mm (2.5") DABS open activation ball,
CTB	P	WCU	0015	0045	0.50	2517.0m	Made up TDS and pumped ball to seat, sheared at 16.5 MPa (2400 psi).
CTB	P	WCU	0045	0100	0.25	2517.0m	Commenced jetting bore protector with 1590 l/min (10 bpm).
CTB	P	HT	0100	0115	0.25	2517.0m	Land out bore protector. Set down with 4.5 t (10 klbs) and marked index line on pipe.
CTB	P	HT	0115	0130	0.25	2517.0m	Picked up 4.5 t (10 klbs) increments to 71 t (160 klbs). Bore protector released with 11 t (25 klbs) overpull.
CTB	P	WCU	0130	0145	0.25	2517.0m	Commenced jetting XT hanger seating profile and stack at 1271 l/min (8 bpm).
CTB	P	RRC	0145	0230	0.75	2517.0m	POOH XT bore protector retrieval string
CTB	P	RCM	0230	0245	0.25	2517.0m	Broke and laid out XT bore protector, running tool and DABS tool.
CTB	P	RCM	0245	0315	0.50	2517.0m	Pull Expro umbilical down to deck and connect to LLSA.
CTB	P	RS	0315	0345	0.50	2517.0m	Serviced TDS and blocks.
CTB	P	RCM	0345	0415	0.50	2517.0m	Rigged up to run upper completion assembly.
CTB	P	SM	0415	0515	1.00	2517.0m	Held pre job safety meeting prior running completions.
CTB	P	RIC	0515	0530	0.25	2517.0m	Picked up and made up mule shoe in rotary.
CTB	TP (VE)	TI	0530	0730	2.00	2517.0m	Picked up and made up 178 mm (7") JFE to mule shoe. Tongs slipped, minimum torque on shoulder not achieved. Attempted to back out and re-make, unable to back out. Troubleshoot power tong, insufficient pressure supplied by power unit, max torque available 28.5 kNm (21, 000 ft.lbs). Changed out power pack for back up, unable to start same. Reconnected primary, substituted Easy Glide type thread lubricant for Jet Lube Seal Guard ECF and lowered friction factor for make up torque.
CTB	P	RIC	0730	0930	2.00	2517.0m	Made up packer assembly and gauge mandrel. Installed gauge and pressure tested same.
CTB	P	RIC	0930	1800	8.50	2517.0m	Continued to RIH from 54 m to 825 m. Pressure gauge continuity checked every hour.
CTB	P	RIC	1800	1900	1.00	2517.0m	Joint #67 in the slips, 825 m. PQ Gauge readings: Pressure 8.9 MPa (1280 psi), Temp 51.21 deg C, 18.4 VDC, 15.7 mA
CTB	P	RIC	1900	2000	1.00	2517.0m	Joint #73 in the slips, 898 m. PQ Gauge readings: Pressure 10 MPa (1434 psi), Temp 57.78 deg C, 18.4 VDC, 15.65 mA
CTB	P	RIC	2000	2100	1.00	2517.0m	Joint #83 in the slips, 1019 m. PQ Gauge readings: Pressure 11.3 MPa (1610 psi), Temp 57.78 deg C, 18.4 VDC, 15.65 mA
CTB	P	RIC	2100	2215	1.25	2517.0m	Joint #93 in the slips, 1140 m. PQ Gauge readings: Pressure 12.4 MPa (1777 psi), Temp 57.78 deg C, 18.4 VDC, 15.65 mA
CTB	P	HT	2215	2245	0.50	2517.0m	Picked up and made up TRSV along with joint #102. S/w - 98 t (220 klbs).
CTB	P	HT	2245	2330	0.75	2517.0m	Rigged up TRSV spooler and sheave.
CTB	P	HT	2330	2345	0.25	2517.0m	Connected TRSV line
CTB	P	PT	2345	2400	0.25	2517.0m	Commenced pressure test control line to 8000 psi (15 min test). Chart behaved erratically. Troubleshoot and changed out chart paper, good test obtained. Carried out 3 cycle tests on TRSV: #1: Opening pressure 15.9 MPa (2300 psi), closing pressure 11.7 MPa (1700 psi),

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							returns 0.158 L. #2: Opening pressure 15.9 MPa (2300 psi), closing pressure 11.7 MPa (1700 psi), returns 0.154 L. #3: Opening pressure 15.9 MPa (2300 psi), closing pressure 11.7 MPa (1700 psi), returns 0.155 L.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	PT	0000	0130	1.50	2517.0m	Continued to pressure test TRSV to 8000 psi (15 min test). Chart behaved erratically. Troubleshoot and changed out chart paper, good test obtained. TRSV cycle pressure for 3 by tests: Opening pressure: 16.1 MPa (2300 psi). Closing pressure: 11.9 MPa (1700 psi).
CTB	P	RTB	0130	0415	2.75	2517.0m	Continued to RIH upper completion on 178mm (7") 13Cr80 JFE Bear.
CTB	TP (OTH)	RTB	0415	0515	1.00	2517.0m	Laid out joint #117 - high shoulder.
CTB	P	RTB	0515	0600	0.75	2517.0m	(IN PROGRESS) Continued to RIH to tubing hanger. PQ Gauge Readings: Pressure 16.2 MPa (2316 psi), Temp 65.13 deg C, 17.98 VDC, 15.8 mA

WBM Data

Mud Type:	WFW	API FL:	4cm³/30m	KCl:	0%	Solids:	2.68	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	440	H2O:	97%	PV:	0.011Pa/s
Time:	15:30	HTHP-FL:		MBT:	0.3	Oil:		YP:	0.144MPa
Weight:	1.15sg	HTHP-Cake:		PM:	0.2	Sand:	0.2	Gels 10s:	0.043
Temp:				PF:	0.1	pH:	8.5	Gels 10m:	0.057
						PHPA:	0ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	28
								Fann 200:	35
								Fann 300:	41
								Fann 600:	52

Comment: Treated DIF with 3 gal/100 bbls Idcide then transferred 405 bbls back to the boat. Total DIF fluid transferred to boat 900 bbls. Dumped 50 bbls of DIF fluid from sandtraps. Dumped dead volume from pit #3, 32 bbls. Flushed the BOP's with 105 bbls of NaCL brine. All brine returns discharged over shakers.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	8.7	0	451.3	
Potable Water	m3	30	26	0	311.0	
Drill Water	m3	0	36	0	505.0	

Personnel On Board

Company	Comment	Pax
Santos		8
DOGC		41
ESS		8
BHI		2
Dowell		1
Rheochem		1
TMT		6
Premium Casing Services		4
Expro		4
Baker Oil Tools		2
Other		1
Halliburton		1
Other		1
Other		3
Cameron		4
DOGC Service		5
Schlumberger Testing		6
Other		1
	Total	99

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	6 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	15 Aug 2008	1 Day	Night SOC positioned filled by Phil Dennis on the 15.08.08.
Fire Drill	1	10 Aug 2008	6 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	13 Aug 2008	3 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	27	16 Aug 2008	0 Days	Drill crew - 10 Deck Crew - 11 Welder - 2 Electrician - 4
Lost Time Incident	1	30 May 2008	78 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	3 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	16 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	18	16 Aug 2008	0 Days	5 x hot work permits 13 x cold work permits
Rig Inspection	1	10 Aug 2008	6 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	17 Days	EHSMS audit conducted onboard.
Safety Meeting	3	10 Aug 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card. Discussed fire and abandonment drill and muster times. Reviewed safety alerts from other DODI facilities. Reviewed procedure for fire abandonment.
Safety Meeting	1	13 Aug 2008	3 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Santos Induction	0	16 Aug 2008	0 Days	No new people to site, no helicopters.
Stop Observations	48	16 Aug 2008	0 Days	35 - Safe 13 - Corrective Actions
STOP Tour	1	09 Aug 2008	7 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	7 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	**135.9m³**	**Losses**	**39.3m³**
Active	22.6m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	99.8m³	Dumped	39.3m³
Slug		De-Sander	
Reserve	13.5m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	1
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	1
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	1
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	1

Marine

Weather check on 16 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	37km/h	180.0deg	1019.00bar	10.0C°	1.5m	180.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.4deg	1.00m	3.0m	220.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	865.00mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2	1382.9	127.91
3	1399.9	133.81
4	1376.8	130.18
5	1410.9	132.90
6	1421.0	131.09
7	1410.9	122.02
8	1414.0	123.83

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		23:00 hrs 16.08.08	On steam to Portland, ETA 05:00 hrs to meet pilot.
Nor Captain	21:00 hrs 16.08.08		Standby Ocean Patriot

Far Grip Bulks

Item	Unit	Quantity
Fuel	m3	439
Potable Water	m3	240
Drill Water	m3	410
KCl Brine	m3	140
NaCl Brine	m3	19
Mud	m3	157
Cement	mT	43.5
Barite	mT	84
Gel	mT	59

Nor Captain Bulks

Item	Unit	Quantity
Fuel	m3	338.5
Potable Water	m3	365
Drill Water		193
Cement	mT	38
Gel	mT	42
Mud	m3	224
Barite	mT	70

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ		Ocean Patriot	No helicopter	0
GYJ		Essendon	No helicopter	0

From :	Chris Roots / Rohan Richardson
OIM :	Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	15.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	15.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to make up flow head.				
RT-ML	86.9m	Planned Op	Make up flow head, landout and lock tubing hanger in XT. Displace tubing to diesel, set upper production packer and flow back well.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

P/t TRSV and continued to RIH to tubing hanger. Made up tubing hanger to tubing and installed TRSV, PDHG cable. Made up LLSA and continued to RIH to lubricator valve.

Operations For Period 0000 Hrs to 2400 Hrs on 17 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	PT	0000	0130	1.50	2517.0m	Continued to pressure test TRSV to 8000 psi (15 min test). Chart behaved erratically. Troubleshoot and changed out chart paper, good test obtained. TRSV cycle pressure for 3 by tests: Opening pressure: 16.1 MPa (2300 psi). Closing pressure: 11.9 MPa (1700 psi).
CTB	P	RTB	0130	0415	2.75	2517.0m	Continued to RIH upper completion on 178mm (7") 13Cr80 JFE Bear.
CTB	TP (OTH)	RTB	0415	0515	1.00	2517.0m	Laid out joint #117 - high shoulder.
CTB	P	RTB	0515	0700	1.75	2517.0m	Continued to RIH to tubing hanger. PQ Gauge Readings: Pressure 16.2 MPa (2316 psi), Temp 65.13 deg C, 17.98 VDC, 15.8 mA
CTB	P	SM	0700	0730	0.50	2517.0m	Held pre job safety meeting prior to picking up tubing hanger.
CTB	P	HT	0730	0830	1.00	2517.0m	Picked up and made up tubing hanger. Connected TRSV control line.
CTB	P	PT	0830	0930	1.00	2517.0m	Pressure test gauge to 52 MPa (7500 psi). TRSV chart recorder not working, changed out to PDHG unit, and continued to pressure test. TRSV cycle pressure for 3 by tests: Opening pressure: 15.4 MPa (2200 psi) Closing pressure: 11.2 MPa (1600 psi) P/t to 52.5 MPa (7500 psi) for 15 min (250 mL fluid returns)
CTB	P	HT	0930	1100	1.50	2517.0m	Connected down hole gauge cable.
CTB	TP (OTH)	PT	1100	1200	1.00	2517.0m	Attempted to p/t to 35 MPa (5000 psi), unsuccessful, leak in surface test lines. Changed out and re tested to 35 MPa (5000 psi) for 15 min, ok.
CTB	P	RCM	1200	1400	2.00	2517.0m	Clear drill floor and rig up to run LLSA
CTB	U (RE)	RR	1400	1500	1.00	2517.0m	Forward Man Rider line became tangled between TDS dolly track and TDS & tugger line parted (tugger was not in use at the time).
CTB	P	SM	1500	1530	0.50	2517.0m	Held pre job safety meeting for make up landing string.
CTB	P	HT	1530	1600	0.50	2517.0m	Picked up landing string, removed test cap and functioned tested as per procedure.
CTB	P	HT	1600	1745	1.75	2517.0m	Made up LLSA to tubing hanger and picked up string weight.
CTB	P	RTB	1745	1800	0.25	2517.0m	Conducted final gauge continuity test through tubing hanger. Temp 69.5 deg C, Pressure: 17.3 MPa (2471 psi), Voltage: 15.9 V.
CTB	P	RTB	1800	1945	1.75	2517.0m	RIH LLSA, re-installed master bushings and installed BJ350 spider slips. Note: Ballast rig port / aft.
CTB	P	HT	1945	2000	0.25	2517.0m	Landed LLSA in slips.
CTB	TP (VE)	RTB	2000	2115	1.25	2517.0m	Power tong dies caused excessive gouging to casing pup joint. Laid out pup joint and repositioned casing tong.
CTB	P	RTB	2115	2130	0.25	2517.0m	Made up pup joint F to LLSA.
CTB	TP (VE)	RTB	2130	2145	0.25	2517.0m	Elevators not latching due to handle being bent. Released handle, tightened bolt on handle engage pin and retightened bolt.
CTB	P	RTB	2145	2345	2.00	2517.0m	Landed out pup joint F in slips and made up pup joint D. Ran 4 joints of 244 mm (9 5/8") landing string.
CTB	P	HT	2345	2400	0.25	2517.0m	Picked up and made up LV assembly.

Operations For Period 0000 Hrs to 0600 Hrs on 18 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	HT	0000	0100	1.00	2517.0m	Removed BJ350 slips and master bushings to run LV assembly through RT. Note: Slight damage to outer encapsulation of LLSA umbilical due to rubbing on slotted bowl, starboard side of rotary.
CTB	P	PT	0100	0115	0.25	2517.0m	Function tested LV with HPU: Close - 4.14 L with 21 MPa (3000 psi) for 5 min, 52 strokes. Open - 3.40 L with 21 MPa (3000 psi) for 5 min, 46 strokes.
CTB	P	RIC	0115	0130	0.25	2517.0m	Ran LV through rotary table. Note: Ballast rig port side.
CTB	P	HT	0130	0200	0.50	2517.0m	Re-installed master bushings and BJ350 slips.
CTB	P	RIC	0200	0230	0.50	2517.0m	Made up pup joint B to tubing. Note: Ballast rig to port/aft.
CTB	P	RIC	0230	0245	0.25	2517.0m	Made up pup joint C.
CTB	P	SM	0245	0300	0.25	2517.0m	Held pre job safety meeting prior to positioning Co-Flexip hose onto drill floor.
CTB	P	HT	0300	0500	2.00	2517.0m	Positioned Co-Flexip hose ready for make up and rigged up 13.7 m (45') bails.
CTB	P	SM	0500	0515	0.25	2517.0m	Held pre job safety meeting for making up flow head.
CTB	P	HT	0515	0600	0.75	2517.0m	Picked up and made up flow head.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	7.6	0	443.7	
Potable Water	m3	30	27	0	314.0	
Drill Water	m3	0	36	0	469.0	

Personnel On Board

Company	Comment	Pax
Santos		9
DOGC		40
ESS		8
BHI		2
Dowell		2
Rheochem		1
TMT		6
Premium Casing Services		4
Expro		5
Baker Oil Tools		2
Rig Cool		2
Halliburton		1
Other		1
Other		2
Cameron		4
Other		1
Schlumberger Testing		8
Other		1
	Total	99

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	10 Aug 2008	7 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 3 in 6 minutes post fire drill completed.
Additional Supervision	1	15 Aug 2008	2 Days	Night SOC positioned filled by Phil Dennis on the 15.08.08.
Fire Drill	1	10 Aug 2008	7 Days	Simulated a fire in the main store room at 10:32. Fire under control at 10:42.
First Aid	1	13 Aug 2008	4 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	23	17 Aug 2008	0 Days	Drill crew - 10 Deck Crew - 9 Welder - 2 Mechanic - 2
Lost Time Incident	1	30 May 2008	79 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	4 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	17 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	11	17 Aug 2008	0 Days	7 x hot work permits 4 x cold work permits
Rig Inspection	1	10 Aug 2008	7 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	18 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	4 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	0 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	1	18 Aug 2008	-1 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	41	17 Aug 2008	0 Days	21 - Safe 20 - Corrective Actions
STOP Tour	1	09 Aug 2008	8 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	8 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	**155.0m³**	**Losses**	**2.2m³**
Active	52.6m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	95.4m³	Dumped	2.2m³
Slug		De-Sander	
Reserve	7.0m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0

Marine

Weather check on 17 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	30km/h	240.0deg	1025.00bar	10.0C°	1.0m	240.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.3deg	0.80m	2.0m	225.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	863.19mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2	1382.9	130.18
3	1399.9	132.00
4	1376.8	127.91
5	1410.9	130.18
6	1421.0	128.82
7	1410.9	123.83
8	1414.0	126.10

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	23:45 hrs 17.08.08		Standby Ocean Patriot.
Nor Captain		23:45 hrs 17.08.08	On steam to Portland, ETA 07:00 hrs to meet pilot.

Bulks

Item	Unit	Quantity
Fuel	m3	430
Potable Water	m3	499
Drill Water	m3	410
KCl Brine	m3	137
NaCl Brine	m3	19
Mud	m3	157
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Item	Unit	Quantity
Fuel	m3	326.6
Potable Water	m3	360
Gel	mt	42
Cement	mt	38
Drill Water	m3	193
Barite	mt	70
Mud	m3	36

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:51	Ocean Patriot		9
GYJ	12:04	Essendon		9

From :	Chris Roots / Rohan Richardson
OIM :	Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	16.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	16.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Lock open MC-FLCV flapper ready for flow back test.				
RT-ML	86.9m	Planned Op	Complete well flow back as per programme, run and set crown plug in tubing hanger and p/t same. Commence rig down PCE.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Made up and ran LV on landing string, picked up flow head and installed same. Rigged up PCE and tested same.

Operations For Period 0000 Hrs to 2400 Hrs on 18 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	HT	0000	0100	1.00	2517.0m	Removed BJ350 slips and master bushings to run LV assembly through RT. Note: Slight damage to outer encapsulation of LLSA umbilical due to rubbing on slotted bowl, starboard side of rotary.
CTB	P	PT	0100	0115	0.25	2517.0m	Function tested LV with HPU: Close - 4.14 L with 21 MPa (3000 psi) for 5 min, 52 strokes. Open - 3.40 L with 21 MPa (3000 psi) for 5 min, 46 strokes.
CTB	P	RIC	0115	0130	0.25	2517.0m	Ran LV through rotary table. Note: Ballast rig port side.
CTB	P	HT	0130	0200	0.50	2517.0m	Re-installed master bushings and BJ350 slips.
CTB	P	RIC	0200	0230	0.50	2517.0m	Made up pup joint B to tubing. Note: Ballast rig to port/aft.
CTB	P	RIC	0230	0245	0.25	2517.0m	Made up pup joint C.
CTB	P	SM	0245	0300	0.25	2517.0m	Held pre job safety meeting prior to positioning Co-Flexip hose onto drill floor.
CTB	P	HT	0300	0500	2.00	2517.0m	Positioned Co-Flexip hose ready for make up and rigged up 13.7 m (45') bails.
CTB	P	SM	0500	0515	0.25	2517.0m	Held pre job safety meeting for making up flow head.
CTB	P	HT	0515	0830	3.25	2517.0m	Picked up and made up flow head.
CTB	P	HT	0830	0930	1.00	2517.0m	Made up surface flowhead connection, Co-flexip hose, kill hose, ESD lines and air lines.
CTB	P	SLK	0930	1015	0.75	2517.0m	Rigged up slickline xover and double blind ram BOP to flowhead.
CTB	P	XT	1015	1245	2.50	2517.0m	Landed and locked tubing hanger. Bled down soft land, 3 L returned at panel. Closed 244 mm (9 5/8") BOP rams and pressured up to 10.5 MPa (1500 psi) to seat hanger. Bled off pressure and opened BOP rams.
CTB	P	XT	1245	1300	0.25	2517.0m	Functioned tubing hanger lock - (3.07 L increase in monitor line). Bled off lock monitor, pumped through tubing hanger lock and take returns to lock monitor, ok.
CTB	P	XT	1300	1315	0.25	2517.0m	With lock monitor vented, took 22.7 t (50 klbs) overpull, reduced to 11.3 t (25 klbs) overpull and held.
CTB	P	PT	1315	1530	2.25	2517.0m	Closed 244 mm (9 5/8") rams, closed swab valve and attempted to pressure test tubing hanger, unsuccessful. Troubleshoot and repaired backed out high pressure grease nipple on manifold valve. Pressure test tubing hanger to 33.7 MPa (5000 psi) for 10 min, ok.
CTB	P	SLK	1530	1830	3.00	2517.0m	Rigged up slick line PCE. Tested between lower and middle TH seals to (5000 psi) 10 mins - OK. Tested TRSSSV to (7500 psi) 10mins - OK and reduced to (5000 psi). Simultaneous Operations: ROV engaged electrical penetrator. PQ gauge readings: 17.4 MPa (2579 psi), 72 deg C.
CTB	P	SLK	1830	1900	0.50	2517.0m	RIH slick line and retrieved protection sleeve from tubing hanger. Broke PCE and removed same. Made up crown plug and running tool to slick line.
CTB	P	PT	1900	2000	1.00	2517.0m	Pressure test PCE against LV, with crown plug and running tool inside lubricator to 3.37/33.7 MPa (500/5000 psi) for 5/10 min, ok.
CTB	P	HT	2000	2045	0.75	2517.0m	Bled off pressure, opened LV and RIH crown plug and seated same with 13.5 MPa (2000 psi) above. Jarred down with spang jars to ensure plug seat. Released running tool and bled off pressure.
CTB	P	SLK	2045	2115	0.50	2517.0m	POOH crown plug running tool and broke out of lubricator, 3.6 mm (0.142") stick up

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							on stand-off pin - OK.
CTB	P	PT	2115	2145	0.50	2517.0m	Pressure test landing string from crown plug to PCE with 33.7 MPa (5000 psi) for 10 min, 0.3 m3 (1.9 bbls) pumped.
CTB	P	SLK	2145	2230	0.75	2517.0m	RIH slick line and recovered crown plug. POOH and broke out of PCE same. Made up crown plug running tool to slick line and left in PCE.
CTB	P	PT	2230	2300	0.50	2517.0m	Closed 244 mm (9 5/8") rams, AAV and AMV.
CTB	P	PT	2300	2400	1.00	2517.0m	Pressure test 244 mm (9 5/8") BOP rams to 1.7/33.7 MPa (250/5000 psi) for 5/10 min, ok

Operations For Period 0000 Hrs to 0600 Hrs on 19 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	PT	0000	0100	1.00	2517.0m	Continued to pressure test 244 mm (9 5/8") BOP rams to 1.7/33.7 MPa (250/5000 psi) for 5/10 min, ok
CTB	P	SM	0100	0115	0.25	2517.0m	Held pre job safety meeting for diesel displacement.
CTB	P	DIS	0115	0145	0.50	2517.0m	Lined up cement unit to flow head. Broke circulation and pumped 3.2 m3 (20 bbls) of brine to fill poor boy degasser and surface lines.
CTB	P	DIS	0145	0215	0.50	2517.0m	Closed LV and opened well test choke. Commenced pumping 2.4 m3 (15 bbls) diesel to well test surge tank.
CTB	P	DIS	0215	0230	0.25	2517.0m	Closed well test choke and opened LV. Commenced displacing tubing to diesel at 318 L/min (2 bpm), 0.8 MPa (120 psi).
CTB	P	DIS	0230	0415	1.75	2517.0m	Continued to displace tubing to diesel. Final circulating pressure, 5.3 MPa (755 psi), total diesel pumped, 34 m3 (216 bbls).
CTB	P	DIS	0415	0430	0.25	2517.0m	Pumped 0.8 m3 (5 bbls) water spacer.
CTB	P	PT	0430	0445	0.25	2517.0m	Increased TRSV line pressure to 50 MPa (7100 psi), closed AAV.
CTB	P	PT	0445	0515	0.50	2517.0m	Pressured down tubing to 8.8 MPa (1300 psi). APT - 5 MPa (732 psi) DPG - 21.3 MPa (3155 psi) Increased pressure to 28 MPa (4150) psi to set packer, 0.7 m3 (4.4 bbls) pumped. APT - 16.2 MPa (2414 psi) DPG - 41.2 (6106 psi) Held for 10 mins and bled down to 4.7 MPa (700 psi) on well test choke.
CTB	P	PT	0515	0530	0.25	2517.0m	Reduced TRSV line pressure to 43.8 MPa (6500 psi), pressured down tubing to 20.7 MPa (3000 psi) and bled off TRSV line. Bled back tubing pressure at well test choke to 3.4 MPa (500 psi) and conducted TRSV inflow test for 10 min, ok.
CTB	P	PT	0530	0600	0.50	2517.0m	Equalised pressure above TRSV and opened TRSV with 40.4 MPa (6000 psi). Bled back pressure on well test choke to 4.7 MPa (700 psi) and reduced the TRSV line pressure to 33.7 MPa (5000 psi). Equalised pressure on the AAV and opened same.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	10.8	0	432.9	
Potable Water	m3	30	24	0	320.0	
Drill Water	m3	0	2	0	467.0	

Personnel On Board

Company	Comment	Pax
Santos		9
DOGC		40
ESS		8
BHI		2
Dowell		2
Rheochem		1
TMT		6
Premium Casing Services		2
Expro		5
Baker Oil Tools		2
Rig Cool		2
Halliburton		1
Other		1
Other		1
Cameron		4
Other		2
Schlumberger Testing		10
Other		1
ABS		1
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	0 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	0 Days	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	5 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	24	18 Aug 2008	0 Days	Drill crew - 8 Deck Crew - 10 Welder - 3 Mechanic - 3
Lost Time Incident	1	30 May 2008	80 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	5 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	18 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	14	18 Aug 2008	0 Days	9 x hot work permits 5 x cold work permits
Rig Inspection	1	10 Aug 2008	8 Days	Conducted Santos STOP audit on portside and starboard side pipe racks. Multiple lifts have been conducted and the deck crew manage to maintain good housekeeping with only a few pieces of dunnage lying loose. This was put aside. Some containers were out of place however, crane was waiting on boat to offload immediately. Good job to deck crew and crane operator.
Safety Audit	1	30 Jul 2008	19 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	5 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	1 Day	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	1	18 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	40	18 Aug 2008	0 Days	22 - Safe 18 - Corrective Actions
STOP Tour	1	17 Aug 2008	1 Day	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	9 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	160.6m³	Losses	6.8m³
Active	48.5m³	Downhole	
Mixing	0.0m³	Surf+ Equip	6.8m³
Hole	94.9m³	Dumped	
Slug		De-Sander	
Reserve	17.2m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0

Marine

Weather check on 18 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	41km/h	270.0deg	1022.00bar	12.0C°	2.0m	270.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.3deg	0.3deg	0.30m	2.0m	220.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	865.00mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	127.91
2	1382.9	130.18
3	1399.9	133.81
4	1376.8	127.91
5	1410.9	128.82
6	1421.0	131.09
7	1410.9	122.02
8	1414.0	125.19

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	23:45 hrs 17.08.08		Standby Ocean Patriot.
Nor Captain		23:45 hrs 17.08.08	Portland, ETA Ocean Patriot: 18:00 hrs 19.08.08. No report, bulks to be updated in tomorrows report.

Bulks

Item	Unit	Quantity
Fuel	m3	414
Potable Water	m3	493
Drill Water	m3	410
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	157
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Item	Unit	Quantity
Fuel	m3	326.6
Potable Water	m3	360
Gel	mt	42
Cement	mt	38
Drill Water	m3	193
Barite	mt	70
Mud	m3	36

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:12	Ocean Patriot		6
GYJ	11:20	Essendon		5

Santos

DRILLING MORNING REPORT # 18
Netherby-1 Netherby-1DW (19 Aug 2008)

From : Chris Roots / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	17.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	17.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Pressure test crown plug from below.				
RT-ML	86.9m	Planned Op	Rig down surface lines, unlatch LLSA and layout PCE, flow head and landing string. RIH and jet tubing hanger and XT. Set ITC plug, POOH and layout completions handling equipment.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Displaced tubing to diesel, opened MC-FLCV in lower completion and completed well flow back as per programme. Shut in well and pumped glycol into tubing string.

Operations For Period 0000 Hrs to 2400 Hrs on 19 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	PT	0000	0100	1.00	2517.0m	Continued to pressure test 244 mm (9 5/8") BOP rams to 1.7/33.7 MPa (250/5000 psi) for 5/10 min, ok
CTB	P	SM	0100	0115	0.25	2517.0m	Held pre job safety meeting for diesel displacement.
CTB	P	DIS	0115	0145	0.50	2517.0m	Lined up cement unit to flow head. Broke circulation and pumped 3.2 m3 (20 bbls) of brine to fill poor boy degasser and surface lines.
CTB	P	DIS	0145	0215	0.50	2517.0m	Closed LV and opened well test choke. Commenced pumping 2.4 m3 (15 bbls) diesel to well test surge tank.
CTB	P	DIS	0215	0230	0.25	2517.0m	Closed well test choke and opened LV. Commenced displacing tubing to diesel at 318 L/min (2 bpm), 0.8 MPa (120 psi).
CTB	P	DIS	0230	0415	1.75	2517.0m	Continued to displace tubing to diesel. Final circulating pressure, 5.3 MPa (755 psi), total diesel pumped, 34 m3 (216 bbls).
CTB	P	DIS	0415	0430	0.25	2517.0m	Pumped 0.8 m3 (5 bbls) water spacer.
CTB	P	PT	0430	0445	0.25	2517.0m	Increased TRSV line pressure to 50 MPa (7100 psi), closed AAV.
CTB	P	PT	0445	0515	0.50	2517.0m	Pressured down tubing to 8.8 MPa (1300 psi). APT - 5 MPa (732 psi) DPG - 21.3 MPa (3155 psi) Increased pressure to 28 MPa (4150) psi to set packer, 0.7 m3 (4.4 bbls) pumped. APT - 16.2 MPa (2414 psi) DPG - 41.2 (6106 psi) Held pressure for 10 mins.
CTB	P	PT	0515	0530	0.25	2517.0m	Reduced TRSV line pressure to 43.8 MPa (6500 psi), pressured down tubing to 20.7 MPa (3000 psi) and bled off TRSV line. Bled back tubing pressure at well test choke to 3.4 MPa (500 psi) and conducted TRSV inflow test for 10 min, ok.
CTB	P	PT	0530	0600	0.50	2517.0m	Equalised pressure above TRSV and opened TRSV with 40.4 MPa (6000 psi). Bled back pressure on well test choke to 4.7 MPa (700 psi) and reduced the TRSV line pressure to 33.7 MPa (5000 psi). Equalised pressure on the AAV and opened same.
CTB	P	PT	0600	0715	1.25	2517.0m	Increased Annulus pressure to 23.6 MPa (3500psi) and tested for 15mins (good test). Inflow test XT Valves (AAV & AMV) to 23.6 MPa (3,500psi) for 10min each (good tests).
CTB	P	CHC	0715	0830	1.25	2517.0m	Lock Open MC-FLCV with 4 pressure cycles (1 pressure cycle less than expected) Upper Pressure: 25.6 MPa (3,800psi) Lower Pressure: 4.7 MPa (700psi) 1st Cycle: 4 bbls (pumped) 2nd 3rd & 4th Cycles: 0.6 m3 (3.7bbls) (pumped) Close KWV
CTB	P	WCU	0830	2200	13.50	2517.0m	08:30 JSA Well Test 09:15 Open well to clean-up on 16/64 adjustable choke to surge tank WHP: 0.4 MPa (530psi) WHT: 12.1°C 09:20 Increased to 28/64" adjustable choke, Well Head Pressure: 2.5 MPa (371psi) (0.5 MPa (76.5psi) downstream) Well Head Temp: 13.8°C BS&W: 12% Water, 85% diesel 10:30 Gas to surface & diverted to flare

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Well Head Pressure: 8.9 MPa (1,330.8psi) (2.7 MPa (406psi) downstream) Well Head Temp: 19.6°C 10:45 Increased in stages to 40/64" adjustable choke. Frequent flare outs. Well Head Pressure: 11.1 MPa (1649.2psi) (4.2 MPa (621.2psi) downstream) Well Head Temp: 24.2°C BS&W: 100% Mud 11:30 Adjusted choke settings to between 28/64" to 44/64" to optimise well clean-up and minimise flare out. 12:00 - 00:00 Time Description 14:45 By-Passed Steam Exchanger with 48/64" adjustable choke. Well cleaning up with minimal flare outs. Well Head Pressure: 14 MPa (2071.9psi) (4.3 MPa (634.9psi) downstream) Well Head Temp: 29.0°C BS&W: 100% Mud H2S: 0ppm CO2: 0% 16:45 Diverted flow through separator with 64/64" fixed choke Well Head Pressure: 13.8 MPa (2040.0psi) (6.5 MPa (964.6psi) downstream) Well Head Temp: 39.5°C 20:45 Shut In Well. SITHP was 15.2 MPa (2250psi) at Choke Manifold 21:00 Bleed of pressure built up in Annulus during Clean Up due to heat expansion. 16.7 MPa (2471psi) bled down to 1 MPa (150psi).
CTB	P	PT	2200	2300	1.00	2517.0m	Close SSSV and Bled pressure in tubing above to 0.6 MPa (100psi) at Choke Manifold. Inflow test for 15min and chart. Test good. Bled pressure back to 0, flaring off gas along with Surge tank and Seperator contents.
CTB	P	SLK	2300	2400	1.00	2517.0m	Rig up Slickline Line to Pull up on Crown Plug Running tool in Lubricator and Open SV and Needle Valve. Commenced pumping Glycol down the tubing on top of SSSV. Pumped at 238 L/min (1.5bpm) and 0.3 MPa (50psi) pumping pressure maximum. Pumped Total of 6.4 m3 (40bbl) into tubing.

Operations For Period 0000 Hrs to 0600 Hrs on 20 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	CIC	0000	0200	2.00	2517.0m	Complete pumping of Glycol. Chased Glycol with 4 m3 (25bbl) of Drill Water.
CTB	P	PT	0200	0430	2.50	2517.0m	Closed SV and Commenced Breaking out Crown Plug Running Tool of PCE to Make Up Lower Crown Plug. Open SV and Closed MV Commenced Pressure Test of PCE. 33.7 MPa (5000psi) for 10mins (Test Good) Open MV and RIH with Lower Crown Plug. Lower Crown Plug Seated, 1.3 MPa (200psi) applied on top and held for 5mins. Jarred, released and Pulled back Running Tool. Pressure Test on top to 3.4 MPa (500psi) for 10min (Good Test)
CTB	P	PT	0430	0600	1.50	2517.0m	Break Out Lower Crown Plug Running Tool and inspect. Tell Tale was 4.4 mm (0.173") Line up and Pump 35bbl across Flow head to Well Test for Flushing of lines Line up and Flush Between 244 (9 5/8") Rams and Tubing Hanger Open AAV, XOV and PMV. Pressure Test Lower Crown Plug below to 6.7 MPa (1000psi) for 10min

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	48.7	0	384.2	
Potable Water	m3	36	27	0	329.0	
Drill Water	m3	0	40	0	427.0	

Personnel On Board

Company	Comment	Pax
Santos		9
DOGC		43
ESS		8
BHI		2
Dowell		2
Rheochem		1
TMT		6
Premium Casing Services		2
Expro		5
Rig Cool		2
Other		1
Cameron		4
Other		2
Schlumberger Testing		9
Other		1
ABS		1
	Total	98

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	1 Day	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	6 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	24	19 Aug 2008	0 Days	Drill crew - 8 Deck Crew - 9 Welder - 2 Mechanic - 3 Third Party - 2
Lost Time Incident	1	30 May 2008	81 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	26 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Medical Treatment Incident	1	13 Aug 2008	6 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	19 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	13	19 Aug 2008	0 Days	8 x hot work permits 5 x cold work permits
Rig Inspection	1	20 Aug 2008	-1 Days	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	21 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	20 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	6 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	2 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	1	19 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	55	19 Aug 2008	0 Days	30 - Safe 25 - Corrective Actions
STOP Tour	1	17 Aug 2008	2 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	10 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	150.5m³	Losses	10.2m³
Active	73.5m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole	59.8m³	Dumped	10.2m³
Slug		De-Sander	
Reserve	17.2m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0

Marine

Weather check on 19 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
14.8km	65km/h	330.0deg	1016.00bar	11.0C°	3.0m	330.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.5deg	0.50m	4.0m	260.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	882.69mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2	1382.9	132.00
3	1399.9	136.08
4	1376.8	130.18
5	1410.9	127.01
6	1421.0	130.18
7	1410.9	120.20
8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	23:45 hrs 17.08.08		Standby Ocean Patriot.
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	403
Potable Water	m3	487
Drill Water	m3	410
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	157
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Item	Unit	Quantity
Fuel	m3	584.9
Potable Water	m3	383
Gel	mt	42
Cement	mt	38
Drill Water	m3	370
Barite	mt	70
Mud	m3	36

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:04	Ocean Patriot		3
GYJ	11:15	Essendon		5

From :	Chris Roots / Rohan Richardson
OIM :	Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	18.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	18.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to rig down and lay out LLSA umbilical / rig up drill floor for pulling riser.				
RT-ML	86.9m	Planned Op	Disconnect and recover IWOC, unlatch BOP, move off location 15 m, pull and layout riser. Set back BOP's and run debris cap on DP.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Pumped glycol into upper completion tubing, set crown plug and pressure tested same. Laid out PCE, flowhead, landing string and LLSA. Flushed XT profile and RIH internal tree cap on DP.

Operations For Period 0000 Hrs to 2400 Hrs on 20 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	RIC	0000	0200	2.00	2517.0m	Continued to pump glycol, 8 m3 (50 bbls) total. Displaced lines and pumped 4 m3 (25 bbls) drill water.
CTB	P	SLK	0200	0245	0.75	2517.0m	Closed swab valve, broke PCE and made up crown plug to slickline.
CTB	P	PT	0245	0300	0.25	2517.0m	Opened swab valve and closed master valve. Pressure tested PCE to 33.7 MPa (5000 psi) for 10 min, ok.
CTB	P	SLK	0300	0330	0.50	2517.0m	Opened master valve and RIH crown plug on slick line to tubing hanger.
CTB	P	XT	0330	0415	0.75	2517.0m	Landed out crown plug, applied 1.3 MPa (200 psi) above and held for 10 min while jarring with slickline to seat.
CTB	P	PT	0415	0430	0.25	2517.0m	Pressure tested above crown plug to 33.7 MPa (5000 psi) for 10 min, ok.
CTB	P	SLK	0430	0500	0.50	2517.0m	Un-latched running tool from crown plug and recovered same, 4.4 mm (0.173") on indicator pin.
CTB	P	WCU	0500	0545	0.75	2517.0m	Lined up cement unit to flow head and flushed lines with 5.5 m3 (35 bbls) of drill water to well test package. Lined up to kill line and flushed 244 mm (9 5/8") rams and tubing hanger with drill water.
CTB	P	PT	0545	0615	0.50	2517.0m	Lined up and pressure tested below crown plug to 6.7 MPa (1000 psi) for 10 min, ok. APT reading : 7.6 MPa (1127 psi).
CTB	P	SM	0615	0630	0.25	2517.0m	Held pre job safety meeting for rig down of PCE.
CTB	P	TO	0630	0645	0.25	2517.0m	Bled off pressure from LLSA valves retaining unlatch pressure. Opened 244 mm (9 5/8") BOP rams and set down weight to 71.2 kdaN (160 klbs). Unlatched LLSA and picked up 4 m. No o/p observed.
CTB	P	TO	0645	1000	3.25	2517.0m	Rigged down Co-Flexip hose and PCE.
CTB	P	SM	1000	1015	0.25	2517.0m	Held pre job safety meeting prior to POOH landing string and LLSA.
CTB	P	TO	1015	1130	1.25	2517.0m	Broke out flow head and rigged up to layout. Tugger line slacked off when tailing out with crane which caused flow head to turn and break nipple on air regulator. Re-slung and continued to layout.
CTB	P	OA	1130	1215	0.75	2517.0m	Shut down crane operations due to helicopter. Continued to rig down completions equipment on pipe decks.
CTB	P	HT	1215	1500	2.75	2517.0m	Continued to rig down flow head, 13.7 m (45') bails and 244 mm (9 5/8") handling equipment.
CTB	P	OA	1500	1800	3.00	2517.0m	Broke out lubricator valve from flow head. Simultaneous Operations: Continued to rig down completion equipment on deck and port side box girder.
CTB	P	TO	1800	2000	2.00	2517.0m	Continued to POOH 244 mm (9 5/8") landing string.
CTB	P	HT	2000	2100	1.00	2517.0m	Rigged down 244 mm (9 5/8") handling gear and rigged up to run DP. Simultaneous Operations: Opened AAV with IWOC, ROV confirmed. Applied 3.4 MPa (500 psi) against closed TCT needle valve on XT. Flushed TCT line.
CTB	P	TI	2100	2130	0.50	2517.0m	RIH with tubing hanger jetting tool on DP.
CTB	TP (VE)	OA	2130	2145	0.25	2517.0m	Attempted to correlate index line with landed out jetting tool, unsuccessful. Index line broken. Made back up to slip joint and re-correlated index pin.
CTB	P	OA	2145	2200	0.25	2517.0m	Commenced pumping sea water through jetting tool to clean XT profile. Pumped 5.9

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							m3 (37 bbls) at 4.7 MPa.
CTB	P	CHC	2200	2230	0.50	2517.0m	Pumped 4 m3 (25 bbls) hi-vis sweep and displaced with sea water until clean returns observed at surface.
CTB	P	CHC	2230	2300	0.50	2517.0m	Picked up, rotated string 90 deg and landed out same. Pumped 4 m3 (25 bbls) hi-vis sweep and displaced with sea water until clean returns observed at surface.
CTB	P	TO	2300	2330	0.50	2517.0m	POOH with jetting tool. Tool clean, no debris observed.
CTB	P	HT	2330	2345	0.25	2517.0m	Made up internal tree cap and running tool to DP.
CTB	P	TI	2345	2400	0.25	2517.0m	RIH internal tree cap and land out same. Simultaneous operations: Opened AAV with IWOC, ROV confirmed. Flushed TCT line.

Operations For Period 0000 Hrs to 0600 Hrs on 21 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CTB	P	TI	0000	0115	1.25	2517.0m	RIH internal tree cap and landed out same in XT profile.
CTB	P	HT	0115	0230	1.25	2517.0m	Closed lower annular preventer and applied 27 MPa (4000 psi) with cement unit down kill line to lock internal tree cap. Total pumped 0.1 m3 (0.4 bbls). Observed returns from drill pipe indicating internal tree cap seated.
CTB	P	HT	0230	0300	0.50	2517.0m	Opened BOP annular preventer, slacked off DP to neutral weight and rotated 5 3/4 turns to right with chain tongs to release running tool from internal tree cap. POOH running tool and laid out same. Simultaneous Operations: Tested internal tree cap from below with 33.7 MPa (5000 psi) for 10 min through TCT line, ok. Closed AAV, ROV confirmed.
CTB	P	HT	0300	0600	3.00	2517.0m	Disconnected umbilical line from LLSA and removed from derrick with starboard side crane. Rigged down sheave and laid out same.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	7.6	0	376.6	
Potable Water	m3	33	27	0	335.0	
Drill Water	m3	100	40	0	487.0	

Personnel On Board

Company	Comment	Pax
Santos		9
DOGC		45
ESS		8
BHI		2
Dowell		2
Rheochem		2
TMT		6
Premium Casing Services		2
Expro		5
Rig Cool		2
Other		1
Cameron		4
Other		2
Schlumberger Testing		6
Other		1
RPS		1
Fugro		2
	Total	100

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	2 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	2 Days	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	7 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	28	20 Aug 2008	0 Days	Drill crew - 12 Deck Crew - 11 Welder - 2 Mechanic - 3
Lost Time Incident	1	30 May 2008	82 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	24 Jul 2008	27 Days	IP sustained a deep cut to his left leg. This was caused by his foot slipping off a timber support and hitting his shin. The IP will be flown out on crew chopper. Note: IP received 7 stitches and has been given clearance to return to work. Resumed duties 25th Jul 08.
Medical Treatment Incident	1	13 Aug 2008	7 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	20 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	13	20 Aug 2008	0 Days	7 x hot work permits 6 x cold work permits
Rig Inspection	1	20 Aug 2008	0 Days	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	22 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	21 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	7 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	3 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	1	20 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	45	20 Aug 2008	0 Days	24 - Safe 21 - Corrective Actions
STOP Tour	1	17 Aug 2008	3 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	11 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	67.6m³	Losses	84.3m³
Active	51.7m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole		Dumped	84.3m³
Slug		De-Sander	
Reserve	15.9m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0

Marine

Weather check on 20 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
14.8km	46km/h	300.0deg	1016.00bar	11.0C°	2.0m	300.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.5deg	0.50m	3.0m	260.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	124.74mt	821.00mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	132.00
2	1382.9	133.81
3	1399.9	137.89
4	1376.8	132.00
5	1410.9	127.01
6	1421.0	127.91
7	1410.9	117.93
8	1414.0	120.20

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip	23:45 hrs 17.08.08		Standby Ocean Patriot.
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	391
Potable Water	m3	481
Drill Water	m3	310
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	157
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Item	Unit	Quantity
Fuel	m3	571.3
Potable Water	m3	378
Gel	mt	42
Cement	mt	38
Drill Water	m3	370
Barite	mt	70
Mud	m3	36

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:53	Ocean Patriot		9
GYJ	12:06	Essendon		7

Santos

DRILLING MORNING REPORT # 20
Netherby-1 Netherby-1DW (21 Aug 2008)

From : Chris Roots / Rohan Richardson
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	19.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	19.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continue to wait on weather to pull BOP's through splash zone.				
RT-ML	86.9m	Planned Op	Pull and lay out riser, set BOP's on carrier and set aside. Run debris cap through splash zone, move rig to well centre, continue to run and set debris cap. POOH and prepare to rig move. Pull secondary and primary anchors and commence move to Henry-2DW1.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

RIH, seated internal tree cap and pressure tested same. Rigged down completions equipment from derrick and on decks. Made up floor to recover riser. Pulled and laid out diverter and slip joint. Removed and laid out IWOC umbilical. Waited on weather before pulling BOP's through splash zone.

Operations For Period 0000 Hrs to 2400 Hrs on 21 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SUS	P	TI	0000	0115	1.25	2517.0m	RIH internal tree cap and landed out same in XT profile.
SUS	P	HT	0115	0230	1.25	2517.0m	Closed lower annular preventer and applied 27 MPa (4000 psi) with cement unit down kill line to lock internal tree cap. Total pumped 0.1 m3 (0.4 bbls). Observed returns from drill pipe indicating internal tree cap seated.
SUS	P	HT	0230	0300	0.50	2517.0m	Opened BOP annular preventer, slacked off DP to neutral weight and rotated 5 3/4 turns to right with chain tongs to release running tool from internal tree cap. POOH running tool and laid out same. Simultaneous Operations: Tested internal tree cap from below with 33.7 MPa (5000 psi) for 10 min through TCT line, ok. Closed AAV, ROV confirmed.
SUS	P	HT	0300	0600	3.00	2517.0m	Disconnected umbilical line from LLSA and removed from derrick with starboard side crane. Rigged down sheave and laid out same.
SUS	P	RR2	0600	1000	4.00	2517.0m	Rigged up diverter handling tool, de-energised packer and removed same. Picked up and made up landing joint. Simultaneous Operations: Disconnected tronic electrical connector from PC/B on XT with ROV Disconnected IWOCS umbilical flying stab plate from XT with ROV ROV mounted IWOCS umbilical flying stab plate onto deployment frame
SUS	TP (OTH)	OA	1000	1300	3.00	2517.0m	Held pre job safety meeting and attempted to remove IWOC umbilical from riser with ROV, unsuccessful. Decided to pull BOP's and riser with IWOC's attached.
SUS	P	RR2	1300	1330	0.50	2517.0m	Pulled slip joint to rig floor and serviced locking dogs. Scoped in slip joint barrel and locked same with riser pup joint. Simultaneous Operations: ROV connected dummy tronic electrical connectors to PC/A and PC/B on XT
SUS	P	RR2	1330	1600	2.50	2517.0m	Unlatched BOP's from wellhead and moved rig 23 m starboard. Removed storm saddles and service lines. Picked up and locked SDL ring to diverter housing. Simultaneous Operations: ROV confirmed BOP H4 indicator for connector unlock ROV confirmed AX gasket remained on top of XT
SUS	P	RR2	1600	1700	1.00	2517.0m	Lowered slip joint to moonpool and removed choke, kill and booster line goosenecks.
SUS	P	RR2	1700	1900	2.00	2517.0m	Removed #9 MRT, latched SDL ring to RT, pulled and laid out slip joint. Simultaneous Operations: ROV removed bridging stab plate from park position ROV docked bridging stab plate onto XT XOP position ROV removed park plate from park docking bracket ROV to surface for tool change, AX gasket recovery and snorkel tools.
SUS	TP (OTH)	OA	1900	2000	1.00	2517.0m	Rig down IWOC sheaves and removed umbilical from riser.
SUS	U (WOW)	WOW	2000	2400	4.00	2517.0m	Wait on weather to pull BOP's through splash zone. Rov unable to clean XT and recover AX gasket due to poor visibility.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							Simultaneous Operations: Changed out swivel packing on TDS. Cleaned mud pits ready for next operation.

Operations For Period 0000 Hrs to 0600 Hrs on 22 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SUS	U (WOW)	WOW	0000	0600	6.00	2517.0m	Continued to wait on weather. Simultaneous Operations: Cleaned out mud tanks for next operations. Installed new flood light in derrick. Installed third pad eye in derrick for next completions operations.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	53.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	14.1	0	362.5	
Potable Water	m3	29	30	0	334.0	
Drill Water	m3	0	6	0	481.0	

Personnel On Board

Company	Comment	Pax
Santos		6
DOGC		46
ESS		8
BHI		4
Dowell		2
Rheochem		2
TMT		6
Premium Casing Services		1
Cameron		2
RPS		1
Fugro		2
	Total	80

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	3 Days	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	8 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	33	21 Aug 2008	0 Days	Drill crew - 18 Deck Crew - 8 Welder - 3 Sub Sea - 3 Marine - 1
Lost Time Incident	1	30 May 2008	83 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	8 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	21 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	12	21 Aug 2008	0 Days	5 x hot work permits 7 x cold work permits
Rig Inspection	2	20 Aug 2008	1 Day	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	23 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	22 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	8 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	4 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	1	21 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	32	21 Aug 2008	0 Days	20 - Safe 12 - Corrective Actions
STOP Tour	1	17 Aug 2008	4 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	12 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Shakers, Volumes and Losses Data

Engineer : Kelly Jericho

Available	0.0m³	Losses	67.6m³
Active	0.0m³	Downhole	
Mixing	0.0m³	Surf+ Equip	0.0m³
Hole		Dumped	67.6m³
Slug		De-Sander	
Reserve	0.0m³	De-Silter	
Kill		Centrifuge	
Storage			

Equip.	Descr.	Mesh Size	Hours
Centrifuge 1	MI SW FVS 518		0
Centrifuge 1	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Centrifuge 2	MI SW FVS 518		0
Shaker 3	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 3	Bem 650 - MI SW		0
Shaker 4	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 4	Bem 650 - MI SW		0
Shaker 5	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 5	Bem 650 - MI SW		0
Shaker 6	Bem 650 - MI SW	40 / 20 230 HC x 4	0
Shaker 6	Bem 650 - MI SW		0

Marine

Weather check on 21 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
11.1km	46km/h	160.0deg	1025.00bar	9.0C°	2.0m	160.0deg	5sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.5deg	0.5deg	0.50m	4.0m	205.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	0.00mt	830.98mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	132.00
2	1382.9	133.81
3	1399.9	133.81
4	1376.8	130.18
5	1410.9	125.19
6	1421.0	130.18
7	1410.9	123.83
8	1414.0	123.83

Boats	Arrived (date/time)	Departed (date/time)	Status
Far Grip		16:00 hrs 21/08/08	Portland. ETA Ocean Patriot, 22/08/08, 13:30 hrs.
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot

Bulks

Item	Unit	Quantity
Fuel	m3	382
Potable Water	m3	475
Drill Water	m3	310
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	117
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Item	Unit	Quantity
Fuel	m3	557.8
Potable Water	m3	373
Gel	mt	42
Cement	mt	38
Drill Water	m3	370
Barite	mt	70
Mud	m3	36

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	10:57	Ocean Patriot		5
GYJ	11:10	Essendon		12
GYJ	14:48	Ocean Patriot		0
GYJ	15:03	Essendon		13

Santos

DRILLING MORNING REPORT # 21

Netherby-1 Netherby-1DW (22 Aug 2008)

From : Chris Roots / Nathen Peri
OIM : Rod Dotson

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	20.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	20.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing repairs to the ROV umbilical.				
RT-ML	86.9m	Planned Op	Run and set the Debris Cap on the Xmas Tree. Pull the guide lines free and ROV to conduct final sea bed survey. Pull anchors.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Waited on weather(15hrs). Pulled the BOPs to surface and secured same.Laid out the double of riser and rigged down riser handling equipment.
Waited on the ROV umbilical repairs to be completed.

Operations For Period 0000 Hrs to 2400 Hrs on 22 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SUS	U (WOW)	WOW	0000	0600	6.00	2517.0m	Continued to wait on weather. Simultaneous Operations: Cleaned out mud tanks for next operations. Installed new flood light in derrick. Installed third pad eye in derrick for next completions operations.
SUS	U (WOW)	WOW	0600	1500	9.00	2517.0m	Continued to wait on weather. ROV clump weight cable parted which caused it to surface uncontrolled. This action also caused the umbilical to twist resulting in damage. Recovered the ROV to the rig and inspected the umbilical. The umbilical required resplicing.
SUS	P	RR2	1500	1630	1.50	2517.0m	Pulled BOPs to surface, landed and secured onto the Normar carrier. Made running repairs to the drive motor of the Normar carrier.
SUS	P	RR2	1630	1900	2.50	2517.0m	Rigged down guide lines & pod lines. Secured the pod hose to the BOPs. Broke out the termination joint from the BOP and moved the BOP to the starboard side.
SUS	P	RR2	1900	2100	2.00	2517.0m	Laid out the double of riser and the termination joint. Rigged down riser handling equipment.
SUS	TP (VE)	RO	2100	2400	3.00	2517.0m	Continued resplicing the ROV umbilical. Concurrent Ops: Changed out the TDS gear box oil, serviced same. Searched the flowline for debris which had been causing a slight blockage - found the Hole Finder from wireline logging tool string.

Operations For Period 0000 Hrs to 0600 Hrs on 23 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SUS	TP (VE)	RO	0000	0600	6.00	2517.0m	(IN PROGRESS) Continued resplicing the ROV umbilical. Concurrent Ops: Continued changing out the TDS gear box oil , serviced same. Serviced the rig slickline unit - stripped off 30m of 0.092" wire, checked sheave wheel bearings, all good. Slipped and cut 30m of drill line. Completed making a new ROV clump weight. Prepared Henry-2DW1 914mm (36") BHA.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	33	0	0	86.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	5.4	0	357.1	
Potable Water	m3	31	25	0	340.0	
Drill Water	m3	0	0	0	481.0	

Personnel On Board

Company	Comment	Pax
Santos		6
DOGC		47
ESS		8
BHI		4
Dowell		3
Rheochem		2
TMT		6
Premium Casing Services		2
Cameron		2
RPS		1
Fugro		2
Schlumberger Drilling & Measurements		2
	Total	85

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	4 Days	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	9 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	23	22 Aug 2008	0 Days	Drill crew - 5 Deck Crew - 11 Welder - 3 Elect - 2 Mech - 2
Lost Time Incident	1	30 May 2008	84 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	9 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	22 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	9	22 Aug 2008	0 Days	3 x hot work permits 6 x cold work permits
Rig Inspection	2	20 Aug 2008	2 Days	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	24 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	23 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	9 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	5 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	0	22 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	44	22 Aug 2008	0 Days	25 - Safe 19 - Corrective Actions
STOP Tour	1	22 Aug 2008	0 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	13 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Marine

Weather check on 22 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	22km/h	180.0deg	1025.00bar	7.0C°	2.0m	180.0deg	4sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.4deg	0.50m	3.0m	230.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	0.00mt	821.91mt	

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2	1382.9	130.18
3	1399.9	132.00
4	1376.8	127.91
5	1410.9	122.92
6	1421.0	127.91
7	1410.9	123.83
8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	12:40 hrs 22/08/08		Standby Ocean Patriot	

Item	Unit	Quantity
Fuel	m3	371
Potable Water	m3	470
Drill Water	m3	451
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	117
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot	

Item	Unit	Quantity
Fuel	m3	544.8
Potable Water	m3	368
Gel	mt	0
Cement	mt	38
Drill Water	m3	370
Barite	mt	70
Mud	m3	0

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
GYJ	11:08	Ocean Patriot		6
GYJ	11:16	Essendon		1

Santos

DRILLING MORNING REPORT # 22

Netherby-1 Netherby-1DW (23 Aug 2008)

From :	**Chris Roots / Nathan Peri**
OIM :	**Rod Dotson**

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	21.12	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	21.13	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continuing to pull primary anchors (#4, #1 & #5 remaining).				
RT-ML	86.9m	Planned Op	Pull remaining anchors (2). Tow to Henry-2 DW1 location. Run anchors.				
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Repaired the ROV umbilical.
Ran and landed the XT Debris cap on drill pipe. ROV installed the marine growth covers over the ROV XT buckets.
Sheared out the guideline wires from the PGB. Recovered to surface.
Pulled and retrieved 2 x secondary anchors.

Operations For Period 0000 Hrs to 2400 Hrs on 23 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SUS	TP (VE)	RO	0000	0900	9.00	2517.0m	Continued resplicing the ROV umbilical. Concurrent Ops: Continued changing out the TDS gear box oil , serviced same. Serviced the rig slickline unit - stripped off 30m of 0.092" wire, checked sheave wheel bearings, all good. Slipped and cut 30m of drill line. Completed making a new ROV clump weight. Prepared Henry-2DW1 914mm (36") BHA.
SUS	P	XT	0900	1500	6.00	2517.0m	ROV dived and tested the new clump weight buoyancy. ROV installed marine growth covers onto the XT. Searched for the dropped clump weight, unable to locate. ROV snorkel cleaned ITC & top of XT. Concurrently made up Debris Cap Jay Latch tool onto drill pipe, latched the Debris Cap, installed guideline ropes and ran the Debris Cap through the splash zone to 65m.
SUS	P	XT	1500	1630	1.50	2517.0m	Re-positioned the rig over well center. Lowered and landed the Debris Cap and unjayed from same. POH drill pipe and running tool. ROV continued installing marine growth covers on the XT.
SUS	P	ROV	1630	1730	1.00	2517.0m	Searched seabed for the ROV clump weight, unable to locate (covered by silt)
SUS	P	ROV	1730	2045	3.25	2517.0m	ROV completed final SST survey (refitted 1 marine growth cap) completed visual & sonar sea bed search (no debris identified). XT valve status: Closed - PMV, PWV, XOV, AWV, AAV, AMV, ACIV, CIV, ACIV, TCT needle valve, CSM needle valve, AXT needle valve, AVV needle valve, PCT needle valve, V1 needle valve and V2 needle valve. Open - Choke - 50% open, SIV needle valve APT = 0.98 MPa (143 psi) PPT1 = 1.29 MPa (187 psi) PTT1 = 13.5 degrees PPT2 = 0.27 MPa (40 psi) DHPT = 17.13 MPa (2,485 psi) DHTT = 74 degrees Concurrent Ops: Made up 762mm (30") conductor running tool and racked back. Made up a cement stand and racked.
RM	P	AH	2045	2400	3.25	2517.0m	20:44 - PCC #2 passed to Far Grip 21:00 - PCC #6 passed to the Nor Captain 21:11 - #2 anchor off bottom (decked #2 anchor, inspected same OK) 21:33 - #6 anchor off bottom 22:48 - PCC #2 passed back to rig 23:01 - PCC #3 passed to Far Grip 23:17 - PCC #6 passed back to the rig 23:22 - #3 anchor off bottom. 23:28 - PCC #7 passed to Nor Captain 24:00 - #7 anchor off bottom.

Operations For Period 0000 Hrs to 0600 Hrs on 24 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
RM	P	AH	0000	0600	6.00	2517.0m	01:01 - PCC #3 passed back to the rig. 01:25 - PCC #7 passed back to the rig. 01:38 - PCC #8 passed to the Far Grip 02:02 - Tow Bridle PCC passed to the Nor Captain 02:20 - Nor Captain on static tow. 02:51 - #8 anchor off bottom. 04:10 - #8 PCC passed back to rig. 04:38 - #4 PCC passed to Far Grip 04:58 - #4 anchor off bottom.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	86.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	10.8	0	346.3	
Potable Water	m3	31	24	0	347.0	
Drill Water	m3	0	0	0	481.0	

Personnel On Board

Company	Comment	Pax
Santos		6
DOGC		47
ESS		8
BHI		4
Dowell		3
Rheochem		2
TMT		6
Premium Casing Services		2
Cameron		2
RPS		1
Fugro		2
Schlumberger Drilling & Measurements		2
	Total	85

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	18 Aug 2008	5 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	18 Aug 2008	5 Days	Simulated fire in the well test area (pre well test drill). Emergency alarm sounded at 12:52 hrs, emergency under control at 13:03 hrs.
First Aid	1	13 Aug 2008	10 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	28	23 Aug 2008	0 Days	Drill crew - 9 Deck Crew - 12 Welder - 2 Mech - 3 Subsea - 2
Lost Time Incident	1	30 May 2008	85 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	10 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	23 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	13	23 Aug 2008	0 Days	5 x hot work permits 8 x cold work permits
Rig Inspection	2	20 Aug 2008	3 Days	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	25 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	24 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	10 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	17 Aug 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card th Carl Hoseason. Reviewed safety alerts from other DODI facilities. Reviewed medivac incident from previous week and first aid.
Santos Induction	0	23 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	50	23 Aug 2008	0 Days	32 - Safe 18 - Corrective Actions
STOP Tour	2	23 Aug 2008	0 Days	Submitted Diamond supervisor audits.
Trip/Pit Drill	1	09 Aug 2008	14 Days	Sounded the alarm on the drill floor for a kick drill. Shut in DP, spaced out and closed BOP's. Conducted choke drill by circulating fluid through choke manifold

Marine

Weather check on 23 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	19km/h	240.0deg	1026.00bar	10.0C°	1.0m	240.0deg	4sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.4deg	0.50m	3.0m	230.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	0.00mt	821.91mt	Anchor handling operations.

Rig Support

Anchors	Chain out (m)	Tension (mt)
1	1382.9	130.18
2		
3		
4	1376.8	127.91
5	1410.9	122.92
6		
7		
8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	12:40 hrs 22/08/08		Standby Ocean Patriot	

Item	Unit	Quantity
Fuel	m3	359
Potable Water	m3	465
Drill Water	m3	451
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	117
Cement	mt	43.5
Barite	mt	84
Gel	mt	59

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot	

Item	Unit	Quantity
Fuel	m3	531.7
Potable Water	m3	363
Gel	mt	0
Cement	mt	38
Drill Water	m3	470
Barite	mt	78
Mud	m3	224

Helicopter Movement

Flight #	Time	Destination	Comment	Pax
1			No flights today	

Santos

DRILLING MORNING REPORT # 23

Netherby-1 Netherby-1DW (24 Aug 2008)

From :	**Chris Roots / Nathen Peri**
OIM :	**Rod Dotson**

Well Data

Country	Australia	Measured Depth	2517.0m	Current Hole Size	216mm		
Field		TVD	1655.0m	Casing OD	244mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	1936.0m		
Rig	Ocean Patriot	Days from spud	21.54	Shoe TVD	1680.0m		
Water Depth (LAT)	65.4m	Days on well	21.54	F.I.T. / L.O.T.	/	Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600					
RT-ML	86.9m	Planned Op					
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Completed pulling anchors.
END OF NETHERBY-1 DW @ 10:00hrs 24th August 2008.

Operations For Period 0000 Hrs to 2400 Hrs on 24 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
RM	P	AH	0000	0600	6.00	2517.0m	01:01 - PCC #3 passed back to the rig. 01:25 - PCC #7 passed back to the rig. 01:38 - PCC #8 passed to the Far Grip 02:02 - Tow Bridle PCC passed to the Nor Captain 02:20 - Nor Captain on static tow. 02:51 - #8 anchor off bottom. 04:10 - #8 PCC passed back to rig. 04:38 - #4 PCC passed to Far Grip 04:58 - #4 anchor off bottom.
RM	P	RM	0600	1000	4.00	2517.0m	06:26 - #4 PCC passed back to the rig 06:41 - #1 PCC passed to the Far Grip 07:09 - #1 anchor off bottom. 08:26 - #1 PCC passed back to the rig. 08:39 - #5 PCC passed to the Far Grip 10:00 - #5 anchor off bottom.
RM	P	RM	1000	1000	0.00	0.0m	END OF NETHERBY-1 DW (last anchor off bottom) Ocean Patriot on tight tow at drilling draft with the Nor Captain. Far Grip following with the #5 anchor on deck. STATEMENT OF FACTS: Ocean Patriot: Fuel - 342 m³ Drill Water - 480 m³ Pot Water - 350 m³ Barite - 84 mt G Cement - 70 mt Gel - 86 mt Far Grip: Fuel - 350 m³ Drill Water - 451 m³ Pot Water - 462 m³ Barite - 84 mt G Cement - 44 mt Gel - 59 mt Brine - 866 m³ Comp Brine - 48 m³ DIF - 117 m³ Nor Captain: Fuel - 525.7 m³ Drill Water - 470.0 m³ Pot Water - 363.0 m³ Barite - 70 mt Cement - 38 mt WBM - 226 m³

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Comment
Barite	mT	0	0	0	84.0	
Gel	mT	0	0	0	86.0	
Cement	mT	0	0	0	70.0	
Fuel	m3	0	4.3	0	342.0	
Potable Water	m3	3	0	0	350.0	
Drill Water	m3	0	1	0	480.0	

Personnel On Board

Company	Comment	Pax
Santos		6
DOGC		47
ESS		8
BHI		4
Dowell		3
Rheochem		2
TMT		6
Premium Casing Services		2
Cameron		2
RPS		1
Fugro		2
Schlumberger Drilling & Measurements		2
	Total	85

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	2.12 /	642.20/642.20	Class G lead slurry to surface. Class G tail TOC at ± 492m (150m).
244mm	/	1936.00/	

HSE Summary

Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	24 Aug 2008	0 Days	Abandonment drill completed after the fire drill. Completed full muster after emergency under control in 25 minutes, initial muster completed in 11 min.
Fire Drill	1	24 Aug 2008	0 Days	Simulated fire in the paint locker. Emergency alarm sounded at 22:20hrs, emergency under control at 22:35hrs.
First Aid	1	13 Aug 2008	11 Days	During the relocation of a container on the port pipe deck, IP located hand on corner of a container to assist another roustabout to steady for placement. IP looked at the base of the container when it swung and caught his hand between the container and wall resulting in a bruised hand.
JHA	21	24 Aug 2008	0 Days	Drill crew - 10 Deck Crew - 6 Welder - 3 Subsea - 2
Lost Time Incident	1	30 May 2008	86 Days	Man had his left hand caught between an 8" drill collar and the casing tongs when he was trying to secure the tong. Preliminary checks on the rig deemed only stitches required and the hand was not broken. The person was medivac'd off the rig @ 23:00hrs. Man was released from Royal Hobart hospital with 12 stitches to the hand (no broken bones).
Medical Treatment Incident	1	13 Aug 2008	11 Days	During lifting operations of 3rd party tooling on the pipe deck, IP was assisting the dogman in attaching slings to the whip-line hook. During this process the hook swung and hit the IP in the side of the hardhat resulting in an injury to the IPs neck. The IP was immobilised as a precautionary measure, treated as per symptoms and in readiness for medivac to hospital for further assessment.
Pre-Tour Meeting	4	24 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	15	24 Aug 2008	0 Days	5 x hot work permits 10 x cold work permits
Rig Inspection	2	20 Aug 2008	4 Days	Conducted 2 by Santos STOP audits. 1 in moonpool: found several housekeeping issues with wire rope and hoses causing potential trip hazards. Wrapped blue pod line with caution tape and removed grease cans no longer required. 2 in sack room: conducted STOP audit during glycol handling operations. Good understanding of hazards, PPE and operations throughout job. Completed safely and efficiently.
Safety Audit	1	29 Jul 2008	26 Days	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	25 Days	EHSMS audit conducted onboard.
Safety Meeting	1	13 Aug 2008	11 Days	Held 'Time Out for Safety' meeting on the rig floor with senior DODI and Santos personnel, drill crew, deck crew and third party. Reviewed 2 incidents which occurred on the previous tour and associated safety outcomes. Opened the floor and discussed safe acts and feedback.
Safety Meeting	3	24 Aug 2008	0 Days	Reviewed stop cards for the week and awarded Santos best stop card to Craig Richards. Reviewed the Lifeboat stations, lifeboat equipment and discussed hand awareness. Discussed the fire drill in the paint locker.
Santos Induction	0	24 Aug 2008	0 Days	Gave Santos induction to new personnel to site after DODI induction.
Stop Observations	17	24 Aug 2008	0 Days	9 - Safe 8 - Corrective Actions
STOP Tour	2	24 Aug 2008	0 Days	Submitted Diamond supervisor audits.

Marine

Weather check on 24 Aug 2008 at 24:00

Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period
18.5km	19km/h	350.0deg	1027.00bar	11.0C°	0.8m	350.0deg	3sec

Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments
0.4deg	0.4deg	0.50m	2.5m	230.0deg	13sec	

Rig Dir.	Ris. Tension	VDL	Comments
215.0deg	0.00mt	869.54mt	Last anchor off bottom @ 10:00hrs.

Rig Support

Anchors	Chain out (m)	Tension (mt)
1		
2		
3		
4		
5		
6		
7		
8		

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	12:40 hrs 22/08/08		Standby Ocean Patriot Statement Of Facts figures are shown for 10:00hrs 24th Aug 2008	

Item	Unit	Quantity
Fuel	m3	350
Potable Water	m3	462
Drill Water	m3	451
KCl Brine	m3	137
NaCl Brine	m3	7
Mud	m3	117
Cement	mt	44
Barite	mt	84
Gel	mt	59

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Nor Captain	23:45 hrs 19.08.08		Standby Ocean Patriot Statement Of Facts figures are shown for 10:00hrs 24th Aug 2008	

Item	Unit	Quantity
Fuel	m3	525.7
Potable Water	m3	363
Gel	mt	0
Cement	mt	38
Drill Water	m3	470
Barite	mt	70
Mud	m3	225

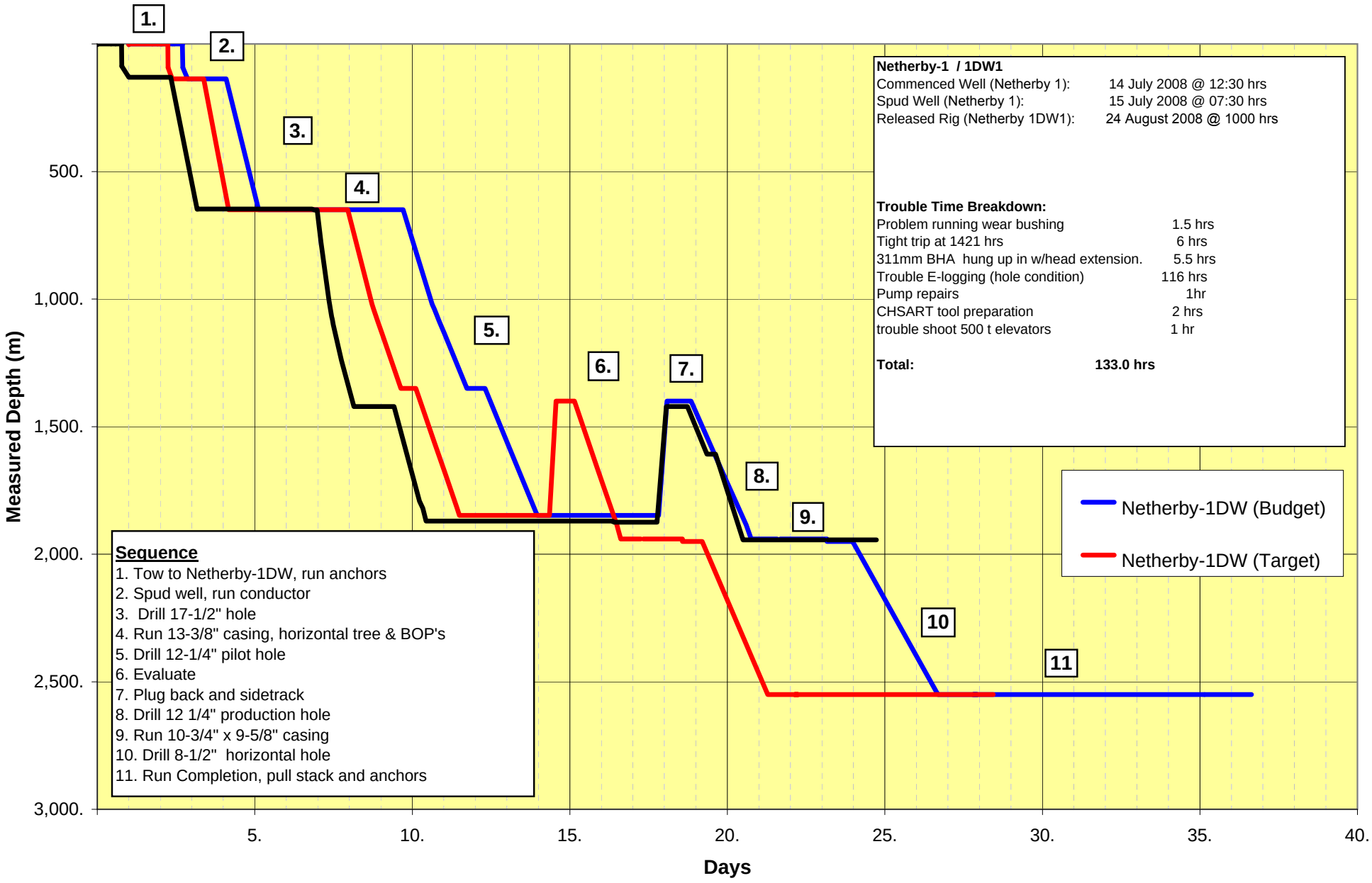
Helicopter Movement

Flight #	Time	Destination	Comment	Pax
1			No flights today	

SECTION 6 : TIME / DEPTH CURVE

The Netherby 1DW1 Time / Depth Curve also incorporates Netherby 1.

Netherby-1 / 1DW1 Time versus Depth Curve



SECTION 7 : BHA SUMMARY

BHA Summaries are also mentioned in Section 8.

Schlumberger

Santos

BHA Data Sheet — Santos Limited - Netherby-1DW

BHA #	12 1/4" Xceed_LWD BHA 8	Date	August 02, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1DW HZ

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in)/ Length (m)	OD (in)/ ID (in)	Max OD (in)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	12 1/4 " Bit	Reed Hycalog	218712		8.50	12.25		0.29	0.29
		RSX616M-A16			3.75		6.63 Reg Pin		
2	Xceed 900	Schlumberger	002	8.25	9.00	12.13	6.63 Reg Box	8.60	8.89
		Xceed 900Stabilizer		0.27	5.25		6.63 FH Box		
3	ARC-8	Schlumberger	2724	8.38	8.38	9.10	6.63 FH Pin	5.87	14.76
		ARC-8		1.44	2.81		6.63 FH Box		
4	PowerPulse HF	Schlumberger	FB 46	8.31	8.31	8.41	6.63 FH Pin	8.49	23.25
		PowerPulse HF		0.48	4.31		6.63 Reg Box		
5	2 x 8" NMDC (2 joints)		SBD5552-3		8.00	8.00	6.63 Reg Pin	18.60	41.85
					2.81		6.63 Reg Box		
6	Crossover	Santos	GUD1231-6		8.00	8.00	6.63 Reg Pin	1.09	42.94
					2.81		4.50 IF Box		
7	9 x 5" HWDP (9 joints)	Diamond	-		5.00	6.50	4.50 IF Pin	84.26	127.20
					3.00		4.50 IF Box		
8	Hydraulic Jar	Dailey Petroleum S	1		6.50	6.63	4.50 IF Pin	10.06	137.26
		HDL-100			2.75		4.50 IF Box		
9	5 X 5" HWDP (5 joints)				5.00	6.50	4.50 IF Pin	46.60	183.86
					3.00		4.50 IF Box		
10	5" 19.50 Drill Pipe to Surface				4.93	6.63	4.50 IF Pin	1.00	184.86
	5,19.5,10% Wear				4.28		4.50 IF Box		

Total Weight (lbf)	44518	Total Len.	184.86
Below Jar (lbf)	34341.4		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.34	0.68
0.34	4.14

Bent Housing Angle (deg)	Bend To Bottom Connection (m)

Sensor	
Type	Distance To Bit (m)
D&I	3.26
Resistivity	11.00
Gamma Ra	11.08
D&I	18.33

Bit Nozzles	
Count	Size(1/32 i
6	15.00
TFA (in2)	1.03

Quality Control	
Created By:	Apartono
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" 19.50 Drill Pipe to Surface	184.86
5 X 5" HWDP (5 joints)	183.86
Hydraulic Jar	137.26
9 x 5" HWDP (9 joints)	127.20
Crossover	42.94
2 x 8" NMDC (2 joints)	41.85
PowerPulse HF	23.25
ARC-8	14.76
Xceed 900	8.89
12 1/4 " Bit	0.29

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1DW HZ
12 1/4" Xceed_LWD BHA 8

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (in)	ID (in)	MAX OD (in)
12 1/4 " Bit	0.29	12.25	3.75	12.25
Xceed 900	8.60	9.00	5.25	12.13
ARC-8	5.87	8.38	2.81	9.10
PowerPulse HF	8.49	8.31	4.31	8.41
2 x 8" NMDC (2 joints)	18.60	8.00	2.81	8.00
Crossover	1.09	8.00	2.81	8.00
9 x 5" HWDP (9 joints)	84.26	5.00	3.00	6.50
Hydraulic Jar	10.06	6.50	2.75	6.63
5 X 5" HWDP (5 joints)	46.60	5.00	3.00	6.50
5" 19.50 Drill Pipe to Su	1.00	4.93	4.28	6.63

Bit to MWD D & I Sensor = 18.33 m
Bit to Gamma Ray Sensor = 11.08 m
Bit to Resistivity Sensor = 11.00 m
Bit to Xceed D & I Sensor = 3.26 m

Insert Logo

DRILLING OVERVIEW

This is a sidetrack BHA. Initial sidetrack operation was using time drilling 1/m/hr method. But since there was no cement support, it was difficult operation. Decided to chase the weight on bit in order to be able to sidetrack. With 7-8 klbs WOB finally the sidetrack was done successfully, and continued drilling to land the well in Waarre A formation at 80 deg.

Depth in:	1421.00 m	Depth out:	1944.50 m
Inclination in:	35.05°	To:	80.90°
Direction in:	116.54°	To:	122.50°
Total Drilled	523.50 m	Dogleg:	5.62

Schlumberger

Quality Control			
Created by:	Apartono	Date:	2/08/2008
Checked by:		Date:	

Schlumberger

Santos

BHA Data Sheet

Santos Limited - Netherby-1DW

BHA #	8 1/2" Xceed_Ecoscope_ BHA #9	Date	August 09, 2008
Field	Netherby	Well	Netherby-1DW
Structure	Netherby	e	Netherby-1DW HZ

Item	Name	Vendor/ Model	Serial #	Fish. Neck OD (in.)/ Length (m)	OD (in.)/ ID (in.)	Max OD (in.)	Bottom/ Top Connection	Length (m)	Cum. Length (m)
1	8 1/2 " PDC Bit	Reed Hycalog	119583		6.00	8.50		0.24	0.24
		RSX519M-A4			2.25		4.50 Reg Pin		
2	Xceed 675	Schlumberger	266		6.75	8.38	4.50 Reg Box	7.66	7.90
		Xceed 675 Stabilizer			2.00		5.50 FH Box		
3	EcoScope w / 8 1/4 Stabilizer	Schlumberger	987		6.75	8.25	5.50 FH Pin	8.04	15.94
		EcoScope w / 8 1/4 Stabilizer			2.00		5.50 FH Box		
4	8_3/8" ILS Stabilizer	Schlumberger	OSS051299B		6.75	8.38	5.50 FH Pin	1.08	17.02
	Attached w/ Telescope 675				3.25		5.50 FH Box		
5	Telescope 675 NF	Schlumberger	FA27		6.75	6.89	5.50 FH Pin	7.53	24.55
		Telescope 675 NF			5.10		5.50 FH Box		
6	XO Saver sub	Schlumberger	OSS061159G		6.75	6.75	5.50 FH Pin	0.50	25.05
					3.00		4.50 IF Box		
7	6 3/4" NMDC	Schlumberger	M364		6.75	6.75	4.50 IF Pin	9.09	34.14
					2.75		4.50 IF Box		
8	6 3/4" NMDC	Schlumberger	0SS0611112A		6.75	6.75	4.50 IF Pin	9.48	43.62
					2.88		4.50 IF Box		
9	5" HWDP (10 joints)	Diamond	Rig		5.00	6.50	4.50 IF Pin	93.42	137.04
					3.00		4.50 IF Box		
10	Hydraulic Jar	HE	21449E		6.50	6.50	4.50 IF Pin	9.32	146.36
		Hydra-Jar			2.75		4.50 IF Box		
11	5" HWDP (4 joints)	Diamond	rig		5.00	6.50	4.50 IF Pin	37.44	183.80
					3.00		4.50 IF Box		
12	5" DP to surface	Diamond	rig		4.93	6.63	4.50 IF Pin	1.00	184.80
	5,19.5,10%Wear				4.28		4.50 IF Box		
					Total Weight (lbf)		37724	Total Len.	184.80
					Below Jar (lbf)		29646.5		

BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.33	0.58
0.40	3.64
0.60	10.53
0.35	16.44
	Bend To Bottom
Bent Housing Angle (deg)	Connection (m)

Sensor	
Type	Distance To Bit (m)
D&I	4.14
Gamma Ra	9.72
Density	10.93
D&I	12.37
Resistivity	12.77
Neutron	13.02
D&I	20.68

Bit Nozzles	
Count	Size(1/32 in
5	13.00
TFA (in2)	0.65

Quality Control	
Created By:	AStroud
Checked By:	

Schlumberger

Santos

	Cum. Len. (m)
5" DP to surface	184.80
5" HWDP (4 joints)	183.80
Hydraulic Jar	146.36
5" HWDP (10 joints)	137.04
6 3/4" NMDC	43.62
6 3/4" NMDC	34.14
XO Saver sub	25.05
Telescope 675 NF	24.55
8_3/8" ILS Stabilizer	17.02
EcoScope w/ 8 1/4 Stabilizer	15.94
Xceed 675	7.90
8 1/2 " PDC Bit	0.24

Santos

Santos Limited
Netherby-1DW
Netherby
Netherby
Netherby-1DW HZ
8 1/2" Xceed_Ecoscope_ BHA #9

BHA DESCRIPTION

ELEMENT	LENGTH (m)	OD (mm)	ID (mm)	Max OD (mm)
8 1/2 " PDC Bit	0.24	8.5	2.3	8.5
Xceed 675	7.66	6.8	2.0	8.4
EcoScope w/ 8 1/4 Stabi	8.04	6.8	2.0	8.3
8_3/8" ILS Stabilizer	1.08	6.8	3.3	8.4
Telescope 675 NF	7.53	6.8	5.1	6.9
XO Saver sub	0.50	6.8	3.0	6.8
6 3/4" NMDC	9.09	6.8	2.8	6.8
6 3/4" NMDC	9.48	6.8	2.9	6.8
5" HWDP (10 joints)	93.42	5.0	3.0	6.5
Hydraulic Jar	9.32	6.5	2.8	6.5
5" HWDP (4 joints)	37.44	5.0	3.0	6.5
5" DP to surface	1.00	4.9	4.3	6.6

Bit to MWD D & I Sensor = 20.68 m
Bit to Neutron Sensor = 13.02 m
Bit to ResistivitySensor = 12.77 m
Bit to Density Sensor = 10.93 m
Bit to GR Sensor = 9.72 m
Bit to Xceed D & I Sensor = 4.14 m

Insert Logo

DRILLING OVERVIEW

The BHA was performed well during drilling the 'U' shape on 8.5" open hole section, from 80 deg to 98.5 deg. The drilling was on Waarre A reservoir sandstone formation. A high torque was faced during drilling this section, limiting the average ROP to 16.1 m/hr. The drilling was successfully penetrate all the geological target.

Depth in:	1944.50 m	Depth out:	2517.00 m
Inclination in:	80.90°	To:	98.42°
Direction in:	122.50°	To:	119.30°
Total Drilled	572.50 m	Dogleg:	3.59

Schlumberger

Quality Control			
Created by:	AStroud	Date:	9/08/2008
Checked by:		Date:	

SECTION 8 : BIT RECORD & PERFORMANCE SUMMARY

Netherby-1 DW1

311mm (12-1/4”) Hole Section
2 – 3 August, 2008

Bit Run NB1 Summary

Bit Number	NB1
Bit Size	311mm (12-1/4”)
Bit Type	REED HYCALOG
S/N	218712
Jets	6 X 15
Depth In (mMDRT)	1421.0
Depth Out (mMDRT)	1944.0
Meters Drilled (m)	523.0
Drilling Hours	15.6
TBR, krevs	166.3
Circulating Hours	79.2
Average ROP m/hr	33.52
API Condition	1-5-BT-G -X-IN-CT-TD

Drilling Parameters

WOB (klbs)	5	-	25
RPM (Surf/Bit)	175	-	208
Torque (kft-lbs)	2.75	-	25.6
Flow In (gpm)	900	-	967
Pump Pressure (psi)	3400		3900

Mud System

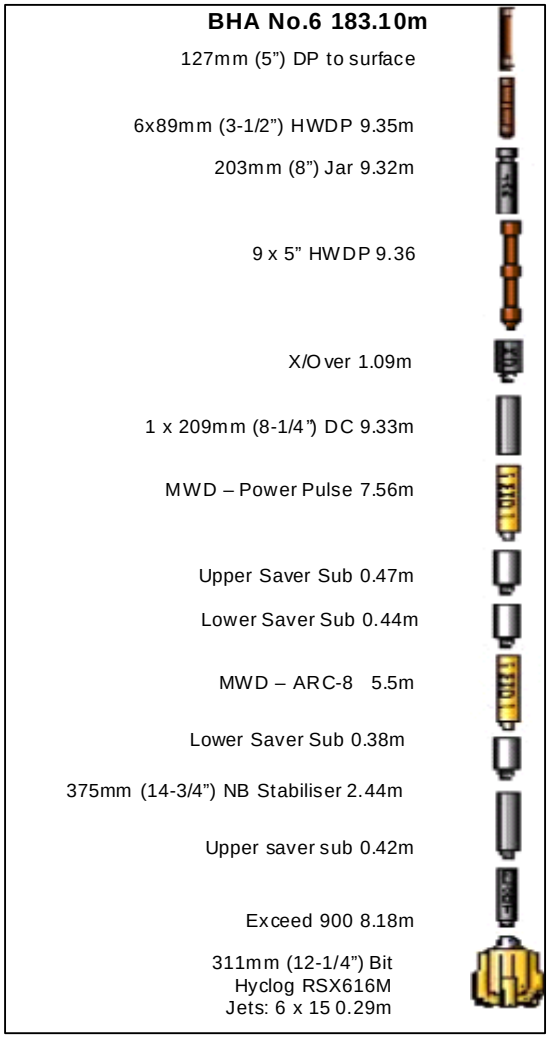
KGLY 1.32sg

Lithology

Sandstone and Siltstone.

Drilling Summary

NB4 was made up of MWD assemblies and a 311mm (12-1/4”) Hycalog bit. It was shallow tested satisfactorily before RIH. Tagged the top of the cement plug from 1421.0 mMDRT then drilled ahead the 311mm (12-1/4”) hole section sidetracking the well from 1505.0 mMDRT. Drilled and steered the well from 1505.0 mMDRT to the 244mm (9-5/8”) casing point at 1944.0 mMDRT. Circulated the hole clean and spotted hi-vis at bottom before POOH to run the 244mm (9-5/8”) casing.



203mm (8-1/2”) Hole Section
August 8, 2008

Bit Run NB2 Summary

Bit Number	NB2
Bit Size	203mm (8-1/2”)
Bit Type	REED RSX519M
S/N	119583
Jets	5 x 13
Depth In (mMDRT)	1944.0
Depth Out (mMDRT)	2517.0
Metres Drilled (m)	573.0
Drilling Hours	15.7
TBR (krevs)	235.6
Circulating Hours	65.4
Average ROP (m/hr)	36.4
API Condition	1-3-BT-G-X-IN-WT-TD

Drilling Parameters

WOB (klbs)	10	-	25
RPM	150	-	205
Torque (kft-lbs)	10.5	-	26.0
Flow In (gpm)	610	-	640
Pump Pressure (psi)	1900	-	2400

Mud System

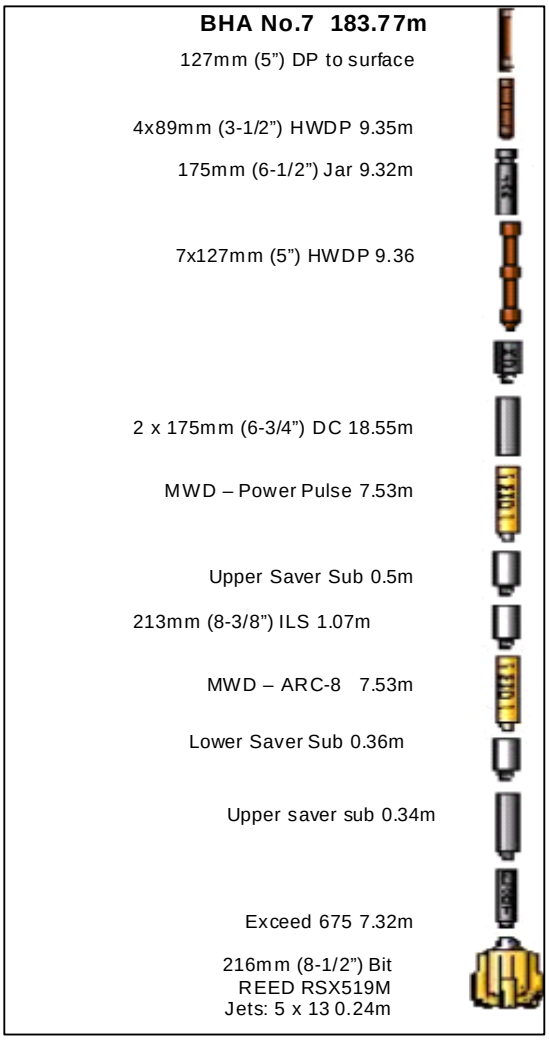
DIF mud and PHG Sweeps 1.15sg

Lithology

Returns to seabed.

Drilling Summary

NB2 was run back to bottom and drilled the horizontal section from 1944.0 to 2517.0 mMDRT. At TD, the hole was circulated clean prior to POOH. At surface, the BHA was racked back in the derrick and preparations were made for well completions.



BIT SUMMARY

OPERATOR	WELL NAME	LOCATION	CONTRACTOR	RIG
Santos Ltd	Netherby-1 & Netherby-1DW1	VIC /P44	Diamond Offshore General Company	Ocean Patriot

BAKER HUGHES INTEQ

Santos

Mud Pump Data

All Sections
165mm (6.0") Liners, 105mm (12") Stroke
97% Eff 0.1018bbl/stk

BIT DULL CHARACTERISTICS

BC - Broken Cone	CI - Cone Interference	JD - Junk Damage	PB - Pinched Bit	SS - Self-Sharpening
BT - Broken Teeth	CR - Cored	LC - Lost Cone	PN - Plugged Nozzle	TR - Tracking
BU - Balled Up	CT - Chipped Teeth	LN - Lost Nozzle	RG - Rounded Gauge	WO - Washed-Out Bit
CC - Cracked Cone	FC - Flat Crested Wear	LT - Lost Teeth	RO - Ring Out	WT - Worn Teeth
CD - Cone Dragged	HC - Heat Checking	OC - Off-Center Wear	SD - Shirttail Damage	NO - No Dull Characs.

REASONS PULLED

BHA - Bottomhole Assembly	LOG - Run Logs	FM - Formation Change	TD - Total / Csg depth
DMF - Downhole Motor failure	RIG - Rig repair	HP - Hole Problems	TQ - Torque
DSF - Drill String failure	CM - Condition Mud	HR - Hours	TW - Twist-Off
DST - Drill Stem Test	CP - Core Point	PP - Pump Pressure	WC - Weather Conditions
DTF - Downhole Tool Failure	DP - Drill Plug	PR - Penetration rate	WO - Washout - Drill String

BHA #	BIT No.	MAKE	TYPE	TFA sq.in.	JETS	SERIAL No.	DEPTH IN m	METRES ON BIT	HRS ON BOTTOM	AV ROP m/hr	IADC HRS	WOB klb	RPM Surf/Bit	TBR krev	SPP psi	FLOW IN gpm	TQ kft-lb	GRADE I	O	D	L	B	G	O	R	MW SG	REMARKS
Netherby 1																											
914mm (36") Hole Section 88.3 - 130.9 mMDRT																											
1	NB1 RR1		Y11C	1.5217	3 x24, 1 x 16	M26690	88.3	42.6	3.8	11.2	5.50	11	41-82 / 56-83	13.2	326	596	4.00	1	1	WT	A	E	I	NO	TD	SW (1.06)	Drill with 36" hole opener
445mm (17-1/2") Hole Section 130.9 - 647.0 mMDRT																											
2	NB2	Hughes	MXL-1V	0.9940	4 x 18.	6062681	130.9	46.0	2.0	23.0	3.50	5	85-100	7.0	1113	811	3.00	0	0	WT	A	E	I	NO	TD	SW (1.06)	Drill with 17.5" hole section
311mm (12-1/4") Hole Section 642.0 - 1875.0 mMDRT																											
3	NB3	Hughes	MXL-1X	1.0523	1 X14, 3 X 20	6066569	642.0	1421.0	10.4	74.0	16.00	5-30	155-160/ 155-196	83.1	1971-2250	850-960	3.0-9.0	1	3	CT	A	X	I	ER	PR	KGLY (1.13)	Change bit for formation
4	NB4	Reed	RSX616	1.071	6 X 16	215850	1421.0	1870.0	15.8	28.4	25.80	4-35	150-197/ 150-205	187.0	2532-3450	750-1006	1.2-30.0	3	4	CT	A	X	I	ER	TD	KGLY (1.34)	Run Wireline
5	NB5	Reed	MXL-1X	1.1689	3 x 20	5119202	1870.0	1875.0	4.5	413.0	2.10	2-10	55-158/ 88-188	0.4	2900-3950	800-1000	0.3-14.5	1	1	NO	A	E	1/16	NO	LOG	KGLY (1.34)	TD
Netherby 1DW1																											
311.5mm (12-1/4") Hole Section 1421.0 -1944.0 mMDRT																											
6	NB1	Hyclog	RSX616M	1.0354	6 X15	218712	1421.0	1944.0	15.6	33.5		5-325	155-175/ 175-208	167.8	3400-3900	900-967	2.75-25.6	1	5	BT	G	X	IN	CT	TD	KGLY (1.13)	Run Casing
216mm (8-1/2") Hole Section 1944.0 - 2517.0 mMDRT																											
7	NB2	Reed	RSX519M	0.778	6 X 13	119583	1944.0	2517.0	30.7	18.7		10-25	120-158/ 120-205	235.6	1900-2400	610-640	10.5-26	1	3	BT	G	X	IN	WT	TD	DIF (1.15)	TD

SECTION 9 : DRILLING FLUIDS REPORT

The Netherby 1DW1 Drilling Fluids Report also incorporates Netherby 1.

DRILLING FLUID SUMMARY

Well: Netherby-1 / Netherby-1 DW

VIC/P 44

Otway Basin

Victoria

Well Start Date: 14th July, 2008
Well Spud Date: 15th July, 2008
Mud Engineers: Wojciech Czarny, Kellie Jericho, Carissa Thompson, Fius Siregar

Prepared By (Rheochem)	**Paul Baker**	
Approved By (Santos)	**Patrick Tomkins**	

CONTENTS

1. SUMMARY OF OPERATIONS

Santos Ltd was the operator for the horizontal gas development well Netherby-1/1DW situated on the Pecten High immediately adjacent to the Shipwreck Trough, located in the VIC/P44 permit offshore Victoria. The nearest well was Pecten-1A located 2.3 km to the east.

The Diamond Offshore General Company semi-submersible rig “Ocean Patriot” was utilised. The rig moved to Netherby-1/1DW from Pecten East-1 on 14th July 2008 and the well was spudded on the 15th July 2008.

All depths are metres measured depth below the rotary table unless otherwise stated. The water depth at the location was 65.4 metres and the rig air-gap was 22 metres.

The Netherby-1 pilot well penetrated as a deviated hole at 35 deg inclination to obtain the primary target, the Waarre A objective. Netherby-1 DW commenced on at 21:00 on the 2nd August 2008, and was successfully drilled in a “U” shape horizontal section approximately 600 metres length over the Waarre A Reservoir to intersect full-stack seismic amplitudes.

The initial 36” hole was drilled to 130.9 metres with seawater/Gel Sweeps followed by lowering and cementing the 30" conductor in place as per program. The shoe was set at 130.9 metres.

The second interval of the 17.5” hole was drilled riserless from 131 to 647 metres followed by the 13 3/8” casing set at 642 m with cementing job performed without problems. Similarly, seawater/Gel sweeps were used as the mud system.

The intermediate 12 1/4” Pilot section was drilled with a Seawater/Pac R and KCl / PHPA / Glycol polymer system from 647 to 1870 metres. The initial part of the 12 1/4” hole section (638 to 968 metres MD) was drilled using a Seawater/Pac R mud system to prevent excessive losses over the shale shakers while penetrating through the renowned Dilwyn sand formation. The second stage of the Netherby-1 12 1/4” section (968 to section TD 1870 metres MD), was drilled with a KCL/PHPA/Glycol polymer mud with natural PHPA depletion before entering the reservoir. The well was logged with Schlumberger wireline operations. After wireline and LWD logging, followed by setting three abandoned plugs of Netherby-1 Pilot hole from TD 1,875 metres up to the top of the KOP plug set at 1,420 metres MD.

SUMMARY OF OPERATIONS (continued)

Netherby-1 DW commenced after 100% formation was encountered after KOP 1,505 metres MD/ 1,445 metres TVD. KCL/GLYCOL/PHPA was utilized from the previous 12 ¼" Pilot Hole well section through to section TD 1,944.5 metres MD/ 1,681.8 metres TVD. PHPA concentrations were maintained through to TD at 1.3-1.5 ppb. 10 ¾" and 9 5/8" Casing was set at 1,936.5 metres MD.

The 8 ½" Reservoir section was drilled using 9.5ppg Wellflow DIF drill-in fluid from 1,944 metres MD to well TD (1517 metres MD/1655 metres TVD).

After the Weatherford sand screens were run into the reservoir formation from 1,965 metres MD – 2,508 metres MD, the casing volume was displaced to 9.6 ppg NaCl Brine.

2. INTERVAL DISCUSSIONS

36” Hole Section

HOLE SIZE : 36”
MUD TYPE : Seawater / Pre-Hydrated Gel Sweeps
INTERVAL : 87 – 130.9 metres
CASING : 30” set at 130.9 metres

Before spudding the 36” section 216 bbl 10.0ppg PHB Kill Mud was prepared as a precaution, as required by the Diamond Offshore shallow gas procedure.

Netherby 1 was spud in at 07:30am on 15th July 2008. This section was drilled with a 26” bit / 36” hole opener assembly from seabed (86.9 metres RT) to T.D. at 130.9 metres. The first 9 metres were rotary drilled with PHG at 250 gpm. Thereafter, the hole was drilled using sea water at 600 gpm, with 100 bbls spotted downhole prior to the connection. At 130.9 metres TD, the hole was swept with 200 bbls Hi Vis PHG pill and a wiper trip was conducted back to 90 metres without problem. The well was then over-displaced (1.5 x open hole volume) with 273 bbl PHG. The 30”conductor casing was run in and set at 130 metres without incident.

DRILLING FLUID:

The total pre-hydrated gel (PHG) volume programmed on the 36” hole was 823 barrels with the actual used being 957 bbls. This consisted of 280 bbls for the first joint drilled, 357 bbl of sweeps and 285 bbls for displacement and the remainder discharged as dead volume from Pit 2 in preparation for building the cement mix water. All PHG was mixed as unflocculated mud. The left over volume of 512 bbl PHG was transferred over to the next section.

SOLIDS CONTROL:

In the 36” hole section, there was no need for solids control as the returns were to the seabed.

17 ½" Hole Section

HOLE SIZE : 17.5"
MUD TYPE : Seawater / Pre-Hydrated Gel Sweeps
INTERVAL : 131 – 647 metres
CASING : 13 3/8" set at 642.5 metres

A total of 512 bbl of 30 ppb PHB Mud was carried forward from the 36" section (including 210bbl of 10.0ppg PHB Kill Mud) and a further 1,388 bbl was built to fill the entire surface system prior to drilling out the shoe.

A 17 ½" assembly was RIH and cement tagged at 128 metres. The shoe was drilled out with seawater. The drilling of the 17½" hole continued riser-less to 647 metres and TD was reached in approximately 18 hours, using seawater and Hi-Vis PHG sweeps. Sweep sizes were reduced to 50bbl mid-stand and 75bbl on connection as per DRR request.

This sweep regime proved adequate and the hole continued to clean well to section TD. A total of 2,365 bbl of PHB was used as sweeps throughout drilling the section. At section TD, 630 metres, a 165 bbl 10.0ppg PHB sweep (un-used Kill Mud) was pumped and circulated out of the hole with seawater. The hole was then over displaced with 700bbls of PHB. Prior to POOH, a 60bbl 8% KCL/PHB 9.6 ppg Pill was spotted on bottom.

A remaining 673 bbl PHB (including dead volume) remained in the pits after displacement, available to be pumped as required.

The 13.3/8" casing was run and cemented without incident with the shoe set at 642.5 metres.

DRILLING FLUID:

Prior to drilling the section, all the tanks were filled with 28ppb PHG fluid. During drilling, two to three sweeps were pumped from Pit 4 (130-175bbl) then the pit topped up again from Pit 5. Pit 5 was then topped back up to 443 bbl with drill water and prehydrated Gel Hi-Vis mixed as un-flocculated at 24-28 ppb, pretreated with 0.1ppb Caustic Soda. The programmed properties with 6RPM reading of > 40 was easily achieved at these concentrations. Drilling with this regime easily kept up with no need to use the fluid in Pits 3 and 2.

12$^{1}/_{4}$" Hole Section Pilot Hole

HOLE SIZE : 12¼"
MUD TYPE : KCl / Glycol/ PHPA/ Polymer
INTERVAL : 647 – 1870 metres
CASING : None – Plug & Abandon

After installing and testing the BOP's, wellhead and making the 12 1/4" BHA, the new Hughes Christian bit equipped with 3x20 and 1x14 jet nozzles run into the 13 3/8" casing to tag cement at 614 metres. Once the float collar was drilled out at 638 metres, the hole displaced to sea water Pac R mud and drilled new hole to 968 metres.

Thereafter, a leak-off test was performed to 17.7ppg EMW at 968 metres followed by the displacement of the hole to a KCL/Glycol/ PHPA/ Polymer mud system..

Drilling 12 1/4" section resumed from 968 to 1,421 metres before making a scheduled bit trip. On tripping out of the hole it was necessary to back ream the following intervals: 1,220 - 1,028 and 1,373 - 1,421 metres. At that time, a decision was made to increase the mud weight from 9.3 to 9.8 ppg with Barite in the presence of cavings and splintery cuttings observed on the shakers while circulating BUP and excessive drag of 60K.

Once the mud weight was established at 9.8 ppg, pulling out of the hole took place. When on the surface, the new Reed Hycalog PDC bit with 6x16" nozzles was run into the hole, reaming as required on the way in. Directional drilling commenced building angle to a maximum of 35 degrees, from 1,241 to section TD at 1,870 metres. The hole was circulated until the shakers were clean, and tripping commenced requiring reaming and pumping OOH until 13 3/8" casing the shoe. The well was circulated clean again for two BUP and a 13 ppg slug pumped to finish POOH.

The Schlumberger wireline logging unit was rigged up, and attempted to run as per program, but at +/-1,300 m MD was hung up while RIH. A wiper trip was conducted, reaming and washing down to TD. While reaming to bottom and circulating at TD, many cuttings were returned to surface. Excessive losses at the shakers resulted due to intermittent blinding due to fine cuttings/ filter cake returns, and high pump rates >1000gpm. After circulating the well clean logging was rigged up again for a second attempt, but could not get below 1,783 metres MD. A second wiper trip was carried out to clear the bottom section of the hole.

12 ¼" Hole Section Pilot Hole (continued)

The tools were hung up again at 1,783 metres (Formation Top for the Waarre). Following this, an attempt was made to run the logs on 5" drill pipe, which were also unsuccessful, as they were hung up at 1,890 metres (Formation Top for the Waarre A Reservoir). A third and final wiper trip was made, which was followed by running of Schlumberger LWD BHA to obtain the relevant logs.

Three P & A balanced cement plugs were then set from section TD at 1,875 metres up to 1,420 metres. The active mud system was treated with 0.25ppb Sodium Bicarbonate before cement operations commenced. The first plug and second plug consisted of 150 bbl of 15.8ppg "G" cement. After setting the each of the first two plugs, excess cement and contaminated mud was conventionally circulated to the surface and discharged over-board. The third kick-off plug consisted of 170 bbl of 16.5 - 17.0ppg type "G" cement. After pulling above the plug to 1,320 metres, the excess cement and contaminated mud was reverse circulated, and discharged at the shakers. Each of the cement plugs were comprised of 20% excess volume, for precautionary washout percentage.

After POOH with the mule shoe, the Netherby-1 DW BHA was picked up. Top of cement was tagged at 1,421 metres. Cement stringers and green cement were observed while trying to kick-off the well. Cement contamination resulted from drilling the cement, which was treated with further Sodium Bicarbonate, and Citric Acid. Kick-off for Netherby-1 DW occurred at 21:00 hrs, at 1,505 metres MD/ 1,445 metres TVD.

Drilling Fluids

A total of 320 bbl in Pit 2 of the PHG from the 17.5" section was initially kept for Hi-Vis Sweeps while drilling the sands, with the plan to use only Pits 1 and 3 for the Seawater/Rheopac R mud displacement. However due to the forecast of bad weather, it was necessary to ensure there was enough KCL/Glycol mud in the pits to displace at 1,000 metres, necessitating Pit 3 to be used for KCL/Glycol Premix and Pit 2 therefore for Seawater/Rheopac R. Consequently no PHG was left on surface prior to the start of the 12.25" section.

An initial volume of 670bbl 8.55ppg Seawater/Rheopac R fluid was prepared for the initial displacement of the well. Heavy losses over the shakers were expected to be encountered while drilling through unsorted sands in the Mepunga/Dilwyn formations 684-1,023 metres. It was required to build 903 bbl of seawater/Pac R mud with 3.7 ppb of Rheochem Pac R to viscosify the fluid and secondary provide filtration control while drilling.

12 ¼" Hole Section Pilot Hole (continued)

Average losses oscillated at 70 bph until 966 metres including downhole washouts. Based on the 70 bbl Hi Vis pill pumped ahead of KCL/PHPA/Glycol mud, the average hole diameter was 13".

Good encapsulation of cuttings was noticed utilizing the SW/PAC R mud system while drilling Marl claystone in the form of massive not dispersed cuttings present on the shale shakers, which were dressed with 84 XL mesh screens

Once it was confirmed that the Dilwyn Sand formation had successfully been drilled and sand blinding had diminished at 968 metres the well displaced to recycled KCL/ PHPA /Glycol polymer system, pumping a 70 bbl of Hi Vis SW/PacR mud spacer to minimize the contaminated interface.

A total of 1,127 bbl of 16 % KCL / 6 % Glycol MC brine received from the mud plant in Portland, which was cut back on the rig to 3-3.3% Glycol and 8-9% KCL in the premixes, to maintain the active mud system at the desired parameters.

After displacing the well to KCL/PHPA/Glycol system, and the mud had been sheared through the bit, the active system was treated with a rich polymer premix; concentration made up to the following recipe: 6 Big Bags of KCL, 12 sx Drispac SL, 8 sx of Flowzan, 20 drums of Drillpol (liquid PHPA) as well as 10 drums of Glychem MC and Barite used for weighting up to 9.0 ppg.

During this section two main changes were implemented into the mud system. *First,* at approx 1,474 metres MD +/-150 metres before encountering the Waarre-A reservoir, the PHPA additions were stopped and the concentration was allowed to naturally deplete by the end of the interval. *Second*, before penetrating the Skull Creek formation at 1,491 metres TVD the active mud weight was increased to 11.0 ppg with additions of Barite.

The shale inhibition was achieved by using both a liquid polyamine shale inhibitor (Glycol) at 3% by vol. and partially hydrolyzed polyacrylamide polymer (PHPA) at 1.0 ppb. Additionally, 8-8.6 % KCL assisted in shale inhibition.

Before making a trip for Schlumberger logging, on the last circulation, the mud left in the hole was treated with 5 sx of Sodium Sulphite to obtain 100 mg/l Sulphite excess and 3 drums of Idcide- 20 to prevent bacteria degradation. After the first wiper trip, a further 4 sx Sodium Sulphite and 3 drums of IDCIDE-20 was added to the system to maintain mud condition.
Total mud losses for the section were 4,120bbl Seawater/Pac R mud and KCL/Glycol/Polymer mud. Total volume Built throughout the interval was 3,129bbl.

12 ¼" Hole Section Pilot Hole (continued)

Mud Properties

Mud Weight

Mud weight at the start of the section was 9.2 ppg and remained constant until the program was set to gradually increase it in increments from 9.3 ppg to 9.8 and 11.0 ppg, due to the overpressure of the Skull Creek formation at 1,491 metres MD.

The weight up procedure was scheduled to take place after the first bit trip at 1,421 metres. However, the wellbore showed excessive drag of 60 K and cavings on the shale shakers while POOH for the bit trip, deeming it necessary to implement the weight of the active system to be increase to 9.8ppg before Tripping out.

The mud weight reached a maximum of 11.1 ppg and LGS at 4.3% while reaching TD.

Mud weight increased to a maximum of 11.3ppg, with LGS reaching 4.9% during the two unexpected wiper trips.

Fluid Loss

API filtration prior to displacement of the Seawater/Pac R system at 647 metres was more than 20 ml with almost 4 ppb of Rheochem Pac R polymer as the result of no solids and minimal filter cake while drilling fast sand sections with fresh sea water dilution necessary to keep the volume.

The remainder of the section drilled with KCL/ PHPA/ Glycol polymer mud with 2.0 ppb Drispac SL, resulting in a stable filtration in the range of 5.6 – 6.2 ml in the active system before it was tightened to less than 4 ml before TD.

Rheology

Whilst drilling with the KCL/Glycol/Polymer system, the 6rpm reading and yield point was closely monitored and controlled by additions of Flowzan/PHPA. Prior to displacement the 6rpm was 7 dial units, to minimise shaker losses. Whilst drilling the 6rpm varied between 11 – 14 lb/100ft^2.

Rheology (continued)

The Yield point value was very stable in range 27 – 41 lb/100 ft ²). The hole showed no signs of cuttings fill while trips were made, and cuttings rate at the shakers was monitored to ensure sufficient cuttings suspension was obtained.

A flow rate in the range of 1000 GPM assisted in hole-cleaning while drilling through to section TD.

Upon the second wiper trip a 70bbl 11.0pppg Hi-vis pill was pumped to ensure satisfactory cleaning had been obtained. Hole cleaning with the 6rpm reading 12 - 13 lb/100ft2 proved to be sufficient, with no apparent increase in cuttings at the shakers.

KCl Content

The KCl concentration of the concentrate brine from the LMP was 16% and this was cut back with drill-water with an approximate 1:1 - 1.15:1 ratio in premixes to give a KCl content of 8 - 9%. The KCl concentration was monitored and remained stable at 8.3 - 8.8% with no obvious signs of depletion throughout the section. Additional treatments of sacked KCL were further added to the active system while drilling ahead to section TD after the scheduled bit trip at 1,421 metres. Results were apparent, displaying excellent inhibition with well-formed, firm and discrete cuttings, with evidence of the PDC bit signature.

PHPA Content

To minimize mud losses over the shakers during displacement, the fresh mud was built with 0.5 ppb Liquid PHPA (Drillpol).

Recycled mud prepared for the displacement volume was built with 0.5 ppb PHPA and was circulated through the shear hoppers while waiting on weather. During the displacement, no losses were observed at shakers when mud arrived on the surface.

The PHPA concentration was increased and maintained by bleeding in a 3.6 ppb PHPA premix to the warm active system (100ºF+) whilst drilling. Losses over the shakers were not a problem. Cuttings observation identified excellent encapsulation, which provided discrete, dry cuttings with minimal dispersion.
About 150 metres before entering Waarre formation, the PHPA was not added to the system to allow for natural depletion.

Glycol Content

The Glycol concentration of the concentrate brine was 16% and this was cut back with drill water in premixes to give a Glycol content of 3 - 3.3 %. The concentration of Glycol was maintained at 3 - 3.3 % in the active system by providing additions from fresh premixes. Additions of Glychem MC were made to the active system while drilling ahead to uphold system concentrations at 3 - 3.5%.

Solids Control Equipment

4 x BEM-650 MI SWACO Shale Shakers were installed on the Ocean Patriot along with 2 x 518 FVS MI SWACO centrifuges.

The shale shakers were dressed with 4x84 (API60) mesh on all 4 shakers, for drilling out cement and during the displacement of the KCL/Glycol/PHPA mud system to minimize any whole mud losses.

Total of new screens used on 12 ¼" section Netherby-1 were:-

22 x 230HC mesh - NEW
4 x 200HC mesh - NEW
16x 84XL mesh – USED (ex Pecten East-1)
8 x 20 mesh
4 x 10 mesh

One centrifuge was utilised from 1,600 metres to lower/control mud weight and LGS (1 x FVS518 MISWACO centrifuge, operated at 2800rpm, feed - 35 gpm per unit). Due to awaiting the arrival of a spare cooling motor for the second centrifuge, only one unit was available for operation during this section. The centrifuge was also utilized during the wiper trips to reduce LGS% and Mud Weight.

12 1/4" Hole Section DW

HOLE SIZE : 12 ¼"
MUD TYPE : KCl / Polymer / Glycol/PHPA
INTERVAL : 1,505 – 1,944 metres
CASING : 10 3/4 & 9 5/8 Casing 1,936.5 metres

The remaining volume from the previous 12¼" section used for Netherby-1 was utilized for kicking off and drilling to section TD. This consisted of 1,243bbl of the active mud system, with 550bbl reserve volume of KCL/Glycol/Polymer mud, and 324bbl neat KCL/Glycol brine.

A 12 1/4" drilling assembly, with a Reed Hycalog PDC bit, Schlumberger Xceed 900 directional assembly and MWD and resistivity BHA were used to commence kick-off from the previous well Netherby-1.

Drilling commenced without problems.

Cement contamination (from drilling through cement during kick-off), was closely monitored and treated with Sodium Bicarbonate, Soda Ash and Citric Acid additions to ensure the mud system properties were up-held within the desired parameters.

PHPA additions were initiated just prior to kick-off. The system required the concentration to be increased from 0ppb to 1.5-2.0ppb while drilling ahead. Powdered PHPA additions were made while drilling ahead. While adding the powdered PHPA, pump pressures were monitored for fluctuations and reductions. A 500-600psi reduction was noted while adding to the active system. PHPA addition did not have to cease, as the drilling to TD penetrated only +/-3m TVD into reservoir formation (Waarre A).

Because the mud from the previous well was used (weighing 11.0ppg), it was not necessary to weight-up the active system further with any Barite additions. Two centrifuges were utilized to maintain the active mud system at 11.0ppg while drilling the interval.

The maximum angle encountered was 80.9 degrees was reached throughout the section.

After reaching section TD 1,944.5 metres MD/ 1,681.8 metres TVD, the well was circulated until the shakers were clean with 5 x bottoms up.

12¼" Hole Section DW (continued)

A wiper trip was required, which was conducted from 1,904 – 1,160 metres MD. Upon the trip out of the hole the booster pump was operated as frequently as possible.

While POOH, 100bbl 11.0ppg Hi-vis Pill was circulated to the surface at 1,620 metres MD. At 1,160 metres MD, a second 130bbl Hi-vis sweep was circulated to surface to ensure all cuttings had been removed from the wellbore.

Upon back-reaming OOH, there were intermittent periods of increased and diminished cuttings at the shakers. On both occasions of pumping the hi-vis sweeps, there were no significant increases in cuttings observed at the shakers.

While conducting the wiper trip liquid PHPA additions were initiated to maintain the PHPA concentration in the active system, and enhance lubrication.

After RIH to section TD, bottoms up was circulated again, then a final 100bbl Hi-vis sweep was pumped to ensure the well was as clean as possible before POOH. The Riser was boosted in unison with all of the Hi-vis sweeps being circulated to surface. Whole mud losses were observed at the shakers upon each hi-vis sweep returning to surface.

Total mud losses for the section were: 1,316 bbl KCL/Glycol/Polymer mud + 312 bbl dead volume dumped from sand traps and pits during Pit clean up.

A total of 1,412 bbl 10.8ppg KCL/Glycol/PHPA mud was transferred to the Nor Captain at the end of the interval to be utilized on the next Santos well – Henry-2.

Mud Properties

Typical premix volume built in this section consisted of 50-60% Brine and 40-50% Drill water. Mud chemical concentrations ranged from 8-9% KCl, 3-3.2% Glychem MC, 0.8-2.3ppb JK-261 LV, 1.1-1.3ppb Flowzan and 1.5ppb Drispac-SL. Premixes were weighted up to 10.7-11.0ppg with additions of Barite.

Mud Weight

The mud weight from the previous well section was maintained at 11.1ppg upon kick-off of Netherby-1 DW, and remained stable, reaching a maximum of 11.2ppg during the section. The usage of the 2 x centrifuges was critical during this interval, minimizing LGS incorporation in the system, while also reducing and maintaining MW. Premix additions were the same as the Active mud weight 11.0ppg, therefore any increase in solids retention into the system was readily observed, and centrifuges were operated.

12¼" Hole Section DW (continued)

LGS commenced with 4.4% at the start of the interval, and were 4.6% by section TD due to the use of 2x MISWACO centrifuges that were operated if there were was any reported indications of solids incorporation while drilling ahead. Retort results showed 14%-15% uncorrected solids.

Fluid Loss

Fluid loss prior to displacement was 4.0 ml/30mins with the recycled mud from the previous section.

All new premixes used in this section were built with 1.5ppb Drispac SL, and after relentless cement contamination in the system, Drispac SL was directly added to the active system to counter attrition rates. The API LPLT tests presented a thin and slick filter cake, even after encountering cement contamination, with filtrate at 7.4 - 4.0 cc/30 min throughout the section.

Rheology

For this section the 6 rpm reading was recorded at the API standard 120ºF
Overall, good hole cleaning was observed throughout this section, as indicated by no increase in cuttings observed while circulating the hi-viscosity sweeps to surface. The flow rate of the pumps was 800gpm while kicking off the section, then during drilling ahead pump rates were averaging 900-1000gpm (930-950gpm most frequently used). Surface rpm ranged from 175-200 while drilling ahead and back-reaming, increasing hole-cleaning potential.

The 6rpm and yield point was 12-14 lb/100ft^2 and 30-49 lb/100ft^2, respectively.
Maximum BHT reached 75 degrees Celsius (169ºF) as reported by Schlumberger down-hole logging equipment.

KCl Content

The KCl concentration of the concentrate brine from the LMP was 16% and this was cut back with drill-water with a 50:50 - 60:40 ratio in premixes to give a KCl content of 8 - 9.6%.

KCL content at the start of the interval commenced with 8.3% by wt. whilst drilling clay/shale cuttings began to present slightly hydrated properties. Therefore, KCl was added directly to the active system to improve cuttings inhibition.

KCl Content (continued)

A supplementary 1.0% KCl was added to the active throughout drilling the well interval, minimizing dispersion from clays and the overall appearance of the cuttings improved significantly from the KCl additions. From the observations of the cuttings at the shakers it was conclusive that KCl concentrations of 8 - 9% excess demonstrated better inhibitions, and could be considered in successive wells in the area.

PHPA Content

Surface volume in the pits before kick-off of Netherby-1 DW was built with 0.5ppb powdered PHPA.

Fresh premix was built with 1.1 ppb powdered PHPA, with program concentrations of all other fluid additives. The PHPA concentration was increased and upheld by adding a stronger concentration of powdered PHPA to the premixes (2.1 - 2.3ppb) before bleeding them into the active system for volume maintenance.

Dry PHPA, was able to be added directly to the active system, at monitored rates due to pump pressure fluctuations reported by the drillers. PHPA concentrations were maintained at approximately 1.3 - 1.5ppb PHPA with premixes and dry additions throughout the interval. High concentration premixes were found to be most effective, which were used to bleed into to the active system for volume maintenance whilst drilling. Cuttings were observed to be adequately encapsulated and presented little dispersion.

Glycol Content

The Glycol concentration of the KCl/Glycol Brine offloaded in bulk from the supply boats was 6%. The neat brine was then cut back onboard with additions of drill water in premix recipes to provide a Glycol content of 3% in the active system. The concentration of Glycol was maintained at 2.9 - 3.2% % in the active system by providing additions from fresh premixes containing 3 - 3.3% Glycol, with additional drums of Glychem MC used to re-establish specification parameters to 3 - 3.2% when concentration readings fell below 3%.

Solids Control Equipment

4 x BEM-650 MI SWACO Shale Shakers were used, along with 2 x 518 FVS MI SWACO centrifuges.

Although both centrifuges were operated and utilised throughout this interval, there were restrictions of maximum processing capacity to 30gpm on Centrifuge#2. This limitation is due to the monopump feed line assembly from down in the pit room, up to the Centrifuge platform. Centrifuge #2 was operated at 15 - 30gpm during this interval, while Centrifuge #1 was operated at 40 - 45gpm providing better solids control efficiency.

The centrifuges were frequently utilised to lower/control mud weight and LGS%. This SCE provided sufficient solids removal.

Hydrocones were not trialed or used throughout this interval, as it had been proven on previous wells that both the Desander and Desilter provided in-efficient solids removal from the active system, while incurring high rates of whole mud dilution.

The shale shakers were dressed with 200 and 230 mesh screens (API100 and 120). Shakers screens were kept fine for drilling out cement to extract as much whole cement particles as possible from the active system. No blinding was observed at any point while drilling this interval. And shaker screens handled the 950gpm flowrates with ease, even while increasing PHPA concentrations in the system.

Mechanical problems appeared in terms of shale shaker operation, in which the hydraulic system, to tilt the shakers up and down at various degrees of inclination. The button for activating the hydraulic system were stuck-on, which meant (depending on lever adjustment) the angle of the shakers was either fully tilted upward, or fully downward. Due to highly sheared mud and warm system temperatures this did not become a serious mud loss issue, however there is potential for this to impact on future operations and mud systems.

<u>Total of new screens used on 12 ¼ ” section Netherby-1 DW were:-</u>

0 x New Screens used
All screens that were utilized on this section were pre-USED
8x 20-mesh USED flat screen SCALPER
12 x 200HC mesh USED
12 x 230HC mesh USED

Screens were recycled from the previous well section, and were rotated and repaired as required for any damage during drilling operat

8$^1/_2$" Hole Section

HOLE SIZE : 8 1/2"
MUD TYPE : Wellflow DIF
INTERVAL : 1,944 – 2,517 metres
CASING : No Casing

A total of 1,387bbl of 9.5ppg Wellflow DIF was received from the Far Grip vessel onto the Ocean Patriot while the casing was being run and cemented for the previous hole section. After displacement took place, a further 100bbl of premixed DIF was received onboard the rig.

An 8$^1/_2$" drilling assembly, with a REED SonicVision 675 PDC bit, Schlumberger Xceed 675 directional assembly and MWD BHA were used to commence from the previous section.

After Tagging TOC at 1,900 metres, the shoe track was drilled out with the exisiting KCL/Glycol/PHPA mud system. At 1,921 metres, the casing volume was circulated and displaced to Wellflow DIF.

Drilling commenced without incident section to TD at 2,517 metres MD / 1,655 metres TVD, with a maximum angle of 96.37 degrees reached throughout the 8.5" section.

After reaching section TD, the well was circulated until the shakers were clean with 2 x bottoms up. After the shakers were clean, a wiper trip up to the casing shoe and back to TD was scheduled with pumps off to simulate the production screens being RIH. The shakers were dressed with 325 mesh screens during circulating BU, to screen out as many solids as possible.

PST tests were conducted on 175 micron sample screens from the active circulating system with results from the active mud at the header box of the shakers attaining 9 sec/litre whilst circulating. Program specification standard for the PST results of the active mud system had to be <30sec/litre before completion could take place. This standard of <30 sec/litre was satisfied even whilst actively drilling ahead the 8.5" section with results reaching a maximum of 12 sec/litre while drilling.

Total mud losses for the section were: 494 bbl Wellflow DIF whilst drilling + 364 bbl of contaminated or dead volume DIF discharged at the end of the section.

Mud Properties

A total of 1,600bbl of 9.5ppg Wellflow DIF was prepared in Portland, and transferred to the Far Grip vessel. An initial 1,387bbls was received from the Far Grip prior to displacement.

Premix product concentration consisted of:
0.1ppb Caustic Soda
48ppb NaCl Salt
0.25ppb Sodium Sulphite
0.2ppb IDCIDE (Biocide)
0.8 - 1.0ppb XANVIS
3.5ppb Starch M
28ppb Omyacarb M

Once the premixed DIF mud was received onto the Rig, the system was treated with a further 0.5ppb XANVIS to give the programmed concentration of 1.5ppb.

Mud Weight

The mud weight prior to displacement was 9.5ppg, as had been mixed at the Mud Plant in Portland, and received from the Far Grip onto the Ocean Patriot. No settling out of Calcium Carbonate had been induced during transportation.

Premixed mud was displaced with 9.5ppg mud, which was maintained at 9.5 - 9.6+ ppg upon drilling the section, and remained stable, reaching a maximum of 9.7ppg during the section.

The usage of the 2 x centrifuges was supportive during this interval, minimizing LGS incorporation in the system, while also controlling MW and maintaining a low sand content%. Premix additions were the same as the Active mud weight 9.5ppg. Due to evaporation, drill water was required to stabilize the system and help to maintain the MW.

LGS commenced with 0.0% at the start of the interval, and reached 1.0% by section TD The use of 2x MISWACO centrifuges were operated to help maintain the Wellflow DIF in excellent condition to well TD. Retort results showed 7% - 9% uncorrected solids.

Fluid Loss

Fluid loss prior to displacement was 3.8 ml/30mins tested with the new mud received from the Portland mud plant, with an additional 0.5ppb XANVIS (total concentration of 1.5ppb Xanvis).

All new premixes used in this section were built with 3.5ppb Starch M. Additions of Starch M were made to the active system, after additions of drill water to the Flow line commenced, to maintain fluid loss reading below 4ml/30min (API Readings).
Filter cake results were thin and slick (0.5/32nd of an inch), and remained this way until section TD.

Rheology

For this section the 6 rpm reading was recorded at the API standard 120ºF. Good hole-cleaning was observed throughout this section, with cuttings returned consisting mostly of fine sands. The flow rate of the pumps was 600gpm while drilling ahead. Additions of Xanvis to the active system were required approximately every 6 hours at a concentration of +/-0.2ppb. After additions of drill water commenced at the Flowline, the 6rpm low-end rheology appeared to remain more stable. The Funnel viscosity readings ranged from 42 - 50 secs/qt.

The 6rpm and yield point was 10 - 14lb/100ft^2 and 21-36 lb/100ft^2, respectively.

NaCl Content

The NaCl concentration of the brine was maintained whilst drilling at 12.5 - 13% by wt. minimal additions of salt were required while drilling operations took place, and this was due to increased drill water additions to combat evaporation.

At section TD, the shaker screens were dressed with 325 mesh. This required no additional NaCl salt to maintain the MW as minimal % of sized calcium carbonate was being screened out of the system. An estimated five percent of calcium carbonate was being screened out over the 325 mesh screens *(geologist verification).

Solids Control Equipment

4 x BEM-650 MI SWACO Shale Shakers were used, along with 2 x 518 FVS MI SWACO centrifuges.

The centrifuges were frequently utilised to lower/control mud weight and LGS%. This SCE provided sufficient solids removal. Centrifuges were operated at 2400-2600 rpm, 30-50gpm. Centrifuge discard was weighed at 15.7 - 15.8ppg.
Hydrocones were not trialed or used throughout this interval, as it had been proven on previous wells that both the Desander and Desilter provided in-efficient solids removal from the active system, while incurring high rates of whole mud dilution.

The shale shakers were dressed with 200 mesh screens (API100) at the start of the interval, as a precaution for unwanted screening out of the calcium carbonate weighting agent in the active system. Once Drilling ahead took place, the 200 mesh screens were replaced with 230 mesh (API 120). Screens performed well throughout the section.

The booster pump was trialed occasionally while drilling ahead, but mud losses at shakers were observed, while running both 200 and 230 mesh screens.

Mechanical problems appeared in terms of shale shaker operation, in which the hydraulic system, to tilt the shakers up and down at various degrees of inclination. The button for activating the hydraulic system were stuck-on, which meant (depending on lever adjustment) the angle of the shakers was either fully tilted upward, or fully downward. Due to the low pump rates required for this section it did not affect dilution rates severely, however there is potential for this to impact on future operations and mud systems.

<u>Total of new screens used on 8 1/2" section Netherby-1 DW were:-</u>

10 x 200HC New
6 x 230HC New
16 x 325HC New
14 x 200HC mesh USED
15 x 230HC mesh USED
8x 20-mesh USED flat screen SCALPER – placed on the front
4 x 40-mesh USED flat screen SCALPER - placed on the back

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Completion Section

HOLE SIZE : 8 1/2"
MUD TYPE : 9.6ppg Sodium Chloride Completion Brine
CASING : 6 5/8" Sand Screens 1,965 mRT MD - 2,508 mRT MD
6 5/8" Production Tubing 1,746 mRT MD – 1,965 mRT MD
7" Production Tubing surface to 1,746 mRT MD

Cleaning of Pits 1 and 2 to receive the completion brine commenced after the displacement of the well to Wellbore DIF fluid. Cleaning of Pit 4 commenced when Pit 4 became available.

A total of 1,044bbl 9.6ppg Sodium Chloride Completion Brine was received from the Far Grip vessel onto the Ocean Patriot into Pits 4, 1 and 2 showing NTU readings of 130-140. After 24 hours with agitators off they had settled to 44, 31 and 18 NTU respectively. Each pit was then treated with Idcide. Pit 5 was cleaned and a further 150bbl 9.6ppg Sodium Chloride Completion Brine was built as soon as possible.

Using 100bbl of Brine in Pit 1, a High Viscosity Brine was prepared with 4 ppb Flowzan for the Push-Pull Hi-Vis sweeps. The Detergent Sweep was prepared in the Slug Pit with 70 bbl of Brine from Pit 2 and 1.3 gal/bbl Dirt Magnet.
Prior to the displacement, all the remaining brine (minus dead volume in pit 2) had been consolidated into Pits 4 and 5 (921bbl) with NTU readings of 48 and 150 respectively. A total of 290 bbl of DIF Fluid was backloaded from the Desilter/Desander/Degaser and Pit 3 (leaving 170bbl for circulation) to make room for more DIF fluid.

Displacement commenced by pumping 40 bbl Hi-Vis Brine, followed by 50 bbl Detergent sweep, chased by 60 bbl Hi-Vis Brine. The rig pumps were stopped between each sweep to minimize the interface and all rig pumps were flushed with all 3 sweeps. Displacement continued with Brine from Pit 4. After 30 bbl of brine had been pumped all the choke/kill/booster lines were flushed and the riser boosted when the interface was due back.

Wellbore DIF fluid returns were taken back to Pit 3, and approximately 200bbl was transferred directly to the boat to make room for remaining displacement volume. As soon as contaminated mud was seen back at the shakers it was discharged along with all sweep volume. The Brines turbidity levels were monitored to assess cleanup. The final reading of Brine coming from the well was 538 NTU. A check on the remaining volume in Pits 5 and 4 showed 638 and 382 NTU respectively and circulation was stopped as per Completion Supervisors request.

Completion Section (continued)

All Brine returns from the well were discharged thence forward. It was necessary to prepare further 200bbl brine, 105 bbl of which was used to jet the BOP's. Another 120 bbl of brine was prepared to give 250 bbl pumpable Kill Fluid (required enough volume to displace the tubular), should it be needed.

The well was flushed with a total of 150bbl sweeps and over-displaced with 752 bbl of Brine.

244bbl of brine was returned to the pits when circulation was broken and the tubular volume displaced to diesel.

Following the Cleanup, 50 bbl of 100% MEG was spotted between the TRSCSSSV and lower crown plug using the cement unit. Each IBC of MEG was pumped up to the cement unit tanks using 2 of the cementer's lung pumps. The dead volume from each IBC was then pumped into a single IBC using the Diamond Drilling Lung pump. This effectively maintained the MEG volume in the cementers' tanks.

4. RECOMMENDATIONS & LESSONS LEARNT

The sweep regime used for the 36" and 17.5" section performed efficiently in cleaning the well bore and maintaining hole stability for running the casing. A Bentonite concentration of 27ppb was sufficient to ensure the fluid specifications required and the Truvis yielded quickly. The rigs bulk transfer system worked adequately, and Bentonite was mixed without difficulty using the one hopper available to mix the gel.

Prior to the 12.25" Pilot hole section have shakers dressed with 84HC mesh initially, so as to minimise any losses with cool mud temp, and /or unsheared polymers – then screen up asap once circulating and mud has sheared and warmed.

Problems were observed mixing the first 40 sacks of Pac R. This lead to excess time spent unblocking the mixing hopper which became plugged when mixing the product. Due to a change in the program a decision was made to use Pac R for the start of this section. On further investigation it seemed a pallet of old stock of Pac R had been sent to the rig and due to the logistic requirements it passed through the TLMP without being checked. For all Santos projects Rheochem polymers will not be used after they have passed a 2 year time period.

Have 6rpm reading of the KCl/Glycol mud for the 12.25" pilot hole at approximately 8-10 dial units before displacement – so as to minimise any whole mud losses during initial circulations. 6rpm reading can then be increased as required for hole-cleaning, and as screen size dictates.

During the 12.25" pilot hole, let mud warm up before bleeding in High concentration PHPA premix once drilling.

Ensure a hi-vis spacer is used while displacing the well from SW/Pac R to PHPA mud, to assess possible washout and mud interface.

Due to pump pressure fluctuations while adding powdered PHPA directly to the active, it is recommended to build high concentration PHPA in premixes before bleeding into the Active system (2.0-2.5ppb, or stronger if possible- dependent on hopper capabilities/blocking). Additional sacks can still be added to the active for maintenance purposes, but only at slow rates of addition (approx 30min/sx).

RECOMMENDATIONS & LESSONS LEARNT (Continued)

Make supplemental additions of 25kg sacks of KCL to the active while drilling ahead every 3-4 hours. This has proven to be very effective on the previous three Santos wells in the Sorrel/Otway Basin Campaign, and it is recommended to continue this practice if possible. Cuttings presentation on the shale shakers after the sacked KCL had been added to the system was exhibited – very firm, dry and discrete cuttings with PDC bit signature markings.

Ensure the high-vis spacer for displacement from KCL/Glycol fluid to the DIF fluid has a funnel vis >150 sec/qt. Allow for +/-60bbl DIF volume lost during the displacement to ensure good mud at surface.

Displacement rate for Wellflow DIF occurred at 20bbl/min. If back loading previously existing KCl mud from the well to the boat, ensure the boat hose is connected before displacement occurs, and test out the line by back loading +/-50 bbl of mud to test the line-up. Also it is recommended that you have plenty of room in the pit before commencing the displacement, as the boat transfer is slower than 20 bbl/min(room for 400bbl+)

Add 1-3 bbl/hr drill water to flow line when mud temp reaches 120ºF or greater. monitor Chloride content to ensure adequate compensation for evaporation.

Run 2 x centrifuges if/when required.

Leave plenty of time for pit cleaning (7+ hours per pit) to receive the completion brine as running of the screens and tubulars could see the derrickman called up to the rig floor.

Ensure the Header Box, Possum Belly and the trays under the shakers are cleaned thoroughly prior to the displacement of the well to completion brine.

Mix the Hi-Vis Pill in Pit 1, and this will leave Pit 1 available for the second Hi-Vis Pill later on in the completion.

Mix the Detergent Pill in the Slug Pit as the Slug Pit will be a dedicated Seawater pit as the completion progresses.

RECOMMENDATIONS & LESSONS LEARNT (Continued)

In addition to the 1.5+ x over-displacement Brine, ensure there is enough volume to fill the hole when the drill pipe is pulled out, another 100 bbl for flushing the BOP's and approximately 10 bbl for filling the bottom of the surge tank, 25 bbl for the Poor boy and enough contingent kill brine to fill the tubulars.

Ensure and reiterate numerous times that the driller should flush all rig pumps, flush choke/Kill/booster lines early in the brine displacement to minimize solids being introduced later in the cleanup.

During the displacement of the well to Completion brine dedicate one brine pit as the active and use a mix line to top it up with the other pits to avoid running the pits too low and loosing rig pump prime.

If a filtration unit is to be utilised in the future to achieve cleaner brine, it will use the red mix line. It is recommended that Brine is filtered from a designated dirty pit, into the other clean pits.

5. FRP INTERVAL SUMMARIES

Interval Summary

Santos Ltd **Netherby - 1** **36" Section**

Key Interval Data	
Initial Depth (m)	0
Final Depth (m)	131
Interval Depth (m)	131

Volume Reconcile	
Recd From Prev Section	0
Received Volume LMP	0
Total Built/Added	1469
BackLoad Volume LMP	0
Nett Volume	**1469**

Volume Accounting	
Surface Loss (bbl / m)	957
Sub-Surface (bbl / m)	0
Total Loss	**957**
Dilution Factor (bbl / m)	7.31
Prog Dil' Factor (bbl / m)	0

Losses	
Shakers	0
Centrifuge	0
Other SCE	0
Discharged	957
Other	0
Down Hole/Behind Casing	0
Seepage/Lost In Circulation	0
Total Volume Lost	**957**
Final Internal Volume	**512**

Products

Products Utilised	Unit Size	Initial Units	Units Received	Units Damaged	Units Used	Returned To Stores	Units Remaining
Bentonite FOB (Portlan	1000 Kg	81	26	0	18	0	89
Barite FOB (Portland)	1000 Kg	117	0	0	13	0	104
Calcium Chloride (77%	25 Kg	61	0	0	25	0	36
Caustic Soda	25 Kg	28	0	0	3	0	25

Interval Summary

Santos Ltd **Netherby - 1** **17 1/2" Section**

Key Interval Data	
Initial Depth (m)	131
Final Depth (m)	647
Interval Depth (m)	516

Volume Reconcile	
Recd From Prev Section	0
Received Volume LMP	895
Total Built/Added	3309
BackLoad Volume LMP	0
Nett Volume	**4204**

Volume Accounting	
Surface Loss (bbl / m)	3479
Sub-Surface (bbl / m)	0
Total Loss	**3479**
Dilution Factor (bbl / m)	6.74
Prog Dil' Factor (bbl / m)	0

Losses	
Shakers	0
Centrifuge	0
Other SCE	0
Discharged	3479
Other	0
Down Hole/Behind Casing	0
Seepage/Lost In Circulation	0
Total Volume Lost	**3479**
Final Internal Volume	**725**

Products

Products Utilised	Unit Size	Initial Units	Units Received	Units Damaged	Units Used	Returned To Stores	Units Remaining
Bentonite FOB (Portlan	1000 Kg	89	0	0	36	0	53
KCl (sacked)	25 Kg	440	200	0	40	0	600
Barite (sacked)	25 Kg	160	0	0	40	0	120
Barite FOB (Portland)	1000 Kg	104	0	0	1	0	103
Caustic Soda	25 Kg	25	0	0	5	0	20

Interval Summary

Santos Ltd **Netherby - 1** **12 1/4" Section**

Key Interval Data	
Initial Depth (m)	647
Final Depth (m)	1875
Interval Depth (m)	1228

Volume Reconcile	
Recd From Prev Section	0
Received Volume LMP	1932
Total Built/Added	3129
BackLoad Volume LMP	0
Nett Volume	**5061**

Volume Accounting	
Surface Loss (bbl / m)	2050
Sub-Surface (bbl / m)	308
Total Loss	**2358**
Dilution Factor (bbl / m)	1.92
Prog Dil' Factor (bbl / m)	1.1

Losses	
Shakers	1976
Centrifuge	166
Other SCE	0
Discharged	1587
Other	101
Down Hole/Behind Casing	64
Seepage/Lost In Circulation	226
Total Volume Lost	**4120**
Final Internal Volume	**941**

Products

Products Utilised	Unit Size	Initial Units	Units Received	Units Damaged	Units Used	Returned To Stores	Units Remaining
KCl / Glycol / Premix_*	0 bbl	70	1057	0	1127	0	0
Barite FOB (Portland)	1000 Kg	103	116	0	133	0	86
Flowzan	25 Kg	62	80	0	86	0	56
Rheopac R	25 Kg	132	0	0	99	0	33
Glychem MC	220 Kg	0	48	0	18	24	6
Drispac SL (22.7kg)	23 Kg	180	0	0	72	0	108
Drill-pol	25 Kg	96	0	0	66	0	30
KCL (Big Bag)	1000 Kg	0	28	0	6	22	0
KCl (sacked)	25 Kg	600	0	0	160	0	440
JK-261 LV	25 Kg	149	0	0	15	0	134
Other Products		476	0	0	166	0	310

Interval Summary

Santos Ltd **Netherby-1 DW** **12 1/4" Section**

Key Interval Data	
Initial Depth (m)	1505
Final Depth (m)	1944
Interval Depth (m)	439

Volume Reconcile	
Recd From Prev Section	2160
Received Volume LMP	1387
Total Built/Added	628
BackLoad Volume LMP	399
Nett Volume	**3776**

Volume Accounting	
Surface Loss (bbl / m)	1129
Sub-Surface (bbl / m)	187
Total Loss	**1316**
Dilution Factor (bbl / m)	3.00
Prog Dil' Factor (bbl / m)	1.1

Losses	
Shakers	655
Centrifuge	283
Other SCE	0
Discharged	109
Other	82
Down Hole/Behind Casing	159
Seepage/Lost In Circulation	28
Total Volume Lost	**1316**
Final Internal Volume	**2460**

Products

Products Utilised	Unit Size	Initial Units	Units Received	Units Damaged	Units Used	Returned To Stores	Units Remaining
Barite FOB (Portland)	1000 Kg	0	142	0	58	0	84
Flowzan	25 Kg	0	96	0	37	0	59
JK-261 LV	25 Kg	0	134	0	68	0	66
Drispac SL (22.7kg)	23 Kg	0	108	0	34	0	74
KCl (sacked)	25 Kg	0	440	0	240	0	200
Glychem MC	220 Kg	0	6	0	6	0	0
Idcide-20	20 Ltr	0	60	0	16	0	44
MEG	220 Kg	0	8	0	2	0	6
Citric Acid	25 Kg	0	23	0	23	0	0
Drill-pol	25 Kg	0	30	0	6	0	24
Other Products		0	107	0	48	0	59

Interval Summary

Santos Ltd **Netherby-1 DW** **8 1/2" Section**

Key Interval Data	
Initial Depth (m)	1944
Final Depth (m)	2517
Interval Depth (m)	573

Volume Reconcile	
Recd From Prev Section	2460
Received Volume LMP	1222
Total Built/Added	1052
BackLoad Volume LMP	1912
Nett Volume	**2822**

Losses	
Shakers	287
Centrifuge	131
Other SCE	0
Discharged	2303
Other	101
Down Hole/Behind Casing	0
Seepage/Lost In Circulation	0
Total Volume Lost	**2822**
Final Internal Volume	**0**

Volume Accounting	
Surface Loss (bbl / m)	2823
Sub-Surface (bbl / m)	0
Total Loss	**2823**
Dilution Factor (bbl / m)	4.93
Prog Dil' Factor (bbl / m)	1.0

Products

Products Utilised	Unit Size	Initial Units	Units Received	Units Damaged	Units Used	Returned To Stores	Units Remaining
Wellflow DIF	0 bbl	0	1487	0	1487	0	0
XANVIS	25 Kg	80	0	0	47	0	33
NaCl Completion Brine	0 bbl	0	1122	0	1122	0	0
Salt (sacked)	25 Kg	672	912	0	1104	0	480
Starch M	23 Kg	80	0	0	48	0	32
Flowzan	25 Kg	59	40	0	15	0	84
MEG	220 Kg	6	0	0	6	0	0
Dirt Magnet	200 Ltr	0	4	0	2	0	2
Idcide-20	20 Ltr	44	32	0	26	0	50
Omyacarb 20	25 Kg	624	0	0	204	0	420
Other Products		87	88	0	22	0	153

7. FLUID PROPERTIES SUMMARY

Santos Ltd

WBM Fluid Properties Summary

Netherby-1 DW

						Rheology					Fluid Loss Data				Solids					Water Phase Chemistry									
Date	Day	Mud Type	Temp.	Depth	Weight	Vis	PV	YP	10 Sec	10 Min	API	Cake	HPHT	@ Temp	Solids	Water	Oil	Sand	MBT	pH	Pm	Pf	Mf	Cl-	CA++	SO3	K+	KCl	PHPA
02-Aug-08	1	8% KCl/PHPA Polymer	140	1544	11	54	21	36	10	21	7.4	1			11.0	89.0		0.2	7.5	12	5.9	0.7	2.2	45000	1160	50	44853	8.3	0.4
03-Aug-08	2	8% KCl/PHPA Polymer	142	1650	11	49	23	30	10	19	6.4	1			11.0	89.0		0.2	8	11.5	3.8	0.6	2	43000	1120	120	44853	8.3	0.8
		8% KCl/PHPA Polymer	145	1885	11	57	21	35	10	19	5.2	1			10.4	89.6		0.2	7.5	11	0.9	0.3	2.2	46000	1120	50	47015	8.7	1.2
		8% KCl/PHPA Polymer	145	1910	11	68	22	36	10	19	4.4	1			10.6	89.4		0.2	7.5	10	0.38	0.26	2	47000	1200	50	48636	9	1.5
04-Aug-08	3	8% KCl/PHPA Polymer	148	1944	11.1	65	33	43	10	27	4.4	1			11.4	88.6		0.15	9	10.2	0.6	0.34	1.5	47500	1360	50	48636	9	1.4
		8% KCl/PHPA Polymer	154	1944	11	62	32	43	10	24	4.4	1			10.9	89.1		0.15	9.5	10	0.5	0.25	1.3	47500	1360	150	48636	9	1.4
		8% KCl/PHPA Polymer	160	1944	11	61	30	41	10	24	4.5	1			11.0	89.0		0.2	11	10	0.3	0.27	1.3	48000	1400	80	46474	8.6	1.3
05-Aug-08	4	8% KCl/PHPA Polymer	142	1944	11	60	30	38	10	27	4.2	1			10.9	89.1		0.10	11	9.7	0.3	0.2	1.1	49000	1360	80	48636	9	1.3
		8% KCl/PHPA Polymer	152	1944	11	70	29	41	10	27	4.1	1			10.3	89.7		0.2	11	9.5	0.3	0.24	1.2	49000	800	50	48636	9	1.4
		8% KCl/PHPA Polymer		1944	11	70	28	49	10	26	4.2	1			10.8	89.2		0.2	11.25	9.5	0.3	0.12	1.3	49000	800	50	48636	9	1.4
06-Aug-08	5	8% KCl/PHPA Polymer		1944	11	84	31	45	11	26	3.9	1			10.9	89.1		0.15	10	9.5	0.3	0.1	1.3	49000	920	50	48636	9	1.4
		8% KCl/PHPA Polymer		1944	11	85	30	48	9	26	3.8	1			10.8	89.2		0.2	10	9.5	0.28	0.13	1.5	47000	904	50	48636	9	1.4
		8% KCl/PHPA Polymer		1944	11	85	30	47	10	26	3.8	1			10.8	89.2		0.15	10	9.5	0.3	0.12	1.4	48000	904	50	48636	9	1.4
07-Aug-08	6	8% KCl/PHPA Polymer		1944	11	120	32	44	12	27	3.9	1			10.9	89.1		0.15	10	9.5	0.3	0.12	1.4	47500	920	50	48636	9	1.4
		8% KCl/PHPA Polymer		1944	11	103	30	47	12	28	4.2	1			10.3	89.7		0.2	11.25	9.5	0.2	0.16	1.6	47000	900	50	48636	9	1.4
		8% KCl/PHPA Polymer		1944	11.1	106	30	46	10	25	4.2	1			11.3	88.7		0.2	11.3	9.5	0.3	0.15	1.5	47000	900	50	48636	9	1.3
08-Aug-08	7	8% KCl/PHPA Polymer		1944	11.1	95	31	43	11	27	4.0	1			11.7	88.3		0.15	11.3	9.5	0.3	0.15	1.5	47000	900	50	48636	9	1.3
		Wellflow-DIF		1944	9.5	53	10	25	10	12	3.8	0.5			7.2	92.8		0	0	9	0.3	0.12	0.7	85000	240	180			
		Wellflow-DIF		1944	9.5	60	10	27	10	12	3.8	0.5			7.2	92.8		0	0	9	0.3	0.13	0.8	85000	200	180			
09-Aug-08	8	Wellflow-DIF		1944	9.5	58	10	27	10	12	3.8	0.5			7.2	92.8		0	0	9	0.3	0.12	0.7	85000	220	180			
		8% KCl/PHPA Polymer		1944	10.5	95	25	36	9	21	4.2	1			6.5	93.5		0.1	11	9.5	0.3	0.1	1.4	47000	900	50	48636	9	1
		Wellflow-DIF	110	1944	9.5	48	10	24	9	12	3.6	0.5			7.2	92.8		0	0	9.5	0.36	0.08	0.54	89000	280	180			
10-Aug-08	9	Wellflow-DIF	116	2020	9.5	42	10	21	9	13	3.7	0.5			7.2	92.8		0.15	1.25	9.6	0.4	0.1	0.7	88000	280	180			
		Wellflow-DIF	116	2120	9.6	45	12	27	11	14	3.6	0.5			7.9	92.1		0.25	1.25	9.5	0.3	0.08	0.6	87000	320	50			
		Wellflow-DIF	120	2206	9.6	44	11	28	9	12	3.5	.5			8.0	92.0		0.25	2	9.5	0.3	0.05	0.9	88000	400	50			
11-Aug-08	10	Wellflow-DIF	122	2258	9.6	46	12	32	12	15	3.5	0.5			7.9	92.1		0.2	2	9.5	0.3	0.05	0.8	88000	400	50			
		Wellflow-DIF	124	2340	9.6	47	11	33	12	15	3.8	0.5			8.1	91.9		0.2	2	9.3	0.3	0.05	0.7	91000	400	80			
		Wellflow-DIF	125	2460	9.6	45	11	34	10	14	3.6	0.5			8.1	91.9		0.2	2	9	0.3	0.04	0.8	88000	420	100			
12-Aug-08	11	Wellflow-DIF	124	2517	9.6	45	12	34	11	14	3.9	0.5			8.0	92.0		0.2	2	9	0.3	0.05	0.7	84000	400	120			
		Wellflow-DIF	122	2517	9.6	47	12	36	12	14	3.6	0.5			8.0	92.0		0.2	2	9	0.2	0.04	0.7	84000	480	80			
		Wellflow-DIF		2517	9.6	50	12	35	10	14	3.6	0.5			8.0	92.0		0.2	2	9	0.2	0.02	0.8	84000	480	80			
13-Aug-08	12	Wellflow-DIF		2517	9.6	51	11	34	11	13	3.6	0.5			8.0	92.0		0.2	2	9	0.1	0.02	0.8	84000	520	80			
		Wellflow-DIF		2517	9.62	51	11	33	10	13	3.9	0.5			8.2	91.8		0.1	2.5	8.5	0.2	0.05	0.5	83000	320	60			
		NaCl brine													0.0	0.0													
14-Aug-08	13	Wellflow-DIF		2517	9.62	53	10	33	10	13	3.5	0.5			8.2	91.8		0.1	2.5	8.5	0.15	0.05	0.55	84000	320	40			
		Wellflow-DIF		2517	9.62	53	10	33	10	13	3.5	0.5			8.2	91.8		0.1	2.5	8.5	0.2	0.5	0.5	85000	320	40			
		NaCl brine													0.0	0.0													
15-Aug-08	14	NaCl brine		2517	9.6	82	9	50							9.5	90.5													
		Wellflow-DIF		2517	9.63	45	11	30	9	12	3.7	0.5			8.2	91.8		0.2	2.5	8.5	0.2	0.1	0.6	83000	440	60			
		NaCl brine													0.0	0.0													
16-Aug-08	15	Wellflow-DIF		2517	9.62	45	11	30	9	12	3.7	0.5			8.2	91.8		0.2	2.5	8.5	0.2	0.1	0.6	83000	440	40			
		NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
17-Aug-08	16	NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
18-Aug-08	17	NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
19-Aug-08	18	NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													
20-Aug-08	19	NaCl brine													0.0	0.0													

WBM Fluid Properties Summary

						Rheology					Fluid Loss Data				Solids					Water Phase Chemistry									
Date	Day	Mud Type	Temp.	Depth	Weight	Vis	PV	YP	10 Sec	10 Min	API	Cake	HPHT	@ Temp	Solids	Water	Oil	Sand	MBT	pH	Pm	Pf	Mf	Cl-	CA++	SO3	K+	KCl	PHPA
20-Aug-08	19	NaCl brine													0.0	0.0													
		NaCl brine													0.0	0.0													

8. FLUID VOLUMES SUMMARY

SHEET: MUD VOLUMES
OPERATOR: SANTOS
WELL: Netherby 1
SECTION: 36"

36" Section: Gel / Sweeps

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance
																	Surface				Sub-Surface								
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other						
14/10/2008	0	0	0	0			637		17		654	0	452	202		654		0						0	-	0	0.00	654	0
15/10/2008	131	44	44	654			768		47		815		90	422		512		957						957	21.75	957	21.75	512	0
TOTAL		**44**			**0**	**0**	**768**	**0**	**47**	**0**	**815**						**0**	**957**	**0**	**0**	**0**	**0**	**0**	**957**		**957**	**21.75**	**512**	**0**

SHEET: MUD VOLUMES
OPERATOR: SANTOS
WELL: Netherby 1
SECTION: 17.5"

17 .5" Section: Gel / Sweeps

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance
																	Surface				Sub-Surface								
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other						
	131	0	0	512							0					0								0	-	0	0.00	512	0
16/07/2008	178	47	47	512			1499		42		1541	0	385	1438		1823		230						230	4.89	230	4.89	1823	0
17/07/2008	647	469	516	1823			1700		45		1745		606	67		673		2895						2895	6.17	3125	6.06	673	0
18/07/2008		0	517	673	895		20		3		23	0	320	917		1237		354						354	-	3479	6.73	1237	0
TOTAL		**516**			**895**	**0**	**3219**	**0**	**90**	**0**	**3309**							**3479**						**3479**		**3607**	**6.99**	**725**	**0**

SHEET: MUD VOLUMES
OPERATOR: SANTOS
WELL: Netherby 1
SECTION: 12.25"

12.25": KCl/PHPA/Glycol

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance	
																	Surface				Sub-Surface									
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other							
19/07/2008	647	0	0	1237	237		226		3	667	896			2050		2050		320						320	-	320	0.00	2050	0	
20/07/2008	647	0	0	2050					7		7		216	1841		2057								0	-	320	0.00	2057	0	
21/07/2008	1084	437	437	2057					7	905	912	542	439	267		1248	772	949						1721	3.94	2041	4.67	1248	0	Drill ahead SW/PAC
22/07/2008	1421	774	774	1248	450		647		55	30	732	696	486	823		2005	225				200			425	1.26	2466	3.19	2005	0	Drill ahead
23/07/2008	1474	827	827	2005	370		150		54		204	720	563	1237		2520	59							59	1.11	2525	3.05	2520	0	Drill ahead
24/07/2008	1870	1223	1223	2520			37		55		92	901	658	727		2286	326							326	0.82	2851	2.33	2286	0	Drillahead
25/07/2008	1870	0	1223	2286					52		52	970	575	697		2242	73		13		10			96	-	2947	2.41	2242	0	POOH, Logging
26/07/2008	1870	0	1223	2242	445				2		2	970	539	462	440	2411	251		6		21			278	-	3225	2.64	2411	0	wiper trip
27/07/2008	1870	0	1223	2411					8		8	970	500	353	440	2263	107		29		20			156	-	3381	2.76	2263	0	wiper trip
28/07/2008	1870	0	1223	2263							0	932	527	353	440	2252					11			11	-	3392	2.77	2252	0	attempt wireline
29/07/2008	1870	0	1223	2252			97		7		104	970	540	180	537	2227	119		4		6			129	-	3521	2.88	2227	0	wiper trip
30/07/2008	1875	5	1228	2227	0	0	0	**0**	24	0	24	909	575	360	324	2168	83							83	16.60	3604	2.93	2168	0	log with LWD
31/07/2008	1875	0	1228	2168	430		60		9		69	972	587	714	324	2597	4	8	18		40			70	-	3674	2.99	2597	0	log with LWD
1/08/2008	1875	5	1228	2597				303	13		316	971	487	790	324	2572		310	18	13				341	68.20	4015	3.27	2572	0	P&A Netherby-1 to 1420m, 303bbl cement
2/08/2008	1875	5	1228	2572					14		14	929	602	608	324	2463	123							123	24.60	4138	3.37	2463	0	kick-off
TOTAL		**3276**			**1932**	**0**	**1217**	**303**	**310**	**1602**	**3432**					**2463**	**2142**	**1587**	**88**	**13**	**308**	**0**	**0**	**4138**		**4138**	**3.37**	**2463**	**0**	

SHEET: MUD VOLUMES
OPERATOR: SANTOS
WELL: Netherby 1 DW
SECTION: 12.25"

12.25": KCl/PHPA/Glycol

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance	
																	Surface				Sub-Surface									
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other							
1/08/2008	1505	0	0	2160							0					2160								0	-	0	0.00	2160	0	
2/08/2008	1544	39	39	2160					6		6	708	535	550	324	2117	49							49	1.26	49	1.26	2117	0	
3/08/2008	1932	388	388	2117			212		23		235	885	524	539	125	2073	279							279	0.72	328	0.85	2073	0	
4/08/2008	1944	439	439	2073			80		57		137	900	489	290	233	1912	298							298	24.83	626	1.43	1912	0	
5/08/2008	1944	400	439	1912			190		28		218	898	526	365	95	1884	224		22					246		872	2.18	1884	0	
6/08/2008	1944	400	439	1884					31		31	908	492	392		1792		63	60					123		995	2.49	1792	0	
7/08/2008	1944	0	439	1792	937	399					0	719	333	272	937	2261	9	32	28					69	-	1064	2.42	2261	0	179bbl other added cement?/riser volume added?
8/08/2008	1944	0	439	2261	450				1		1	560	603	359	938	2460	79	14				159		252	-	1316	3.00	2460	0	
TOTAL		**1666**			**1387**	**399**	**482**	**0**	**146**	**0**	**628**						**938**	**109**	**110**	**0**	**0**	**159**	**0**	**1316**		**1316**	**2.27**	**2460**	0	
																											Ave Loss/m			

SHEET: MUD VOLUMES
OPERATOR: SANTOS
WELL: Netherby 1 DW
SECTION: 8.5" Section

8.5" Wellflow DIF

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance	
																	Surface				Sub-Surface									
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other							
9/08/2008	1960	16	16	2460	100	1013			2		2	501	490		321	1312	34	203						237	14.81	237	14.81	1312	0	1013 KCl Mud Backloaded. 100bbls DIF Received
10/08/2008	2221	261	261	1312			380		64		444	555	510		565	1630	126							126	0.48	363	1.39	1630	0	
11/08/2008	2488	267	283	1630			58		3		61	611	515		272	1398	223	23		47				293	1.10	656	2.46	1398	0	
12/08/2008	2517	557	573	1398	1044		17		5		22	686	470	248	1008	2412	35	17						52	1.79	708	1.27	2412	0	1044bbls NaCl Completion Brine
13/08/2008	2517	557	573	2412							0	690	508	195	1008	2401			11					11	0.00	719	1.29	2401	0	
14/08/2008	2517	0	573	2401							0	670	385	190	1008	2253		148						148	0.00	867	1.51	2253	0	
TOTAL			**573**		**1144**	**1013**	**455**	**0**	**74**	**0**	**529**					**0**	**418**	**391**	**11**	**47**	**0**	**0**	**0**	**867**		**867**	**2.07**	**0**	**0**	

Ave Loss/m

8.5" NaCl Completeion Brine

Date	Midnight Depth	Depth Drilled	Cumm Drilled	Previous Final Volume	TRANSFERS		ADDITIONS				Daily Added	MUD VOLUME				Total Vol	MUD LOSSES							Total Daily Losses	Daily Loss/m	Total Cumm Loss	Cumm Loss/m	Mud on Hand	Balance	
																	Surface				Sub-Surface									
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		S.C.E	Disch	Trip	Other	D/hole	Left Casing	Other							
15/08/2008	2517	0	0	2253		494	335		45		380	663	365	182	297	1507		632						632	-	632	0.00	1507	0	632bbls contaminated DIF mud discharged. 494bbls DIF backloaded to boat.
16/08/2008	2517	0	0	1507		405					0	628	142	85	0	855		247						247	-	879	0.00	855	0	405bbls DIF backloaded to boat. 247bbls of DIF & Brine discharged.
17/08/2008	2517	0	0	855			120		14		134	600	331	44		975		14						14	-	893	0.00	975	0	134bbls Brine built.
18/08/2008	2517	0	0	975	78						0	597	305	108		1010				43				43	-	936	0.00	1010	0	78bbls Brine received.
19/08/2008	2517	0	0	1010							0	376	462	108		946		64						64	-	1000	0.00	946	0	
20/08/2008	2517	0	0	946					9		9	0	325	100	0	425		530						530	-	1530	0.00	425	0	Discharged 530bbls casing volume of DIF mud.
21/08/2008	2517	0	0	425							0	0	0	0	0	0		425						425	-	1955	0.00	0	0	Discharged 425bbls surface volume of Brine..
TOTAL			**0**		**78**	**899**	**455**	**0**	**59**	**0**	**523**					**0**	**0**	**1912**	**0**	**43**	**0**	**0**	**0**	**1955**		**1955**	**0.00**	**0**	**0**	

9. DAILY MUD REPORTS

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	1	Total MD	0	to	0	m
Rig #	OCEAN PATRIOT	Total VD	0	to	0	m
Date	14/07/2008	Daily Depth Drilled			0	m
Spud Date	14/07/2008	Interval Depth Drilled			0	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 36	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length m	HOLE 0	PITS 452	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	Conductor @ 0 m	TOTAL CIRCULATING VOL. 452		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	Surface @ m	RESERVE PITS 202		BBL / STK 0.1018	STK / MIN	BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8.25 / 9.5		LENGTH 0 / 0 m	Intermediate @ m	STORAGE TANKS 0		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min
			Prod. or LNR @ m					

MUD PROPERTIES

SAMPLE FROM		Pit		
MUD TYPE		SWPH		
TIME SAMPLE TAKEN				
FLOWLINE TEMPERATURE	°F			
TOTAL MEASURED DEPTH (TMD)	Metres			
WEIGHT	ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @	°F			
RHEOLOGY 600 : 300 RPM	°F			
RHEOLOGY 200 : 100 RPM	°F			
RHEOLOGY 6 : 3 RPM	°F			
PLASTIC VISCOSITY cP @	°F			
YIELD POINT (lb / 100FT ^{2})	°F			
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min				
n K (lb/100 ft ^{n})				
API FILTRATE (cm ^{3} / 30 min.)				
HPHT FILTRATE (cm ^{3} / 30 min.)	°F			
API : HPHT (Cake / 32nd in.)				
pH				
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)				
CHLORIDE (mg / L)				
TOTAL HARDNESS AS CALCIUM (mg / L)				
SULPHITE (mg / L)				
PHPA (Calc ppb)				
GLYCOL CONTENT (% V/V)				
K+ (mg / L)				
KCl (% by Wt.)				
METHYLENE BLUE CAPACITY (ppb equiv/%)				
SOLIDS CONTENT (% by volume) Calc		0.00		
LIQUID CONTENT (% by volume) Calc		0.00		
SAND CONTENT (% by volume)				

MUD PROPERTY SPECIFICATIONS

MW	ALAP	MFV	100	pH	9-10.5
10s Gel	>15	10m Gel	>40	6 RPM	>40

MUD COMMENTS

Make up water analysis from the supply boats (Nor Captain/Far Grip) is as follows: pH=7.5, Chlorides=950 mg/l, Hardness=136 mg/l.
Built 452 bbl of causticized 30ppb PHG in Pit 5. Building Kill mud (10.0 ppg) and remainder of the PHG for spud at time of report.

OPERATIONAL COMMENTS

Arrived on location. Run anchors and commenced rigging up operations.

Please disregard the above Spud Date - we are yet to Spud.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	0
Drill Water	637	S.C.E.	0	Boat Rcd	0
Chemical	17	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	654
Other	0	Other	0	Lost sub	0
RECEIVED	654	LOST	0	Lost srf	0

TOTAL MUD ON RIG (bbls) 654

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Bentonite FOB (Portland)	1000 Kg	0	81	6	75
Barite FOB (Portland)	1000 Kg	0	117	2	115
Barite (sacked)	25 Kg Sack	0	160	0	160
Calcium Chloride (77%)	25 Kg	0	61	0	61
Caustic Soda	25 Kg Drum	0	28	0	28
Citric Acid	25 Kg Sack	0	41	0	41
Defoam-A	25 Ltr Drum	0	29	0	29
Drill-pol	25 Kg Drum	0	96	0	96
Drispac SL (22.7kg)	23 Kg	0	180	0	180
Flowzan	25 Kg Sack	0	62	0	62
Fracseal	25 lb Sack	0	140	0	140
Guar Gum	25 Kg Sack	0	101	0	101
Idcide-20	20 Ltr Drum	0	35	0	35

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
				0	LGS %		0.0
				0	Drilled Solids %		0.000
				0	Salt %		0.000
				0			

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 14/07/2008
Report No 1

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	637	bbl
Chemical Volume added	17	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**654**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**0**	**bbl**
Interval losses (bbl/ft/m):	**0**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	202	230	9.6	Kill Mud - still mixing
5	Active	452	508	8.75	PHG

VOLUME SUMMARY:

	+	-
Starting Volume:		
Current Tank Volume:	452	
Total Hole Volume(inc riser):		
Other Volume In Hole:		
Total Riser Volume:		
Total Received:	654	
Total Storage:		
Total Reserve:	202	
Total Disposed:		
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**654** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 1
Report Date: 14/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack				160	160			160
Barite FOB (Portland)	1000 Kg		2	2	117	117			115
Bentonite FOB (Portland)	1000 Kg		6	6	81	81			75
Calcium Chloride (77%)	25 Kg				61	61			61
Caustic Soda	25 Kg Drum				28	28			28
Citric Acid	25 Kg Sack				41	41			41
Defoam-A	25 Ltr Drum				29	29			29
Drill-pol	25 Kg Drum				96	96			96
Drispac SL (22.7kg)	23 Kg				180	180			180
Flowzan	25 Kg Sack				62	62			62
Fracseal	25 lb Sack				140	140			140
Guar Gum	25 Kg Sack				101	101			101
Idcide-20	20 Ltr Drum				35	35			35
JK-261 LV	25 Kg				149	149			149
KCl (sacked)	25 Kg Sack				440	440			440
MEG	220 Kg				8	8			8
Nutplug	25 Kg Sack				39	39			39
Omyacarb 20	25 Kg				96	96			96
Quickseal (med)	18 Kg Sack				49	49			49
Sand Seal (fine)	25 Kg Sack				75	75			75
SAPP	25 Kg Sack				40	40			40
Soda Ash	25 Kg Sack				36	36			36
Sodium Bicarbonate	25 Kg Sack				47	47			47
Sodium Sulphite	25 Kg				76	76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	20	Total MD	1875	to	1875	m
Rig #	OCEAN PATRIOT	Total VD	1748	to	1748	m
Date	2/08/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			1228	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	15 15 15 15 15 / 15 0 0 0 0	19.50 Riser Length 87 m	HOLE 929 / PITS 602	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2781 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,320 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1531	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m	RESERVE PITS 608	BBL / STK 0.1018 / STK / MIN 187 / BOTTOMS UP 40 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 43 / 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 324	BBL / MIN 19.04 / GAL / MIN 800 / TOTAL CIRC TIME 94 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit			
MUD TYPE		KGLY		KGLY		KGLY			
TIME SAMPLE TAKEN		2:30		8:00		15:00			
FLOWLINE TEMPERATURE	°F			120		130			
TOTAL MEASURED DEPTH (TMD)	Metres	1875		1875		1875			
WEIGHT	ppg / SG	11.1	1.33	11.1	1.33	11.1	1.33		
FUNNEL VISCOSITY (sec / qt) API @	120 °F	57		56		56			
RHEOLOGY 600 : 300 RPM	120 °F	78	56	84	61	79	58		
RHEOLOGY 200 : 100 RPM	120 °F	48	36	51	39	49	36		
RHEOLOGY 6 : 3 RPM	120 °F	13	10	14	11	13	10		
PLASTIC VISCOSITY cP @	120 °F	22		23		21			
YIELD POINT (lb / 100FT ²)	120 °F	34		38		37			
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	20	25	11	21	26	11	21	25
n K (lb/100 ft)		0.45	3.60	0.45	3.60	0.45	3.60		
API FILTRATE (cm ³ / 30 min.)		4.2		6.0		6.4			
HPHT FILTRATE (cm ³ / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1		1			
pH		9.7		11.0		12.0			
ALKALINITY MUD (Pm)		0.2		3.0		5.0			
ALKALINITY FILTRATE (Pf / Mf)		0.12	1.3	0.46	1.7	0.60	2.0		
CHLORIDE (mg / L)		45,000		45,000		45,000			
TOTAL HARDNESS AS CALCIUM (mg / L)		1000		1120		1160			
SULPHITE (mg / L)		50		50		50			
PHPA (Calc ppb)		0.00		0.00		0.00			
GLYCOL CONTENT (% V/V)		3		3		3			
K+ (mg / L)		44853.2010		44853.2010		44853.2010			
KCl (% by Wt.)		8.3		8.3		8.3			
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8		
SOLIDS CONTENT (% by volume) Calc		11.17		11.17		11.17			
LIQUID CONTENT (% by volume) Calc		88.83		88.83		88.83			
SAND CONTENT (% by volume)		0.2		0.2		0.2			

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Fill Sand traps pits while RIH. Prepare suface pits with 0.5ppb powdered PHPA (charge off under Netherby-1 DW). Green cement observed at shakers while attempting to tag TOC. Attempt to treat out hardness with sodium bicarb. And reduce pH with Citric Acid while kicking-off through cement. Uncorrected solids from retort 15%. Run 1 x Centrifuge, to reduce MW and whole cement particles in the active system.
Screen up shakers to 200 and 230 mesh before commence drilling. Monitor mud properties closely while drilling cement. Use 2 x 20mesh scalper screens.

OPERATIONAL COMMENTS

Continue to M/U 12.25" BHA, and RIH shallow test MWD tools. Service Top Drive inside Casing Shoe, and continue to RIH. Start washing down at 1328m while RIH. TOC tagged at 1421m. Commence kick-off, and 100% formation at 1505m (21:00). Well name changed from this point to Netherby-1 DW. Please refer to new Report for Netherby-1 DW.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2572
Drill Water	0	S.C.E.	123	Boat Rcd	0
Chemical	14	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	14
Other	0	Other	0	Lost su	0
RECEIVED	14	LOST	123	Lost srf	123

TOTAL MUD ON RIG (bbls) 2463

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Sodium Bicarbonate	25 Kg Sack	32	0	12	20
Citric Acid	25 Kg Sack	33	0	10	23
Barite FOB (Portland)	1000 Kg	93	0	7	86

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			8	9.4	17	30
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.8
Shale Shaker #1	20/20 230HC x 4			18	LGS %		4.4
Shale Shaker #2	20/20 200HC x 4			18	Drilled Solids %		3.544
Shale Shaker #3	20/20 200HC x 4			18	Salt %		2.784
Shale Shaker #4	20/20 230HC x 4			18			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 2/08/2008
Report No 20

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	14	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**14**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	87	bbl
LOSSES TO CENTRIFUGE	36	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**123**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr		bbl
LOST CIRCULATION:						bbl
LOST BEHIND CASING/LEFT DOWNHOLE:						bbl
OTHER SUB-SURFACE LOSSES:						bbl
Sub-surface Losses Subtotal:					**0**	bbl
TOTAL DISPOSED:					**123**	**bbl**
Interval losses (bbl/ft/m):					**5**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	169	230	11	KCL/Glycol/PHPA premix
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	356	486	11.1	KCL/Glycol/Polymer Mud
4	Reserve	308	508	10.7	KCL/Glycol/PHPA premix
5	Reserve	131	508	11	KCL/Glycol/PHPA premix
Slug Pit	Active	24	79	13	KCL/Glycol/Polymer Mud
Trip Tank	Active	18	70	11.1	KCL/Glycol/Polymer Mud
Sand Trap	Active	54	54	11.1	KCL/Glycol/Polymer Mud
Settling Pits	Active	80	81	11.1	KCL/Glycol/Polymer Mud
Surface Line	Active	70	80	11.1	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2572	
Current Tank Volume:	602	
Total Hole Volume(inc riser):	929	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	14	
Total Storage:	324	
Total Reserve:	608	
Total Disposed:		123
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2463**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 20
Report Date: 2/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	93	7	147		233			86
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	33	10	18		41			23
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	108		72		180			108
Flowzan	25 Kg Sack	56		86		142			56
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60		7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48		48		96			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	32	12	27		47			20
Sodium Sulphite	25 Kg	51		25		76			51

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	2	Total MD	0	to	131	m
Rig #	OCEAN PATRIOT	Total VD	0	to	131	m
Date	15/07/2008	Daily Depth Drilled			131	m
Spud Date	15/07/2008	Interval Depth Drilled			131	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 36	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0	PITS 90	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 450 psi
DRILL PIPE SIZE (") 30	TYPE Casing 1	LENGTH 0 m	Conductor @ 0 m	TOTAL CIRCULATING VOL. 90		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 21 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	Surface @ m	RESERVE PITS 422		BBL / STK 0.1018	STK / MIN 152	BOTTOMS UP 14 min
DRILL COLLAR SIZE (") 8.25 / 9.5		LENGTH 0 / 0 m	Prod. or LNR @ m	STORAGE TANKS 0		BBL / MIN 15.47	GAL / MIN 650	TOTAL CIRC TIME 41 min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit	
MUD TYPE		SWPH		SWPH		SWPH	
TIME SAMPLE TAKEN		2:00		6:00		22:00	
FLOWLINE TEMPERATURE	°F						
TOTAL MEASURED DEPTH (TMD)	Metres	0		0		130	
WEIGHT	ppg / SG	8.8	1.05	8.8	1.05	8.8	1.05
FUNNEL VISCOSITY (sec / qt) API @	°F	330		180		250	
RHEOLOGY 600 : 300 RPM	°F	116	111	85	79	91	78
RHEOLOGY 200 : 100 RPM	°F	110	104	78	73	75	69
RHEOLOGY 6 : 3 RPM	°F	63	56	52	44	53	42
PLASTIC VISCOSITY cP @	°F	5		6		13	
YIELD POINT (lb / 100FT ²)	°F	106		73		65	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		49	49	40	43	45	55
n K (lb/100 ft ²)		0.22	19.51	0.22	19.51	0.22	19.51
API FILTRATE (cm ³ / 30 min.)							
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)							
pH		9.8		9.5		9.5	
ALKALINITY MUD (Pm)		0.4		0.2		0.4	
ALKALINITY FILTRATE (Pf / Mf)		0.35	0.6	0.20	0.5	0.36	0.5
CHLORIDE (mg / L)		1,650		1,300		1,300	
TOTAL HARDNESS AS CALCIUM (mg / L)		80		120		100	
SULPHITE (mg / L)							
PHPA (Calc ppb)							
GLYCOL CONTENT (% V/V)							
K+ (mg / L)							
KCl (% by Wt.)							
METHYLENE BLUE CAPACITY (ppb equiv/%)							
SOLIDS CONTENT (% by volume) Calc		3.13		3.13		3.13	
LIQUID CONTENT (% by volume) Calc		96.88		96.88		96.88	
SAND CONTENT (% by volume)							

MUD PROPERTY SPECIFICATIONS

MW	ALAP	MFV	100	pH	5-10.5
10s Gel	>15	10m Gel	>40	6 RPM	>40

MUD COMMENTS

Finished building 210 bbl of 10ppg, 27ppb PHG Kill Mud in Pit #1. Built 812 bbl of causticized 27 ppb PHG in Pits 2 & 4. 280 bbl PHG used for drilling the first joint down.

25bbl dead volume discharged from Pit 2 prior to preparing the mix water for the cement job. 25 sacks of Calcium Chloride used for the mix water.

Note - Prepared 1077 bbl of 27ppb PHG in pits 3, 4,& 5 for the 17.5" section, to be accounted for at the start of the 17.5" section. 80mT bulk Bentonite & 104mT bulk Barite remaining onboard.

OPERATIONAL COMMENTS

M/U 36" bit & spudded well at 07:30 am. Commenced drilling with PHG for the first joint down. Drilled ahead with seawater, pumped 100 bbl PHB on the connection. Drilled to TD, 130 m, at 13:30 hrs. Pumped 200 bbl Sweep. Conducted wiper trip to 90 m. Displaced well with 273 bbl of PHG. POOH. Commenced RIH with 30" casing.

Note: The daily cost for today is $10,521.32; 6mT of Bentonite and 2mT of Barite were charged off yesterday and have been included again in today's daily cost. The Cumulative cost however remains correct.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	654
Drill Water	768	S.C.E.	0	Boat Rcd	0
Chemical	47	Discharge	957	Boat Bk	0
Seawater	0	Downhole	0	Built	815
Other	0	Other	0	Lost sub	0
RECEIVED	815	LOST	957	Lost srf	957

TOTAL MUD ON RIG (bbls) 512

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Calcium Chloride (77%)	25 Kg	61	0	25	36
Bentonite FOB (Portland)	1000 Kg	81	26	12	95
Barite FOB (Portland)	1000 Kg	117	0	11	106
Caustic Soda	25 Kg Drum	28	0	3	25

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
				0	LGS %		3.1
				0	Drilled Solids %		
				0	Salt %		0.000
				0			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 15/07/2008
Report No 2

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	768	bbl
Chemical Volume added	47	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**815**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	957	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**957**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**957**	**bbl**
Interval losses (bbl/ft/m):	**7**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	210	230	10	Kill Mud
2	Reserve	0	342	0	SW - 185 bbls of cement mix water
3 a+b equalised	Reserve	0	486	8.75	PHG - 455 built for the 17.5" section
4	Reserve	212	508	8.75	PHG - 250 built for the 17.5" section
5	Active	90	508	8.75	PHG - 372 built for the 17.5"section
Slug Pit	Active	0	79	0	Seawater

VOLUME SUMMARY:

	+	-
Starting Volume:	654	
Current Tank Volume:	90	
Total Hole Volume(inc riser):		
Other Volume In Hole:	182	
Total Riser Volume:		
Total Received:	815	
Total Storage:		
Total Reserve:	422	
Total Disposed:		957
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**512** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 2
Report Date: 15/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	160				160			160
Barite FOB (Portland)	1000 Kg	117	11	13		117			106
Bentonite FOB (Portland)	1000 Kg	81	12	18	26	107			95
Calcium Chloride (77%)	25 Kg	61	25	25		61			36
Caustic Soda	25 Kg Drum	28	3	3		28			25
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96				96			96
Drispac SL (22.7kg)	23 Kg	180				180			180
Flowzan	25 Kg Sack	62				62			62
Fracseal	25 lb Sack	140				140			140
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	35				35			35
JK-261 LV	25 Kg	149				149			149
KCl (sacked)	25 Kg Sack	440				440			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	3	Total MD	131	to	178	m
Rig #	OCEAN PATRIOT	Total VD	131	to	178	m
Date	16/07/2008	Daily Depth Drilled			47	m
Spud Date	15/07/2008	Interval Depth Drilled			47	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 17.5	Huges MXL-1V	18 18 18 18 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0	PITS 385	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 1174 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 385		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 24 m	Surface @ m	RESERVE PITS 1438		BBL / STK 0.1018	STK / MIN 182	BOTTOMS UP 18 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 115 / 39 m	Prod. or LNR @ m	STORAGE TANKS 0		BBL / MIN 18.53	GAL / MIN 778	TOTAL CIRC TIME 39 min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit		
MUD TYPE		SWPH		SWPH		SWPH		
TIME SAMPLE TAKEN		6:00		10:00		22:00		
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres	131		131		174		
WEIGHT	ppg / SG	8.8	1.05	8.8	1.05	8.8	1.05	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	117		100		110		
RHEOLOGY 600 : 300 RPM	120 °F	69	64	69	63	70	64	
RHEOLOGY 200 : 100 RPM	120 °F	61	58	61	57	62	57	
RHEOLOGY 6 : 3 RPM	120 °F	41	32	42	31	43	31	
PLASTIC VISCOSITY cP @	120 °F	5		6		6		
YIELD POINT (lb / 100FT 2)	120 °F	59		57		57		
GEL STRENGTH (lb / 100FT 2) 10sec/10min/30min		35	39	32	37	32	38	
n K (lb/100 ft 2)		0.13	27.80	0.13	27.80	0.13	27.80	
API FILTRATE (cm 3 / 30 min.)								
HPHT FILTRATE (cm 3 / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)								
pH		9.5		9.5		9.5		
ALKALINITY MUD (Pm)		0.3		0.2		0.2		
ALKALINITY FILTRATE (Pf / Mf)		0.20	0.5	0.20	0.4	0.22	0.4	
CHLORIDE (mg / L)		2,100		3,400		3,200		
TOTAL HARDNESS AS CALCIUM (mg / L)		120		100		100		
SULPHITE (mg / L)								
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)								
K+ (mg / L)								
KCl (% by Wt.)								
METHYLENE BLUE CAPACITY (ppb equiv/%)								
SOLIDS CONTENT (% by volume) Calc		3.13		3.13		3.13		
LIQUID CONTENT (% by volume) Calc		96.88		96.88		96.88		
SAND CONTENT (% by volume)								

MUD PROPERTY SPECIFICATIONS

MW	ALAP	MFV	100	pH	5-10.5
10s Gel	>15	10m Gel	>40	6 RPM	>40

MUD COMMENTS

Built 311 bbl of causticized 27 ppb PHG in Pit 2. Accounted for all prepared PHG mentioned in yesterday's report. Mix more PHG for sweeps in Pit 5.
Used 75 bbl connection/50 bbl midstand sweeps as per Co.Man request.

OPERATIONAL COMMENTS

Contined to run in casing with ROV observation. Completed cement job as per program. Held conductor until set. Released R/Tool, L/D R/Tool. L/D cement head.

PU DP and prepare 17 1/2" BHA. RIH to tag cmt at 128 m. Drilled ahead with seawater and pumped PHG as required. Drilled ahead to 177m at time of report.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	512
Drill Water	1499	S.C.E.	0	Boat Rcd	0
Chemical	42	Discharge	230	Boat Bk	0
Seawater	0	Downhole	0	Built	1541
Other	0	Other	0	Lost sub	0
RECEIVED	1541	LOST	230	Lost srf	230

TOTAL MUD ON RIG (bbls) 1823

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Bentonite FOB (Portland)	1000 Kg	89	0	18	71
Caustic Soda	25 Kg Drum	25	0	2	23

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
				0	LGS %		3.1
				0	Drilled Solids %		
				0	Salt %		0.240
				0			

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 16/07/2008
Report No 3

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	1499	bbl
Chemical Volume added	42	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**1541**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	230	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**230**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**230**	**bbl**
Interval losses (bbl/ft/m):	**5**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	210	230	10	Kill Mud
2	Reserve	311	342	8.75	PHG
3 a+b equalised	Reserve	455	486	8.75	PHG
4	Active	385	508	8.75	PHG
5	Reserve	462	508	8.75	PHG
Slug Pit	Active	0	79	0	Seawater

VOLUME SUMMARY:

	+	-
Starting Volume:	512	
Current Tank Volume:	385	
Total Hole Volume(inc riser):		
Other Volume In Hole:	124	
Total Riser Volume:		
Total Received:	1541	
Total Storage:		
Total Reserve:	1438	
Total Disposed:		230
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1823** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 3
Report Date: 16/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	160				160			160
Barite FOB (Portland)	1000 Kg	104		13		117			104
Bentonite FOB (Portland)	1000 Kg	89	18	36		107			71
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	25	2	5		28			23
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96				96			96
Drispac SL (22.7kg)	23 Kg	180				180			180
Flowzan	25 Kg Sack	62				62			62
Fracseal	25 lb Sack	140				140			140
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	35				35			35
JK-261 LV	25 Kg	149				149			149
KCl (sacked)	25 Kg Sack	440				440			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	4	Total MD	178 to 647	m
Rig #	OCEAN PATRIOT	Total VD	178 to 647	m
Date	17/07/2008	Daily Depth Drilled	469	m
Spud Date	15/07/2008	Interval Depth Drilled	516	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 17.5	Huges MXL-1V	18 18 18 18 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0	PITS 0	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 2315 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 0		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 2 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	Surface @ m	RESERVE PITS 673		BBL / STK 0.1018	STK / MIN 246	BOTTOMS UP 32 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 0 0 m	Intermediate @ m	STORAGE TANKS 0		BBL / MIN 25.04	GAL / MIN 1052	TOTAL CIRC TIME 33 min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit		
MUD TYPE		SWPH		SWPH		SWPH		
TIME SAMPLE TAKEN		3:00		10:00		15:30		
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres	245		417		647		
WEIGHT	ppg / SG	8.8	1.05	8.8	1.05	8.8	1.05	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	102		250		250		
RHEOLOGY 600 : 300 RPM	120 °F	60	57	86	83	86	83	
RHEOLOGY 200 : 100 RPM	120 °F	56	54	81	79	81	78	
RHEOLOGY 6 : 3 RPM	120 °F	41	38	60	53	59	53	
PLASTIC VISCOSITY cP @	120 °F	3		3		3		
YIELD POINT (lb / 100FT ^{2})	120 °F	54		80		80		
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		29	35	47	51	47	50	
n K (lb/100 ft ^{3})		0.05	60.32	0.05	60.32	0.05	60.32	
API FILTRATE (cm ^{3} / 30 min.)								
HPHT FILTRATE (cm ^{3} / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)								
pH		9.8		9.8		9.8		
ALKALINITY MUD (Pm)		0.3		0.3		0.3		
ALKALINITY FILTRATE (Pf / Mf)		0.30	0.5	0.30	0.6	0.30	0.6	
CHLORIDE (mg / L)		1,700		850		850		
TOTAL HARDNESS AS CALCIUM (mg / L)		120		80		80		
SULPHITE (mg / L)								
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)								
K+ (mg / L)								
KCl (% by Wt.)								
METHYLENE BLUE CAPACITY (ppb equiv/%)								
SOLIDS CONTENT (% by volume) Calc		3.13		3.13		3.13		
LIQUID CONTENT (% by volume) Calc		96.88		96.88		96.88		
SAND CONTENT (% by volume)								

MUD PROPERTY SPECIFICATIONS

MW	ALAP	MFV	100	pH	5-10.5
10s Gel	>20	10m Gel	40	6 RPM	>40

MUD COMMENTS

Continued to use 75bbl connection/50bbl midstand sweeps. Built 1745 bbl 26 ppb causticized PHG in Pit 5 to maintain volume, whilst taking sweeps from Pit 4. Pumped away as a sweep, 165 bbl of Kill mud (Pit 1) at section TD. Built 60bbl pumpable 9.6 ppg, 8% KCl fluid on top of the remaining Kill Mud in Pit 1, by transferring 50 bbl PHG from pit 2 to Pit 1. Used sacked Barite to adjust MW of KCL pill to 9.6 ppg.

Stock adjustment on Bulk Barite - 1 mT.

OPERATIONAL COMMENTS

Continued drilling ahead with seawater, pumping PHG sweeps as required. Drilled to section TD, 647 m, 15:30 hrs. Survey @ 638m, 0 degree. Pumped 165 bbl sweep at TD (Kill Mud), displaced with seawater. Over displaced well with 700 bbl PHG, spotting 60 bbl 9.6ppg 8%KCl/PHG on bottom prior to POOH. TOH without problems.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1823
Drill Water	1700	S.C.E.	0	Boat Rcd	0
Chemical	45	Discharge	2895	Boat Bk	0
Seawater	0	Downhole	0	Built	1745
Other	0	Other	0	Lost sub	0
RECEIVED	1745	LOST	2895	Lost srf	2895

TOTAL MUD ON RIG (bbls) 673

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Barite (sacked)	25 Kg Sack	320	0	40	280
Bentonite FOB (Portland)	1000 Kg	71	0	18	53
Caustic Soda	25 Kg Drum	23	0	3	20
Barite FOB (Portland)	1000 Kg	104	0	1	103

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
				0	LGS %		3.1
				0	Drilled Solids %		
				0	Salt %		0.064
				0			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 17/07/2008
Report No 4

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	1700	bbl
Chemical Volume added	45	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**1745**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	2895	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**2895**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**2895** bbl
Interval losses (bbl/ft/m):					**6**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	67	230	9.6	9.6ppg KCl/PHG
2	Reserve	138	342	8.75	PHG
3 a+b equalised	Reserve	0	486	8.75	
4	Reserve	0	508	8.75	
5	Reserve	468	508	8.75	PHG
Slug Pit	Active	0	79	0	

VOLUME SUMMARY:

	+	-
Starting Volume:	1823	
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	614	
Total Riser Volume:		
Total Received:	1745	
Total Storage:		
Total Reserve:	673	
Total Disposed:		2895
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**673** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 4
Report Date: 17/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	160	40	40		160			120
Barite FOB (Portland)	1000 Kg	104	1	14		117			103
Bentonite FOB (Portland)	1000 Kg	71	18	54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	23	3	8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96				96			96
Drispac SL (22.7kg)	23 Kg	180				180			180
Flowzan	25 Kg Sack	62				62			62
Fracseal	25 lb Sack	140				140			140
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	35				35			35
JK-261 LV	25 Kg	149				149			149
KCl (sacked)	25 Kg Sack	440				440			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	5	Total MD	647	to	647	m
Rig #	OCEAN PATRIOT	Total VD	647	to	647	m
Date	18/07/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			516	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 17.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0	PITS 0	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 0		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 1237		BBL / STK	STK / MIN	BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 0 0 m	Intermediate @ m	STORAGE TANKS 0		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min
			Prod. or LNR @ m					

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit	
MUD TYPE		SWPH		KGLY		SWPH	
TIME SAMPLE TAKEN		5:00		21:00		21:30	
FLOWLINE TEMPERATURE	°F						
TOTAL MEASURED DEPTH (TMD)	Metres	647		647		647	
WEIGHT	ppg / SG	8.8	1.05	9.5	1.14	8.8	1.05
FUNNEL VISCOSITY (sec / qt) API @	120 °F	220		55		180	
RHEOLOGY 600 : 300 RPM	120 °F	91	84	39	28	85	76
RHEOLOGY 200 : 100 RPM	120 °F	81	76	24	17	64	59
RHEOLOGY 6 : 3 RPM	120 °F	60	43	6	4	49	42
PLASTIC VISCOSITY cP @	120 °F	7		11		6	
YIELD POINT (lb / 100FT ²)	120 °F	77		17		67	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		45 52		4 7	8	42 49	
n K (lb/100 ft ²)		0.11	35.88	0.11	35.88	0.11	35.88
API FILTRATE (cm ³ / 30 min.)				6.2			
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)				1			
pH		9.8		8.8		9.8	
ALKALINITY MUD (Pm)		0.3		0.1		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.30	0.6	0.10	0.1	0.35	0.6
CHLORIDE (mg / L)		900		54,000		1,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		100		600		120	
SULPHITE (mg / L)				0			
PHPA (Calc ppb)							
GLYCOL CONTENT (% V/V)				1.9			
K+ (mg / L)				54040			
KCl (% by Wt.)				10.0			
METHYLENE BLUE CAPACITY (ppb equiv/%)				2.5	0.3		
SOLIDS CONTENT (% by volume) Calc		3.13		3.78		3.13	
LIQUID CONTENT (% by volume) Calc		96.88		96.22		96.88	
SAND CONTENT (% by volume)				0.1			

MUD PROPERTY SPECIFICATIONS

MW	ALAP	MFV	100	pH	5-10.5
10s Gel	>20	10m Gel	40	6 RPM	>40

MUD COMMENTS

Dump 354 bbl of PHG. Left 320 bbl of PHG in Pit 2. Received 630 bbl of 9.5 ppg KCL/Glycol/polymer mud and 195 bbl of 8.95 ppg KCL Polymer premix from Far Grip. Received 70 bbl of KCL/Glycol brine to Pit 4 from the Far Grip. Added 20 bbl of drill water to Pit 4. Mud check #2 run on recycled KCL/Glycol polymer mud from Jarver -1 (Pit 3).

***Uncorrected Solids from Retort on KCL/Glycol recycled mud (Pit 3) = 6% solids.
Receive chemicals from Far Grip as per inventory.
Charge off 40 sx of KCL used for KCL pill spotted @ TD.

OPERATIONAL COMMENTS

Run 13.3/8" casing to 642.5 m. Cemented casing as per program. L/D cement head. Rigged up to run Christmas Tree. Commenced running Christmas Tree.

Water Source Supply boats.

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	673
Drill Water	20	S.C.E.	0	Boat Rcd	895
Chemical	3	Discharge	354	Boat Bk	0
Seawater	0	Downhole	0	Built	23
Other	0	Other	0	Lost sub	0
RECEIVED	23	LOST	354	Lost srf	354

TOTAL MUD ON RIG (bbls) 1237

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl (sacked)	25 Kg Sack	440	200	40	600
KCl / Glycol / Premix_*RIG	0 bbl	0	70	0	70
Idcide-20	20 Ltr Drum	35	32	0	67
Rheopac R	25 Kg Sack	0	132	0	132

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0			
Cuttings Dryer				0			
				0			
				0			
				0			

SOLIDS ANALYSIS	
HGS %	0.0
LGS %	3.1
Drilled Solids %	
Salt %	0.075

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 18/07/2008
Report No 5

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	20	bbl
Chemical Volume added	3	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**23**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	895

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	354	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**354**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**354** bbl
Interval losses (bbl/ft/m):					**7**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	8.6	210 bbl SW - preparing to mix for 12.25"
2	Reserve	320	342	8.75	PHG left for sweeps from 17.5" hole
3 a+b equalised	Reserve	461	486	9.5	KCL/Glycol recycled mud
4	Reserve	456	508	9.5	KCL/Glycol recycled mud
5	Reserve	0	508	8.6	460 bbl SW - preparing to mix for 12.25"
Slug Pit	Active	0	79	8.6	SW

VOLUME SUMMARY:

	+	-
Starting Volume:	673	
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	282	
Total Riser Volume:		
Total Received:	23	
Total Storage:		
Total Reserve:	1237	
Total Disposed:		354
Total Backloaded to LMP:		
Total Received from LMP:	895	
TOTAL MUD AT RIGSITE	**1237** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 5
Report Date: 18/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl				70	70			70
Barite (sacked)	25 Kg Sack	280		40		320			280
Barite FOB (Portland)	1000 Kg	103		14		117			103
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96				96			96
Drispac SL (22.7kg)	23 Kg	180				180			180
Flowzan	25 Kg Sack	62				62			62
Fracseal	25 lb Sack	140				140			140
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	35			32	67			67
JK-261 LV	25 Kg	149				149			149
KCl (sacked)	25 Kg Sack	440	40	40	200	640			600
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack				132	132			132
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

Rheochem Ltd

WATER BASED MUD
Daily Drilling Report

Report #	6	Total MD	647	to	647	m
Rig #	OCEAN PATRIOT	Total VD	647	to	647	m
Date	19/07/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			0	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0	PITS 0	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 0 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 0		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 2050		BBL / STK 0.1018	STK / MIN 0	BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 0 0 m	Intermediate @ m	STORAGE TANKS 0		BBL / MIN 0	GAL / MIN 0	TOTAL CIRC TIME #Error min
			Prod. or LNR @ m					

MUD PROPERTIES

SAMPLE FROM		Pit		Pit				
MUD TYPE		KGLY		POLY				
TIME SAMPLE TAKEN		3:00		19:00				
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres	647		647				
WEIGHT	ppg / SG	9.5	1.14	8.5	1.02			
FUNNEL VISCOSITY (sec / qt) API @	120 °F	44		155				
RHEOLOGY 600 : 300 RPM	120 °F	29	21	90	67			
RHEOLOGY 200 : 100 RPM	120 °F	17	13	55	39			
RHEOLOGY 6 : 3 RPM	120 °F	4	3	7	4			
PLASTIC VISCOSITY cP @	120 °F	8		23				
YIELD POINT (lb / 100FT ²)	120 °F	13		44				
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		4	4	5	4	5		
n K (lb/100 ft ²)		0.43	4.72	0.43	4.72			
API FILTRATE (cm ³ / 30 min.)		6.4		>20				
HPHT FILTRATE (cm ³ / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		0				
pH		9.0		8.5				
ALKALINITY MUD (Pm)		0.1		0.0				
ALKALINITY FILTRATE (Pf / Mf)		0.05	2.3	0.02	0.6			
CHLORIDE (mg / L)		56,000		23,000				
TOTAL HARDNESS AS CALCIUM (mg / L)		800		2400				
SULPHITE (mg / L)		0						
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)		3.8						
K+ (mg / L)		54040						
KCl (% by Wt.)		10.0						
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.0	0.2	0.0	0.0			
SOLIDS CONTENT (% by volume) Calc		3.78		0.00				
LIQUID CONTENT (% by volume) Calc		96.22		100.00				
SAND CONTENT (% by volume)		0.1		0				

MUD PROPERTY SPECIFICATIONS

MW	9	API FL	<8	pH	8-9
KCl	8-10	6 RPM	8-12	LGS	<5

MUD COMMENTS

Dump 320 bbls of PHG to make room for KCL/Glycol brine. Mix 670 bbls of SW/Pac R mud in pit1;2;Sandtraps pits. Mud check #2 run on 3 ppb SW/Pac R mud. Plan to displace hole to SW/Pac R as it is now and then boost 6 rpm>10 with Pac R on the first circulation after displacement. High filtration due to no LGS in the filter cake. Will build filter cake while drilling formation. Dilute KCL/Glycol brine in Pit 5 with 226 bbl of DW.
Check #1 on Recycled mud in Pit #4.
Nor Captain @ rig - unloaded KCL Bbags.
Receive: 116 MT of Barite and 237 bbls of KCl/Glycol Brine from Far Grip to Pit 5.

OPERATIONAL COMMENTS

Run and latch BOP.

Water Source	Supply boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1237
Drill Water	226	S.C.E.	0	Boat Rcd	237
Chemical	3	Discharge	320	Boat Bk	0
Seawater	667	Downhole	0	Built	896
Other	0	Other	0	Lost sub	0
RECEIVED	896	LOST	320	Lost srf	320

TOTAL MUD ON RIG (bbls) 2050

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Rheopac R	25 Kg Sack	132	0	37	95
KCl / Glycol / Premix_*RIG	0 bbl	70	237	0	307
Barite FOB (Portland)	1000 Kg	103	116	0	219
KCL (Big Bag)	000 Kg Bulk B	0	28	0	28

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0			
Cuttings Dryer				0			
				0			
				0			
				0			

SOLIDS ANALYSIS	
HGS %	0.0
LGS %	0.0
Drilled Solids %	0.000
Salt %	1.760

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 19/07/2008
Report No 6

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	226	bbl
Chemical Volume added	3	bbl
Sump recycled water		bbl
Seawater	667	bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**896**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	237

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	320	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**320**	bbl
SEEPAGE LOSSES: BBL/HR FOR hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**320**	**bbl**
Interval losses (bbl/ft/m):	**0**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	213	230	8.65	SW/Pac R
2	Reserve	320	342	8.65	SW/Pac R
3 a+b equalised	Reserve	461	486	9.5	KCL/Glycol polymer
4	Reserve	456	508	9.5	KCL/Glycol polymer
5	Reserve	463	508	8.8	8%KCL/3%Glycol brine
Slug Pit	Active	0	79	0	Seawater
Sand Trap	Reserve	54	54	8.65	SW/Pac R
Settling Pits	Reserve	83	81	8.65	SW/Pac R

VOLUME SUMMARY:

	+	-
Starting Volume:	1237	
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	279	
Total Riser Volume:		
Total Received:	896	
Total Storage:		
Total Reserve:	2050	
Total Disposed:		320
Total Backloaded to LMP:		
Total Received from LMP:	237	
TOTAL MUD AT RIGSITE	**2050** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 6
Report Date: 19/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	70			237	307			307
Barite (sacked)	25 Kg Sack	280		40		320			280
Barite FOB (Portland)	1000 Kg	103		14	116	233			219
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96				96			96
Drispac SL (22.7kg)	23 Kg	180				180			180
Flowzan	25 Kg Sack	62				62			62
Fracseal	25 lb Sack	140				140			140
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67				67			67
JK-261 LV	25 Kg	149				149			149
KCL (Big Bag)	1000 Kg Bulk Ba				28	28			28
KCl (sacked)	25 Kg Sack	600		40		640			600
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	132	37	37		132			95
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	7	Total MD	647	to 647	m
Rig #	OCEAN PATRIOT	Total VD	647	to 647	m
Date	20/07/2008	Daily Depth Drilled		0	m
Spud Date	15/07/2008	Interval Depth Drilled		0	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 0 / PITS 216	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 216	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 1841	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 / 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit		
MUD TYPE		KGLY		KGLY		KGLY		
TIME SAMPLE TAKEN		6:00		14:00		22:30		
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres	647		647		647		
WEIGHT	ppg / SG	9.1	1.10	9.1	1.09	9.5	1.14	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	44		78		82		
RHEOLOGY 600 : 300 RPM	120 °F	28	19	56	41	62	46	
RHEOLOGY 200 : 100 RPM	120 °F	15	11	34	26	39	30	
RHEOLOGY 6 : 3 RPM	120 °F	3	2	11	8	12	10	
PLASTIC VISCOSITY cP @	120 °F	9		15		16		
YIELD POINT (lb / 100FT ^{2})	120 °F	10		26		30		
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		3	3	4	8	13	13	10	14	14
n K (lb/100 ft ^{2})		0.43	3.14	0.43	3.14	0.43	3.14	
API FILTRATE (cm ^{3} / 30 min.)		7.4		6.4		6.2		
HPHT FILTRATE (cm ^{3} / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		0.5		0.5		0.5		
pH		9.0		9.0		9.0		
ALKALINITY MUD (Pm)		0.1		0.1		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.10	0.6	0.10	0.5	0.10	0.5	
CHLORIDE (mg / L)		48,000		48,000		54,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		400		400		400		
SULPHITE (mg / L)		0		0		0		
PHPA (Calc ppb)		0.00		0.50		0.50		
GLYCOL CONTENT (% V/V)		2.5		3		3.5		
K+ (mg / L)		43232		49716.799		49716.799		
KCl (% by Wt.)		8.0		9.2		9.2		
METHYLENE BLUE CAPACITY (ppb equiv/%)		1.0	0.1	1.3	0.1	1.3	0.1	
SOLIDS CONTENT (% by volume) Calc		2.39		2.01		3.78		
LIQUID CONTENT (% by volume) Calc		97.61		97.99		96.22		
SAND CONTENT (% by volume)		Tr		Tr		Tr		

MUD PROPERTY SPECIFICATIONS

MW	9	API FL	<8	pH	8-9
KCl	8-10	6 RPM	8-12	LGS	<5

MUD COMMENTS

Added 1.5ppb Drispac SL to Pit 5. Blended Pit 5 and Pit 3 - see Mud Check #1. Treated the blend with 1ppb Flowzan, 0.6% Glychem MC, 0.5ppb Drillpol.
Added a further 0.2 ppb of Flowzan to Pit 5 and treated Pit 3 with 0.22ppb Drispac/1.2 ppb Flowzan/1.7% Glychem. After blending Pit 3 and Pit 5 rheology in Pit 5 was the same as in Pit 3 - see mud check #2.
Treat Pit 4 with 0.84 ppb Flowzan/0.5 ppb PHPA(drillpol) see Mud Check #3. Drerssed shale shakers with 84 XL mesh.
Used 6 drums of Glychem MC - to be accounted for tomorrow.

OPERATIONAL COMMENTS

Landed Wear Bushing. Tested BOP and Top Drive. B/O deepsea express cement head. Commenced M/U of 12.25" BHA.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2050
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	7	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	7
Other	0	Other	0	Lost sub	0
RECEIVED	7	LOST	0	Lost srf	0

TOTAL MUD ON RIG (bbls) 2057

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Flowzan	25 Kg Sack	62	0	27	35
Drill-pol	25 Kg Drum	96	0	16	80
Drispac SL (22.7kg)	23 Kg	180	0	15	165
Glychem MC	220 Kg	0	48	0	48

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.4
Shale Shaker #1	20/84XL x 4			0	LGS %		2.4
Shale Shaker #2	20/84XL x 4			0	Drilled Solids %		2.283
Shale Shaker #3	20/84XL x 4			0	Salt %		3.373
Shale Shaker #4	20/84XL x 4			0			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 20/07/2008
Report No 7

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	7	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**7**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES: BBL/HR FOR hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**0**	**bbl**
Interval losses (bbl/ft/m):	**0**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Active	216	230	8.65	SW/Pac R
2	Reserve	320	342	8.65	SW/Pac R
3 a+b equalised	Reserve	459	486	9.15	KCL/Glycol/Polymer
4	Reserve	458	508	9.5	KCL/Glycol/Polymer
5	Reserve	467	508	9.1	KCL/Glycol/Polymer
Slug Pit	Active	0	79	0	SW
Sand Trap	Reserve	54	54	8.65	SW/Pac R
Settling Pits	Reserve	83	81	8.65	SW/PacR

VOLUME SUMMARY:

	+	-
Starting Volume:	2050	
Current Tank Volume:	216	
Total Hole Volume(inc riser):		
Other Volume In Hole:	385	
Total Riser Volume:	105	
Total Received:	7	
Total Storage:		
Total Reserve:	1841	
Total Disposed:		
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2057**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 7
Report Date: 20/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	307				307			307
Barite (sacked)	25 Kg Sack	280		40		320			280
Barite FOB (Portland)	1000 Kg	219		14		233			219
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29				29			29
Drill-pol	25 Kg Drum	96	16	16		96			80
Drispac SL (22.7kg)	23 Kg	180	15	15		180			165
Flowzan	25 Kg Sack	62	27	27		62			35
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg				48	48			48
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67				67			67
JK-261 LV	25 Kg	149				149			149
KCL (Big Bag)	1000 Kg Bulk Ba	28				28			28
KCl (sacked)	25 Kg Sack	600		40		640			600
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	95		37		132			95
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	8	Total MD	647	to	1084	m
Rig #	OCEAN PATRIOT	Total VD	647	to	1077	m
Date	21/07/2008	Daily Depth Drilled			437	m
Spud Date	15/07/2008	Interval Depth Drilled			437	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 12.25	Hughes MXL-1X	20 20 20 14 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 542	PITS 439	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 2150 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 800 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 981		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 2 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 267		BBL / STK 0.1018	STK / MIN 231	BOTTOMS UP 18 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 96 42 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 0		BBL / MIN 23.52	GAL / MIN 988	TOTAL CIRC TIME 39 min

MUD PROPERTIES

SAMPLE FROM		FL		FL		FL		
MUD TYPE		POLY		POLY		KGLY		
TIME SAMPLE TAKEN		10:30		16:00		23:00		
FLOWLINE TEMPERATURE	°F	70		80		80		
TOTAL MEASURED DEPTH (TMD)	Metres	654		825		1066		
WEIGHT	ppg / SG	8.6	1.04	8.8	1.06	9.2	1.10	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	102		120		62		
RHEOLOGY 600 : 300 RPM	120 °F	108	86	108	84	60	45	
RHEOLOGY 200 : 100 RPM	120 °F	75	55	72	53	38	29	
RHEOLOGY 6 : 3 RPM	120 °F	11	8	13	9	11	9	
PLASTIC VISCOSITY cP @	120 °F	22		24		15		
YIELD POINT (lb / 100FT ^{2})	120 °F	64		60		30		
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		6	8	9	14	9	12	13
n	K (lb/100 ft)	0.41	3.39	0.41	3.39	0.41	3.39	
API FILTRATE (cm / 30 min.)		25		22		6.2		
HPHT FILTRATE (cm / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		0.5		1		
pH		9.5		9.5		9.0		
ALKALINITY MUD (Pm)		0.3		0.2		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.15	0.7	0.22	0.6	0.10	0.7	
CHLORIDE (mg / L)		24,000		24,000		52,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		2560		2500		240		
SULPHITE (mg / L)		0		0		0		
PHPA (Calc ppb)		0.00		0.00		0.50		
GLYCOL CONTENT (% V/V)						3.3		
K+ (mg / L)		0		0		44853.2010		
KCl (% by Wt.)		0.0		0.0		8.3		
METHYLENE BLUE CAPACITY (ppb equiv/%)						1.5	0.2	
SOLIDS CONTENT (% by volume) Calc		0.51		1.66		2.92		
LIQUID CONTENT (% by volume) Calc		99.49		98.34		97.08		
SAND CONTENT (% by volume)						1		

MUD PROPERTY SPECIFICATIONS

MW	9	API FL	<8	pH	8-9
KCl	8-10	6 RPM	8-12	LGS	<5

MUD COMMENTS

Mix 905 bbls of SW/Pac R at 3.7 ppb.Avg losses over shakers + washouts are 70 bph till 966 m. Pump 70 bbl Hi Vis SW/Pac R sweep and displace to KCL/Glycol/PHPA mud. Avg, hole diameter based on HI VIS sweeps strks = 13 inch. Good encapsualtion of cuttings by SW/PAC R while drilling Marl claystone. Rheology on SW/Pac R run on Flow line temp to reflect real 6 rpm readings. Treated active after displacement with PHPA. Mixing whole mud after midnight in Pit 5.

OPERATIONAL COMMENTS

Commenced RIH with 12.25" BHA, Tagged TOC @ 614 m. Drilled cement and floats and then displaced to SW/Rheopac R at 638m. Seawater was dumped until Mud returned. Switched to a close system using Pit 1 as the active and Pit 2 and Slug Pit for fresh Seawater/Pac R mixes and drilled the remaining shoe track. Conducted LOT to EMW 17.7 ppg. Displaced well to KCl/Glycol at 968m. Drilled ahead to 1084 m at the time of the report..

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2057
Drill Water	0	S.C.E.	772	Boat Rcd	0
Chemical	7	Discharge	949	Boat Bk	0
Seawater	905	Downhole	0	Built	912
Other	0	Other	0	Lost sub	0
RECEIVED	912	LOST	1721	Lost srf	1721

TOTAL MUD ON RIG (bbls) 1248

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Rheopac R	25 Kg Sack	95	0	62	33
Drill-pol	25 Kg Drum	80	0	10	70
Defoam-A	25 Ltr Drum	29	0	1	28

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1				0	0	0	0
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.5
Shale Shaker #1	20/84XL x 4			18	LGS %		2.4
Shale Shaker #2	20/84XL x 4			18	Drilled Solids %		2.213
Shale Shaker #3	20/84XL x 4			18	Salt %		3.217
Shale Shaker #4	20/84XL x 4			18			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 21/07/2008
Report No 8

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	7	bbl
Sump recycled water		bbl
Seawater	905	bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**912**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	772	bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	949	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**1721**	bbl

SEEPAGE LOSSES: BBL/HR FOR hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**1721**	**bbl**
Interval losses (bbl/ft/m):	**5**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	0	
2	Reserve	0	342	0	
3 a+b equalised	Active	439	486	9.2	KCL/PHPA/Glycol
4	Reserve	130	508	9.4	KCL/PHPA/Glycol
5	Reserve	0	508	0	mixing 450 bbl KCL/PHPA/Glycol
Slug Pit	Reserve	0	79	0	
Sand Trap	Reserve	54	54	9.2	KCL/PHPA/Glycol
Settling Pits	Reserve	83	81	9.2	KCL/PHPA/Glycol

VOLUME SUMMARY:

	+	-
Starting Volume:	2057	
Current Tank Volume:	439	
Total Hole Volume(inc riser):	542	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	912	
Total Storage:		
Total Reserve:	267	
Total Disposed:		1721
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1248** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 8
Report Date: 21/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	307				307			307
Barite (sacked)	25 Kg Sack	280		40	40	360	200	200	120
Barite FOB (Portland)	1000 Kg	219		14		233			219
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	29	1	1		29			28
Drill-pol	25 Kg Drum	80	10	26		96			70
Drispac SL (22.7kg)	23 Kg	165		15		180			165
Flowzan	25 Kg Sack	35		27		62			35
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	48				48			48
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67				67			67
JK-261 LV	25 Kg	149				149			149
KCL (Big Bag)	1000 Kg Bulk Ba	28				28			28
KCl (sacked)	25 Kg Sack	600		40		640			600
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	95	62	99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76				76			76

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	9	Total MD	1084 to 1421	m	
Rig #	OCEAN PATRIOT	Total VD	1077 to 1376	m	
Date	22/07/2008	Daily Depth Drilled	337	m	
Spud Date	15/07/2008	Interval Depth Drilled	774	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Hughes MXL-1X	20 20 20 14 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 696 / PITS 486	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2553 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,143 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1182	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 3 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 823	BBL / STK 0.1018 / STK / MIN 233 / BOTTOMS UP 24 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 96 / 42 m	Intermediate @ m	STORAGE TANKS 0	BBL / MIN 23.72 / GAL / MIN 996 / TOTAL CIRC TIME 47 min

MUD PROPERTIES

SAMPLE FROM		FL		FL		FL		
MUD TYPE		KGLY		KGLY		KGLY		
TIME SAMPLE TAKEN		3:00		6:30		17:00		
FLOWLINE TEMPERATURE	°F					120		
TOTAL MEASURED DEPTH (TMD)	Metres	1163		1251		1421		
WEIGHT	ppg / SG	9.3	1.11	9.4	1.13	9.3	1.11	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	60		51		51		
RHEOLOGY 600 : 300 RPM	120 °F	57	43	57	42	61	45	
RHEOLOGY 200 : 100 RPM	120 °F	36	27	35	27	38	28	
RHEOLOGY 6 : 3 RPM	120 °F	10	8	10	8	11	9	
PLASTIC VISCOSITY cP @	120 °F	14		15		16		
YIELD POINT (lb / 100FT ²)	120 °F	29		27		29		
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		9	12	13	9	12	14	9	15	15
n K (lb/100 ft)		0.44	2.92	0.44	2.92	0.44	2.92	
API FILTRATE (cm ³ / 30 min.)		6.4		5.6		5.6		
HPHT FILTRATE (cm ³ / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		1		1		
pH		8.5		9.0		9.0		
ALKALINITY MUD (Pm)		0.1		0.1		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.05	1.8	0.10	1.8	0.10	1.4	
CHLORIDE (mg / L)		52,000		52,000		47,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		520		600		800		
SULPHITE (mg / L)		120		150		0		
PHPA (Calc ppb)		0.90		1.10		1.00		
GLYCOL CONTENT (% V/V)		2.9		3.4		3		
K+ (mg / L)		43232		52959.2010		44853.2010		
KCl (% by Wt.)		8.0		9.8		8.3		
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.5	0.3	2.5	0.3	2.5	0.3	
SOLIDS CONTENT (% by volume) Calc		3.17		4.48		3.52		
LIQUID CONTENT (% by volume) Calc		96.83		95.52		96.48		
SAND CONTENT (% by volume)		1.4		1.4		1.2		

MUD PROPERTY SPECIFICATIONS

MW	9	API FL	<8	pH	8-9
KCl	8-10	6 RPM	8-12	LGS	<5

MUD COMMENTS

Low 6 rpm noted, attempted to increase same with the addition of Hi Vis Premix to the active, & also with 10-50 bbl 2.75 ppb Flowzan sweeps. Then treated the active direct with Flowzan, Drillpol & Sodium Sulphite. Treated the active direct with KCl to improve cuttings.
Mix 450 bbls whole made premix in Pit 5 and bleed across to active to maintain volume and mud properties.
Transfer 450 bbl of Brine from Far Grip. Dilute 200 bbl of Brine in Pit 4 with 200 bbl drill water and mix premix.
Adding Drillpol to active to increase PHPA in the active.
Dress shakers with 200 and 165 mesh. Mud check 3 on mud from the flow line before POOH for bit change.

OPERATIONAL COMMENTS

Use centrifuge during drilling and POOH to cut LGS.
64bbl losses downhole due to suspected washout.
Weight up system from 9.3 to 9.8 ppg at 1421 m as per Co.Man request. Barite will charge off tomorrow.

Drill 12 1/4" Hole from 1084 to 1421 m. CHC.
POOH with back reaming from 1220-1028. CHC.
Commenced TIH to weight up to 9.8 ppg.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1248
Drill Water	647	S.C.E.	225	Boat Rcd	450
Chemical	55	Discharge	0	Boat Bk	0
Seawater	30	Downhole	200	Built	732
Other	0	Other	0	Lost sub	200
RECEIVED	732	LOST	425	Lost srf	225

TOTAL MUD ON RIG (bbls) 2005

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl (sacked)	25 Kg Sack	600	0	80	520
Drill-pol	25 Kg Drum	70	0	40	30
Drispac SL (22.7kg)	23 Kg	165	0	32	133
Flowzan	25 Kg Sack	35	0	27	8
JK-261 LV	25 Kg	149	0	15	134
Glychem MC	220 Kg	48	0	10	38
KCL (Big Bag)	000 Kg Bulk B	28	0	6	22
Sodium Sulphite	25 Kg	76	0	6	70
Barite FOB (Portland)	1000 Kg	219	0	2	217
KCl / Glycol / Premix_*RIG	0 bbl	307	450	0	757

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			8	9.3	13.5	30
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.3
Shale Shaker #1	20/10 84HC x 4			6	LGS %		3.2
Shale Shaker #1	20/10 200HC x 4			10	Drilled Solids %		2.905
Shale Shaker #2	20/10/165HC x 4			10	Salt %		2.908
Shale Shaker #2	20/10 200HC x 4			6			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 22/07/2008
Report No 9

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	647	bbl
Chemical Volume added	55	bbl
Sump recycled water		bbl
Seawater	30	bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**732**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	450

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	220	bbl
LOSSES TO CENTRIFUGE	5	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**225**	bbl

SEEPAGE LOSSES:	8	BBL/HR FOR	17	hr	136 bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					64 bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**200** bbl
TOTAL DISPOSED:					**425** bbl
Interval losses (bbl/ft/m):					**4**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	100	230	8.8	KCL/Glycol Brine
2	Reserve	150	342	8.8	KCL/Glycol/Brine
3 a+b equalised	Active	289	486	9.3	KCL/PHPA/Glycol
4	Reserve	400	508	8.8	KCL/PHPA/Glycol premix
5	Reserve	173	508	9	KCL/PHPA/Glycol premix
Slug Pit	Active	60	79	11	KCL/PHPA/Glycol
Sand Trap	Active	54	54	9.3	KCL/PHPA/Glycol
Settling Pits	Active	83	81	9.3	KCL/PHPA/Glycol

VOLUME SUMMARY:

	+	-
Starting Volume:	1248	
Current Tank Volume:	486	
Total Hole Volume(inc riser):	696	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	732	
Total Storage:		
Total Reserve:	823	
Total Disposed:		425
Total Backloaded to LMP:		
Total Received from LMP:	450	
TOTAL MUD AT RIGSITE	**2005** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 9
Report Date: 22/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	307			450	757			757
Barite (sacked)	25 Kg Sack	120		40		360		200	120
Barite FOB (Portland)	1000 Kg	219	2	16		233			217
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	70	40	66		96			30
Drispac SL (22.7kg)	23 Kg	165	32	47		180			133
Flowzan	25 Kg Sack	35	27	54		62			8
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	48	10	10		48			38
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67				67			67
JK-261 LV	25 Kg	149	15	15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	28	6	6		28			22
KCl (sacked)	25 Kg Sack	600	80	120		640			520
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	76	6	6		76			70

WATER BASED MUD
Daily Drilling Report

Rheochem Ltd

Report #	10	Total MD	1421 to 1474	m	
Rig #	OCEAN PATRIOT	Total VD	1376 to 1420	m	
Date	23/07/2008	Daily Depth Drilled	53	m	
Spud Date	15/07/2008	Interval Depth Drilled	827	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	16 16 16 16 16 / 16 0 0 0 0	19.50 Riser Length 87 m	HOLE 720 / PITS 563	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 3375 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,196 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1283	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 3 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 1237	BBL / STK 0.1018 / STK / MIN 229 / BOTTOMS UP 25 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 96 42 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 0	BBL / MIN 23.31 / GAL / MIN 979 / TOTAL CIRC TIME 52 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL					
MUD TYPE		KGLY		KGLY					
TIME SAMPLE TAKEN		5:00		22:45					
FLOWLINE TEMPERATURE	°F			120					
TOTAL MEASURED DEPTH (TMD)	Metres	1421		1474					
WEIGHT	ppg / SG	9.9	1.19	10.4	1.24				
FUNNEL VISCOSITY (sec / qt) API @	120 °F	58		56					
RHEOLOGY 600 : 300 RPM	120 °F	62	45	73	53				
RHEOLOGY 200 : 100 RPM	120 °F	40	30	44	32				
RHEOLOGY 6 : 3 RPM	120 °F	12	10	11	9				
PLASTIC VISCOSITY cP @	120 °F	17		20					
YIELD POINT (lb / 100FT ^{2})	120 °F	28		27					
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		10	17	9	15	16			
n K (lb/100 ft ^{2})		0.51	1.94	0.51	1.94				
API FILTRATE (cm ^{3} / 30 min.)		5.4		4					
HPHT FILTRATE (cm ^{3} / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1					
pH		9.0		9.0					
ALKALINITY MUD (Pm)		0.1		0.1					
ALKALINITY FILTRATE (Pf / Mf)		0.10	1.4	0.10	1.2				
CHLORIDE (mg / L)		47,000		47,000					
TOTAL HARDNESS AS CALCIUM (mg / L)		800		800					
SULPHITE (mg / L)		0		80					
PHPA (Calc ppb)		1.00		0.80					
GLYCOL CONTENT (% V/V)		3		3.2					
K+ (mg / L)		44853.2010		44853.2010					
KCl (% by Wt.)		8.3		8.3					
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.5	0.3	5.0	0.5				
SOLIDS CONTENT (% by volume) Calc		8.20		7.82					
LIQUID CONTENT (% by volume) Calc		91.80		92.18					
SAND CONTENT (% by volume)		1.2		0.5					

MUD PROPERTY SPECIFICATIONS

MW	9	API FL	<8	pH	8-9
KCl	8-10	6 RPM	8-12	LGS	<5

MUD COMMENTS

Receive 370 bbl of KCl/Glycol Brine from Far Grip to Pit 1 and Pit 2, and charged off. Use Barite to increase MW in active to 10.4 ppg.
Continue weighting up Active to 11 ppg at report time.
Adding premix to active to bring 6 rpm readings up.
Losses observed at shakers on BU, temporarily screened down to 165 mesh on one shaker. Shakers handling well at 1000gpm flowrate after BU.
Centrifuges offlined while weighting up active system.
PHPA additions ceased and allowed to deplete naturally +/-150m above Waarre Formation.

OPERATIONAL COMMENTS

Finish POOH.M/up 12.25" PDC bit and RIH. Reaming when necessary. Drill ahead 12.25" section to 1474m at time of report. Current angle 35 deg.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2005
Drill Water	150	S.C.E.	59	Boat Rcd	370
Chemical	54	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	204
Other	0	Other	0	Lost su	0
RECEIVED	204	LOST	59	Lost srf	59

TOTAL MUD ON RIG (bbls) 2520

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl / Glycol / Premix_*RIG	0 bbl	757	0	370	387
Barite FOB (Portland)	1000 Kg	217	0	29	188
Drispac SL (22.7kg)	23 Kg	133	0	13	120
Flowzan	25 Kg Sack	8	0	8	0
Glychem MC	220 Kg	38	0	6	32
Sodium Sulphite	25 Kg	70	0	2	68

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		4.4
Shale Shaker #1	20/10 200HC x 4			14	LGS %		3.4
Shale Shaker #2	20/10 200HC x 4			14	Drilled Solids %		2.851
Shale Shaker #3	20/10/165HC x 4			14	Salt %		2.908
Shale Shaker #4	20/10 200HC x 4			14			

Rheochem Engineer: Wojciech Czarny Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 23/07/2008
Report No 10

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	150	bbl
Chemical Volume added	54	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**204**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	370

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	59	bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**59**	bbl

SEEPAGE LOSSES: BBL/HR FOR hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**59**	**bbl**
Interval losses (bbl/ft/m):	**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	116	230	9.2	KCL/Glycol brine
2	Reserve	324	342	9.2	KCL/Glycol brine
3 a+b equalised	Active	332	486	10.4	KCL/PHPA/Glycol active
4	Reserve	373	508	10	KCL/Glycol polymer premix
5	Reserve	424	508	9	KCL/Glycol polymer premix
Slug Pit	Active	9	79	11	KCL/PHPA/Glycol
Trip Tank	Active	15	70	10.4	KCl/PHPA/Glycol
Sand Trap	Active	54	54	10.4	KCL/PHPA/Glycol
Settling Pits	Active	83	81	10.4	KCL/PHPA/Glycol
Surface Line	Active	70	80	10.4	KCL/PHPA/Glycol

VOLUME SUMMARY:

	+	-
Starting Volume:	2005	
Current Tank Volume:	563	
Total Hole Volume(inc riser):	720	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	204	
Total Storage:		
Total Reserve:	1237	
Total Disposed:		59
Total Backloaded to LMP:		
Total Received from LMP:	370	
TOTAL MUD AT RIGSITE	**2520**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 10
Report Date: 23/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	757	370	370		757			387
Barite (sacked)	25 Kg Sack	120		40		360		200	120
Barite FOB (Portland)	1000 Kg	217	29	45		233			188
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	133	13	60		180			120
Flowzan	25 Kg Sack	8	8	62		62			
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	38	6	16		48			32
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67				67			67
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	22		6		28			22
KCl (sacked)	25 Kg Sack	520		120		640			520
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	70	2	8		76			68

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	11	Total MD	1474 to 1870	m	
Rig #	OCEAN PATRIOT	Total VD	1420 to 1745	m	
Date	24/07/2008	Daily Depth Drilled	396	m	
Spud Date	15/07/2008	Interval Depth Drilled	1223	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	16 16 16 16 16 / 16 0 0 0 0	19.50 Riser Length 87 m	HOLE 901 / PITS 658	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 3745 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,592 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1559	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 4 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 727	BBL / STK 0.1018 / STK / MIN 234 / BOTTOMS UP 31 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 96 / 42 m	Intermediate @ m	STORAGE TANKS 0	BBL / MIN 23.82 / GAL / MIN 1001 / TOTAL CIRC TIME 63 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		FL		
MUD TYPE		KGLY		KGLY		KGLY		
TIME SAMPLE TAKEN		2:00		6:30		23:30		
FLOWLINE TEMPERATURE	°F	122		132		140		
TOTAL MEASURED DEPTH (TMD)	Metres	1506		1516		1870		
WEIGHT	ppg / SG	10.9	1.31	11.0	1.32	11.0	1.32	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	57		57		53		
RHEOLOGY 600 : 300 RPM	120 °F	80	58	83	60	93	67	
RHEOLOGY 200 : 100 RPM	120 °F	48	35	50	37	55	40	
RHEOLOGY 6 : 3 RPM	120 °F	12	9	13	10	14	11	
PLASTIC VISCOSITY cP @	120 °F	22		23		26		
YIELD POINT (lb / 100FT ^{2})	120 °F	36		37		41		
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		10	17	19	11	22	24	11	23	26
n K (lb/100 ft ^{2})		0.47	3.51	0.47	3.51	0.47	3.51	
API FILTRATE (cm ^{3} / 30 min.)		4.0		4.3		4.0		
HPHT FILTRATE (cm ^{3} / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		1		1		
pH		9.0		9.0		9.0		
ALKALINITY MUD (Pm)		0.1		0.1		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.10	1.2	0.05	1.0	0.10	0.9	
CHLORIDE (mg / L)		47,000		50,000		48,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		800		800		800		
SULPHITE (mg / L)		80		120		100		
PHPA (Calc ppb)		0.50		0.00		0.00		
GLYCOL CONTENT (% V/V)		3.2		3.2		3		
K+ (mg / L)		44853.2010		47555.2010		46474.4021		
KCl (% by Wt.)		8.3		8.8		8.6		
METHYLENE BLUE CAPACITY (ppb equiv/%)		5.0	0.5	5.0	0.5	5.0	0.5	
SOLIDS CONTENT (% by volume) Calc		9.97		10.75		10.75		
LIQUID CONTENT (% by volume) Calc		90.03		89.25		89.25		
SAND CONTENT (% by volume)		0.5		0.1		0.6		

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Add KCL/Flowzan directly to the active as required to maintain good inhibition and hole cleaning properties. Bleed Premix into active to maintain volume and mud specifications. Stock adjustment on 757 bbl Brine received from earlier in the interval. Receive 80 sx Flowzan from Nor Captain. Screen up to 230 mesh to minimise LGS contamination in Active system.
Add Sodium Sulphite to active.Treat hole volume with Idcide 20 on the last BUP before POOH for logging.
USED 4 x 200HC mesh, 12 x 230HC mesh screens.
Centrifuges stayed off line due to no increase in MW.

OPERATIONAL COMMENTS

Drill ahead 12.25" pilot hole section to TD at 1870m MD/ 1745m TVD. Circ BU at time of report.

Bulk Barite - some still yet to be charged on tomorrows report (due to pressurised tanks As per Bulk Rig Report).

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2520
Drill Water	37	S.C.E.	326	Boat Rcd	0
Chemical	55	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	92
Other	0	Other	0	Lost su	0
RECEIVED	92	LOST	326	Lost srf	326

TOTAL MUD ON RIG (bbls) 2286

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl / Glycol / Premix_*RIG	0 bbl	757	0	757	0
KCl (sacked)	25 Kg Sack	520	0	80	440
Barite (sacked)	25 Kg Sack	120	0	40	80
Barite FOB (Portland)	1000 Kg	188	0	30	158
Sodium Sulphite	25 Kg	68	0	9	59
Flowzan	25 Kg Sack	0	80	6	74
Drispac SL (22.7kg)	23 Kg	120	0	4	116
Idcide-20	20 Ltr Drum	67	0	3	64

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.5
Shale Shaker #1	20/10 230HC x 4			24	LGS %		4.3
Shale Shaker #2	20/10 230HC x 4			24	Drilled Solids %		3.736
Shale Shaker #3	20/10 200HC x 4			24	Salt %		2.970
Shale Shaker #4	20/10 230HC x 4			24			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 24/07/2008
Report No 11

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	37	bbl
Chemical Volume added	55	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**92**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	326	bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**326**	bbl

SEEPAGE LOSSES: BBL/HR FOR hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**326**	**bbl**
Interval losses (bbl/ft/m):	**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	116	230	9.2	KCL/Glycol Brine
2	Reserve	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	357	486	11	KCL/Glycol polymer
4	Reserve	19	508	11	KCL/Glycol polymer
5	Reserve	268	508	11	KCL/Glycol polymer
Slug Pit	Active	69	79	13	KCl/Glycol polymer
Trip Tank	Active	25	70	11	KCl/Glycol polymer
Sand Trap	Active	54	54	11	KCl/Glycol polymer
Settling Pits	Active	83	81	11	KCl/Glycol polymer
Surface Line	Active	70	80	11	KCl/Glycol polymer

VOLUME SUMMARY:

	+	-
Starting Volume:	2520	
Current Tank Volume:	658	
Total Hole Volume(inc riser):	901	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	92	
Total Storage:		
Total Reserve:	727	
Total Disposed:		326
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2286**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 11
Report Date: 24/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl	757	757	1,127		1,127			
Barite (sacked)	25 Kg Sack	120	40	80		360		200	80
Barite FOB (Portland)	1000 Kg	188	30	75		233			158
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	120	4	64		180			116
Flowzan	25 Kg Sack		6	68	80	142			74
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	32		16		48			32
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	67	3	3		67			64
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	22		6		28			22
KCl (sacked)	25 Kg Sack	520	80	200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	68	9	17		76			59

Rheochem Ltd

WATER BASED MUD
Daily Drilling Report

Report #	12	Total MD	1870	to	1870	m
Rig #	OCEAN PATRIOT	Total VD	1744	to	1744	m
Date	25/07/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			1223	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	16 16 16 16 16 / 16 0 0 0 0	19.50 Riser Length 87 m	HOLE 970 / PITS 575	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2620 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	28 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1545	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 697	BBL / STK 0.1018 / STK / MIN 237 / BOTTOMS UP 33 min
DRILL COLLAR SIZE (") 8	9.5	LENGTH 0 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 0	BBL / MIN 24.13 / GAL / MIN 1013 / TOTAL CIRC TIME 61 min

MUD PROPERTIES

SAMPLE FROM		FL		Pit						
MUD TYPE		KGLY		KGLY						
TIME SAMPLE TAKEN		6:00		18:00						
FLOWLINE TEMPERATURE	°F	144								
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870						
WEIGHT	ppg / SG	11.2	1.34	11.2	1.34					
FUNNEL VISCOSITY (sec / qt) API @	120 °F	52		56						
RHEOLOGY 600 : 300 RPM	120 °F	86	62	86	64					
RHEOLOGY 200 : 100 RPM	120 °F	51	37	51	38					
RHEOLOGY 6 : 3 RPM	120 °F	13	10	13	10					
PLASTIC VISCOSITY cP @	120 °F	24		22						
YIELD POINT (lb / 100FT) ²	120 °F	38		42						
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		11	23	25	10	23	25			
n K (lb/100 ft)		0.43	4.49	0.43	4.49					
API FILTRATE (cm / 30 min.)		4.0		3.8						
HPHT FILTRATE (cm / 30 min.)	°F									
API : HPHT (Cake / 32nd in.)		1		1						
pH		9.0		9.0						
ALKALINITY MUD (Pm)		0.1		0.1						
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.9	0.07	0.9					
CHLORIDE (mg / L)		48,000		48,000						
TOTAL HARDNESS AS CALCIUM (mg / L)		800		800						
SULPHITE (mg / L)		80		80						
PHPA (Calc ppb)		0.00		0.00						
GLYCOL CONTENT (% V/V)		3		3						
K+ (mg / L)		46474.4021		46474.4021						
KCl (% by Wt.)		8.6		8.6						
METHYLENE BLUE CAPACITY (ppb equiv/%)		5.0	0.5	5.0	0.5					
SOLIDS CONTENT (% by volume) Calc		11.81		11.81						
LIQUID CONTENT (% by volume) Calc		88.19		88.19						
SAND CONTENT (% by volume)		0.20		0.2						

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

No treatments or additions to the Active system while reaming OOH. Screen up remaining shaker to 230 mesh while backreaming OOH, to minimise LGS contamination. MW increase obeserved due to LGS invasion while reaming.

Losses during logging 10 bbl. Losses during tripping 13 bbl reported as OTHER.

Charge off remaining Barite from yesterday's usage.

OPERATIONAL COMMENTS

Continue to circ until shakers clean. POOH reaming and pumping as required. Cuttings observed while reaming. Circ 2 x BU at casing shoe until shakers clean. Pump 22bbl 13ppg Slug.
POOH. L/D 12.25" BHA. P/U and commence running Schlumberger wireline logs.
Used 10 x 230 mesh screens

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2286
Drill Water	0	S.C.E.	73	Boat Rcd	0
Chemical	52	Discharge	0	Boat Bk	0
Seawater	0	Downhole	10	Built	52
Other	0	Other	13	Lost su	10
RECEIVED	52	LOST	96	Lost srf	86

TOTAL MUD ON RIG (bbls) 2242

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Barite FOB (Portland)	1000 Kg	158	0	35	123

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.9
Shale Shaker #1	20/10 230HC x 4			12	LGS %		4.9
Shale Shaker #2	20/10 230HC x 4			12	Drilled Solids %		4.317
Shale Shaker #3	20/10 230HC x 4			12	Salt %		2.970
Shale Shaker #4	20/10 230HC x 4			12			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 25/07/2008
Report No 12

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	52	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**52**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	73	bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	13	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**86**	bbl

SEEPAGE LOSSES:	2	BBL/HR FOR	5	hr	10	bbl
LOST CIRCULATION:						bbl
LOST BEHIND CASING/LEFT DOWNHOLE:						bbl
OTHER SUB-SURFACE LOSSES:						bbl
Sub-surface Losses Subtotal:					**10**	bbl
TOTAL DISPOSED:					**96**	**bbl**
Interval losses (bbl/ft/m):					**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	116	230	9.2	KCL/Glycol Brine
2	Reserve	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	301	486	11.2	KCL/Glycol/Polymer Mud
4	Reserve	19	508	11	KCL/Glycol/Polymer Premix
5	Reserve	238	508	11	KCL/Glycol/Polymer Premix
Slug Pit	Active	47	79	13	KCL/Glycol/Polymer Mud
Trip Tank	Active	20	70	11.2	KCL/Glycol/Polymer Mud
Sand Trap	Active	54	54	11.2	KCL/Glycol/Polymer Mud
Settling Pits	Active	83	81	11.2	KCL/Glycol/Polymer Mud
Surface Line	Active	70	80	11.2	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2286	
Current Tank Volume:	575	
Total Hole Volume(inc riser):	970	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	52	
Total Storage:		
Total Reserve:	697	
Total Disposed:		96
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2242**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 12
Report Date: 25/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	158	35	110		233			123
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	116		64		180			116
Flowzan	25 Kg Sack	74		68		142			74
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	32		16		48			32
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	64		3		67			64
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	22		6		28			22
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47				47			47
Sodium Sulphite	25 Kg	59		17		76			59

WATER BASED MUD
Daily Drilling Report

Rheochem Ltd

Report #	13	Total MD	1870	to 1870	m
Rig #	OCEAN PATRIOT	Total VD	1744	to 1744	m
Date	26/07/2008	Daily Depth Drilled		0	m
Spud Date	15/07/2008	Interval Depth Drilled		1223	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/Hiram Langston
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Hughes MXL-1X	20 20 20 14 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 970 / PITS 539	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 3738 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1509	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 462	BBL / STK 0.1018 / STK / MIN 235 / BOTTOMS UP 33 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 / 0 m	Intermediate @ m	STORAGE TANKS 440	BBL / MIN 23.92 / GAL / MIN 1005 / TOTAL CIRC TIME 79 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL					
MUD TYPE		KGLY		KGLY					
TIME SAMPLE TAKEN		8:30		13:00					
FLOWLINE TEMPERATURE	°F	110		130					
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870					
WEIGHT	ppg / SG	11.2	1.34	11.2	1.34				
FUNNEL VISCOSITY (sec / qt) API @	120 °F	57		51					
RHEOLOGY 600 : 300 RPM	120 °F	81	58	88	63				
RHEOLOGY 200 : 100 RPM	120 °F	48	35	52	38				
RHEOLOGY 6 : 3 RPM	120 °F	12	9	13	10				
PLASTIC VISCOSITY cP @	120 °F	23		25					
YIELD POINT (lb / 100FT ²)	120 °F	35		38					
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	19	24	10	21	23		
n K (lb/100 ft ³)		0.48	3.12	0.48	3.12				
API FILTRATE (cm ³ / 30 min.)		3.8		4.0					
HPHT FILTRATE (cm ³ / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1					
pH		9.0		9.2					
ALKALINITY MUD (Pm)		0.1		0.1					
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.9	0.06	0.9				
CHLORIDE (mg / L)		51,000		48,000					
TOTAL HARDNESS AS CALCIUM (mg / L)		880		880					
SULPHITE (mg / L)		100		100					
PHPA (Calc ppb)		0.00		0.00					
GLYCOL CONTENT (% V/V)		3		3					
K+ (mg / L)		45393.5979		44853.2010					
KCl (% by Wt.)		8.4		8.3					
METHYLENE BLUE CAPACITY (ppb equiv/%)		6.3	0.7	6.3	0.7				
SOLIDS CONTENT (% by volume) Calc		11.81		11.81					
LIQUID CONTENT (% by volume) Calc		88.19		88.19					
SAND CONTENT (% by volume)		0.4		0.4					

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Treat active system to maintain mud parameters.

Intermittent heavy Losses at shakers observed due to cuttings/filter caker returns and high pumprate while RIH. Observed increased fine cuttings and new cuttings on shakers while circ to bottom.
Operate centrifuge while reaming to bottom to reduce LGS and MW. Once POOH reduced active surface Pit system to 11.0+ ppg with c/fuge. Receive 445 bbl of KCL/Glycol recycled mud (ex Pecten East-1) from Nor Captain. Total losses while logging 3 bbl (1bbl/hr). Losses while tripping 6 bbl reported as OTHER.

OPERATIONAL COMMENTS

Conducted wiper trip due to wireline tools unable to reach TD. RIH to bottom. Circulate hole clean. POOH pumping and reaming as required. Pump 23 bbls slug. POOH to run logging. Commence logging Operations.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2242
Drill Water	0	S.C.E.	251	Boat Rcd	445
Chemical	2	Discharge	0	Boat Bk	0
Seawater	0	Downhole	21	Built	2
Other	0	Other	6	Lost su	21
RECEIVED	2	LOST	278	Lost srf	257

TOTAL MUD ON RIG (bbls) 2411

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Flowzan	25 Kg Sack	74	0	4	70
Sodium Bicarbonate	25 Kg Sack	47	0	4	43
Sodium Sulphite	25 Kg	59	0	4	55
Idcide-20	20 Ltr Drum	64	0	3	61

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			8	9.45	16	35
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.9
Shale Shaker #1	20/10 230HC x 4			20	LGS %		4.9
Shale Shaker #2	20/10 230HC x 4			20	Drilled Solids %		4.174
Shale Shaker #3	20/10 230HC x 4			20	Salt %		2.970
Shale Shaker #4	20/10 230HC x 4			20			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 26/07/2008
Report No 13

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	2	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**2**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	
TOTAL RECEIVED FROM LMP:	445

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	193	bbl
LOSSES TO CENTRIFUGE	58	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	6	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**257**	bbl

SEEPAGE LOSSES: 1 BBL/HR FOR 3 hr	3	bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:	18	bbl
Sub-surface Losses Subtotal:	**21**	bbl
TOTAL DISPOSED:	**278**	**bbl**
Interval losses (bbl/ft/m):	**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	116	230	9.2	KCL/Glycol Brine
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	338	486	11.1	KCL/Glycol Mud
4	Reserve	450	508	10.7	KCL/Glycol Mud from Nor Captain
5	Reserve	12	508	11.1	KCL/Glycol Mud
Slug Pit	Active	25	79	13	KCL/Glycol Mud
Trip Tank	Active	16	70	11.1	KCL/Glycol Mud
Sand Trap	Active	50	54	11.1	KCL/Glycol Mud
Settling Pits	Active	80	81	11.1	KCL/Glycol Mud
Surface Line	Active	30	80	11.1	KCL/Glycol Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2242	
Current Tank Volume:	539	
Total Hole Volume(inc riser):	970	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	2	
Total Storage:	440	
Total Reserve:	462	
Total Disposed:		278
Total Backloaded to LMP:		
Total Received from LMP:	445	
TOTAL MUD AT RIGSITE	**2411**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 13
Report Date: 26/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	123		110		233			123
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	116		64		180			116
Flowzan	25 Kg Sack	74	4	72		142			70
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	32		16		48			32
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	64	3	6		67			61
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	22		6		28			22
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	47	4	4		47			43
Sodium Sulphite	25 Kg	59	4	21		76			55

Rheochem Ltd

WATER BASED MUD
Daily Drilling Report

Report #	14	Total MD	1870 to 1870	m	
Rig #	OCEAN PATRIOT	Total VD	1744 to 1744	m	
Date	27/07/2008	Daily Depth Drilled	0	m	
Spud Date	15/07/2008	Interval Depth Drilled	1223	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Hughes MXL-1X	20 20 20 14 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 970 / PITS 500	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	Conductor @ 0 m	TOTAL CIRCULATING VOL. 1470	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	Surface @ m	RESERVE PITS 353	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 0 m	Intermediate @ m	STORAGE TANKS 440	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		FL					
MUD TYPE		KGLY		KGLY					
TIME SAMPLE TAKEN		7:00		10:30					
FLOWLINE TEMPERATURE	°F			115					
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870					
WEIGHT	ppg / SG	11.1	1.33	11.1	1.33				
FUNNEL VISCOSITY (sec / qt) API @	120 °F	60		59					
RHEOLOGY 600 : 300 RPM	120 °F	80	57	87	63				
RHEOLOGY 200 : 100 RPM	120 °F	47	34	51	38				
RHEOLOGY 6 : 3 RPM	120 °F	12	9	13	10				
PLASTIC VISCOSITY cP @	120 °F	23		24					
YIELD POINT (lb / 100FT) ²	120 °F	34		39					
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	19	23	11	20	24		
n K (lb/100 ft)		0.47	3.46	0.47	3.46				
API FILTRATE (cm ³ / 30 min.)		3.8		3.9					
HPHT FILTRATE (cm ³ / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1					
pH		9.0		8.7					
ALKALINITY MUD (Pm)		0.1		0.1					
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.9	0.04	0.9				
CHLORIDE (mg / L)		49,000		48,000					
TOTAL HARDNESS AS CALCIUM (mg / L)		880		800					
SULPHITE (mg / L)		80		80					
PHPA (Calc ppb)		0.00		0.00					
GLYCOL CONTENT (% V/V)		3.2		3.2					
K+ (mg / L)		44853.2010		44853.2010					
KCl (% by Wt.)		8.3		8.3					
METHYLENE BLUE CAPACITY (ppb equiv/%)		6.3	0.7	7.5	0.8				
SOLIDS CONTENT (% by volume) Calc		11.31		11.31					
LIQUID CONTENT (% by volume) Calc		88.69		88.69					
SAND CONTENT (% by volume)		0.2		0.2					

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

No treatment to active system.
Operate 1 x 518 FVS centrifuge to reduce MW and LGS while washing to bottom and circ BU. Some losses at shakers observed due to fine sand/cuttings and filter cake returns. Build Hi-vis pill. Pump 70bbl 11.0ppg Hi-vis Pill. Operate 1 x centrifuge to reduce surface pits to 11.0ppg. Build Slug. Return 22 big bags KCL and 24 drums Glychem MC. Inventory adjustment on Glychem MC. Tripping Losses 29bbl reported as OTHER. Wireline Losses 9bbl (aver= 1.2 bbl/hr).

****Mud check #2 active mud while circ BU.

OPERATIONAL COMMENTS

Attempt to run logging tools to TD. Tools unable to pass beyond 1783m MD. RIH for wiper trip with 12 1/4" BHA. At +/-1690m, start washing to bottom reaming where necessary. Pump hi-vis pill while circ BU. Circulate until shakers clean. Pump OOH. Pump 22bbl 13ppg Slug and POOH. Rig up and conduct wireline logging operations.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2411
Drill Water	0	S.C.E.	107	Boat Rcd	0
Chemical	8	Discharge	0	Boat Bk	0
Seawater	0	Downhole	20	Built	8
Other	0	Other	29	Lost su	20
RECEIVED	8	LOST	156	Lost srf	136

TOTAL MUD ON RIG (bbls) 2263

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Flowzan	25 Kg Sack	70	0	4	66
Barite FOB (Portland)	1000 Kg	123	0	3	120
Glychem MC	220 Kg	32	0	2	6

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			5	9.45	16	35
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.7
Shale Shaker #1	20/10 230HC x 4			12	LGS %		4.6
Shale Shaker #2	20/10 230HC x 4			12	Drilled Solids %		3.821
Shale Shaker #3	20/10 230HC x 4			12	Salt %		2.970
Shale Shaker #4	20/10 230HC x 4			12			

Rheochem Engineer: Wojciech Czarny Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 27/07/2008
Report No 14

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	8	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**8**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	73	bbl
LOSSES TO CENTRIFUGE	34	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	29	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**136**	bbl

SEEPAGE LOSSES:	2	BBL/HR FOR	10	hr	20	bbl
LOST CIRCULATION:						bbl
LOST BEHIND CASING/LEFT DOWNHOLE:						bbl
OTHER SUB-SURFACE LOSSES:						bbl
Sub-surface Losses Subtotal:					**20**	bbl
TOTAL DISPOSED:					**156**	**bbl**
Interval losses (bbl/ft/m):					**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	116	230	9.2	KCL/Glycol Brine
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	313	486	11	KCL/Glycol/Polymer Mud
4	Reserve	263	508	10.7	KCL/Glycol/Polymer Mud - Nor Captain
5	Reserve	90	508	11.1	KCL/Glycol/Polymer Mud- Hi-vis
Slug Pit	Active	26	79	13.3	KCL/Glycol/Polymer Mud- Slug
Trip Tank	Active	11	70	11.1	KCL/Glycol/Polymer Mud
Sand Trap	Active	50	54	11.1	KCL/Glycol/Polymer Mud
Settling Pits	Active	80	81	11.1	KCL/Glycol/Polymer Mud
Surface Line	Active	20	80	11.1	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2411	
Current Tank Volume:	500	
Total Hole Volume(inc riser):	970	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	8	
Total Storage:	440	
Total Reserve:	353	
Total Disposed:		156
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2263**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 14
Report Date: 27/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	123	3	113		233			120
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	116		64		180			116
Flowzan	25 Kg Sack	70	4	76		142			66
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	32	2	18		48	24	24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	61		6		67			61
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba	22		6		28	22	22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43		4		47			43
Sodium Sulphite	25 Kg	55		21		76			55

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	15	Total MD	1870	to 1870	m
Rig #	OCEAN PATRIOT	Total VD	1744	to 1744	m
Date	28/07/2008	Daily Depth Drilled		0	m
Spud Date	15/07/2008	Interval Depth Drilled		1223	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 932 / PITS 527	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,790 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1459	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 353	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 / 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 440	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit			
MUD TYPE		KGLY		KGLY		KGLY			
TIME SAMPLE TAKEN		9:00		14:00		20:00			
FLOWLINE TEMPERATURE	°F	86							
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870		1870			
WEIGHT	ppg / SG	11.0	1.32	11.1	1.33	11.0	1.32		
FUNNEL VISCOSITY (sec / qt) API @	120 °F	66		64		64			
RHEOLOGY 600 : 300 RPM	120 °F	78	56	87	63	77	55		
RHEOLOGY 200 : 100 RPM	120 °F	46	34	51	38	46	34		
RHEOLOGY 6 : 3 RPM	120 °F	11	9	13	10	11	9		
PLASTIC VISCOSITY cP @	120 °F	22		24		22			
YIELD POINT (lb / 100FT ²)	120 °F	34		39		33			
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	19	23	11	20	24	10	19	23
n K (lb/100 ft ³)		0.49	2.67	0.49	2.67	0.49	2.67		
API FILTRATE (cm ³ / 30 min.)		3.8		3.9		3.9			
HPHT FILTRATE (cm ³ / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1		1			
pH		8.7		8.7		8.7			
ALKALINITY MUD (Pm)		0.1		0.1		0.1			
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.9	0.04	0.9	0.04	0.9		
CHLORIDE (mg / L)		48,000		48,000		48,000			
TOTAL HARDNESS AS CALCIUM (mg / L)		800		800		800			
SULPHITE (mg / L)		80		80		80			
PHPA (Calc ppb)		0.00		0.00		0.00			
GLYCOL CONTENT (% V/V)		3.2		3.2		3.2			
K+ (mg / L)		44853.2010		44853.2010		44853.2010			
KCl (% by Wt.)		8.3		8.3		8.3			
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8		
SOLIDS CONTENT (% by volume) Calc		10.54		11.31		10.89			
LIQUID CONTENT (% by volume) Calc		89.46		88.69		89.11			
SAND CONTENT (% by volume)		0.2		0.2		0.2			

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

No treatment to Active Mud system.
Add 1 drum IDCIDE to recycled mud from Nor Captain in Pit 4. Build Slug.
***Mud Check #1 & #3 Active Surface Pit 3 after c/fuge to 11.0ppg.
***Mud Check #2 indicative of mud down hole.

11bbl Losses while Logging.

OPERATIONAL COMMENTS

POOH wireline to reconfigure tools, due to being unable to pass below 1783m MD. Recommence wireline operations. RIH to attempt wireline logging with 5" drill pipe.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2263
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	0	Boat Bk	0
Seawater	0	Downhole	11	Built	0
Other	0	Other	0	Lost su	11
RECEIVED	0	LOST	11	Lost srf	0

TOTAL MUD ON RIG (bbls) 2252

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Idcide-20	20 Ltr Drum	61	0	1	60

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.3
Shale Shaker #1	20/10 230HC x 4			20	LGS %		4.6
Shale Shaker #2	20/10 230HC x 4				Drilled Solids %		3.738
Shale Shaker #3	20/10 230HC x 4				Salt %		2.970
Shale Shaker #4	20/10 230HC x 4						

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 28/07/2008
Report No 15

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	0	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES:	1	BBL/HR FOR	11	hr	11 bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**11** bbl
TOTAL DISPOSED:					**11** **bbl**
Interval losses (bbl/ft/m):					**4**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	116	230	9.2	KCL/Glycol Brine
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	326	486	11	KCL/Glycol/Polymer Mud
4	Reserve	263	508	10.7	KCL/Glycol/Polymer Mud- Nor Captain
5	Reserve	90	508	11	KCL/Glycol/Polymer Mud - Hi Vis
Slug Pit	Active	51	79	13.3	KCL/Glycol/Polymer Mud
Trip Tank	Active	10	70	11	KCL/Glycol/Polymer Mud
Sand Trap	Active	50	54	11.1	KCL/Glycol/Polymer Mud
Settling Pits	Active	80	81	11.1	KCL/Glycol/Polymer Mud
Surface Line	Active	10	80	11.1	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2263	
Current Tank Volume:	527	
Total Hole Volume(inc riser):	932	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	0	
Total Storage:	440	
Total Reserve:	353	
Total Disposed:		11
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2252**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 15
Report Date: 28/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	120		113		233			120
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	116		64		180			116
Flowzan	25 Kg Sack	66		76		142			66
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	61	1	7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96				96			96
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43		4		47			43
Sodium Sulphite	25 Kg	55		21		76			55

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	16	Total MD	1870	to 1870	m
Rig #	OCEAN PATRIOT	Total VD	1744	to 1744	m
Date	29/07/2008	Daily Depth Drilled		0	m
Spud Date	15/07/2008	Interval Depth Drilled		1223	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 970 / PITS 540	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	Conductor @ 0 m	TOTAL CIRCULATING VOL. 1510	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	Surface @ m	RESERVE PITS 180	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 0 m	Intermediate @ m	STORAGE TANKS 537	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		FL		FL			
MUD TYPE		KGLY		KGLY		KGLY			
TIME SAMPLE TAKEN		5:00		13:00		21:00			
FLOWLINE TEMPERATURE	°F			120		95			
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870		1870			
WEIGHT	ppg / SG	11.1	1.33	11.1	1.33	11.1	1.33		
FUNNEL VISCOSITY (sec / qt) API @	120 °F	66		58		54			
RHEOLOGY 600 : 300 RPM	120 °F	74	52	76	53	78	55		
RHEOLOGY 200 : 100 RPM	120 °F	43	31	44	32	47	35		
RHEOLOGY 6 : 3 RPM	120 °F	11	8	11	8	12	9		
PLASTIC VISCOSITY cP @	120 °F	22		23		23			
YIELD POINT (lb / 100FT ²)	120 °F	30		30		32			
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		9	19	22	9	19	23	10	19	24
n K (lb/100 ft)		0.50	2.38	0.50	2.38	0.50	2.38		
API FILTRATE (cm³ / 30 min.)		3.8		3.9		3.8			
HPHT FILTRATE (cm³ / 30 min.)	°F								
API : HPHT (Cake / 32nd in.)		1		1		1			
pH		8.7		8.7		8.7			
ALKALINITY MUD (Pm)		0.1		0.1		0.1			
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.9	0.05	0.9	0.04	0.9		
CHLORIDE (mg / L)		48,000		48,000		48,000			
TOTAL HARDNESS AS CALCIUM (mg / L)		800		800		800			
SULPHITE (mg / L)		50		50		50			
PHPA (Calc ppb)		0.00		0.00		0.00			
GLYCOL CONTENT (% V/V)		3.2		3.2		3.2			
K+ (mg / L)		44853.2010		44853.2010		44853.2010			
KCl (% by Wt.)		8.3		8.3		8.3			
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8		
SOLIDS CONTENT (% by volume) Calc		11.66		11.31		11.31			
LIQUID CONTENT (% by volume) Calc		88.34		88.69		88.69			
SAND CONTENT (% by volume)		0.2		0.2		0.2			

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Build 210bbl Premix in Pit 1, weight up premix to 10.7ppg. Build Hi-Vis/LCM Pill in Pit 5 (5.8ppb Calcium Carbonate, 130 sec/qt vis). Spot 100 bbl 11.0 ppg Hi-vis/LCM Pill on bottom. Build 13 ppg Slug. Build another 100 bbl pumpable Hi-Vis/LCM Pill in Pit 5 (7ppb Calcium Carbonate 11.0ppg). Pump 2nd 120bbl 11.0ppg Hi-vis/LCM pill.
Operate 1 x Centrifuge to reduce LGS/MW while reaming and circulating.
Barite usage to be charge on tomorrows report.

OPERATIONAL COMMENTS

Wireline on DP unable to pass below 1790m MD. Pump 24bbl 13.3ppg Slug. POOH.
PU and RIH with 12.25" BHA for wiper trip.
RIH to +/-1750m start washing and reaming as necessary to TD 1870m. Circ BU until shakers clean. Spot 100 bbl 11.0ppg Hi-vis pill, POOH to surf, tight spot at 1835m, 1824m and 1820m, start to pump and wash down, continue POOH, tight spot at 1795m, RIH to bottom, circulate hole clean, Pump and spot 2nd 120 bbl 11.0ppg Hi-Vis/LCM on bottom. Flow check. Pump 32bbl 13.0ppg Slug. POOH to surf. Prepare to RIH with LWD assembly.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2252
Drill Water	97	S.C.E.	119	Boat Rcd	0
Chemical	7	Discharge	0	Boat Bk	0
Seawater	0	Downhole	6	Built	104
Other	0	Other	4	Lost su	6
RECEIVED	104	LOST	129	Lost srf	123

TOTAL MUD ON RIG (bbls) 2227

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Omyacarb 20	25 Kg	96	0	35	61
Flowzan	25 Kg Sack	66	0	9	57
Drispac SL (22.7kg)	23 Kg	116	0	8	108

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			4	9.45	17	30
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.7
Shale Shaker #1	20/10 230HC x 4			9	LGS %		4.6
Shale Shaker #2	20/10 230HC x 4			9	Drilled Solids %		3.821
Shale Shaker #3	20/10 230HC x 4			9	Salt %		2.970
Shale Shaker #4	20/10 230HC x 4			12			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 29/07/2008
Report No 16

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	97	bbl
Chemical Volume added	7	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**104**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	102	bbl
LOSSES TO CENTRIFUGE	17	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	4	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**123**	bbl

SEEPAGE LOSSES: 1 BBL/HR FOR 6 hr	6	bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**6**	bbl
TOTAL DISPOSED:	**129**	**bbl**
Interval losses (bbl/ft/m):	**4**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	213	230	10.7	KCl/Glycol/Polymer Mud
2	Storage	324	342	9.2	KCl/Glycol Brine
3 a+b equalised	Active	362	486	11.1	KCl/Glycol/Polymer Mud
4	Reserve	110	508	10.7	KCl/Glycol/Polymer Mud
5	Reserve	70	508	11	KCl/Glycol/Polymer Mud - Hi-Vis/LCM
Slug Pit	Active	18	79	13	KCl/Glycol/Polymer Mud
Trip Tank	Active	10	70	11.1	KCl/Glycol/Polymer Mud
Sand Trap	Active	50	54	11.1	KCl/Glycol/Polymer Mud
Settling Pits	Active	80	81	11.1	KCl/Glycol/Polymer Mud
Surface Line	Active	20	80	11.1	KCl/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2252	
Current Tank Volume:	540	
Total Hole Volume(inc riser):	970	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	104	
Total Storage:	537	
Total Reserve:	180	
Total Disposed:		129
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2227** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 16
Report Date: 29/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	120		113		233			120
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	116	8	72		180			108
Flowzan	25 Kg Sack	66	9	85		142			57
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60		7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	96	35	35		96			61
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43		4		47			43
Sodium Sulphite	25 Kg	55		21		76			55

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	17	Total MD	1870 to 1875	m
Rig #	OCEAN PATRIOT	Total VD	1744 to 1748	m
Date	30/07/2008	Daily Depth Drilled	5	m
Spud Date	15/07/2008	Interval Depth Drilled	1228	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Hughes MXL-1X	20 20 20 14 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 909 / PITS 575	PUMP SIZE 6 x 12 Inches; CIRCULATION PRESS 3800 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,632 m	30 Conductor @ 131 m	TOTAL CIRCULATING VOL. 1484	PUMP MODEL National; % EFFICIENCY 97; SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 360	BBL / STK 0.1018; STK / MIN 210; BOTTOMS UP 35 min
DRILL COLLAR SIZE (") 8	8.43	LENGTH 30 43 m	Intermediate @ m	STORAGE TANKS 324	BBL / MIN 21.38; GAL / MIN 898; TOTAL CIRC TIME 82 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		FL		
MUD TYPE		KGLY		KGLY		KGLY		
TIME SAMPLE TAKEN		6:00		14:00		22:20		
FLOWLINE TEMPERATURE	°F					110		
TOTAL MEASURED DEPTH (TMD)	Metres	1870		1870		1874		
WEIGHT	ppg / SG	11.2	1.34	11.1	1.33	11.0	1.32	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	61		60		59		
RHEOLOGY 600 : 300 RPM	120 °F	80	57	77	55	78	56	
RHEOLOGY 200 : 100 RPM	120 °F	47	35	45	33	45	34	
RHEOLOGY 6 : 3 RPM	120 °F	12	9	12	9	12	9	
PLASTIC VISCOSITY cP @	120 °F	23		21		22		
YIELD POINT (lb / 100FT) ²	120 °F	34		33		34		
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	19	21	9	18	20	8	18	20
n K (lb/100 ft)		0.48	2.85	0.48	2.85	0.48	2.85	
API FILTRATE (cm / 30 min.)		3.8		3.8		3.8		
HPHT FILTRATE (cm / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		1		1		
pH		8.7		8.7		8.5		
ALKALINITY MUD (Pm)		0.1		0.1		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.04	0.9	0.04	0.9	0.05	0.9	
CHLORIDE (mg / L)		46,000		46,000		45,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		880		840		880		
SULPHITE (mg / L)		50		50		50		
PHPA (Calc ppb)		0.00		0.00		0.00		
GLYCOL CONTENT (% V/V)		3.2		3.2		3.2		
K+ (mg / L)		44853.2010		44853.2010		44853.2010		
KCl (% by Wt.)		8.3		8.3		8.3		
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8	
SOLIDS CONTENT (% by volume) Calc		11.81		11.03		10.75		
LIQUID CONTENT (% by volume) Calc		88.19		88.97		89.25		
SAND CONTENT (% by volume)		0.2		0.2		0.2		

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

No treat ment to the active system.
Build 13.5ppg Slug. Charge off Barite from yesterday and todays usage.

Run centrifuge to cut back MW and LGS% in surface pits and system while RIH and pumping to bottom with LWD.

OPERATIONAL COMMENTS

PU 5" drillpipe. Make up and run LWD BHA assembly. Shallow test MWD Tools, RIH to 1740m washing down and reaming as necessary. Drill 5m new formation to 1875m MD, circulate hole clean at time of report.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2227
Drill Water	0	S.C.E.	83	Boat Rcd	0
Chemical	24	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	24
Other	0	Other	0	Lost su	0
RECEIVED	24	LOST	83	Lost srf	83

TOTAL MUD ON RIG (bbls) 2168

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Barite FOB (Portland)	1000 Kg	120	0	16	104

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			4	9.4	17	30
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.5
Shale Shaker #1	20/10 230HC x 4			11	LGS %		4.3
Shale Shaker #2	20/10 230HC x 4			11	Drilled Solids %		3.462
Shale Shaker #3	20/10 230HC x 4			11	Salt %		2.784
Shale Shaker #4	20/10 230HC x 4			11			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 30/07/2008
Report No 17

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	24	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**24**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	67	bbl
LOSSES TO CENTRIFUGE	16	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**83**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**83** bbl
Interval losses (bbl/ft/m):					**4**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	213	230	10.7	KCL/Glycol/Polymer Premix
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	312	486	11	KCL/Glycol/Polymer Mud
4	Reserve	77	508	10.7	KCL/Glycol/Polymer Mud- Nor Captain
5	Reserve	70	508	11	KCL/Glycol/Polymer Mud-Hivis/LCM
Slug Pit	Active	57	79	13.5	KCL/Glycol/Polymer Mud-Slug
Trip Tank	Active	6	70	11	KCL/Glycol/Polymer Mud
Sand Trap	Active	50	54	11	KCL/Glycol/Polymer Mud
Settling Pits	Active	80	81	11	KCL/Glycol/Polymer Mud
Surface Line	Active	70	80	11	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2227	
Current Tank Volume:	575	
Total Hole Volume(inc riser):	909	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	24	
Total Storage:	324	
Total Reserve:	360	
Total Disposed:		83
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2168** bbls	

Daily Inventory

Well: Netherby - 1
Report No: 17
Report Date: 30/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	120	16	129		233			104
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	108		72		180			108
Flowzan	25 Kg Sack	57		85		142			57
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60		7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	61		35		96			61
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43		4		47			43
Sodium Sulphite	25 Kg	55		21		76			55

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	18	Total MD	1875	to	1875	m
Rig #	OCEAN PATRIOT	Total VD	1748	to	1748	m
Date	31/07/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			1228	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 972 / PITS 587	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2646 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1559	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 6 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	13.38 Surface @ 624 m	RESERVE PITS 714	BBL / STK 0.1018 / STK / MIN 185 / BOTTOMS UP 43 min
DRILL COLLAR SIZE (") 8 / 8.43		LENGTH 0 / 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 324	BBL / MIN 18.83 / GAL / MIN 791 / TOTAL CIRC TIME 97 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit		
MUD TYPE		KGLY		KGLY		KGLY		
TIME SAMPLE TAKEN		2:30		9:00		20:00		
FLOWLINE TEMPERATURE	°F	127		135				
TOTAL MEASURED DEPTH (TMD)	Metres	1875		1875		1875		
WEIGHT	ppg / SG	11.0	1.32	11.0	1.32	11.0	1.32	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	52		50		47		
RHEOLOGY 600 : 300 RPM	120 °F	80	58	77	56	80	59	
RHEOLOGY 200 : 100 RPM	120 °F	48	36	47	35	48	35	
RHEOLOGY 6 : 3 RPM	120 °F	13	10	13	10	12	9	
PLASTIC VISCOSITY cP @	120 °F	22		21		21		
YIELD POINT (lb / 100FT ^{2})	120 °F	36		34		38		
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		11	20	26	11	20	25	10	20	24
n K (lb/100 ft ^{2})		0.44	3.82	0.44	3.82	0.44	3.82	
API FILTRATE (cm ^{3} / 30 min.)		4.0		4.0		4		
HPHT FILTRATE (cm ^{3} / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		1		1		
pH		8.5		8.5		8.5		
ALKALINITY MUD (Pm)		0.1		0.1		0.1		
ALKALINITY FILTRATE (Pf / Mf)		0.04	1.0	0.04	0.9	0.05	0.9	
CHLORIDE (mg / L)		46,500		46,000		45,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		880		880		880		
SULPHITE (mg / L)		120		120		80		
PHPA (Calc ppb)		0.00		0.00		0.00		
GLYCOL CONTENT (% V/V)		3.2		3.2		3.2		
K+ (mg / L)		44853.2010		44853.2010		44853.2010		
KCl (% by Wt.)		8.3		8.3		8.3		
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8	
SOLIDS CONTENT (% by volume) Calc		10.75		10.75		10.75		
LIQUID CONTENT (% by volume) Calc		89.25		89.25		89.25		
SAND CONTENT (% by volume)		0.2		0.2		0.2		

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Treat active with Sodium Sulphite to maintain concentration in system. Mud weight and all other fluid system properties remaining stable while circulating. Build 100bbl 11.0ppg pumpable Hi-vis/LCM pill (7.6ppb Omycarb-20). Pump 100 bbl Hi-vis/LCM Pill. Pump Slug. Transfer remaining slug volume to Pit 1. Discharge 8bbl from Slug Pit. Clean slug pit for cement spacer. Commence building cement spacer in Slug Pit, and weighting with Barite. 18bbl losses while tripping. Downhole losses +/-2 bbl/hr while circulating and logging.

OPERATIONAL COMMENTS

Continue to circulate while taking LWD logs. Spot 100 bbl Hi-vis/LCM Pill on bottom. Pump 30 bbl 13.3ppg slug, POOH to surface, load LWD data, and L/D 12 1/4" LWD BHA.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2168
Drill Water	60	S.C.E.	4	Boat Rcd	430
Chemical	9	Discharge	8	Boat Bk	0
Seawater	0	Downhole	40	Built	69
Other	0	Other	18	Lost su	40
RECEIVED	69	LOST	70	Lost srf	30

TOTAL MUD ON RIG (bbls) 2597

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Omyacarb 20	25 Kg	61	0	13	48
Barite FOB (Portland)	1000 Kg	104	0	4	100
Sodium Sulphite	25 Kg	55	0	4	51
Flowzan	25 Kg Sack	57	0	1	56

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.5
Shale Shaker #1	20/10 230HC x 4			16	LGS %		4.3
Shale Shaker #2	20/10 230HC x 4			16	Drilled Solids %		3.462
Shale Shaker #3	20/10 230HC x 4			16	Salt %		2.784
Shale Shaker #4	20/10 230HC x 4			16			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 31/07/2008
Report No 18

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	60	bbl
Chemical Volume added	9	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**69**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	430

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	4	bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	18	bbl
DISCHARGED:	8	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**30**	bbl

SEEPAGE LOSSES:	2	BBL/HR FOR	20	hr	40	bbl
LOST CIRCULATION:						bbl
LOST BEHIND CASING/LEFT DOWNHOLE:						bbl
OTHER SUB-SURFACE LOSSES:						bbl
Sub-surface Losses Subtotal:					**40**	bbl
TOTAL DISPOSED:					**70**	**bbl**
Interval losses (bbl/ft/m):					**4**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	137	230	11	KCL/Glycol/Polymer Premix
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	344	486	11.1	KCL/Glycol/Polymer Mud
4	Reserve	430	508	10.7	KCL/Glycol/Polymer Mud- Nor Captain
5	Reserve	147	508	11	KCL/Glycol/Polymer Mud- Hivis/LCM
Slug Pit	Active	60	79	9.2	Cement Spacer
Trip Tank	Active	23	70	23	KCL/Glycol/Polymer Mud
Sand Trap	Active	50	54	11	KCL/Glycol/Polymer Mud
Settling Pits	Active	80	81	11	KCL/Glycol/Polymer Mud
Surface Line	Active	30	80	11	KCL/Glycol/Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2168	
Current Tank Volume:	587	
Total Hole Volume(inc riser):	972	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	69	
Total Storage:	324	
Total Reserve:	714	
Total Disposed:		70
Total Backloaded to LMP:		
Total Received from LMP:	430	
TOTAL MUD AT RIGSITE	**2597**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 18
Report Date: 31/07/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	104	4	133		233			100
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41				41			41
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	108		72		180			108
Flowzan	25 Kg Sack	57	1	86		142			56
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60		7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	61	13	48		96			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43		4		47			43
Sodium Sulphite	25 Kg	55	4	25		76			51

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	19	Total MD	1875	to	1875	m
Rig #	OCEAN PATRIOT	Total VD	1748	to	1748	m
Date	1/08/2008	Daily Depth Drilled			0	m
Spud Date	15/07/2008	Interval Depth Drilled			1228	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Nathan Peri	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby - 1	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 668 / PITS 487	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 71 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1155	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.72	TYPE HW	LENGTH 0 m	13.38 Surface @ 624 m	RESERVE PITS 790	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8 / 9.5		LENGTH 0 / 0 m	Intermediate @ 0 m	STORAGE TANKS 324	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ 0 m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit	
MUD TYPE		KGLY		KGLY		KGLY	
TIME SAMPLE TAKEN		4:00		18:00		21:00	
FLOWLINE TEMPERATURE	°F	95					
TOTAL MEASURED DEPTH (TMD)	Metres	1875		1875		1875	
WEIGHT	ppg / SG	11.2	1.34	11.1	1.33	11.1	1.33
FUNNEL VISCOSITY (sec / qt) API @	120 °F	54		54		56	
RHEOLOGY 600 : 300 RPM	120 °F	74	54	78	56	79	57
RHEOLOGY 200 : 100 RPM	120 °F	44	33	48	36	46	36
RHEOLOGY 6 : 3 RPM	120 °F	12	9	13	10	13	10
PLASTIC VISCOSITY cP @	120 °F	20		22		22	
YIELD POINT (lb / 100FT ²)	120 °F	34		34		35	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	20	24	10	20	25	10	20	25
n K (lb/100 ft)		0.47	3.03	0.47	3.03	0.47	3.03
API FILTRATE (cm ³ / 30 min.)		3.8		4.0		4.0	
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		1		1	
pH		8.5		9.5		9.5	
ALKALINITY MUD (Pm)		0.1		0.2		0.2	
ALKALINITY FILTRATE (Pf / Mf)		0.04	0.9	0.10	1.3	0.10	1.3
CHLORIDE (mg / L)		45,000		45,000		45,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		880		1020		1040	
SULPHITE (mg / L)		80		50		50	
PHPA (Calc ppb)		0.00		0.00		0.00	
GLYCOL CONTENT (% V/V)		3.2		3.2		3.2	
K+ (mg / L)		44853.2010		44853.2010		44853.2010	
KCl (% by Wt.)		8.3		8.3		8.3	
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	7.5	0.8	7.5	0.8
SOLIDS CONTENT (% by volume) Calc		12.09		11.45		11.21	
LIQUID CONTENT (% by volume) Calc		87.91		88.55		88.79	
SAND CONTENT (% by volume)		0.2		0.2		0.2	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<4	pH	8-9
KCl	8-10	6 RPM	12-16	LGS	<5

MUD COMMENTS

Continue to weight up Schlumberger mud push spacer in Slug Pit. Pretreat Active system (0.25ppb Sodium bicarbonate) while circ BU at TD. During cement operations discharge total of 233bbl cement contaminated mud at surface during 3 plugs. Build and Pump 13.0ppg slug. Discharge 77bbl from Sand trap Pits 1, 2, 3 (77bbls). Lightly treat system for cement contamination, treat further when commence drilling. Build PHPA premixes, to be charged off on tomorrows report. Discharge 13bbl dead volume Mud Push from Slug Pit. 18bbl losses during tripping. Screen down shale shakers to 84 mesh prior to cement jobs, to conserve fine screen inventory.

OPERATIONAL COMMENTS

P/U mule shoe and RIH to casing shoe. Conduct Slip and Cut. Recommence RIH to 1875m. Circ BU. Commence cement operations with 3 balanced cement plugs to plug back of reservoir to 1400m MD as per program. Circulate out excess cement to surface and discharge cement contaminated mud at shakers after each plug. Pump 27bbl 13ppg Slug. POOH to surface. Commence PU 12 1/4" BHA for Netherby1
DW.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2597
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	13	Discharge	310	Boat Bk	0
Seawater	0	Downhole	0	Built	13
Other	0	Other	31	Lost su	0
RECEIVED	13	LOST	341	Lost srf	341

TOTAL MUD ON RIG (bbls) 2269

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Sodium Bicarbonate	25 Kg Sack	43	0	11	32
Citric Acid	25 Kg Sack	41	0	8	33
Barite FOB (Portland)	1000 Kg	100	0	7	93

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.8
Shale Shaker #1	20/10 230HC x 4			11	LGS %		4.4
Shale Shaker #2	20/10 230HC x 4			11	Drilled Solids %		3.614
Shale Shaker #3	20/10 230HC x 4			11	Salt %		2.784
Shale Shaker #4	20/10 230HC x 4			11			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 1/08/2008
Report No 19

Well Name: Netherby - 1
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	13	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**13**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	18	bbl
DISCHARGED:	310	bbl
OTHER SURFACE LOSSES:	13	bbl
Surface Losses Subtotal:	**341**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**341**	**bbl**
Interval losses (bbl/ft/m):	**4**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	168	230	10.7	
2	Storage	324	342	9.2	
3 a+b equalised	Active	372	486	11.1	
4	Reserve	430	508	10.7	
5	Reserve	192	508	11	
Slug Pit	Active	23	79	13	
Trip Tank	Active	9	70	11.1	
Sand Trap	Active	0	54	11.1	
Settling Pits	Active	53	81	11.1	
Surface Line	Active	30	80	11.1	

VOLUME SUMMARY:

	+	-
Starting Volume:	2597	
Current Tank Volume:	487	
Total Hole Volume(inc riser):	668	
Other Volume In Hole:	303	
Total Riser Volume:	105	
Total Received:	13	
Total Storage:	324	
Total Reserve:	790	
Total Disposed:		341
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2269**	**bbls**

Daily Inventory

Well: Netherby - 1
Report No: 19
Report Date: 1/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
KCl / Glycol / Premix_*RIG*	0 bbl			1,127		1,127			
Barite (sacked)	25 Kg Sack	80		80		160			80
Barite FOB (Portland)	1000 Kg	100	7	140		233			93
Bentonite FOB (Portland)	1000 Kg	53		54		107			53
Calcium Chloride (77%)	25 Kg	36		25		61			36
Caustic Soda	25 Kg Drum	20		8		28			20
Citric Acid	25 Kg Sack	41	8	8		41			33
Defoam-A	25 Ltr Drum	28		1		29			28
Drill-pol	25 Kg Drum	30		66		96			30
Drispac SL (22.7kg)	23 Kg	108		72		180			108
Flowzan	25 Kg Sack	56		86		142			56
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6		18		48		24	6
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60		7		67			60
JK-261 LV	25 Kg	134		15		149			134
KCL (Big Bag)	1000 Kg Bulk Ba			6		28		22	
KCl (sacked)	25 Kg Sack	440		200		640			440
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48		48		96			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33		99		132			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	43	11	15		47			32
Sodium Sulphite	25 Kg	51		25		76			51

Rheochem

WATER BASED MUD
Daily Drilling Report

Report #	23	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	24/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0 / PITS 0	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 0	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM				
MUD TYPE	NACL			
TIME SAMPLE TAKEN				
FLOWLINE TEMPERATURE	°F			
TOTAL MEASURED DEPTH (TMD)	Metres			
WEIGHT	ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @	°F			
RHEOLOGY 600 : 300 RPM	°F			
RHEOLOGY 200 : 100 RPM	°F			
RHEOLOGY 6 : 3 RPM	°F			
PLASTIC VISCOSITY cP @	°F			
YIELD POINT (lb / 100FT ^{2})	°F			
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min				
n K (lb/100 ft ^{2})				
API FILTRATE (cm ^{3} / 30 min.)				
HPHT FILTRATE (cm ^{3} / 30 min.)	°F			
API : HPHT (Cake / 32nd in.)				
pH				
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)				
CHLORIDE (mg / L)				
TOTAL HARDNESS AS CALCIUM (mg / L)				
SULPHITE (mg / L)				
PHPA (Calc ppb)				
GLYCOL CONTENT (% V/V)				
K+ (mg / L)				
KCl (% by Wt.)				
METHYLENE BLUE CAPACITY (ppb equiv/%)				
SOLIDS CONTENT (% by volume) Calc	0.00			
LIQUID CONTENT (% by volume) Calc	0.00			
SAND CONTENT (% by volume)				

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Standing by for mixing Spud mud.

OPERATIONAL COMMENTS

Completed pulling anchors and commenced tow to Henry 2.

This is the final DMR for Netherby-1 DW.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	0
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	0	Lost srf	0

TOTAL MUD ON RIG (bbls) 0

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 24/08/2008
Report No 23

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**0**	**bbl**
Interval losses (bbl/ft/m):	**21**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	0	
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	0	508	0	
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	0	70	0	
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	0	80	0	

VOLUME SUMMARY:

	+	-
Starting Volume:		
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	491	
Total Riser Volume:		
Total Received:		
Total Storage:		
Total Reserve:		
Total Disposed:		
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE		**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 23
Report Date: 24/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	86				86			86
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack	80		23		103			80
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	88		6		94			88
Drispac SL (22.7kg)	23 Kg	154		34		188			154
Flowzan	25 Kg Sack	84		52		136			84
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	50		42		92			50
JK-261 LV	25 Kg	186		68		254			186
KCl (sacked)	25 Kg Sack	520		240		760			520
MEG	220 Kg			8		8			
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	480		1,104		1,584			480
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	64		20		84			64
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	64		27		91			64
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33		47		80			33

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	1	Total MD	1505	to	1544	m
Rig #	OCEAN PATRIOT	Total VD	0	to	1476	m
Date	2/08/2008	Daily Depth Drilled			39	m
Spud Date	2/08/2008	Interval Depth Drilled			39	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	15 15 15 15 15 / 15 0 0 0 0	19.50 Riser Length 87 m	HOLE 770 / PITS 473	PUMP SIZE 6 x 12 Inches; CIRCULATION PRESS 3541 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,359 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1243	PUMP MODEL National; % EFFICIENCY 97; SURFACE TO BIT 4 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m	RESERVE PITS 550	BBL / STK 0.1018; STK / MIN 220; BOTTOMS UP 28 min
DRILL COLLAR SIZE (") 8	0	LENGTH 43 0 m	Intermediate @ m	STORAGE TANKS 324	BBL / MIN 22.4; GAL / MIN 941; TOTAL CIRC TIME 67 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		
MUD TYPE		8KCL		
TIME SAMPLE TAKEN		21:30		
FLOWLINE TEMPERATURE	°F	140		
TOTAL MEASURED DEPTH (TMD)	Metres	1544		
WEIGHT	ppg / SG	11.0	1.32	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	54		
RHEOLOGY 600 : 300 RPM	120 °F	78	57	
RHEOLOGY 200 : 100 RPM	120 °F	48	36	
RHEOLOGY 6 : 3 RPM	120 °F	13	10	
PLASTIC VISCOSITY cP @	120 °F	21		
YIELD POINT (lb / 100FT) 2	120 °F	36		
GEL STRENGTH (lb / 100FT 2) 10sec/10min/30min		10	21	25
n K (lb/100 ft)		0.45	3.40	
API FILTRATE (cm / 30 min.)		7.4		
HPHT FILTRATE (cm / 30 min.)	°F			
API : HPHT (Cake / 32nd in.)		1		
pH		12.0		
ALKALINITY MUD (Pm)		5.9		
ALKALINITY FILTRATE (Pf / Mf)		0.70	2.2	
CHLORIDE (mg / L)		45,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		1160		
SULPHITE (mg / L)		50		
PHPA (Calc ppb)		0.40		
GLYCOL CONTENT (% V/V)		3		
K+ (mg / L)		44853.2010		
KCl (% by Wt.)		8.3		
METHYLENE BLUE CAPACITY (ppb equiv/%)		7.5	0.8	
SOLIDS CONTENT (% by volume) Calc		10.82		
LIQUID CONTENT (% by volume) Calc		89.18		
SAND CONTENT (% by volume)		0.2		

MUD PROPERTY SPECIFICATIONS

MUD COMMENTS

Continue to treat cement contamination in Active system with Sodium Bicarbonate and Citric Acid. Bleed high concentration PHPA premix into Active. Add directly to the active system, powdered PHPA to increase concentration to desired parameters.
Continue to closely monitor mud properties, and cuttings inhibition.
Transferred Inventory from Netherby-1 to Netherby-1 DW.

OPERATIONAL COMMENTS

Commence Netherby-1 DW @21:00hrs.
Drill ahead 12.25" section to 1544m MD at midnight.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2160
Drill Water	0	S.C.E.	49	Boat Rcd	0
Chemical	6	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	6
Other	0	Other	0	Lost su	0
RECEIVED	6	LOST	49	Lost srf	49

TOTAL MUD ON RIG (bbls) 2117

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
JK-261 LV	25 Kg	0	134	24	110
Citric Acid	25 Kg Sack	0	23	6	17
Sodium Bicarbonate	25 Kg Sack	0	20	5	15
Barite (sacked)	25 Kg Sack	0	80	0	80
Barite FOB (Portland)	1000 Kg	0	86	0	86
Bentonite FOB (Portland)	1000 Kg	0	53	0	53
Calcium Chloride (77%)	25 Kg	0	36	0	36
Caustic Soda	25 Kg Drum	0	20	0	20
Defoam-A	25 Ltr Drum	0	28	0	28
Drill-pol	25 Kg Drum	0	30	0	30
Drispac SL (22.7kg)	23 Kg	0	108	0	108
Flowzan	25 Kg Sack	0	56	0	56
Fracseal	25 lb Sack	0	140	0	140

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			2	9.4	17	30
Centrifuge 2				0	0	0	0
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.4
Shale Shaker #1	20/20 230HC x 4			3	LGS %		4.4
Shale Shaker #2	20/20 200HC x 4			3	Drilled Solids %		3.600
Shale Shaker #3	20/20 200HC x 4			3	Salt %		2.784
Shale Shaker #4	20/20 230HC x 4			3			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 2/08/2008
Report No 1

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	6	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**6**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	41	bbl
LOSSES TO CENTRIFUGE	8	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**49**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**49**	**bbl**
Interval losses (bbl/ft/m):	**3**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	166	230	11	KCL/Glycol/PHPA premix
2	Storage	324	342	9.2	KCL/Glycol Brine
3 a+b equalised	Active	251	486	11	KCL/Glycol/PHPA mud
4	Reserve	263	508	10.7	KCL/Glycol/PHPA mud-Nor Captain
5	Reserve	97	508	11	KCL/Glycol/PHPA mud
Slug Pit	Reserve	24	79	11	KCL/Glycol/PHPA mud
Trip Tank	Active	18	70	11	KCL/Glycol/PHPA mud
Sand Trap	Active	54	54	11	KCL/Glycol/PHPA mud
Settling Pits	Active	80	81	11	KCL/Glycol/PHPA mud
Surface Line	Active	70	80	11	KCL/Glycol/PHPA mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2160	
Current Tank Volume:	473	
Total Hole Volume(inc riser):	770	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	6	
Total Storage:	324	
Total Reserve:	550	
Total Disposed:		49
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2117**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 1
Report Date: 2/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack				80	80			80
Barite FOB (Portland)	1000 Kg				86	86			86
Bentonite FOB (Portland)	1000 Kg				53	53			53
Calcium Chloride (77%)	25 Kg				36	36			36
Caustic Soda	25 Kg Drum				20	20			20
Citric Acid	25 Kg Sack		6	6	23	23			17
Defoam-A	25 Ltr Drum				28	28			28
Drill-pol	25 Kg Drum				30	30			30
Drispac SL (22.7kg)	23 Kg				108	108			108
Flowzan	25 Kg Sack				56	56			56
Fracseal	25 lb Sack				140	140			140
Glychem MC	220 Kg				6	6			6
Guar Gum	25 Kg Sack				101	101			101
Idcide-20	20 Ltr Drum				60	60			60
JK-261 LV	25 Kg		24	24	134	134			110
KCl (sacked)	25 Kg Sack				440	440			440
MEG	220 Kg				8	8			8
Nutplug	25 Kg Sack				39	39			39
Omyacarb 20	25 Kg				48	48			48
Quickseal (med)	18 Kg Sack				49	49			49
Rheopac R	25 Kg Sack				33	33			33
Sand Seal (fine)	25 Kg Sack				75	75			75
SAPP	25 Kg Sack				40	40			40
Soda Ash	25 Kg Sack				36	36			36
Sodium Bicarbonate	25 Kg Sack		5	5	20	20			15
Sodium Sulphite	25 Kg				51	51			51

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	2	Total MD	1544 to 1932	m	
Rig #	OCEAN PATRIOT	Total VD	1476 to 1681	m	
Date	3/08/2008	Daily Depth Drilled	388	m	
Spud Date	2/08/2008	Interval Depth Drilled	427	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 12.25	Reed Hycalog	15 15 15 15 15 / 15 0 0 0 0	19.50 Riser Length 87 m	HOLE 947	PITS 462	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 3786 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,747 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1409		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m	RESERVE PITS 539		BBL / STK 0.1018	STK / MIN 220	BOTTOMS UP 35 min
DRILL COLLAR SIZE (") 8	0	LENGTH 43 0 m	Intermediate @ m	STORAGE TANKS 125		BBL / MIN 22.4	GAL / MIN 941	TOTAL CIRC TIME 66 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit	
MUD TYPE		8KCL		8KCL		8KCL	
TIME SAMPLE TAKEN		5:30		15:00		22:30	
FLOWLINE TEMPERATURE	°F	142		145		145	
TOTAL MEASURED DEPTH (TMD)	Metres	1650		1885		1910	
WEIGHT	ppg / SG	11.0	1.32	11.0	1.32	11.0	1.32
FUNNEL VISCOSITY (sec / qt) API @	120 °F	49		57		68	
RHEOLOGY 600 : 300 RPM	120 °F	76	53	77	56	80	58
RHEOLOGY 200 : 100 RPM	120 °F	42	30	50	39	47	36
RHEOLOGY 6 : 3 RPM	120 °F	12	9	12	9	13	10
PLASTIC VISCOSITY cP @	120 °F	23		21		22	
YIELD POINT (lb / 100FT ²)	120 °F	30		35		36	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	19 24	10	19 25	10	19 25
n K (lb/100 ft ³)		0.46	3.22	0.46	3.22	0.46	3.22
API FILTRATE (cm ³ / 30 min.)		6.4		5.2		4.4	
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		1		1	
pH		11.5		11.0		10.0	
ALKALINITY MUD (Pm)		3.8		0.9		0.4	
ALKALINITY FILTRATE (Pf / Mf)		0.60	2.0	0.30	2.2	0.26	2.0
CHLORIDE (mg / L)		43,000		46,000		47,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		1120		1120		1200	
SULPHITE (mg / L)		120		50		50	
PHPA (Calc ppb)		0.80		1.20		1.50	
GLYCOL CONTENT (% V/V)		2.9		3		3	
K+ (mg / L)		44853.2010		47014.799		48636	
KCl (% by Wt.)		8.3		8.7		9.0	
METHYLENE BLUE CAPACITY (ppb equiv/%)		8.0	0.9	7.5	0.8	7.5	0.8
SOLIDS CONTENT (% by volume) Calc		10.82		10.40		10.68	
LIQUID CONTENT (% by volume) Calc		89.18		89.60		89.32	
SAND CONTENT (% by volume)		0.2		0.2		0.2	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

Treat active system to reduce pH, alkalinity values and Hardness. Add powdered PHPA (JK-261 LV) to premix Pit 4 2.1ppb. Build New 400bbl premix in Pit 5 (1.1 ppb PHPA). Weighted up pit 5 to 11.0ppg. Add Flowzan and Drispac SL as required to maintain system specifications. Additions of KCL sx and PHPA made directly to the active system to maintain good cuttings inhibition and encapsulation. Build slug 13ppg. Barite charged off on tomorrows report. Operate 2 x Centrifuges to reduce LGS and MW while drilling ahead.

OPERATIONAL COMMENTS

Drill ahead 12.25" section to 1932m MD 1681m TVD at midnight. Reached maximum of 80.4 degrees inclination while drilling ahead.

Water Source Supply Boats.

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2117
Drill Water	212	S.C.E.	279	Boat Rcd	0
Chemical	23	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	235
Other	0	Other	0	Lost su	0
RECEIVED	235	LOST	279	Lost srf	279

TOTAL MUD ON RIG (bbls) 2073

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl (sacked)	25 Kg Sack	440	0	80	360
JK-261 LV	25 Kg	110	0	40	70
Drispac SL (22.7kg)	23 Kg	108	0	20	88
Flowzan	25 Kg Sack	56	0	17	39
Citric Acid	25 Kg Sack	17	0	14	3
Sodium Bicarbonate	25 Kg Sack	15	0	12	3
Sodium Sulphite	25 Kg	51	0	4	47
Glychem MC	220 Kg	6	0	2	4

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			11	9.5	17.5	45
Centrifuge 2	MI SW FVS518			11	9.3	18	25
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.5
Shale Shaker #1	20/20 230HC x 4			24	LGS %		4.1
Shale Shaker #2	20/20 200HC x 4			24	Drilled Solids %		3.323
Shale Shaker #3	20/20 200HC x 4			24	Salt %		2.908
Shale Shaker #4	20/20 230HC x 4			24			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 3/08/2008
Report No 2

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	212	bbl
Chemical Volume added	23	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**235**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	195	bbl
LOSSES TO CENTRIFUGE	84	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**279**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:				**0**	bbl
TOTAL DISPOSED:				**279**	**bbl**
Interval losses (bbl/ft/m):				**6**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	210	230	11	KCl/Glycol/PHPA - Premix
2	Storage	125	342	9.2	KCl/Glycol Brine
3 a+b equalised	Active	233	486	11	KCl/Glycol/PHPA Mud
4	Reserve	23	508	11	KCl/Glycol/PHPA Mud
5	Reserve	250	508	11	KCl/Glycol/PHPA Mud- Premix
Slug Pit	Reserve	56	79	13	KCl/Glycol/PHPA Mud
Trip Tank	Active	25	70	11	KCl/Glycol/PHPA Mud
Sand Trap	Active	54	54	11	KCl/Glycol/PHPA Mud
Settling Pits	Active	80	81	11	KCl/Glycol/PHPA Mud
Surface Line	Active	70	80	11	KCl/Glycol/PHPA Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2117	
Current Tank Volume:	462	
Total Hole Volume(inc riser):	947	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	235	
Total Storage:	125	
Total Reserve:	539	
Total Disposed:		279
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2073**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 2
Report Date: 3/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	86				86			86
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack	17	14	20		23			3
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	30				30			30
Drispac SL (22.7kg)	23 Kg	108	20	20		108			88
Flowzan	25 Kg Sack	56	17	17		56			39
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	6	2	2		6			4
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60				60			60
JK-261 LV	25 Kg	110	40	64		134			70
KCl (sacked)	25 Kg Sack	440	80	80		440			360
MEG	220 Kg	8				8			8
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48				48			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	15	12	17		20			3
Sodium Sulphite	25 Kg	51	4	4		51			47

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	3	Total MD	1932 to 1944	m	
Rig #	OCEAN PATRIOT	Total VD	1681 to 1682	m	
Date	4/08/2008	Daily Depth Drilled	12	m	
Spud Date	2/08/2008	Interval Depth Drilled	439	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ David Broussard
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	15 15 15 15 15 / 15 0 0 0 0	19.50 Riser Length 87 m	HOLE 962 / PITS 427	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2968 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,335 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1389	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 6 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m	RESERVE PITS 290	BBL / STK 0.1018 / STK / MIN 191 / BOTTOMS UP 41 min
DRILL COLLAR SIZE (") 8	0	LENGTH 43 0 m	Intermediate @ m	STORAGE TANKS 233	BBL / MIN 19.45 / GAL / MIN 817 / TOTAL CIRC TIME 80 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit	
MUD TYPE		8KCL		8KCL		8KCL	
TIME SAMPLE TAKEN		2:30		11:00		22:30	
FLOWLINE TEMPERATURE	°F	148		154		160	
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944	
WEIGHT	ppg / SG	11.1	1.33	11.0	1.32	11.0	1.32
FUNNEL VISCOSITY (sec / qt) API @	120 °F	65		62		61	
RHEOLOGY 600 : 300 RPM	120 °F	109	76	107	75	101	71
RHEOLOGY 200 : 100 RPM	120 °F	62	44	61	43	57	40
RHEOLOGY 6 : 3 RPM	120 °F	13	10	13	10	12	9
PLASTIC VISCOSITY cP @	120 °F	33		32		30	
YIELD POINT (lb / 100FT ²)	120 °F	43		43		41	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	27 30	10	24 27	10	24 28
n K (lb/100 ft)		0.51	2.99	0.51	2.99	0.51	2.99
API FILTRATE (cm ³ / 30 min.)		4.4		4.4		4.5	
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		1		1	
pH		10.2		10.0		10.0	
ALKALINITY MUD (Pm)		0.6		0.5		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.34	1.5	0.25	1.3	0.27	1.3
CHLORIDE (mg / L)		47,500		47,500		48,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		1360		1360		1400	
SULPHITE (mg / L)		50		150		80	
PHPA (Calc ppb)		1.40		1.40		1.30	
GLYCOL CONTENT (% V/V)		3.2		3.2		3	
K+ (mg / L)		48636		48636		46474.4021	
KCl (% by Wt.)		9.0		9.0		8.6	
METHYLENE BLUE CAPACITY (ppb equiv/%)		9.0	1.0	9.5	1.0	11.0	1.2
SOLIDS CONTENT (% by volume) Calc		11.45		10.96		10.96	
LIQUID CONTENT (% by volume) Calc		88.55		89.04		89.04	
SAND CONTENT (% by volume)		0.15		0.15		0.2	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

Treat active system with IDCIDE and Sodium Sulphite before POOH. Uncorrected solids = 14% from Retort @ 0230. Build 100bbl pumpable of11.0ppg hi-vis sweep in Pit 5. Build 2nd 100bbl pumpable Hi-vis in Pit 5 to spot on bottom. Add KCL to active system while back-reaming to increase inhibition. Build 200bbl premix in Pit 2 for volume maintenance. Commence weighting premix up with Barite. Charge off MEG inventory inadvertently used yesterday. Receive 56MT Barite received from the Nor Captain. Intermittent losses at shakers while back-reaming due to fine cuttings at surface. Losses noted at shakers when sweep returned to surface, sand observed on screens.

OPERATIONAL COMMENTS

Run 2 x centrifuges to control MW and minimize LGS% in active system while backreaming.

****

Drill ahead directionally to 1944.5m MD 1681.8m TVD. Circulateuntil shakers clean (5 x BU). Flow check. POOH back-reaming from 1904m to 1520m at midnight. New cuttings and fine cuttings observed on shakers while Circulating and reaming. Pump 100bbl 11.0ppg hi-vis pill @ 1620m. Circulate to surface. No increase in cuttings observed from sweep.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2073
Drill Water	80	S.C.E.	298	Boat Rcd	0
Chemical	57	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	137
Other	0	Other	0	Lost su	0
RECEIVED	137	LOST	298	Lost srf	298

TOTAL MUD ON RIG (bbls) 1912

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl (sacked)	25 Kg Sack	360	0	40	320
Barite FOB (Portland)	1000 Kg	86	56	31	111
Flowzan	25 Kg Sack	39	0	14	25
Drispac SL (22.7kg)	23 Kg	88	0	8	80
Idcide-20	20 Ltr Drum	60	0	8	52
Sodium Sulphite	25 Kg	47	0	8	39
Citric Acid	25 Kg Sack	3	0	3	0
Sodium Bicarbonate	25 Kg Sack	3	0	3	0
MEG	220 Kg	8	0	2	6

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			11	9.4	17.5	15
Centrifuge 2	MI SW FVS518			6	9.5	17	45
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.3
Shale Shaker #1	20/20 230HC x 4			24	LGS %		4.7
Shale Shaker #2	20/20 200HC x 4			24	Drilled Solids %		3.492
Shale Shaker #3	20/20 200HC x 4			24	Salt %		2.970
Shale Shaker #4	20/20 230HC x 4			24			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 4/08/2008
Report No 3

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	80	bbl
Chemical Volume added	57	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**137**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	242	bbl
LOSSES TO CENTRIFUGE	56	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**298**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**298** bbl
Interval losses (bbl/ft/m):					**10**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	38	230	11	KCL/Glycol/PHPA Polymer Premix
2	Storage	233	342	10	KCL/Glycol/PHPA Polymer Premix
3 a+b equalised	Active	227	486	11	KCL/Glycol/PHPA Polymer Mud
4	Reserve	23	508	11	KCL/Glycol/PHPA Polymer Mud
5	Reserve	173	508	11	KCL/Glycol/PHPA Polymer Mud
Slug Pit	Reserve	56	79	13	KCL/Glycol/PHPA Polymer Mud
Trip Tank	Active	36	70	11	KCL/Glycol/PHPA Polymer Mud
Sand Trap	Active	54	54	11	KCL/Glycol/PHPA Polymer Mud
Settling Pits	Active	80	81	11	KCL/Glycol/PHPA Polymer Mud
Surface Line	Active	30	80	11	KCL/Glycol/PHPA Polymer Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2073	
Current Tank Volume:	427	
Total Hole Volume(inc riser):	962	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	137	
Total Storage:	233	
Total Reserve:	290	
Total Disposed:		298
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1912** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 3
Report Date: 4/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	86	31	31	56	142			111
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack	3	3	23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	30				30			30
Drispac SL (22.7kg)	23 Kg	88	8	28		108			80
Flowzan	25 Kg Sack	39	14	31		56			25
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	4		2		6			4
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	60	8	8		60			52
JK-261 LV	25 Kg	70		64		134			70
KCl (sacked)	25 Kg Sack	360	40	120		440			320
MEG	220 Kg	8	2	2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48				48			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36				36			36
Sodium Bicarbonate	25 Kg Sack	3	3	20		20			
Sodium Sulphite	25 Kg	47	8	12		51			39

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	4	Total MD	1944	to 1944	m
Rig #	OCEAN PATRIOT	Total VD	1682	to 1682	m
Date	5/08/2008	Daily Depth Drilled		0	m
Spud Date	2/08/2008	Interval Depth Drilled		439	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	Reed Hycalog	15 15 15 15 15 / 15 0 0 0 0	19.50 Riser Length 87 m	HOLE 960 / PITS 464	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2948 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,440 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1424	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 5 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m	RESERVE PITS 365	BBL / STK 0.1018 / STK / MIN 212 / BOTTOMS UP 37 min
DRILL COLLAR SIZE (") 8	0	LENGTH 43 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 95	BBL / MIN 21.58 / GAL / MIN 906 / TOTAL CIRC TIME 67 min

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit	
MUD TYPE		8KCL		8KCL		8KCL	
TIME SAMPLE TAKEN		2:30		15:00		22:00	
FLOWLINE TEMPERATURE	°F	142		152			
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944	
WEIGHT	ppg / SG	11.0	1.32	11.0	1.32	11.0	1.32
FUNNEL VISCOSITY (sec / qt) API @	120 °F	60		70		70	
RHEOLOGY 600 : 300 RPM	120 °F	98	68	99	70	105	77
RHEOLOGY 200 : 100 RPM	120 °F	55	39	53	40	57	42
RHEOLOGY 6 : 3 RPM	120 °F	12	9	12	9	14	10
PLASTIC VISCOSITY cP @	120 °F	30		29		28	
YIELD POINT (lb / 100FT ²)	120 °F	38		41		49	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10 27 35		10 27 33		10 26 35	
n K (lb/100 ft)		0.45	4.74	0.45	4.74	0.45	4.74
API FILTRATE (cm ³ / 30 min.)		4.2		4.1		4.2	
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		1		1	
pH		9.7		9.5		9.5	
ALKALINITY MUD (Pm)		0.3		0.3		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.20	1.1	0.24	1.2	0.12	1.3
CHLORIDE (mg / L)		49,000		49,000		49,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		1360		800		800	
SULPHITE (mg / L)		80		50		50	
PHPA (Calc ppb)		1.30		1.40		1.40	
GLYCOL CONTENT (% V/V)		3		3		3	
K+ (mg / L)		48636		48636		48636	
KCl (% by Wt.)		9.0		9.0		9.0	
METHYLENE BLUE CAPACITY (ppb equiv/%)		11.0	1.2	11.0	1.2	11.3	1.2
SOLIDS CONTENT (% by volume) Calc		10.96		10.40		10.82	
LIQUID CONTENT (% by volume) Calc		89.04		89.60		89.18	
SAND CONTENT (% by volume)		0.10		0.2		0.2	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

Continue to weight up Premix in Pit 2 with Barite. Transfer premix into active as required to maintain volume while back-reaming. Pump 130bbl 11ppg Hi-vis Sweep from Pit 5. Rebuild 100bbl pumpable Hi-vis in Pit 5. Add Drillpol Liquid PHPA to active while circulating to maintain concentration. Pump 100bbl 11.0ppg Hi-vis on bottom. Build 200bbl 9% KCL premix in Pit 1 to maintain volume in pits. Losses from hi-vis sweeps observed at shakers on BU. Uncorrected solids from retort 19:00 = 15%. Run centrifuges while circulating the reduce LGS%, using Barite to maintain weight in Active system. Remaining Barite to be charged on tomorrows report.

OPERATIONAL COMMENTS

Continue to back-ream OOH 1520m-1160m MD. Circulate 130bbl Hi-vis Sweep with Booster Pump operating. Commence RIH to section TD 1944m. Pump second 100bbl hi-vis pill at 1944m. Circulate until shakers are clean. Commence POOH. Minimal increase in cuttings observed on shakers while pumping 2 x Hi-vis sweeps (@ +/-1160m and TD).

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1912
Drill Water	190	S.C.E.	224	Boat Rcd	0
Chemical	28	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	218
Other	0	Other	22	Lost su	0
RECEIVED	218	LOST	246	Lost srf	246

TOTAL MUD ON RIG (bbls) 1884

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
KCl (sacked)	25 Kg Sack	320	0	120	200
Soda Ash	25 Kg Sack	36	0	16	20
Barite FOB (Portland)	1000 Kg	111	0	6	105
Drill-pol	25 Kg Drum	30	0	6	24
Drispac SL (22.7kg)	23 Kg	80	0	6	74
Flowzan	25 Kg Sack	25	0	4	21
Glychem MC	220 Kg	4	0	4	0
JK-261 LV	25 Kg	70	0	4	66

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			11	9.4	18.5	45
Centrifuge 2	MI SW FVS518			11	9.3	19	20
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.4
Shale Shaker #1	20/20 230HC x 4			24	LGS %		4.4
Shale Shaker #2	20/20 200HC x 4			24	Drilled Solids %		3.188
Shale Shaker #3	20/20 200HC x 4			24	Salt %		3.032
Shale Shaker #4	20/20 230HC x 4			24			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 5/08/2008
Report No 4

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	190	bbl
Chemical Volume added	28	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**218**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	173	bbl
LOSSES TO CENTRIFUGE	51	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	22	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**246**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**246**	**bbl**
Interval losses (bbl/ft/m):	**15**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	216	230	10.9	KCL/Glycol/PHPA premix
2	Storage	95	342	11	KCL/Glycol/PHPA premix
3 a+b equalised	Active	270	486	11	KCL/Glycol/PHPA mud
4	Reserve	23	508	11	KCL/Glycol/PHPA mud
5	Reserve	70	508	11	KCL/Glycol/PHPA mud-Hi-vis
Slug Pit	Reserve	56	79	13	KCL/Glycol/PHPA mud- Slug
Trip Tank	Active	30	70	11	KCL/Glycol/PHPA mud
Sand Trap	Active	54	54	11	KCL/Glycol/PHPA mud
Settling Pits	Active	80	81	11	KCL/Glycol/PHPA mud
Surface Line	Active	30	80	11	KCL/Glycol/PHPA mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1912	
Current Tank Volume:	464	
Total Hole Volume(inc riser):	960	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	218	
Total Storage:	95	
Total Reserve:	365	
Total Disposed:		246
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1884**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 4
Report Date: 5/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	111	6	37		142			105
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	30	6	6		30			24
Drispac SL (22.7kg)	23 Kg	80	6	34		108			74
Flowzan	25 Kg Sack	25	4	35		56			21
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg	4	4	6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	52		8		60			52
JK-261 LV	25 Kg	70	4	68		134			66
KCl (sacked)	25 Kg Sack	320	120	240		440			200
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48				48			48
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	36	16	16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	5	Total MD	1944	to 1944	m
Rig #	OCEAN PATRIOT	Total VD	1682	to 1682	m
Date	6/08/2008	Daily Depth Drilled		0	m
Spud Date	2/08/2008	Interval Depth Drilled		439	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 970 / PITS 430	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 9.625	TYPE 9 5/8 csg	LENGTH 649 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1400	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 392	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 8	0	LENGTH 0 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit	
MUD TYPE		8KCL		8KCL		8KCL	
TIME SAMPLE TAKEN		8:30		15:00		22:00	
FLOWLINE TEMPERATURE	°F						
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944	
WEIGHT	ppg / SG	11.0	1.32	11.0	1.32	11.0	1.32
FUNNEL VISCOSITY (sec / qt) API @	120 °F	84		85		85	
RHEOLOGY 600 : 300 RPM	120 °F	107	76	108	78	107	77
RHEOLOGY 200 : 100 RPM	120 °F	62	44	63	44	62	42
RHEOLOGY 6 : 3 RPM	120 °F	13	10	12	9	12	9
PLASTIC VISCOSITY cP @	120 °F	31		30		30	
YIELD POINT (lb / 100FT ²)	120 °F	45		48		47	
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		11	26	33	9	26	30	10	26	31
n K (lb/100 ft ²)		0.47	4.00	0.47	4.00	0.47	4.00
API FILTRATE (cm ³ / 30 min.)		3.9		3.8		3.8	
HPHT FILTRATE (cm ³ / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		1		1	
pH		9.5		9.5		9.5	
ALKALINITY MUD (Pm)		0.3		0.3		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.10	1.3	0.13	1.5	0.12	1.4
CHLORIDE (mg / L)		49,000		47,000		48,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		920		904		904	
SULPHITE (mg / L)		50		50		50	
PHPA (Calc ppb)		1.40		1.40		1.40	
GLYCOL CONTENT (% V/V)		3		3		3	
K+ (mg / L)		48636		48636		48636	
KCl (% by Wt.)		9.0		9.0		9.0	
METHYLENE BLUE CAPACITY (ppb equiv/%)		10.0	1.1	10.0	1.1	10.0	1.1
SOLIDS CONTENT (% by volume) Calc		10.96		10.82		10.82	
LIQUID CONTENT (% by volume) Calc		89.04		89.18		89.18	
SAND CONTENT (% by volume)		0.15		0.2		0.15	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

No treatment to Active system. Clean Pit 4 and Pit 5, and flush mixing line in preparation for receiving Wellflow DIF mud from Far Grip. Receive 8 1/2" section Mud Chemicals from Far Grip. Barite charged off for yesterdays usage. 63bbl Discharged from Pit 4 and 5 during Pit Cleaning. 60bbl tripping losses.

OPERATIONAL COMMENTS

Continue POOH to +/-1310m. Flow Check. Pump 25 bbl 13.1ppg Slug. Continue to POOH to surface. Rack back BHA, L/D FEWD. Retreive Wear Bushing. R/U to Run 10 3/4" & 9 5/8" Casing. Commence running 9 5/8" casing.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1884
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	31	Discharge	63	Boat Bk	0
Seawater	0	Downhole	0	Built	31
Other	0	Other	60	Lost su	0
RECEIVED	31	LOST	123	Lost srf	123

TOTAL MUD ON RIG (bbls) 1792

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Barite FOB (Portland)	1000 Kg	105	0	21	84
Flowzan	25 Kg Sack	21	40	0	61
Omyacarb 20	25 Kg	48	576	0	624
Salt (sacked)	25 Kg	0	672	0	672
Starch M	23 Kg	0	80	0	80
XANVIS	25 Kg	0	80	0	80

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		6.4
Shale Shaker #1	20/20 230HC x 4			15	LGS %		4.4
Shale Shaker #2	20/20 200HC x 4			15	Drilled Solids %		3.325
Shale Shaker #3	20/20 200HC x 4			15	Salt %		2.970
Shale Shaker #4	20/20 230HC x 4			15			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 6/08/2008
Report No 5

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	31	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**31**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	60	bbl
DISCHARGED:	63	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**123**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**123**	**bbl**
Interval losses (bbl/ft/m):	**15**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	216	230	10.9	KCL/Glycol/PHPA premix
2	Reserve	142	342	11	KCL/Glycol/PHPA premix
3 a+b equalised	Active	245	486	11	KCL/Glycol/PHPA mud
4	Reserve	0	508		
5	Reserve	0	508		
Slug Pit	Reserve	34	79	13	KCL/Glycol/PHPA mud - Slug
Trip Tank	Active	21	70	11	KCL/Glycol/PHPA mud
Sand Trap	Active	54	54	11	KCL/Glycol/PHPA mud
Settling Pits	Active	80	81	11	KCL/Glycol/PHPA mud
Surface Line	Active	30	80	11	KCL/Glycol/PHPA mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1884	
Current Tank Volume:	430	
Total Hole Volume(inc riser):	970	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	31	
Total Storage:		
Total Reserve:	392	
Total Disposed:		123
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1792**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 5
Report Date: 6/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	105	21	58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	21		35	40	96			61
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	52		8		60			52
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	200		240		440			200
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	48			576	624			624
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg				672	672			672
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20		16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39
Starch M	23 Kg				80	80			80
XANVIS	25 Kg				80	80			80

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	6	Total MD	1944	to 1944	m
Rig #	OCEAN PATRIOT	Total VD	1682	to 1682	m
Date	7/08/2008	Daily Depth Drilled		0	m
Spud Date	2/08/2008	Interval Depth Drilled		439	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 719 / PITS 333	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 450 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 87 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1052	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 72 min
DRILL PIPE SIZE (") 10.75	TYPE HW	LENGTH 428 m	13.38 Surface @ 642 m	RESERVE PITS 272	BBL / STK 0.1018 / STK / MIN 65 / BOTTOMS UP 54 min
DRILL COLLAR SIZE (") 9.625	0	LENGTH 1,422 0 m	Intermediate @ m / Prod. or LNR @ m	STORAGE TANKS 937	BBL / MIN 6.62 / GAL / MIN 278 / TOTAL CIRC TIME 318 min

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit		
MUD TYPE		8KCL		8KCL		8KCL		
TIME SAMPLE TAKEN		8:00		15:00		22:00		
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944		
WEIGHT	ppg / SG	11.0	1.32	11.0	1.32	11.1	1.33	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	120		103		106		
RHEOLOGY 600 : 300 RPM	120 °F	108	76	107	77	106	76	
RHEOLOGY 200 : 100 RPM	120 °F	62	45	59	45	57	44	
RHEOLOGY 6 : 3 RPM	120 °F	13	10	12	10	12	10	
PLASTIC VISCOSITY cP @	120 °F	32		30		30		
YIELD POINT (lb / 100FT) ²	120 °F	44		47		46		
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		12	27	34	12	28	33	10	25	33
n K (lb/100 ft)		0.48	3.82	0.48	3.82	0.48	3.82	
API FILTRATE (cm ³ / 30 min.)		3.9		4.2		4.2		
HPHT FILTRATE (cm ³ / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		1		1		1		
pH		9.5		9.5		9.5		
ALKALINITY MUD (Pm)		0.3		0.2		0.3		
ALKALINITY FILTRATE (Pf / Mf)		0.12	1.4	0.16	1.6	0.15	1.5	
CHLORIDE (mg / L)		47,500		47,000		47,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		920		900		900		
SULPHITE (mg / L)		50		50		50		
PHPA (Calc ppb)		1.40		1.40		1.30		
GLYCOL CONTENT (% V/V)		3		3		3		
K+ (mg / L)		48636		48636		48636		
KCl (% by Wt.)		9.0		9.0		9.0		
METHYLENE BLUE CAPACITY (ppb equiv/%)		10.0	1.1	11.3	1.2	11.3	1.2	
SOLIDS CONTENT (% by volume) Calc		10.96		10.40		11.31		
LIQUID CONTENT (% by volume) Calc		89.04		89.60		88.69		
SAND CONTENT (% by volume)		0.15		0.2		0.2		

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

Contiue Pit Cleaning in Pit 4 and Pit 5. Receive 937 bbls 9.5ppg Wellflow DIF from Far Grip. Treat DIF with 0.5ppb Xanvis to be charged off on the next well interval. Backloaded 399bbl of 11.0ppg KCL/Glycol/PHPA mud to Nor Captain. Run 2 x c/fuge while circulating casing contents to reduce LGS and MW. Discharge 32bbl dead volume from Slug pit to make room for building Hi-vis pill for 8.5" displacement. Mud Check for DIF mud on next report. Losses while RIH with casing = 28bbl. (aver.+/- 2bbl/hr, as reported by BHI loggers).

OPERATIONAL COMMENTS

Continue to RIH with 9 5/8 casing to 1422m, cont RIH with 10 3/4" casing. RIH casing hanger. Circulate casing contents. Commence cementing casing (+/-179bbl other volume in hole). Displacing cement with mud at time of report.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1792
Drill Water	0	S.C.E.	9	Boat Rcd	937
Chemical	0	Discharge	32	Boat Bk	399
Seawater	0	Downhole	28	Built	0
Other	0	Other	0	Lost su	28
RECEIVED	0	LOST	69	Lost srf	41

TOTAL MUD ON RIG (bbls) 2261

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close

SOLIDS CONTROL EQUIPMENT

Type		Hours	OF	UF	GPM Feed
Desander	Cone Size 0 No.	0	0	0	0
Desilter	Cone Size 0 No.	0	0	0	0
Mud Cleaner		0	0	0	0
Centrifuge 1	MI SW FVS518	1	9.4	18.5	40
Centrifuge 2	MI SW FVS518	1	9.45	18	20
Degasser		0	SOLIDS ANALYSIS		
Cuttings Dryer		0	HGS %		6.7
Shale Shaker #1	20/20 230HC x 4	24	LGS %		4.6
Shale Shaker #2	20/20 200HC x 4	24	Drilled Solids %		3.403
Shale Shaker #3	20/20 200HC x 4	24	Salt %		2.908
Shale Shaker #4	20/20 230HC x 4	24			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 7/08/2008
Report No 6

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	399
TOTAL RECEIVED FROM LMP:	937

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	4	bbl
LOSSES TO CENTRIFUGE	5	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	32	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**41**	bbl

SEEPAGE LOSSES:	2	BBL/HR FOR	14	hr	28 bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**28** bbl
TOTAL DISPOSED:					**69** bbl
Interval losses (bbl/ft/m):					**16**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	67	230	11	KCL/Glycol/PHPA mud
2	Reserve	177	342	11.1	KCL/Glycol/PHPA mud
3 a+b equalised	Active	141	486	11.1	KCL/Glycol/PHPA mud
4	Storage	462	508	9.5	Wellflow DIF
5	Storage	475	508	9.5	Wellflow DIF
Slug Pit	Reserve	28	79	11.1	KCL/Glycol/PHPA mud
Trip Tank	Active	18	70	11.1	KCL/Glycol/PHPA mud
Sand Trap	Active	54	54	11.1	KCL/Glycol/PHPA mud
Settling Pits	Active	80	81	11.1	KCL/Glycol/PHPA mud
Surface Line	Active	40	80	11.1	KCL/Glycol/PHPA mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1792	
Current Tank Volume:	333	
Total Hole Volume(inc riser):	719	
Other Volume In Hole:	179	
Total Riser Volume:	105	
Total Received:		
Total Storage:	937	
Total Reserve:	272	
Total Disposed:		69
Total Backloaded to LMP:		399
Total Received from LMP:	937	
TOTAL MUD AT RIGSITE	**2261** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 6
Report Date: 7/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	61		35		96			61
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	52		8		60			52
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	200		240		440			200
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	624				624			624
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	672				672			672
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20		16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39
Starch M	23 Kg	80				80			80
XANVIS	25 Kg	80				80			80

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	7	Total MD	1944	to	1944	m
Rig #	OCEAN PATRIOT	Total VD	1682	to	1682	m
Date	8/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			439	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 12.25	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 560 / PITS 603	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1163	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 10.75	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 359	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 9.625	0	LENGTH 0 0 m	10.75 Intermediate @ 514 m	STORAGE TANKS 938	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			9.625 Prod. or LNR @ 1,936 m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		Pit	
MUD TYPE		8KCL		WFW		WFW	
TIME SAMPLE TAKEN		5:00		5:30		21:00	
FLOWLINE TEMPERATURE	°F						
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944	
WEIGHT	ppg / SG	11.1	1.33	9.5	1.14	9.5	1.14
FUNNEL VISCOSITY (sec / qt) API @	120 °F	95		53		60	
RHEOLOGY 600 : 300 RPM	120 °F	105	74	45	35	47	37
RHEOLOGY 200 : 100 RPM	120 °F	61	43	30	24	31	24
RHEOLOGY 6 : 3 RPM	120 °F	13	10	12	10	12	10
PLASTIC VISCOSITY cP @	120 °F	31		10		10	
YIELD POINT (lb / 100FT ^{2})	120 °F	43		25		27	
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		11	27	33	10	12	13	10	12	15
n K (lb/100 ft ^{2})		0.34	4.31	0.34	4.31	0.34	4.31
API FILTRATE (cm ^{3} / 30 min.)		4.0		3.8		3.8	
HPHT FILTRATE (cm ^{3} / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		1		0.5		0.5	
pH		9.5		9.0		9.0	
ALKALINITY MUD (Pm)		0.3		0.3		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.15	1.5	0.12	0.7	0.13	0.8
CHLORIDE (mg / L)		47,000		85,000		85,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		900		240		200	
SULPHITE (mg / L)		50		180		180	
PHPA (Calc ppb)		1.30					
GLYCOL CONTENT (% V/V)		3					
K+ (mg / L)		48636					
KCl (% by Wt.)		9.0					
METHYLENE BLUE CAPACITY (ppb equiv/%)		11.3	1.2	0.0	0.0	0.0	0.0
SOLIDS CONTENT (% by volume) Calc		11.73		1.62		1.62	
LIQUID CONTENT (% by volume) Calc		88.27		98.38		98.38	
SAND CONTENT (% by volume)		0.15		0		0	

MUD PROPERTY SPECIFICATIONS

MW	11.0	API FL	<8.0	KCl	8-10
PHPA	1.5-2.0	6 RPM	12-16	LGS	<5

MUD COMMENTS

Transfer volume from Pit 3 into Pit 1 & Pit 2. Discharge 14bbl dead vol. KCL mud from Pit 3. Clean and flush Pit 3 in preparation for receiving DIF fluid. Receive 450bbl 9.5ppg Wellflow DIF from Far Grip. Add 0.5ppb Xanvis to increase rheological properties, to be charged on tomorrows report. Uncorrected solids DIF mud from Retort = 6%. Treat KCL mud with IDCIDE, in preparation for backloading. Build Hi-vis pill in preparation for DIF displacement. Process surface pits of KCL/Glycol mud with centrifuge while pressure testing.
Mud Check #2 and #3 DIF fluid after Xanvis additions.

OPERATIONAL COMMENTS

Continue to displace cement with mud. Bump Plug. Set casing hanger. 9 5/8" Casing Shoe set at 1946.5m. Commence BOP testing. Lay out cement head. POOH. Lay out 12 1/4" BHA. P/test surface equip. and csg. Commence M/U 8 1/2" Bit & BHA.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2261
Drill Water	0	S.C.E.	79	Boat Rcd	450
Chemical	1	Discharge	14	Boat Bk	0
Seawater	0	Downhole	159	Built	1
Other	0	Other	0	Lost su	159
RECEIVED	1	LOST	252	Lost srf	93

TOTAL MUD ON RIG (bbls) 2460

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Idcide-20	20 Ltr Drum	52	0	8	44
Flowzan	25 Kg Sack	61	0	2	59

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			10	9.5	18	45
Centrifuge 2	MI SW FVS518			10	9.5	18	40
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.6
Shale Shaker #1	20/20/200/165HC			2	LGS %		0.0
Shale Shaker #2	20/20/200/165HC			2	Drilled Solids %		0.019
Shale Shaker #3	20/20/200/165HC			2	Salt %		6.950
Shale Shaker #4	20/20/200/165HC			2			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 8/08/2008
Report No 7

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	1	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**1**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	450

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE	79	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	14	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**93**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:	159	bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**159**	bbl
TOTAL DISPOSED:	**252**	**bbl**
Interval losses (bbl/ft/m):	**21**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	87	230	10.5	KCL/Glycol/PHPA mud
2	Reserve	203	342	10	KCL/Glycol/PHPA mud
3 a+b equalised	Active	450	486	9.5	Wellflow DIF
4	Storage	463	508	9.5	Wellflow DIF
5	Storage	475	508	9.5	Wellflow DIF
Slug Pit	Reserve	69	79	11.1	KCL/Glycol/PHPA mud- Hi-vis
Trip Tank	Active	13	70	11.1	KCL/Glycol/PHPA mud
Sand Trap	Active	50	54	11	KCL/Glycol/PHPA mud
Settling Pits	Active	80	81	10	KCL/Glycol/PHPA mud
Surface Line	Active	10	80	10	KCL/Glycol/PHPA mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2261	
Current Tank Volume:	603	
Total Hole Volume(inc riser):	560	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	1	
Total Storage:	938	
Total Reserve:	359	
Total Disposed:		252
Total Backloaded to LMP:		
Total Received from LMP:	450	
TOTAL MUD AT RIGSITE	**2460**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 7
Report Date: 8/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	61	2	37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	52	8	16		60			44
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	200		240		440			200
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	624				624			624
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	672				672			672
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20		16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39
Starch M	23 Kg	80				80			80
XANVIS	25 Kg	80				80			80

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	8	Total MD	1944	to	1960	m
Rig #	OCEAN PATRIOT	Total VD	1682	to	1684	m
Date	9/08/2008	Daily Depth Drilled			16	m
Spud Date	2/08/2008	Interval Depth Drilled			16	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	REED RSX519M	13 13 13 13 13 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 501 / PITS 490	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 1900 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1,776 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 991	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 7 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK 0.1018 / STK / MIN 143 / BOTTOMS UP 22 min
DRILL COLLAR SIZE (") 6.75	0	LENGTH 44 0 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 321	BBL / MIN 14.56 / GAL / MIN 611 / TOTAL CIRC TIME 85 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit		FL	
MUD TYPE		WFW		8KCL		WFW	
TIME SAMPLE TAKEN		2:00		10:30		23:00	
FLOWLINE TEMPERATURE	°F					110	
TOTAL MEASURED DEPTH (TMD)	Metres	1944		1944		1944	
WEIGHT	ppg / SG	9.5	1.14	10.5	1.26	9.5	1.14
FUNNEL VISCOSITY (sec / qt) API @	°F	58		95		48	
RHEOLOGY 600 : 300 RPM	°F	47	37	86	61	44	34
RHEOLOGY 200 : 100 RPM	°F	30	24	50	35	29	23
RHEOLOGY 6 : 3 RPM	°F	12	10	10	8	11	9
PLASTIC VISCOSITY cP @	°F	10		25		10	
YIELD POINT (lb / 100FT) ^{2}	°F	27		36		24	
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		10	12 14	9	21 25	9	12 16
n K (lb/100 ft)		0.37	3.35	0.37	3.35	0.37	3.35
API FILTRATE (cm / 30 min.)		3.8		4.2		3.6	
HPHT FILTRATE (cm / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		0.5		1		0.5	
pH		9.0		9.5		9.5	
ALKALINITY MUD (Pm)		0.3		0.3		0.4	
ALKALINITY FILTRATE (Pf / Mf)		0.12	0.7	0.10	1.4	0.08	0.5
CHLORIDE (mg / L)		85,000		47,000		89,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		220		900		280	
SULPHITE (mg / L)		180		50		180	
PHPA (Calc ppb)				1.00			
GLYCOL CONTENT (% V/V)				3			
K+ (mg / L)				48636			
KCl (% by Wt.)				9.0			
METHYLENE BLUE CAPACITY (ppb equiv/%)		0.0	0.0	11.0	1.2	0.0	0.0
SOLIDS CONTENT (% by volume) Calc		1.62		6.53		1.62	
LIQUID CONTENT (% by volume) Calc		98.38		93.47		98.38	
SAND CONTENT (% by volume)		0		0.1		0	

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4.0	pH	5 - 9.5
6 RPM	12-16	LGS	<5	NaCl % wt	% wt

MUD COMMENTS

Run 2 x Centrifuge while drilling out shoe track with KCL/Glycol/PHPA mud. Displace casing contents to Wellflow DIF mud. Add IDCIDE to KCL mud while Backloading to the Nor Captain during displacement. Backload Total 1013bbl KCL/Glycol/PHPA mud to Nor Captain. Discharge 203bbl KCL/Glycol/PHPA mud/DIF mud from Sand traps and dead volume in Slug Pit, Trip tank, and Pits 1, 2 after displacement. Flush Booster, Choke/Kill lines. Wash out sand traps and settling Pits. Clean Flowline and Shaker house. Receive100bbl DIF from Far Grip. Add XANVIS to DIF increase 6 rpm reading after displacement.

OPERATIONAL COMMENTS

Receive chems from ar Grip on tomorrows report. Use 6 x 200 mesh screens.

****

Continue to M/U and RIH with 8.5" BHA. Shallow Test MWD tools. RIH. Tag TOC at 1900m. Drill out shoe track with KCL/Glycol mud. At 1921m MD displace casing contents to DIF mud. Displace Booster, Choke/Kill lines to new mud. Dump and flush out trip tank, sand traps and settling Pits. Clean Flowline and Shaker house before drilling ahead with new mud. Drill ahead 8.5" section directionally to 1960m at time of report. Max angle drilled 63 degrees.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2460
Drill Water	0	S.C.E.	34	Boat Rcd	100
Chemical	2	Discharge	203	Boat Bk	1013
Seawater	0	Downhole	0	Built	2
Other	0	Other	0	Lost su	0
RECEIVED	2	LOST	237	Lost srf	237

TOTAL MUD ON RIG (bbls) 1312

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
XANVIS	25 Kg	80	0	19	61
Idcide-20	20 Ltr Drum	44	0	4	40

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			4	9.4	18	50
Centrifuge 2	MI SW FVS518			4	9.4	18	30
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.6
Shale Shaker #1	20/20 200HC x 4			24	LGS %		0.0
Shale Shaker #2	20/20 200HC x 4			24	Drilled Solids %		0.019
Shale Shaker #3	20/20 200HC x 4			16	Salt %		7.278
Shale Shaker #4	20/20 200HC x 4			16			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 9/08/2008
Report No 8

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	2	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**2**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	1013
TOTAL RECEIVED FROM LMP:	100

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	7	bbl
LOSSES TO CENTRIFUGE	27	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	203	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**237**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**237** **bbl**
Interval losses (bbl/ft/m):					**70**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230		
2	Reserve	0	342		
3 a+b equalised	Active	276	486	9.5	Wellflow DIF mud
4	Storage	186	508	9.5	Wellflow DIF mud - premix
5	Storage	135	508	9.5	Wellflow DIF mud - premix
Slug Pit	Reserve	0	79		
Trip Tank	Active	30	70	9.5	Wellflow DIF mud
Sand Trap	Active	54	54	9.5	Wellflow DIF mud
Settling Pits	Active	80	81	9.5	Wellflow DIF mud
Surface Line	Active	50	80	9.5	Wellflow DIF mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2460	
Current Tank Volume:	490	
Total Hole Volume(inc riser):	501	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	2	
Total Storage:	321	
Total Reserve:		
Total Disposed:		237
Total Backloaded to LMP:		1013
Total Received from LMP:	100	
TOTAL MUD AT RIGSITE	**1312** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 8
Report Date: 9/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28				28			28
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	44	4	20		60			40
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	200		240		440			200
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	624				624			624
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	672				672			672
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20		16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39
Starch M	23 Kg	80				80			80
XANVIS	25 Kg	80	19	19		80			61

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	9	Total MD	1960	to	2221	m
Rig #	OCEAN PATRIOT	Total VD	1684	to	1684	m
Date	10/08/2008	Daily Depth Drilled			261	m
Spud Date	2/08/2008	Interval Depth Drilled			277	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 8.5	REED RSX519M	13 13 13 13 13 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 555	PITS 509	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 1896 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 2,037 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1064		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 8 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 0		BBL / STK 0.1018	STK / MIN 144	BOTTOMS UP 25 min
DRILL COLLAR SIZE (") 6.75	0	LENGTH 44 0 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 565		BBL / MIN 14.66	GAL / MIN 616	TOTAL CIRC TIME 106 min
			Prod. or LNR @ m					

MUD PROPERTIES

SAMPLE FROM		Pit		FL				
MUD TYPE		WFW		WFW		WFW		
TIME SAMPLE TAKEN		4:30		10:30		23:00		
FLOWLINE TEMPERATURE	°F	116		116		120		
TOTAL MEASURED DEPTH (TMD)	Metres	2020		2120				
WEIGHT	ppg / SG	9.5	1.14	9.6	1.15	9.6	1.15	
FUNNEL VISCOSITY (sec / qt) API @	120 °F	42		45				
RHEOLOGY 600 : 300 RPM	120 °F	48	37	51	39	50	39	
RHEOLOGY 200 : 100 RPM	120 °F	31	24	34	26	33	26	
RHEOLOGY 6 : 3 RPM	120 °F	10	8	11	9	10	8	
PLASTIC VISCOSITY cP @	120 °F	10		12		11		
YIELD POINT (lb / 100FT) 2	120 °F	21		27		28		
GEL STRENGTH (lb / 100FT 2) 10sec/10min/30min		9	13	15	11	14	16	9	12	15
n K (lb/100 ft)		0.36	4.18	0.36	4.18	0.36	4.18	
API FILTRATE (cm / 30 min.)		3.7		3.6		3.5		
HPHT FILTRATE (cm / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)		0.5		0.5		.5		
pH		9.6		9.5		9.5		
ALKALINITY MUD (Pm)		0.4		0.3		0.3		
ALKALINITY FILTRATE (Pf / Mf)		0.10	0.7	0.08	0.6	0.05	0.9	
CHLORIDE (mg / L)		88,000		87,000		88,000		
TOTAL HARDNESS AS CALCIUM (mg / L)		280		320		400		
SULPHITE (mg / L)		180		50		50		
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)								
K+ (mg / L)								
KCl (% by Wt.)								
METHYLENE BLUE CAPACITY (ppb equiv/%)		1.3	0.1	1.3	0.1	2.0	0.2	
SOLIDS CONTENT (% by volume) Calc		1.62		2.45		2.52		
LIQUID CONTENT (% by volume) Calc		98.38		97.55		97.48		
SAND CONTENT (% by volume)		0.15		0.25		0.25		

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Build 400bbl DIF premix in Pit 5 with program concentrations of chems. Add Xanvis to active system to maintain and increase 6rpm. Attempted to operate booster pump, but mud losses at shakers observed. Charge off all DIF received for 8.5" interval. 9% uncorrected solids from the retort. Screen up to 230 mesh shakers, while monitoring mud weight. Run 2 x csntrifuge to control MW and LGS. Commence adding 1 bbl/hr drill water to the FL to compensate for evaporation, as FL temp increases. Use 4 x 200 mesh and 6 x 230 mesh screens. Receive Chemicals from Nor Captain as per inventory.

OPERATIONAL COMMENTS

Drill Ahead 8.5" directional section to 2221m MD/ 1684m TVD at time of report. Maximum angle drilled 96.1 degrees.

Water Source Supply Boats.

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1312
Drill Water	380	S.C.E.	126	Boat Rcd	0
Chemical	64	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	444
Other	0	Other	0	Lost su	0
RECEIVED	444	LOST	126	Lost srf	126

TOTAL MUD ON RIG (bbls) 1630

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Wellflow DIF	0 bbl	1487	0	1487	0
Salt (sacked)	25 Kg	672	432	348	756
Omyacarb 20	25 Kg	624	0	203	421
Starch M	23 Kg	80	0	28	52
XANVIS	25 Kg	61	0	22	39
Defoam-A	25 Ltr Drum	28	0	1	27
KCl (sacked)	25 Kg Sack	200	40	0	240

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			12	9.1	17	20
Centrifuge 2	MI SW FVS518			12	9.1	17	20
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.5
Shale Shaker #1	40/20 230HC x 4			12	LGS %		1.0
Shale Shaker #2	40/20 230HC x 4			12	Drilled Solids %		0.804
Shale Shaker #3	40/20 230HC x 4			12	Salt %		7.196
Shale Shaker #4	40/20 230HC x 4			12			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 10/08/2008
Report No 9

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	380	bbl
Chemical Volume added	64	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**444**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	106	bbl
LOSSES TO CENTRIFUGE	20	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**126**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**126**	**bbl**
Interval losses (bbl/ft/m):	**9**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230		
2	Reserve	0	342		
3 a+b equalised	Active	295	486	9.6	Wellflow DIF mud
4	Storage	115	508	9.5	Wellflow DIF premix
5	Storage	450	508	9.5	Wellflow DIF premix
Slug Pit	Reserve	0	79		
Trip Tank	Active	30	70	9.6	Wellflow DIF mud
Sand Trap	Active	54	54	9.6	Wellflow DIF mud
Settling Pits	Active	80	81	9.6	Wellflow DIF mud
Surface Line	Active	50	80	9.6	Wellflow DIF mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1312	
Current Tank Volume:	509	
Total Hole Volume(inc riser):	555	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	444	
Total Storage:	565	
Total Reserve:		
Total Disposed:		126
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1630**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 9
Report Date: 10/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	28	1	1		28			27
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	40		20		60			40
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	200		240	40	480			240
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	624	203	203		624			421
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	672	348	348	432	1,104			756
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20		16		36			20
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39		12		51			39
Starch M	23 Kg	80	28	28		80			52
Wellflow DIF	0 bbl	1,487	1,487	1,487		1,487			
XANVIS	25 Kg	61	22	41		80			39

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	10	Total MD	2221 to 2488	m	
Rig #	OCEAN PATRIOT	Total VD	1684 to 1660	m	
Date	11/08/2008	Daily Depth Drilled	267	m	
Spud Date	2/08/2008	Interval Depth Drilled	544	m	

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	REED RSX519M	13 13 13 13 13 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 611 / PITS 515	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2283 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 2,304 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1126	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 9 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK 0.1018 / STK / MIN 144 / BOTTOMS UP 27 min
DRILL COLLAR SIZE (") 6.75	0	LENGTH 44 0 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 272	BBL / MIN 14.66 / GAL / MIN 616 / TOTAL CIRC TIME 90 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		FL		FL	
MUD TYPE		WFW		WFW		WFW	
TIME SAMPLE TAKEN		3:00		11:00		22:00	
FLOWLINE TEMPERATURE	°F	122		124		125	
TOTAL MEASURED DEPTH (TMD)	Metres	2258		2340		2460	
WEIGHT	ppg / SG	9.6	1.15	9.6	1.15	9.6	1.15
FUNNEL VISCOSITY (sec / qt) API @	120 °F	46		47		45	
RHEOLOGY 600 : 300 RPM	120 °F	56	44	55	44	56	45
RHEOLOGY 200 : 100 RPM	120 °F	38	30	38	30	39	31
RHEOLOGY 6 : 3 RPM	120 °F	13	10	13	10	12	10
PLASTIC VISCOSITY cP @	120 °F	12		11		11	
YIELD POINT (lb / 100FT) 2	120 °F	32		33		34	
GEL STRENGTH (lb / 100FT 2) 10sec/10min/30min		12	15 18	12	15 16	10	14 16
n K (lb/100 ft)		0.32	6.30	0.32	6.30	0.32	6.30
API FILTRATE (cm / 30 min.)		3.5		3.8		3.6	
HPHT FILTRATE (cm / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		0.5		0.5		0.5	
pH		9.5		9.3		9.0	
ALKALINITY MUD (Pm)		0.3		0.3		0.3	
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.8	0.05	0.7	0.04	0.8
CHLORIDE (mg / L)		88,000		91,000		88,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		400		400		420	
SULPHITE (mg / L)		50		80		100	
PHPA (Calc ppb)							
GLYCOL CONTENT (% V/V)							
K+ (mg / L)							
KCl (% by Wt.)							
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.0	0.2	2.0	0.2	2.0	0.2
SOLIDS CONTENT (% by volume) Calc		2.45		2.02		2.59	
LIQUID CONTENT (% by volume) Calc		97.55		97.98		97.41	
SAND CONTENT (% by volume)		0.2		0.2		0.2	

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Continue and increase additions of drill water to the FL to 2-3 bbl/hr to compensate for evaporation (av 2bbl/hr evaporation = Other Surface Losses). Additions of Starch M used to maintain FL <4ml. Uncorrected Solids 9% from Retort.
Receive Chemicals from Far Grip as per inventory.
Discharge 23 bbl dead volume DIF from Pit 4. Commence Cleaning in Pit 4, in preparation for receiving Completion Brine. Continue to run 2 x centrifuge to control MW and minimise LGS. Continue to dress shakers with 230 mesh screens.

OPERATIONAL COMMENTS

Continue to drill ahead directionally to 2488m MD / 1660m TVD. Maximum angle drilled 96.37 degrees.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1631
Drill Water	58	S.C.E.	223	Boat Rcd	0
Chemical	3	Discharge	23	Boat Bk	0
Seawater	0	Downhole	0	Built	61
Other	0	Other	48	Lost su	0
RECEIVED	61	LOST	294	Lost srf	294

TOTAL MUD ON RIG (bbls) 1398

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Starch M	23 Kg	52	0	10	42
Soda Ash	25 Kg Sack	20	0	4	16
Sodium Sulphite	25 Kg	39	0	4	35
XANVIS	25 Kg	39	0	3	36
Defoam-A	25 Ltr Drum	27	0	2	25
Dirt Magnet	200 Ltr Drum	0	4	0	4

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			24	9.3	15.7	50
Centrifuge 2	MI SW FVS518			24	9.3	15.8	30
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.4
Shale Shaker #1	40/20 230HC x 4			24	LGS %		1.2
Shale Shaker #2	40/20 230HC x 4			24	Drilled Solids %		0.944
Shale Shaker #3	40/20 230HC x 4			24	Salt %		7.196
Shale Shaker #4	40/20 230HC x 4			24			

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DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 11/08/2008
Report No 10

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	58	bbl
Chemical Volume added	3	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**61**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	160	bbl
LOSSES TO CENTRIFUGE	63	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	23	bbl
OTHER SURFACE LOSSES:	48	bbl
Surface Losses Subtotal:	**294**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:				**0**	bbl
TOTAL DISPOSED:				**294**	**bbl**
Interval losses (bbl/ft/m):				**15**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230		
2	Reserve	0	342		
3 a+b equalised	Active	301	486	9.6	Wellflow DIF mud
4	Storage	0	508		
5	Storage	272	508	9.5	Wellflow DIF - premix
Slug Pit	Reserve	0	79		
Trip Tank	Active	30	70	9.6	Wellflow DIF mud
Sand Trap	Active	54	54	9.6	Wellflow DIF mud
Settling Pits	Active	80	81	9.6	Wellflow DIF mud
Surface Line	Active	50	80	9.6	Wellflow DIF mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1631	
Current Tank Volume:	515	
Total Hole Volume(inc riser):	611	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	61	
Total Storage:	272	
Total Reserve:		
Total Disposed:		294
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1398**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 10
Report Date: 11/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	27	2	3		28			25
Dirt Magnet	200 Ltr Drum				4	4			4
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	40		20		60			40
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	421		203		624			421
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	756		348		1,104			756
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	20	4	20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	39	4	16		51			35
Starch M	23 Kg	52	10	38		80			42
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	39	3	44		80			36

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	11	Total MD	2488	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1660	to	1655	m
Date	12/08/2008	Daily Depth Drilled			29	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)		CIRCULATION DATA		
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 686	PITS 470	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 196 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1156		PUMP MODEL National	% EFFICIENCY 97	SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 248		BBL / STK	STK / MIN	BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.75	0	LENGTH 0 0 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 1008		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min
			Prod. or LNR @ m					

MUD PROPERTIES

SAMPLE FROM		Pit		FL		Pit	
MUD TYPE		WFW		WFW		WFW	
TIME SAMPLE TAKEN		3:00		12:00		22:00	
FLOWLINE TEMPERATURE	°F	124		122			
TOTAL MEASURED DEPTH (TMD)	Metres	2517		2517		2517	
WEIGHT	ppg / SG	9.6	1.15	9.6	1.15	9.6	1.15
FUNNEL VISCOSITY (sec / qt) API @	120 °F	45		47		50	
RHEOLOGY 600 : 300 RPM	120 °F	58	46	60	48	59	47
RHEOLOGY 200 : 100 RPM	120 °F	40	33	42	34	40	33
RHEOLOGY 6 : 3 RPM	120 °F	13	10	14	11	13	10
PLASTIC VISCOSITY cP @	120 °F	12		12		12	
YIELD POINT (lb / 100FT ^{2})	120 °F	34		36		35	
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min		11	14	15	12	14	15	10	14	15
n K (lb/100 ft ^{2})		0.33	6.08	0.33	6.08	0.33	6.08
API FILTRATE (cm ^{3} / 30 min.)		3.9		3.6		3.6	
HPHT FILTRATE (cm ^{3} / 30 min.)	°F						
API : HPHT (Cake / 32nd in.)		0.5		0.5		0.5	
pH		9.0		9.0		9.0	
ALKALINITY MUD (Pm)		0.3		0.2		0.2	
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.7	0.04	0.7	0.02	0.8
CHLORIDE (mg / L)		84,000		84,000		84,000	
TOTAL HARDNESS AS CALCIUM (mg / L)		400		480		480	
SULPHITE (mg / L)		120		80		80	
PHPA (Calc ppb)							
GLYCOL CONTENT (% V/V)							
K+ (mg / L)							
KCl (% by Wt.)							
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.0	0.2	2.0	0.2	2.0	0.2
SOLIDS CONTENT (% by volume) Calc		2.52		2.52		2.52	
LIQUID CONTENT (% by volume) Calc		97.48		97.48		97.48	
SAND CONTENT (% by volume)		0.2		0.2		0.2	

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Build Hi-vis Pill in Slug Pit to pump at TD. Add Starch M to maintain FL while continuing with drillwater additions into the FL while drilling ahead (3 bbl/hr). Add IDCIDE (bactericide) and Sodium Sulphite to active mud system while circulating BU. Continue to Clean up Pit 4 for receiving Completion Brine. Receive 1044bbl 9.6ppg NaCl completion brine and charge off. Add Idcide to Completion Brine. After tripping back in hole, screen up shakers to 325HC mesh screens, and circulate to remove as many solids as possible. Run 2 x centrifuges while drilling ahead and circulating BU. Build and Pump 25bbl 11.1ppg Slug. Discharge 17bbl dead volume Slug.

OPERATIONAL COMMENTS

Build Hi-vis Sweep in Slug Pit for casing clean-up. Uncorrected solids from Retort = 7%. Use 16 x 325 mesh screens.
****
Continue to drill ahead to Well TD 2517m MD /1655m TVD. Circulate 2 x BU, run booster pumps while curculating. Pump 60 bbl Hi-vis sweep. No increase in cuttings observed at shakers. POOH wet to casing shoe. RIH to TD with pumps off to simulate running completion screens. Circulate 2 x BU to condition mud. Pump Slug and POOH. L/D BHA, M/U casing scraper tools and commence RIH.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1398
Drill Water	17	S.C.E.	35	Boat Rcd	1044
Chemical	4	Discharge	17	Boat Bk	0
Seawater	0	Downhole	0	Built	21
Other	0	Other	0	Lost sub	0
RECEIVED	21	LOST	52	Lost srf	52

TOTAL MUD ON RIG (bbls) 2411

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Salt (sacked)	25 Kg	756	0	10	746
Starch M	23 Kg	42	0	10	32
Idcide-20	20 Ltr Drum	40	0	6	34
Sodium Sulphite	25 Kg	35	0	6	29
XANVIS	25 Kg	36	0	3	33
NaCl Completion Brine	0 bbl	0	1044	0	1044

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518			6	9.3	15.7	50
Centrifuge 2	MI SW FVS518			6	9.3	15.8	30
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.5
Shale Shaker #1	40/20 325HC x 4			12	LGS %		1.0
Shale Shaker #2	40/20 325HC x 4			12	Drilled Solids %		0.804
Shale Shaker #3	40/20 325HC x 4			12	Salt %		6.869
Shale Shaker #4	40/20 325HC x 4			12			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 12/08/2008
Report No 11

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	17	bbl
Chemical Volume added	4	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**21**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	1044

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:	14	bbl
LOSSES TO CENTRIFUGE	21	bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	16	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**51**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**51** **bbl**
Interval losses (bbl/ft/m):					**17**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	218	230	9.6	NaCl Completion Brine
2	Storage	320	342	9.6	NaCl Completion Brine
3 a+b equalised	Active	302	486	9.6	Wellflow DIF mud
4	Storage	470	508	9.6	NaCl Completion Brine
5	Reserve	180	508	9.5	Wellflow DIF premix
Slug Pit	Reserve	68	79	9.5	Wellflow DIF - Hi-vis
Trip Tank	Active	24	70	9.6	Wellflow DIF mud
Sand Trap	Active	54	54	9.6	Wellflow DIF mud
Settling Pits	Active	80	81	9.6	Wellflow DIF mud
Surface Line	Active	10	80	9.6	Wellflow DIF mud

VOLUME SUMMARY:

	+	-
Starting Volume:	1398	
Current Tank Volume:	470	
Total Hole Volume(inc riser):	686	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	21	
Total Storage:	1008	
Total Reserve:	248	
Total Disposed:		51
Total Backloaded to LMP:		
Total Received from LMP:	1044	
TOTAL MUD AT RIGSITE	**2412** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 11
Report Date: 12/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	4				4			4
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	40	6	26		60			34
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl				1,044	1,044			1,044
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	421		203		624			421
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	756	10	358		1,104			746
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	35	6	22		51			29
Starch M	23 Kg	42	10	48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	36	3	47		80			33

Rheochem Ltd

WATER BASED MUD
Daily Drilling Report

Report #	12	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	13/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Troy Williams/ Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 690 / PITS 508	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 2270 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1198	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 11 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 195	BBL / STK 0.1018 / STK / MIN 130 / BOTTOMS UP 36 min
DRILL COLLAR SIZE (") 6.75	0	LENGTH 0 0 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 1008	BBL / MIN 13.23 / GAL / MIN 556 / TOTAL CIRC TIME 161 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM			Pit		Pit						
MUD TYPE			WFW		WFW						
TIME SAMPLE TAKEN			6:00		18:30						
FLOWLINE TEMPERATURE		°F									
TOTAL MEASURED DEPTH (TMD)		Metres	2517		2517						
WEIGHT		ppg / SG	9.6	1.15	9.6	1.15					
FUNNEL VISCOSITY (sec / qt) API @		120 °F	51		51						
RHEOLOGY 600 : 300 RPM		120 °F	56	45	55	44					
RHEOLOGY 200 : 100 RPM		120 °F	39	31	38	30					
RHEOLOGY 6 : 3 RPM		120 °F	13	10	13	10					
PLASTIC VISCOSITY cP @		120 °F	11		11						
YIELD POINT (lb / 100FT)	2	120 °F	34		33						
GEL STRENGTH (lb / 100FT)	2	10sec/10min/30min	11	13	15	10	13	14			
n	K (lb/100 ft)		0.32	5.92	0.32	5.92					
API FILTRATE (cm / 30 min.)			3.6		3.9						
HPHT FILTRATE (cm / 30 min.)		°F									
API : HPHT (Cake / 32nd in.)			0.5		0.5						
pH			9.0		8.5						
ALKALINITY MUD (Pm)			0.1		0.2						
ALKALINITY FILTRATE (Pf / Mf)			0.02	0.8	0.05	0.5					
CHLORIDE (mg / L)			84,000		83,000						
TOTAL HARDNESS AS CALCIUM (mg / L)			520		320						
SULPHITE (mg / L)			80		60						
PHPA (Calc ppb)											
GLYCOL CONTENT (% V/V)											
K+ (mg / L)											
KCl (% by Wt.)											
METHYLENE BLUE CAPACITY (ppb equiv/%)			2.0	0.2	2.5	0.3					
SOLIDS CONTENT (% by volume) Calc			2.52		2.68						
LIQUID CONTENT (% by volume) Calc			97.48		97.32						
SAND CONTENT (% by volume)			0.2		0.1						

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Screen down shakers to 230 mesh in preparation for scraper run.

NTU readings for the NaCl Completions Brine:
Pit 1 = 31
Pit 2 = 18
Pit 4 = 44

Adjustment made on Chemical inventory.

OPERATIONAL COMMENTS

Continued to RIH with casing scraper assembly. RIH washing down. Cirulated BU at casing shoe. Pumped hi-vis sweep. POOH and commenced preparing completion equipment.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2412
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	11	Lost su	0
RECEIVED	0	LOST	11	Lost srf	11

TOTAL MUD ON RIG (bbls) 2401

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Omyacarb 20	25 Kg	421	0	1	420
XANVIS	25 Kg	33	0	1	32

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.5
Shale Shaker #1	40/20 230HC x 4			5	LGS %		1.2
Shale Shaker #2	40/20 230HC x 4			5	Drilled Solids %		0.908
Shale Shaker #3	40/20 230HC x 4			5	Salt %		6.787
Shale Shaker #4	40/20 230HC x 4			5			

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 13/08/2008
Report No 12

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	0	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:	11	bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**11**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**11**	**bbl**
Interval losses (bbl/ft/m):	**17**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	218	230	9.6	NaCl Completion Brine
2	Storage	320	342	9.6	NaCl Completion Brine
3 a+b equalised	Active	352	486	9.65	Wellflow DIF Mud
4	Storage	470	508	9.6	NaCl Completion Brine
5	Reserve	180	508	9.5	Wellflow DIF Mud
Slug Pit	Reserve	15	79	9.5	Wellflow DIF- HiVis
Trip Tank	Active	12	70	9.6	Wellflow DIF Mud
Sand Trap	Active	54	54	9.6	Wellflow DIF Mud
Settling Pits	Active	80	81	9.6	Wellflow DIF Mud
Surface Line	Active	10	80	9.6	Wellflow DIF Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2412	
Current Tank Volume:	508	
Total Hole Volume(inc riser):	690	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	0	
Total Storage:	1008	
Total Reserve:	195	
Total Disposed:		11
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2401** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 12
Report Date: 13/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	4				4			4
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	30		30		60			30
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,044		1,044			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	421	1	204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	746		358		1,104			746
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	29		22		51			29
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33	1	48		80			32

Rheochem Ltd

WATER BASED MUD
Daily Drilling Report

Report #	13	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	14/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 670 / PITS 385	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 0 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1055	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 190	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 70 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 1008	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit						
MUD TYPE		WFW		WFW						
TIME SAMPLE TAKEN		10:00		18:00						
FLOWLINE TEMPERATURE	°F									
TOTAL MEASURED DEPTH (TMD)	Metres	2517		2517						
WEIGHT	ppg / SG	9.6	1.15	9.6	1.15					
FUNNEL VISCOSITY (sec / qt) API @	120 °F	53		53						
RHEOLOGY 600 : 300 RPM	120 °F	54	43	54	43					
RHEOLOGY 200 : 100 RPM	120 °F	38	30	39	31					
RHEOLOGY 6 : 3 RPM	120 °F	12	9	12	10					
PLASTIC VISCOSITY cP @	120 °F	10		10						
YIELD POINT (lb / 100FT ²)	120 °F	33		33						
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		10	13	14	10	13	15			
n K (lb/100 ft ²)		0.30	6.56	0.30	6.56					
API FILTRATE (cm ³ / 30 min.)		3.5		3.5						
HPHT FILTRATE (cm ³ / 30 min.)	°F									
API : HPHT (Cake / 32nd in.)		0.5		0.5						
pH		8.5		8.5						
ALKALINITY MUD (Pm)		0.2		0.2						
ALKALINITY FILTRATE (Pf / Mf)		0.05	0.6	0.50	0.5					
CHLORIDE (mg / L)		84,000		85,000						
TOTAL HARDNESS AS CALCIUM (mg / L)		320		320						
SULPHITE (mg / L)		40		40						
PHPA (Calc ppb)										
GLYCOL CONTENT (% V/V)										
K+ (mg / L)										
KCl (% by Wt.)										
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.5	0.3	2.5	0.3					
SOLIDS CONTENT (% by volume) Calc		2.68		2.68						
LIQUID CONTENT (% by volume) Calc		97.32		97.32						
SAND CONTENT (% by volume)		0.1		0.1						

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Treated surface DIF fluid with Idcide. Dumped and flushed Solids Contol pits. Cleaned Header Box, Possum Bellies and under the shakers. Dumped Slug Pit. Preparing to Transfer Pit 5 Wellbore DIF Fluid to the solids control pits to allow Pit 5 to be used to build more Brine for Hi-Vis and Detergent pills.

OPERATIONAL COMMENTS

RIH with the screens and tubulars. Preparing to RIH with DP.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2401
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	148	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	148	Lost srf	148

TOTAL MUD ON RIG (bbls) 2253

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Idcide-20	20 Ltr Drum	30	0	1	29

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.5
Shale Shaker #1	40/20 230HC x 4				LGS %		1.2
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.908
Shale Shaker #3	40/20 230HC x 4				Salt %		6.950
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 14/08/2008
Report No 13

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	0	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	148	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**148**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**148**	**bbl**
Interval losses (bbl/ft/m):	**17**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	218	230	9.6	NaCl Completion Brine
2	Storage	320	342	9.6	NaCl Completion Brine
3 a+b equalised	Active	360	486	9.65	Wellflow DIF Mud
4	Storage	470	508	9.6	NaCl Completion Brine
5	Reserve	180	508	9.5	Wellflow DIF Mud
Slug Pit	Reserve	0	79	0	Seawater - being flushed
Trip Tank	Active	25	70	9.6	Wellflow DIF Mud
Sand Trap	Reserve	0	54	0	Being Flushed
Settling Pits	Reserve	0	81	0	Being Flushed
Surface Line	Reserve	10	80	9.6	Wellflow DIF Mud

VOLUME SUMMARY:

	+	-
Starting Volume:	2401	
Current Tank Volume:	385	
Total Hole Volume(inc riser):	670	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	0	
Total Storage:	1008	
Total Reserve:	190	
Total Disposed:		148
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**2253**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 13
Report Date: 14/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	4				4			4
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59		37		96			59
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	30	1	31		60			29
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,044		1,044			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	746		358		1,104			746
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	29		22		51			29
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem Ltd

Report #	14	Total MD	2517	to 2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to 1655	m
Date	15/08/2008	Daily Depth Drilled		0	m
Spud Date	2/08/2008	Interval Depth Drilled		573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 663 / PITS 365	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS 630 psi
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 92 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 1028	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 9 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 182	BBL / STK 0.1018 / STK / MIN 200 / BOTTOMS UP 20 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 / 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 297	BBL / MIN 20.36 / GAL / MIN 855 / TOTAL CIRC TIME 62 min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit		Pit						
MUD TYPE		NACL		WFW						
TIME SAMPLE TAKEN		9:00		15:30						
FLOWLINE TEMPERATURE	°F									
TOTAL MEASURED DEPTH (TMD)	Metres	2517		2517						
WEIGHT	ppg / SG	9.6	1.15	9.6	1.16					
FUNNEL VISCOSITY (sec / qt) API @	120 °F	82		45						
RHEOLOGY 600 : 300 RPM	120 °F	68	59	52	41					
RHEOLOGY 200 : 100 RPM	120 °F			36	29					
RHEOLOGY 6 : 3 RPM	120 °F			11	9					
PLASTIC VISCOSITY cP @	120 °F	9		11						
YIELD POINT (lb / 100FT ²)	120 °F	50		30						
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min				9	12	14				
n K (lb/100 ft ²)		0.34	4.84	0.34	4.84					
API FILTRATE (cm ³ / 30 min.)				3.7						
HPHT FILTRATE (cm ³ / 30 min.)	°F									
API : HPHT (Cake / 32nd in.)				0.5						
pH				8.5						
ALKALINITY MUD (Pm)				0.2						
ALKALINITY FILTRATE (Pf / Mf)				0.10	0.6					
CHLORIDE (mg / L)				83,000						
TOTAL HARDNESS AS CALCIUM (mg / L)				440						
SULPHITE (mg / L)				60						
PHPA (Calc ppb)										
GLYCOL CONTENT (% V/V)										
K+ (mg / L)										
KCl (% by Wt.)										
METHYLENE BLUE CAPACITY (ppb equiv/%)				2.5	0.3					
SOLIDS CONTENT (% by volume) Calc		9.50		2.76						
LIQUID CONTENT (% by volume) Calc		90.50		97.24						
SAND CONTENT (% by volume)				0.2						

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Built 150 bbl of 9.6ppg NaCl Brine. With 100 bbl of Brine in Pit 1 built Hivis NaCl Fluid using 2.9 ppb Flowzan. With 70 bbl of brine from Pit 2, built NaCl Detergent Fluid using Dirt Magnet in the slug. Topped Pit 5 up with brine from Pit 2 so that Pit 4 and 5 were full prior to displacement. NTU on Pit 4 and 5 prior to displacement were 48 and 140 respectively. Transferred 290 bbl DIF fluid from Solids Control Pits and active to the boat prior to Displacement. Pumped 40 bbl HiVis NaCl, then 50 bbl Detergent followed by 60 bbl HiVis NaCl and commenced displacing with Brine from Pit 5. Returns were taken to Pit 3 then 204 bbl DIF fluid put back to the boat on the fly. 111 bbl of

OPERATIONAL COMMENTS

contaminated mud dumped. Well flushed with a total of 150bbl sweeps, and over-displaced with 752 bbl of Brine. Dumped all sweeps and brine. Final NTU reading on the brine 538. Built a further 200 bbl 9.6ppg Brine for flushing BOP's in Pit 2 - NTU reading 94. Check 1 on HiVis, Check 2 on DIF fluid from downhole.

Cont RIH and set Packer. Pumped sweeps and then Completed Displacement of the well to 9.6ppg NaCl Brine. POOH with SABS and running tool. R/D and L/O same. P/Up and RIH wear bushing retrieval tool to 91m at midnight.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	2253
Drill Water	335	S.C.E.	0	Boat Rcd	0
Chemical	45	Discharge	632	Boat Bk	494
Seawater	0	Downhole	0	Built	380
Other	0	Other	0	Lost su	0
RECEIVED	380	LOST	632	Lost srf	632

TOTAL MUD ON RIG (bbls) 1507

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Salt (sacked)	25 Kg	746	0	556	190
Flowzan	25 Kg Sack	59	0	8	51
Idcide-20	20 Ltr Drum	29	0	7	22
Sodium Sulphite	25 Kg	29	0	5	24
Dirt Magnet	200 Ltr Drum	4	0	2	2

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0			
Cuttings Dryer				0			
Shale Shaker #1	40/20 230HC x 4			5			
Shale Shaker #2	40/20 230HC x 4			5			
Shale Shaker #3	40/20 230HC x 4			5			
Shale Shaker #4	40/20 230HC x 4			5			

SOLIDS ANALYSIS

HGS %	1.5
LGS %	1.3
Drilled Solids %	0.987
Salt %	6.787

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 15/08/2008
Report No 14

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	335	bbl
Chemical Volume added	45	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**380**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	494
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	632	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**632**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**632**	**bbl**
Interval losses (bbl/ft/m):	**18**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Storage	11	230	9.6	Hi Vis NaCl Completion Brine
2	Storage	241	342	9.6	NaCl Completion Brine
3 a+b equalised	Active	350	486	9.6	Wellflow DIF Mud
4	Storage	45	508	9.6	NaCl Completion Brine
5	Reserve	38	508	9.5	NaCl Completion Brine
Slug Pit	Reserve	0	79	0	Seawater
Trip Tank	Active	15	70	9.6	NaCl Completion Brine
Sand Trap	Reserve	54	54	9.6	Wellflow DIF Mud
Settling Pits	Reserve	80	81	9.6	Wellflow DIF Mud
Surface Line	Reserve	10	80	9.6	NaCl Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	2253	
Current Tank Volume:	365	
Total Hole Volume(inc riser):	663	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	380	
Total Storage:	297	
Total Reserve:	182	
Total Disposed:		632
Total Backloaded to LMP:		494
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**1507**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 14
Report Date: 15/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	4	2	2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	59	8	45		96			51
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	29	7	38		60			22
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,044		1,044			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	746	556	914		1,104			190
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	29	5	27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	15	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	16/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 628 / PITS 142	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 934 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 770	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 85	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM		Pit									
MUD TYPE		WFW									
TIME SAMPLE TAKEN		3:30									
FLOWLINE TEMPERATURE	°F										
TOTAL MEASURED DEPTH (TMD)	Metres	2517									
WEIGHT	ppg / SG	9.6	1.15								
FUNNEL VISCOSITY (sec / qt) API @	120 °F	45									
RHEOLOGY 600 : 300 RPM	120 °F	52	41								
RHEOLOGY 200 : 100 RPM	120 °F	35	28								
RHEOLOGY 6 : 3 RPM	120 °F	11	9								
PLASTIC VISCOSITY cP @	120 °F	11									
YIELD POINT (lb / 100FT) ²	120 °F	30									
GEL STRENGTH (lb / 100FT ²) 10sec/10min/30min		9	12	14							
n K (lb/100 ft)		0.34	4.84								
API FILTRATE (cm / 30 min.)		3.7									
HPHT FILTRATE (cm / 30 min.)	°F										
API : HPHT (Cake / 32nd in.)		0.5									
pH		8.5									
ALKALINITY MUD (Pm)		0.2									
ALKALINITY FILTRATE (Pf / Mf)		0.10	0.6								
CHLORIDE (mg / L)		83,000									
TOTAL HARDNESS AS CALCIUM (mg / L)		440									
SULPHITE (mg / L)		40									
PHPA (Calc ppb)											
GLYCOL CONTENT (% V/V)											
K+ (mg / L)											
KCl (% by Wt.)											
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.5	0.3								
SOLIDS CONTENT (% by volume) Calc		2.68									
LIQUID CONTENT (% by volume) Calc		97.32									
SAND CONTENT (% by volume)		0.2									

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Treated DIF Fluid with 3gal/100bbl Idcide then trasferred 405 bbl back to the boat. Total DIF Fluid transferred back to the boat = 900bbl. 50 bbl DIF Mud discharged from Sandtraps. 32 bbl DIF Mud discharged from Pit 3 (dead Volume). Flushed the BOP's with 105 bbl NaCl Brine. Discharged any Brine returns over the side as per instruction.

OPERATIONAL COMMENTS

Jet BOP's and circulated 1.25 riser volume. Commenced RIH upper Completion assembly.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1507
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	247	Boat Bk	405
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	247	Lost srf	247

TOTAL MUD ON RIG (bbls) 855

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Idcide-20	20 Ltr Drum	22	0	3	19

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		1.5
Shale Shaker #1	40/20 230HC x 4			1	LGS %		1.2
Shale Shaker #2	40/20 230HC x 4			1	Drilled Solids %		0.908
Shale Shaker #3	40/20 230HC x 4			1	Salt %		6.787
Shale Shaker #4	40/20 230HC x 4			1			

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 16/08/2008
Report No 15

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	0	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	405
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	247	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**247**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**247** **bbl**
Interval losses (bbl/ft/m):					**19**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	44	230	9.6	NaCl Brine
2	Active	130	342	9.6	NaCl Completion Brine
3 a+b equalised	Storage	0	486	9.6	Being flushed
4	Reserve	41	508	9.6	NaCl Completion Brine
5	Storage	0	508	9.5	Being Flushed
Slug Pit	Reserve	0	79	0	Seawater
Trip Tank	Active	2	70	9.6	NaCl Completion Brine
Sand Trap	Storage	0	54	9.6	To be Cleaned
Settling Pits	Storage	0	81	9.6	To be Cleaned
Surface Line	Active	10	80	9.6	NaCl Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	1507	
Current Tank Volume:	142	
Total Hole Volume(inc riser):	628	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	0	
Total Storage:		
Total Reserve:	85	
Total Disposed:		247
Total Backloaded to LMP:		405
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**855** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 15
Report Date: 16/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	51		45		96			51
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	22	3	41		60			19
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,044		1,044			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	190		914		1,104			190
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	16	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	17/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 600 / PITS 331	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,638 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 931	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 44	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM								
MUD TYPE								
TIME SAMPLE TAKEN								
FLOWLINE TEMPERATURE °F								
TOTAL MEASURED DEPTH (TMD) Metres								
WEIGHT ppg / SG								
FUNNEL VISCOSITY (sec / qt) API @ °F								
RHEOLOGY 600 : 300 RPM °F								
RHEOLOGY 200 : 100 RPM °F								
RHEOLOGY 6 : 3 RPM °F								
PLASTIC VISCOSITY cP @ °F								
YIELD POINT (lb / 100FT ^{2}) °F								
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min								
n K (lb/100 ft ^{3})								
API FILTRATE (cm ^{3} / 30 min.)								
HPHT FILTRATE (cm ^{3} / 30 min.) °F								
API : HPHT (Cake / 32nd in.)								
pH								
ALKALINITY MUD (Pm)								
ALKALINITY FILTRATE (Pf / Mf)								
CHLORIDE (mg / L)								
TOTAL HARDNESS AS CALCIUM (mg / L)								
SULPHITE (mg / L)								
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)								
K+ (mg / L)								
KCl (% by Wt.)								
METHYLENE BLUE CAPACITY (ppb equiv/%)								
SOLIDS CONTENT (% by volume) Calc	0.00							
LIQUID CONTENT (% by volume) Calc	0.00							
SAND CONTENT (% by volume)								

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Built a further 134 bbl of 9.6 ppg NaCl Completion brine as contingent kill fluid as requested. Cleaned Pits 5, 3 and Solids control Pits. Discharged 14bbl dead volume of NaCl Completion brine from Pit 4.

OPERATIONAL COMMENTS

Continued to RIH with Upper Completion.

Water Source	Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	855
Drill Water	120	S.C.E.	0	Boat Rcd	0
Chemical	14	Discharge	14	Boat Bk	0
Seawater	0	Downhole	0	Built	134
Other	0	Other	0	Lost su	0
RECEIVED	134	LOST	14	Lost srf	14

TOTAL MUD ON RIG (bbls) 975

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Salt (sacked)	25 Kg	190	0	190	0
Idcide-20	20 Ltr Drum	19	0	1	18

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 17/08/2008
Report No 16

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water	120	bbl
Chemical Volume added	14	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**134**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	14	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**14**	bbl

SEEPAGE LOSSES:	0	BBL/HR FOR	0	hr	bbl
LOST CIRCULATION:					bbl
LOST BEHIND CASING/LEFT DOWNHOLE:					bbl
OTHER SUB-SURFACE LOSSES:					bbl
Sub-surface Losses Subtotal:					**0** bbl
TOTAL DISPOSED:					**14** bbl
Interval losses (bbl/ft/m):					**19**

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	44	230	9.6	NaCl Brine
2	Active	290	342	9.6	NaCl Completion Brine
3 a+b equalised	Storage	0	486	0	Cleaned
4	Storage	0	508	0	Empty
5	Storage	0	508	0	Cleaned
Slug Pit	Reserve	0	79	0	Seawater
Trip Tank	Active	31	70	9.6	NaCl Completion Brine
Sand Trap	Storage	0	54	0	Cleaned
Settling Pits	Storage	0	81	0	Cleaned
Surface Line	Active	10	80	9.6	NaCl Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	855	
Current Tank Volume:	331	
Total Hole Volume(inc riser):	600	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:	134	
Total Storage:		
Total Reserve:	44	
Total Disposed:		14
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**975** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 16
Report Date: 17/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	51		45		96			51
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	19	1	42		60			18
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,044		1,044			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	190	190	1,104		1,104			
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	17	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	18/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 597 / PITS 305	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 902	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 108	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min

MUD PROPERTIES

SAMPLE FROM			
MUD TYPE			
TIME SAMPLE TAKEN			
FLOWLINE TEMPERATURE °F			
TOTAL MEASURED DEPTH (TMD) Metres			
WEIGHT ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @ °F			
RHEOLOGY 600 : 300 RPM °F			
RHEOLOGY 200 : 100 RPM °F			
RHEOLOGY 6 : 3 RPM °F			
PLASTIC VISCOSITY cP @ °F			
YIELD POINT (lb / 100FT 2) °F			
GEL STRENGTH (lb / 100FT 2) 10sec/10min/30min			
n K (lb/100 ft 2)			
API FILTRATE (cm 3 / 30 min.)			
HPHT FILTRATE (cm 3 / 30 min.) °F			
API : HPHT (Cake / 32nd in.)			
pH			
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			
CHLORIDE (mg / L)			
TOTAL HARDNESS AS CALCIUM (mg / L)			
SULPHITE (mg / L)			
PHPA (Calc ppb)			
GLYCOL CONTENT (% V/V)			
K+ (mg / L)			
KCl (% by Wt.)			
METHYLENE BLUE CAPACITY (ppb equiv/%)			
SOLIDS CONTENT (% by volume) Calc	0.00		
LIQUID CONTENT (% by volume) Calc	0.00		
SAND CONTENT (% by volume)			

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Received Salt and Brine off the Far Grip. Checked screens and discarded worn ones as necessary.

OPERATIONAL COMMENTS

Landed Upper Completion Assembly. Commenced wireline.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	975
Drill Water	0	S.C.E.	0	Boat Rcd	78
Chemical	0	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	43	Lost su	0
RECEIVED	0	LOST	43	Lost srf	43

TOTAL MUD ON RIG (bbls) 1010

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
NaCl Completion Brine	0 bbl	0	78	78	0
Salt (sacked)	25 Kg	0	432	0	432

SOLIDS CONTROL EQUIPMENT

Type			Hours	OF	UF	GPM Feed
Desander	Cone Size 0	No.	0	0	0	0
Desilter	Cone Size 0	No.	0	0	0	0
Mud Cleaner			0	0	0	0
Centrifuge 1	MI SW FVS518					
Centrifuge 2	MI SW FVS518					
Degasser			0	SOLIDS ANALYSIS		
Cuttings Dryer			0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4			LGS %		0.0
Shale Shaker #2	40/20 230HC x 4			Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4			Salt %		
Shale Shaker #4	40/20 230HC x 4					

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 18/08/2008
Report No 17

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	78

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:	43	bbl
Surface Losses Subtotal:	**43**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**43**	**bbl**
Interval losses (bbl/ft/m):	**19**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	108	230	9.6	Completion Brine
2	Active	260	342	9.6	Completion Brine
3 a+b equalised	Storage	0	486	0	
4	Storage	0	508	0	
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	35	70	9.6	Completion Brine
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	10	80	9.6	Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	975	
Current Tank Volume:	305	
Total Hole Volume(inc riser):	597	
Other Volume In Hole:		
Total Riser Volume:	105	
Total Received:		
Total Storage:		
Total Reserve:	108	
Total Disposed:		43
Total Backloaded to LMP:		
Total Received from LMP:	78	
TOTAL MUD AT RIGSITE	**1010** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 17
Report Date: 18/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	51		45		96			51
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	18		42		60			18
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl		78	1,122	78	1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg			1,104	432	1,536			432
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	18	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	19/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Peter Devine/Rohan Richardson	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 376 / PITS 462	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 838	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 108	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min

MUD PROPERTIES

SAMPLE FROM			
MUD TYPE	NACL		
TIME SAMPLE TAKEN			
FLOWLINE TEMPERATURE °F			
TOTAL MEASURED DEPTH (TMD) Metres			
WEIGHT ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @ °F			
RHEOLOGY 600 : 300 RPM °F			
RHEOLOGY 200 : 100 RPM °F			
RHEOLOGY 6 : 3 RPM °F			
PLASTIC VISCOSITY cP @ °F			
YIELD POINT (lb / 100FT ^{2}) °F			
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min			
n K (lb/100 ft ^{2})			
API FILTRATE (cm ^{3} / 30 min.)			
HPHT FILTRATE (cm ^{3} / 30 min.) °F			
API : HPHT (Cake / 32nd in.)			
pH			
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			
CHLORIDE (mg / L)			
TOTAL HARDNESS AS CALCIUM (mg / L)			
SULPHITE (mg / L)			
PHPA (Calc ppb)			
GLYCOL CONTENT (% V/V)			
K+ (mg / L)			
KCl (% by Wt.)			
METHYLENE BLUE CAPACITY (ppb equiv/%)			
SOLIDS CONTENT (% by volume) Calc	0.00		
LIQUID CONTENT (% by volume) Calc	0.00		
SAND CONTENT (% by volume)			

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

244 bbl brine returned to Pit 4 when broke circulation and during displacement with diesel. Standing-by for building the Hi-Vis sweep and Pit Cleaning. Repaired screens.

OPERATIONAL COMMENTS

Displaced Tubing with 216bbl diesel and 5 bbl drill water. Set packer. Performed preflow checks and commenced cleanup.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	1010
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	64	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	64	Lost srf	64

TOTAL MUD ON RIG (bbls) 946

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close

SOLIDS CONTROL EQUIPMENT

Type			Hours	OF	UF	GPM Feed
Desander	Cone Size 0	No.	0	0	0	0
Desilter	Cone Size 0	No.	0	0	0	0
Mud Cleaner			0	0	0	0
Centrifuge 1	MI SW FVS518					
Centrifuge 2	MI SW FVS518					
Degasser			0	SOLIDS ANALYSIS		
Cuttings Dryer			0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4			LGS %		0.0
Shale Shaker #2	40/20 230HC x 4			Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4			Salt %		
Shale Shaker #4	40/20 230HC x 4					

Rheochem Engineer: Kellie Jericho **Office:** Perth **Telephone:** 0894108214 **Fax:** 0894108214

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 19/08/2008
Report No 18

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	64	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**64**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**64**	**bbl**
Interval losses (bbl/ft/m):	**19**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	108	230	9.6	Completion Brine
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	417	508	9.6	Completion Brine
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	35	70	9.6	Completion Brine
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	10	80	9.6	Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	1010	
Current Tank Volume:	462	
Total Hole Volume(inc riser):	376	
Other Volume In Hole:	221	
Total Riser Volume:	105	
Total Received:		
Total Storage:		
Total Reserve:	108	
Total Disposed:		64
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**946**	**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 18
Report Date: 19/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	51		45		96			51
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	18		42		60			18
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6		2		8			6
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	432		1,104		1,536			432
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	34		48		80			34

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	19	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	20/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Rohan	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	19.50 Riser Length 87 m	HOLE 0 / PITS 325	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 325	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 100	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM			
MUD TYPE	NACL	NACL	NACL
TIME SAMPLE TAKEN			
FLOWLINE TEMPERATURE °F			
TOTAL MEASURED DEPTH (TMD) Metres			
WEIGHT ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @ °F			
RHEOLOGY 600 : 300 RPM °F			
RHEOLOGY 200 : 100 RPM °F			
RHEOLOGY 6 : 3 RPM °F			
PLASTIC VISCOSITY cP @ °F			
YIELD POINT (lb / 100FT ^{2}) °F			
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min			
n K (lb/100 ft ^{n})			
API FILTRATE (cm ^{3} / 30 min.)			
HPHT FILTRATE (cm ^{3} / 30 min.) °F			
API : HPHT (Cake / 32nd in.)			
pH			
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			
CHLORIDE (mg / L)			
TOTAL HARDNESS AS CALCIUM (mg / L)			
SULPHITE (mg / L)			
PHPA (Calc ppb)			
GLYCOL CONTENT (% V/V)			
K+ (mg / L)			
KCl (% by Wt.)			
METHYLENE BLUE CAPACITY (ppb equiv/%)			
SOLIDS CONTENT (% by volume) Calc	0.00	0.00	0.00
LIQUID CONTENT (% by volume) Calc	0.00	0.00	0.00
SAND CONTENT (% by volume)			

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

MEG used for Inflow Testing TRSV ops. 50bbl pumpable Hi-Vis pill prepared with 2.9 ppb Flowzan in Pit 1.

OPERATIONAL COMMENTS

Completed cleanup. Pumped 50bbl MEG and chased it with Drillwater. Run lower crown plug. Flushed well test lines and under 9 5/8" rams. Unlatched and POOH Landing string. Jetted Tubing hanger with Hi-Vis Brine.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	946
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	9	Discharge	530	Boat Bk	0
Seawater	0	Downhole	0	Built	9
Other	0	Other	0	Lost su	0
RECEIVED	9	LOST	530	Lost srf	530

TOTAL MUD ON RIG (bbls) 425

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Flowzan	25 Kg Sack	51	0	7	44
MEG	220 Kg	6	0	6	0

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 20/08/2008
Report No 19

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added	9	bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**9**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	530	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**530**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**530**	**bbl**
Interval losses (bbl/ft/m):	**20**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	100	230	9.6	Hi-Vis Brine
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	295	508	9.6	Completion Brine
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	20	70	9.6	Completion Brine
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	10	80	9.6	Completion Brine

VOLUME SUMMARY:

	+	-
Starting Volume:	946	
Current Tank Volume:	325	
Total Hole Volume(inc riser):		
Other Volume In Hole:	597	
Total Riser Volume:	105	
Total Received:	9	
Total Storage:		
Total Reserve:	100	
Total Disposed:		530
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE	**425** bbls	

Daily Inventory

Well: Netherby-1 DW
Report No: 19
Report Date: 20/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23		23			
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6		30			24
Drispac SL (22.7kg)	23 Kg	74		34		108			74
Flowzan	25 Kg Sack	51	7	52		96			44
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	18		42		60			18
JK-261 LV	25 Kg	66		68		134			66
KCl (sacked)	25 Kg Sack	240		240		480			240
MEG	220 Kg	6	6	8		8			
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	432		1,104		1,536			432
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20		36			16
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27		51			24
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33		47		80			33

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	20	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	21/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Rohan	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0 / PITS 0	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 0	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM								
MUD TYPE		NACL						
TIME SAMPLE TAKEN								
FLOWLINE TEMPERATURE	°F							
TOTAL MEASURED DEPTH (TMD)	Metres							
WEIGHT	ppg / SG							
FUNNEL VISCOSITY (sec / qt) API @	°F							
RHEOLOGY 600 : 300 RPM	°F							
RHEOLOGY 200 : 100 RPM	°F							
RHEOLOGY 6 : 3 RPM	°F							
PLASTIC VISCOSITY cP @	°F							
YIELD POINT (lb / 100FT ^{2})	°F							
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min								
n K (lb/100 ft ^{2})								
API FILTRATE (cm ^{3} / 30 min.)								
HPHT FILTRATE (cm ^{3} / 30 min.)	°F							
API : HPHT (Cake / 32nd in.)								
pH								
ALKALINITY MUD (Pm)								
ALKALINITY FILTRATE (Pf / Mf)								
CHLORIDE (mg / L)								
TOTAL HARDNESS AS CALCIUM (mg / L)								
SULPHITE (mg / L)								
PHPA (Calc ppb)								
GLYCOL CONTENT (% V/V)								
K+ (mg / L)								
KCl (% by Wt.)								
METHYLENE BLUE CAPACITY (ppb equiv/%)								
SOLIDS CONTENT (% by volume) Calc		0.00						
LIQUID CONTENT (% by volume) Calc		0.00						
SAND CONTENT (% by volume)								

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Received Chemicals for Henry-2. Discharged Surface volume of Brine and commenced cleaning pits.

OPERATIONAL COMMENTS

Set ITC. Commenced recovery of Installation and Work Over Control System and Rig BOP's. WOW.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	425
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	425	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	425	Lost srf	425

TOTAL MUD ON RIG (bbls) 0

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Citric Acid	25 Kg Sack	0	80	0	80
Drill-pol	25 Kg Drum	24	64	0	88
Drispac SL (22.7kg)	23 Kg	74	80	0	154
Flowzan	25 Kg Sack	44	40	0	84
Idcide-20	20 Ltr Drum	18	32	0	50
JK-261 LV	25 Kg	66	120	0	186
KCl (sacked)	25 Kg Sack	240	280	0	520
Salt (sacked)	25 Kg	432	48	0	480
Soda Ash	25 Kg Sack	16	48	0	64
Sodium Sulphite	25 Kg	24	40	0	64

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 21/08/2008
Report No 20

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:	425	bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**425**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**425**	**bbl**
Interval losses (bbl/ft/m):	**21**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	0	
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	0	508	0	
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	0	70	0	
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	0	80	0	

VOLUME SUMMARY:

	+	-
Starting Volume:	425	
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	491	
Total Riser Volume:		
Total Received:		
Total Storage:		
Total Reserve:		
Total Disposed:		425
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE		**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 20
Report Date: 21/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53				53			53
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack			23	80	103			80
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	24		6	64	94			88
Drispac SL (22.7kg)	23 Kg	74		34	80	188			154
Flowzan	25 Kg Sack	44		52	40	136			84
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	18		42	32	92			50
JK-261 LV	25 Kg	66		68	120	254			186
KCl (sacked)	25 Kg Sack	240		240	280	760			520
MEG	220 Kg			8		8			
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	432		1,104	48	1,584			480
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	16		20	48	84			64
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	24		27	40	91			64
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33		47		80			33

WATER BASED MUD
Daily Drilling Report

Rheochem

Report #	21	Total MD	2517	to 2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to 1655	m
Date	22/08/2008	Daily Depth Drilled		0	m
Spud Date	2/08/2008	Interval Depth Drilled		573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0 / PITS 0	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 0	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM				
MUD TYPE	NACL			
TIME SAMPLE TAKEN				
FLOWLINE TEMPERATURE °F				
TOTAL MEASURED DEPTH (TMD) Metres				
WEIGHT ppg / SG				
FUNNEL VISCOSITY (sec / qt) API @ °F				
RHEOLOGY 600 : 300 RPM °F				
RHEOLOGY 200 : 100 RPM °F				
RHEOLOGY 6 : 3 RPM °F				
PLASTIC VISCOSITY cP @ °F				
YIELD POINT (lb / 100FT ^{2}) °F				
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min				
n K (lb/100 ft ^{2})				
API FILTRATE (cm ^{3} / 30 min.)				
HPHT FILTRATE (cm ^{3} / 30 min.) °F				
API : HPHT (Cake / 32nd in.)				
pH				
ALKALINITY MUD (Pm)				
ALKALINITY FILTRATE (Pf / Mf)				
CHLORIDE (mg / L)				
TOTAL HARDNESS AS CALCIUM (mg / L)				
SULPHITE (mg / L)				
PHPA (Calc ppb)				
GLYCOL CONTENT (% V/V)				
K+ (mg / L)				
KCl (% by Wt.)				
METHYLENE BLUE CAPACITY (ppb equiv/%)				
SOLIDS CONTENT (% by volume) Calc	0.00			
LIQUID CONTENT (% by volume) Calc	0.00			
SAND CONTENT (% by volume)				

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Received Lab Supplies. Standing by for Rig Move.
Received 33 MT of Bentonite off Nor Captain.

OPERATIONAL COMMENTS

WOW. Continued to retrieve BOP. Working on ROV.

Water Source Supply Boat

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED		SUMMARY	
				Start Vol	0
Drill Water	0	S.C.E.	0	Boat Rcd	0
Chemical	0	Discharge	0	Boat Bk	0
Seawater	0	Downhole	0	Built	0
Other	0	Other	0	Lost su	0
RECEIVED	0	LOST	0	Lost srf	0

TOTAL MUD ON RIG (bbls) 0

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close
Bentonite FOB (Portland)	1000 Kg	53	33	0	86

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 22/08/2008
Report No 21

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**0**	**bbl**
Interval losses (bbl/ft/m):	**21**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	0	
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	0	508	0	
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	0	70	0	
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	0	80	0	

VOLUME SUMMARY:

	+	-
Starting Volume:		
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	491	
Total Riser Volume:		
Total Received:		
Total Storage:		
Total Reserve:		
Total Disposed:		
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE		**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 21
Report Date: 22/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	53			33	86			86
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack	80		23		103			80
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	88		6		94			88
Drispac SL (22.7kg)	23 Kg	154		34		188			154
Flowzan	25 Kg Sack	84		52		136			84
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	50		42		92			50
JK-261 LV	25 Kg	186		68		254			186
KCl (sacked)	25 Kg Sack	520		240		760			520
MEG	220 Kg			8		8			
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	480		1,104		1,584			480
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	64		20		84			64
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	64		27		91			64
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33		47		80			33

Rheochem

WATER BASED MUD
Daily Drilling Report

Report #	22	Total MD	2517	to	2517	m
Rig #	OCEAN PATRIOT	Total VD	1655	to	1655	m
Date	23/08/2008	Daily Depth Drilled			0	m
Spud Date	2/08/2008	Interval Depth Drilled			573	m

OPERATOR	Santos Ltd	CONTRACTOR	Diamond Offshore
REPORT FOR	Chris Roots/Nathan Peri	REPORT FOR	Ricky Sepulvado/Mike Praznik
WELL NAME AND No.	Netherby-1 DW	FIELD	VIC/P44
LOCATION	Otway Basin	STATE	Victoria

BHA	BIT TYPE	JET SIZE	DEPTHS/CASING	MUD VOLUME (BBL)	CIRCULATION DATA
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 / 0 0 0 0 0	0.00 Riser Length 87 m	HOLE 0 / PITS 0	PUMP SIZE 6 x 12 Inches / CIRCULATION PRESS psi
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m	TOTAL CIRCULATING VOL. 0	PUMP MODEL National / % EFFICIENCY 97 / SURFACE TO BIT 0 min
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m	RESERVE PITS 0	BBL / STK / STK / MIN / BOTTOMS UP 0 min
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m	STORAGE TANKS 0	BBL / MIN / GAL / MIN / TOTAL CIRC TIME min
			Prod. or LNR @ m		

MUD PROPERTIES

SAMPLE FROM			
MUD TYPE	NACL		
TIME SAMPLE TAKEN			
FLOWLINE TEMPERATURE °F			
TOTAL MEASURED DEPTH (TMD) Metres			
WEIGHT ppg / SG			
FUNNEL VISCOSITY (sec / qt) API @ °F			
RHEOLOGY 600 : 300 RPM °F			
RHEOLOGY 200 : 100 RPM °F			
RHEOLOGY 6 : 3 RPM °F			
PLASTIC VISCOSITY cP @ °F			
YIELD POINT (lb / 100FT ^{2}) °F			
GEL STRENGTH (lb / 100FT ^{2}) 10sec/10min/30min			
n K (lb/100 ft ^{2})			
API FILTRATE (cm ^{3} / 30 min.)			
HPHT FILTRATE (cm ^{3} / 30 min.) °F			
API : HPHT (Cake / 32nd in.)			
pH			
ALKALINITY MUD (Pm)			
ALKALINITY FILTRATE (Pf / Mf)			
CHLORIDE (mg / L)			
TOTAL HARDNESS AS CALCIUM (mg / L)			
SULPHITE (mg / L)			
PHPA (Calc ppb)			
GLYCOL CONTENT (% V/V)			
K+ (mg / L)			
KCl (% by Wt.)			
METHYLENE BLUE CAPACITY (ppb equiv/%)			
SOLIDS CONTENT (% by volume) Calc	0.00		
LIQUID CONTENT (% by volume) Calc	0.00		
SAND CONTENT (% by volume)			

MUD PROPERTY SPECIFICATIONS

MW	9.5	API FL	<4	pH	8-9.5
6 RPM	10-14	LGS	<5	NaCl % wt	12.5

MUD COMMENTS

Standing by for Rig Move.

OPERATIONAL COMMENTS

Continued working on ROV. Start pulling anchores.

Water Source Supply Boats

MUD ACCOUNTING (BBLS)

FLUID BUILT		FLUID DISPOSED	
Drill Water	0	S.C.E.	0
Chemical	0	Discharge	0
Seawater	0	Downhole	0
Other	0	Other	0
RECEIVED	0	LOST	0

SUMMARY

Start Vol	0
Boat Rcd	0
Boat Bk	0
Built	0
Lost su	0
Lost srf	0

TOTAL MUD ON RIG (bbls) 0

PRODUCT USAGE

Product	UnitSize	Start	Received	Used	Close

SOLIDS CONTROL EQUIPMENT

Type				Hours	OF	UF	GPM Feed
Desander	Cone Size	0	No.	0	0	0	0
Desilter	Cone Size	0	No.	0	0	0	0
Mud Cleaner				0	0	0	0
Centrifuge 1	MI SW FVS518						
Centrifuge 2	MI SW FVS518						
Degasser				0	SOLIDS ANALYSIS		
Cuttings Dryer				0	HGS %		0.0
Shale Shaker #1	40/20 230HC x 4				LGS %		0.0
Shale Shaker #2	40/20 230HC x 4				Drilled Solids %		0.000
Shale Shaker #3	40/20 230HC x 4				Salt %		
Shale Shaker #4	40/20 230HC x 4						

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

DAILY MUD VOLUME ACCOUNT

RHEOCHEM

Date: 23/08/2008
Report No 22

Well Name: Netherby-1 DW
Operator: Santos Ltd

FLUID BUILT AND RECEIVED:

Premix drill water		bbl
Chemical Volume added		bbl
Sump recycled water		bbl
Seawater		bbl
Volume Received on Rig		bbl
Received Other		bbl
TOTAL ADDED:	**0**	bbl

LMP/BOAT TRANSFERS

TOTAL BACKLOADED FROM LMP:	0
TOTAL RECEIVED FROM LMP:	0

FLUID DISPOSED:

LOSSES ATTRIBUTED TO SHAKERS:		bbl
LOSSES TO CENTRIFUGE		bbl
LOSSES TO DESILT/MUD CLEANER:		bbl
LOSSES TO DESANDER:		bbl
LOSSES TO TRIPPING:		bbl
DISCHARGED:		bbl
OTHER SURFACE LOSSES:		bbl
Surface Losses Subtotal:	**0**	bbl

SEEPAGE LOSSES: 0 BBL/HR FOR 0 hr		bbl
LOST CIRCULATION:		bbl
LOST BEHIND CASING/LEFT DOWNHOLE:		bbl
OTHER SUB-SURFACE LOSSES:		bbl
Sub-surface Losses Subtotal:	**0**	bbl
TOTAL DISPOSED:	**0**	**bbl**
Interval losses (bbl/ft/m):	**21**	

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls) Current	Capacity	MW (ppg)	Comments
1	Reserve	0	230	0	
2	Storage	0	342	0	
3 a+b equalised	Storage	0	486	0	
4	Active	0	508	0	
5	Storage	0	508	0	
Slug Pit	Reserve	0	79	0	
Trip Tank	Active	0	70	0	
Sand Trap	Storage	0	54	0	
Settling Pits	Storage	0	81	0	
Surface Line	Active	0	80	0	

VOLUME SUMMARY:

	+	-
Starting Volume:		
Current Tank Volume:		
Total Hole Volume(inc riser):		
Other Volume In Hole:	491	
Total Riser Volume:		
Total Received:		
Total Storage:		
Total Reserve:		
Total Disposed:		
Total Backloaded to LMP:		
Total Received from LMP:		
TOTAL MUD AT RIGSITE		**bbls**

Daily Inventory

Well: Netherby-1 DW
Report No: 22
Report Date: 23/08/2008

Product	Unit Size	Start Amnt	Daily Used	Cumul Used	Daily Rec'd	Cumul Rec'd	Daily B'Load	Cumul B'Load	Final Stock
Barite (sacked)	25 Kg Sack	80				80			80
Barite FOB (Portland)	1000 Kg	84		58		142			84
Bentonite FOB (Portland)	1000 Kg	86				86			86
Calcium Chloride (77%)	25 Kg	36				36			36
Caustic Soda	25 Kg Drum	20				20			20
Citric Acid	25 Kg Sack	80		23		103			80
Defoam-A	25 Ltr Drum	25		3		28			25
Dirt Magnet	200 Ltr Drum	2		2		4			2
Drill-pol	25 Kg Drum	88		6		94			88
Drispac SL (22.7kg)	23 Kg	154		34		188			154
Flowzan	25 Kg Sack	84		52		136			84
Fracseal	25 lb Sack	140				140			140
Glychem MC	220 Kg			6		6			
Guar Gum	25 Kg Sack	101				101			101
Idcide-20	20 Ltr Drum	50		42		92			50
JK-261 LV	25 Kg	186		68		254			186
KCl (sacked)	25 Kg Sack	520		240		760			520
MEG	220 Kg			8		8			
NaCl Completion Brine	0 bbl			1,122		1,122			
Nutplug	25 Kg Sack	39				39			39
Omyacarb 20	25 Kg	420		204		624			420
Quickseal (med)	18 Kg Sack	49				49			49
Rheopac R	25 Kg Sack	33				33			33
Salt (sacked)	25 Kg	480		1,104		1,584			480
Sand Seal (fine)	25 Kg Sack	75				75			75
SAPP	25 Kg Sack	40				40			40
Soda Ash	25 Kg Sack	64		20		84			64
Sodium Bicarbonate	25 Kg Sack			20		20			
Sodium Sulphite	25 Kg	64		27		91			64
Starch M	23 Kg	32		48		80			32
Wellflow DIF	0 bbl			1,487		1,487			
XANVIS	25 Kg	33		47		80			33

10. DRILLING FLUIDS PROGRAM

DRILLING FLUID PROGRAM

Netherby 1- WBM

Prepared by: Paul Baker Date: 7th July 2008
Rev. No: 5 Patrick Tomkins

Santos

36 in Section: Seawater / Pre-hydrated Gel Sweeps

Depth meters	MW ppb	Funnel Visc, sec.	6 rpm	pH	Gel 10s lb/100sqft	Gel 10m lb/100sqft
86 – 130	alap	>100	> 40	9.5 - 10.5	>15	>40

COMMENTS:
Prehydrated bentonite (non-flocculated) will be used with for Hi Vis sweeps. Before any Prehydrated bentonite is mixed test the water source and record its properties on the first daily mud report. Drill the first single with high viscosity pre-hydrated bentonite (+/- 35 ppb) prior to switching to seawater.

Prepare 200bbls of weighted Kill mud as per Diamond Shallow Gas Procedures.

Drill with seawater & HiVis Sweeps (riserless). Pump 50 bbl HiVis sweeps mid stand & 100 bbl prior to connections. This sweep regime can be adjusted to suit hole conditions / ROP.

Length: Guar Gum will be held in contingency and can be used for Hi-vis sweeps. Condsideration to using Guar Gum for mid stand sweeps should be made if there are any time restraints on PHG yeilding or quantites of drillwater are restricted.

At TD sweep the hole clean with a 200 bbl Hi Vis Pill & then over-displace (1.5 x open hole volume) the hole to Hi - Vis prehydrated bentonite (non-flocculated) prior to pulling out for any wiper trip or to run casing. If a wiper trip is required, the displacement must be repeated (44)

Rheochem Engineers should obtain a copy and make themselves familiar with the RHEOCHEM RISERLESS DRILLING PROCEDURES & GUIDELINES.

PRODUCTS — Concentrations (lbs/bbl)

TYPE	Unit	Size	New	Maint	Tot Unit
Bentonite	mt	1	35.0	0.0	13
Caustic Soda	kg	25	0.2	0.2	6
Soda Ash	kg	25	0.2	0.2	6
Barite	MT	1	0.0	82.0	7
CONTINGENCY					
Guar Gum	kg	25			10

VOLUMES

	bbl
DISPL. VOL. x 1.5	273
KILL MUD	200
SWEEPS	350
TOT. VOL. REQ.	823
RECEIVED	0
NEW MUD	823
Max Angle, deg.	
Max Angle, deg.	0

17 1/2 Section: Seawater / Pre-hydrated Gel Sweeps

Depth meters	MW ppg	Funnel Visc, sec.	6 rpm	pH	Gel 10s lb/100sqft	Gel 10m lb/100sqft
130 – 650	alap	>100	> 40	9.5 - 10.5	>20	40

COMMENTS:
Prehydrated bentonite (non-flocculated) will be used with Guar Gum held in contingency for Hi Vis Sweeps if required.

Drill with seawater & HiVis Sweeps (riserless). Pump 75 bbl HiVis sweeps mid stand & 100 bbl prior to connections. This sweep regime can be adjusted to suit hole conditions / ROP.

Length: Guar Gum will be held in contingency and can be used for Hi-vis sweeps. Condsideration to using Guar Gum for mid stand sweeps should be made if there are any time restraints on PHG yeilding or quantites of drillwater are restricted. Potassium Chloride can been added to Guar Gum sweeps to provide some inhibition if any reactive clays are encountered whilst drilling with seawater & sweeps.

A contingency LCM Pill should be considered +-50ppb using Quickseal Med / Nutplug / Calcium Carbonate. If this pill has not been used it can be used to sweep the hole clean at TD.

At TD sweep the hole clean with a 200 bbl Hi Vis Pill weighted with Barite to 10.0ppg (this will be used as Kill Mud and must be prepared prior to drilling out of the shoe). Over-displace (1.25 x open hole volume) the hole to Hi - vis prehydrated bentonite (non-flocculated) and spot 60 - 100 bbl weighted (1.15sg) KCl pill on bottom prior to pulling out. If a wiper trip is required, the displacement must be repeated. (520)

PRODUCTS — Concentrations (lbs/bbl)

TYPE	Unit	Size	New	Maint	Tot Unit
Bentonite	mt	1	35.0	17.0	36
Caustic Soda	kg	25	0.2	0.2	15
Soda Ash	kg	25	0.2	0.2	15
KCl	kg	25			40
Guar Gum	kg	25	3.5		30
CONTINGENCY					
Nutplug Med	kg	25			19
Quickseal Med	**kg**	**18.18**			**19**
Omycarb 20	kg	25			19

VOLUMES

	bbl
DISPL. VOL. x 1.25	635
CASING	39
SWEEPS	3325
HOLE TOT	674
TOT. VOL. REQ.	3999
RECEIVED	0
NEW MUD	3999
Max Angle, deg.	0

12 1/4 Section: 8% KCl / PHPA / Glycol

Depth meters	MW ppg	YP lb100sqft	PV cP	Gels lb100sqft	6 rpm	pH	API FL ml	API FL ml In Reservoir	Ca ++ mg/l	KCl % wt	PHPA ppb	LGS % vol	MBT ppb
650 – 1823	9.0 - 11	6 rpm dependent	alap weight dependent	low and flat	12 - 16	8.0 - 8.5	< 8	< 4	< 400	8-10	1.5-2.0	< 5	< 10

COMMENTS:
Drill cement with seawater and displace to a seawater / Rheopac R (weighted to 9.0ppg with Barite) system whilst drilling the shoe track and 3m of new formation. Circulate mud until an even mud weight in/out is recorded. Once the LOT has been performed the first ~350m of this section should be drilled using seawater / Pac R on a closed system. Addtions of Flowzan can be made to this system to help with rheology if required. This is due to the Mepunga & Dilwyn formations consisting of unsorted sands which can cause screen blinding resulting in heavy losses of whole mud which has been observed in offset wells.

Diamond will be providing SWACO XL screens which are specifically designed to handle unsorted sands. When used monitoring of their performance must be recorded. Shakers must be dressed with the finest screens as possible which will be dictated by flow rates and ability to shear PHPA on the rig. Monitor shakers closely and ensure minimum whole mud losses over shakers.

Length: Continue drilling with seawater & 50bbl sweeps until either all Hi-vis fluid is used or there is a formation change, pump a 50 Hi-vis sweep ahead and displace hole to 8-10% KCl /PHPA/Glycol new 9.0ppg mud. This displacement fluid should have a initial PHPA concentration of 0.5ppb and once the mud has been circulated and sheared through the bit and the shakers are handling the flow rate this concentration can be increased to programmed specification.

A concentrated KCL/GLycol Premix will be mixed in Portland and will be shipped to the rig for the start of the section. Drill water will be used to cut back the brine at a 1:1 ratio (brine: water), however seawater can be used as a contingency should drill water requirements become a problem.

Mud weight will initially be 9.0ppg, and will be increased to 11 ppg using Barite prior to penetrating the Skull Creek Formation. The MW can be increased further as instructed by the Santos drilling supervisors and/or well conditions dictate. Cuttings at the shakers should be monitored at all times.

Hole cleaning criteria will be based on the 6 rpm readings; maintaining between 12 - 16 dial units through the addition of premixed Flowzan. Bentonite should be avoided or minimised, as it is not compatible with a highly inhibitive non-dispersed mud system. The API Fluid Loss for this section should be maintained at < 8 ml with Drispac SL and tightened to <4 ml prior to entering the reservoir. Maintain the Low Gravity Solids below 5% and the MBT below 10 lb/bbl at all times (this may require whole mud dilution).

Claystone reactivity will be controlled with 8-10% KCl, 3% Glychem MC and PHPA cuttings encapsulation. However the KCl & PHPA concentration can be increased as required through additions of sacked material if required. Additions of PHPA will cease and be allowed to deplete at ~150m above the Warre Formation. There is a contingency for treating the mud system with ~1% of EBL (Ester Based Lubricant). The use of EBL will be dependent on results of the drilling fluid from Pecten East-1. The cost for using EBL has been listed but it is not programmed into the total well cost. (1173)

Down hole losses should be closely monitored and any losses in excess of 2 bbls/hr are to be cured by direct additions or sweeps containing Quickseal in non-producing formations and any **combination** of Sandseal/Fracseal in producing formations. Losses should not be allowed to heal naturally. Consult Santos DDR and MWD Operators prior to making any LCM additions.

PRODUCTS — Concentrations (lbs/bbl)

TYPE	Unit	Size	New	Maint	Tot Units
Flowzan	kg	25	1.3	0.2	76
Drispac SL	kg	22.7	1.8	0.2	112
Sodium Bicarbonate	kg	25	0.1	0.1	10
JK-261 LV	kg	25	0.5	1.0	76
KCL	MT	1	30.0	2.0	41
KCL	kg	25	2.0	2.0	203
Idcide-20	lt	20	0.1	0.1	13
Glychem MC	kg	220	3.0	0.1	66
Barite	MT	1	17.0	95.0	142
Sodium Sulphite	kg	25	0.1	0.1	10
Caustic Soda	kg	25	0.1	0.1	10
Bentonite	MT	1	5.0	0.0	6
Rheopac R	kg	25	3.0		58
CONTINGENCY					
EBL	kg	195		$37,675.66	22
Quickseal Med	kg	18.18			20
Sandseal	kg	25			20
Fracseal	kg	11.4			20

VOLUMES

	bbl
SURFACE	500
RISER	107
CASING	281
OPEN HOLE	617
DILUTION	1290
HOLE TOT	1005
TOT. VOL. REQ.	2796
RECEIVED	0
NEW MUD	2796
Max Angle, deg.	35
Dilut. Fac (bbl/m)	10

DRILLING FLUID PROGRAM

Netherby 1 DW- WBM

Prepared by: Paul Baker Date: 04th July 2008
Rev. No: 5 Patrick Tomkins

Santos

12.25 Section: 8% KCl / PHPA / Glycol

Depth meters	MW ppg	YP lb100sqft	PV cP	Gels lb100sqft	6 rpm	pH	API FL ml	API FL ml In Reservoir	Ca ++ mg/l	KCl % wt	PHPA ppb	LGS % vol	MBT ppb
1400	9.0 - 11	6 rpm dependent	alap weight dependent	low and flat	12 - 16	8.0 - 8.5	< 8	< 4	< 400	8 - 10	1.5-2.0	< 5	< 10
1895													

Length: 495

COMMENTS:
Netherby-1 Pilot Hole will be plugged back to approximately 1,400 mRT. Netherby-1 DW will be side tracked from approximately 1412 mRT utilising mud from the pilot hole if it relatively clean (ie LGS <5%).

Mud weight will not be cut back for this section. The mud weight must be at 11 ppg prior to penetrating the Skull Creek Formation. Cuttings at the shakers should be monitored at all times.

A concentrated KCL/Glycol Premix will be mixed in Portland and will be shipped to the rig for the start of the section. Drill water will be used to cut back the brine at a 1:1 ratio (brine: water), however seawater can be used as a contingency should drill water requirements become a problem.

Shakers must be dressed with the finest screens as possible which will be dictated by flow rates and ability to shear PHPA on the rig. Monitor shakers closely and ensure minimum whole mud losses over shakers.

Hole cleaning criteria will be based on the 6 rpm readings; maintaining between 12 - 16 dial units through the addition of premixed Flowzan. Bentonite should be avoided or minimised, as it is not compatible with a highly inhibitive non-dispersed mud system. The API Fluid Loss for this section should be maintained at < 8 ml with Drispac SL and tightened to <4 ml prior to entering the reservoir. Maintain the Low Gravity Solids below 5% and the MBT below 10 lb/bbl at all times (this may require whole mud dilution).

Claystone reactivity will be controlled with 8-10% KCl, 3% Glychem MC and PHPA cuttings encapsulation. However the KCl & PHPA concentration can be increased as required through additions of sacked material if required. Additions of PHPA will cease and be allowed to deplete at ~150m above the Warre Formation. There is a contingency for treating the mud system with ~1% of EBL (Ester Based Lubricant). The use of EBL will depend on results of the drilling fluid from Pecten East-1. The cost for using EBL has been listed but it is not programmed into the total well cost.

Down hole losses should be closely monitored and any losses in excess of 2 bbls/hr are to be cured by direct additions or sweeps containing Quickseal in non-producing formations and any combination of Sandseal/Fracseal in producing formations. Losses should not be allowed to heal naturally. Consult Santos DDR and MWD Operators prior to making any LCM additions.

PRODUCTS		Concentrations (lbs/bbl)				VOLUMES	
TYPE	Unit	Size	New	Maint	Tot Unit		bbl
Flowzan	kg	25	1.3	0.2	24	SURFACE	500
Drispac SL	kg	22.7	1.5	0.3	32	RISER	107
Sodium Bicarbonate	kg	25	0.1	0.1	4	CASING	278
JK-261 LV	kg	25	1.0	0.6	32	OPEN HOLE	261
KCL	MT	1	30.0	2.0	12	DILUTION	545
KCL	kg	25	2.5	2.3	103	HOLE TOT	646
Idcide-20	lt	20	0.1	0.1	6		
Glychem MC	kg	220	3.0	0.1	35		
Barite	MT	1	120.0	10.0	48		
Sodium Sulphite	kg	25	0.1	0.1	4		
Caustic Soda	kg	25	0.2	0.1	6		
Drillpol	lt	25	0.5	0.0	7	**TOT. VOL. REQ.**	1690
CONTINGENCY						RECEIVED	950
EBL	kg	195		$27,400.48		**NEW MUD**	740
Sandseal	kg	25					
Fracseal	kg	11.4				Max Angle, deg.	75

8 1/2 Section: Wellflow DIF

Depth meters	MW ppg	YP lb100sqft	PV cP	Gels lb100sqft	6 rpm	pH	API FL ml	Ca ++ mg/l	NaCl % wt	LGS % vol			
1895	9.5	6 rpm dependent	alap	non-progressive	10 - 14	8.5 - 9.5	< 4 ml	< 400	12.5	< 5			
2504													

Length: 609

COMMENTS:
An initial 1,600bbls of 9.5ppg DIF will mixed in Portland (2 x 800bbl batches) and shipped to the rig. A mixing procedure should be put in place to mix approximately 400bbls of DIF on the **rig.**

This section is to drilled with a Wellflow DIF mud system. Drill out cement using seawater and sweeps. Any remaining fluid from previous section can be isolated and used to sweep the hole whilst drilling cement. Pump 50 bbl Hi-vis sweep ahead of displacing the system to 9.5 ppg Wellflow DIF to avoid cement contamination.

DO NOT use Barite for any weight requirements or slugs. SALT & OMYACARB ARE TO BE USED FOR ALL WEIGHTING UP.

Excellent hole cleaning is essential through this built hole section and will be based on the 6 rpm and controlled with additions of Xanvis. The API Fluid Loss will be maintained at < 4ml.

Down hole losses should be closely monitored and any losses in excess of 2 bbls/hr are to be cured by sweeps of sized Calcium Carbonate. Omyacarb-20 will be used. Ensure the losses do not heal naturally. Consult Santos DDR and MWD Operators prior to any LCM additions.

Optimise use of solids control equipment to keep the drill solids <5. Monitor shaker shakers for damage on connections and replace / repair as required. Use 200 or 230 mesh screens for this section. Do Not use any finer mesh screens as the Omyacarb-20 will be screened out of the fluid.

At TD the hole will be circulated until the shakers are clean and a 25bbls Hi-vis sweep pumped whilst circulating a minimum of 3 bottoms up. A wiper trip will be perform back up to the shoe. One it is considered the hole is in good condition the string will be RIH back to bottom to simulate running sand screens. Whilst RIH the shaker screens must be changed to 325 mesh.

Once at TD the hole will be circulated until the entire mud system has passed over the fine 325 mesh screens and passes the PST QC tests outlined by Weatherford. This is to screen out the Calcium Carbonate particles. Mud weight should be monitored and maintained with salt addtions whilst circulating of the 325 mesh screens .

PRODUCTS		Concentrations (lbs/bbl)				VOLUMES	
TYPE	Unit	Size	New	Maint	Tot Unit		bbl
Caustic Soda	kg	25	0.1	0.1	7	SURFACE	500
NaCl	MT	1.2	48.0	30.0	53	RISER	107
NaCl	kg	25	5.0	5.1	331	CASING	434
Sodium Sulphite	kg	25	0.25	0.25	16	OPEN HOLE	154
Idcide-20	lt	20	0.2	0.2	16	DILUTION	609
Xanvis	kg	25	1.5	0.3	59	HOLE TOT	695
Starch M	kg	22.7	3.5	1.0	162		0
Omyacarb-20	kg	25	28.0	2.0	982	**TOT. VOL. REQ.**	1804
						RECEIVED	0
						NEW MUD	1804
						Max Angle, deg.	96

8 1/2 Section: Cleanup

Depth meters	MW ppg	NaCl %	NTU										
1841	1.18 S.G 9.3 - 9.6 ppg	24	<100										
2504													

Length: 663

COMMENTS:

Once TD has been confirmed it is planned to leave conditioned DIF in the open hole and the casing volume will be displaced to 9.8ppg (1.18 S.G.) NaCl Completion Brine.

A total of 1,400bbls of 9.8ppg (1.18 S.G.) NaCl Completion Brine will be made up at the TLMP in Portland. Ensure all pits and discharge lines are cleaned before the completeion brine comes onboard.

Production screens will be run to bottom with the conditioned DIF in the hole and completion operations will commence. Once the Production screens are set a scraper run will be performed in the 9 5/8 casing and riser.

Once the scraper run is being performed the mud will be conditioned / circulated with returns taken over the shakers. All returns must be monitored for scale / cuttings and debris. The mud will be circulated for a minimum of 1¼ times the cased hole volume ~700 bbls. In flow testing will be performed at the flowline and will determine when to stop circulating.

The header box and flow lines must be cleaned prior to the displacement to ensure the system is as clean as possible.

The casing volume mud will be displaced to Brine. A combination of a 30-50bbl Push pill, 80-100bbl cleanup pill (Dirt Magnet) & 20bbl Tail pill (same as Push Pill) will be pumped ahead of the Brine (see below). The Brine will be circulated while the Mud Engineer takes samples at the header box and records NTU readings using a Turbidity Meter . Circulation will stop when the NTU readings are <100 and or the Santos Completion Representative is satisfied that the Brine is sufficiently clean.

Pill Formulations:

100 bbls Push pill & Tail Pill: 100bbls NaCl Brine & 1.5ppb Flowzan.
100 bbls Casing Sweep Pill: 98bbls NaCl Brine & 1.3gal/bbl Dirt Magnet.

PRODUCTS		Concentrations (lbs/bbl)				VOLUMES	
TYPE	Unit	Size	New	Maint	Tot Units		bbl
Caustic Soda	kg	25	0.1	0.0	3	SURFACE	500
NaCl	MT	1.2	76.0	0.0	40	RISER	107
NaCl	kg	25	0.0	9.5	241	CASING	542
Sodium Sulphite	kg	25	0.30	0.0	8	OPEN HOLE	153
Idcide-20	lt	20	0.3	0.0	8	NaCl BRINE	1400
Flowzan	kg	25	1.5	0.0	3	SWEEP	100
Dirt Magnet	gal	55			2	HOLE TOT	802
						Push & Tail Pill	100
						Casing Cleanup Pill	100
						TOT. VOL. REQ.	1149
						NEW MUD	1400
						Max Angle, deg.	35
						Dilut. Fac (bbl/m)	.00

SECTION 10 : CASING & CEMENTING SUMMARY

Casing / Cementing Summary
Netherby 1DW1

244mm (9 5/8”) & 273mm (10-3/4”)Casing
06 July 2008

Hole Size 311mm (12-1/4”)
Depth 1944.0 mMDRT

244.48mm (9-5/8”) Casing

1 x 244.48mm (9-5/8”) Float shoe
1 x 244.48mm (9-5/8”) Intermediate Joint
1 x 244.48mm (9-5/8”) Float Collar
3 x 244.48mm (9-5/8”) X-over Joint
2 x 244.48mm (9-5/8’) Pup Joint
113 x 244.48mm (9-5/8”) Casing
35 x 244.48mm (10-3/4”) Casing.

OD 244mm (9-5/8")
Grade L-80
Shoe Depth 1936.0 mMDRT

Cement Details:
Lead Slurry
Sacks: 193Sx
Type “G”
Mix water: 12.471gal/sx
Additives: D 175 :0.010 D075 :0.450
D081 :0.080 D193 :0.200

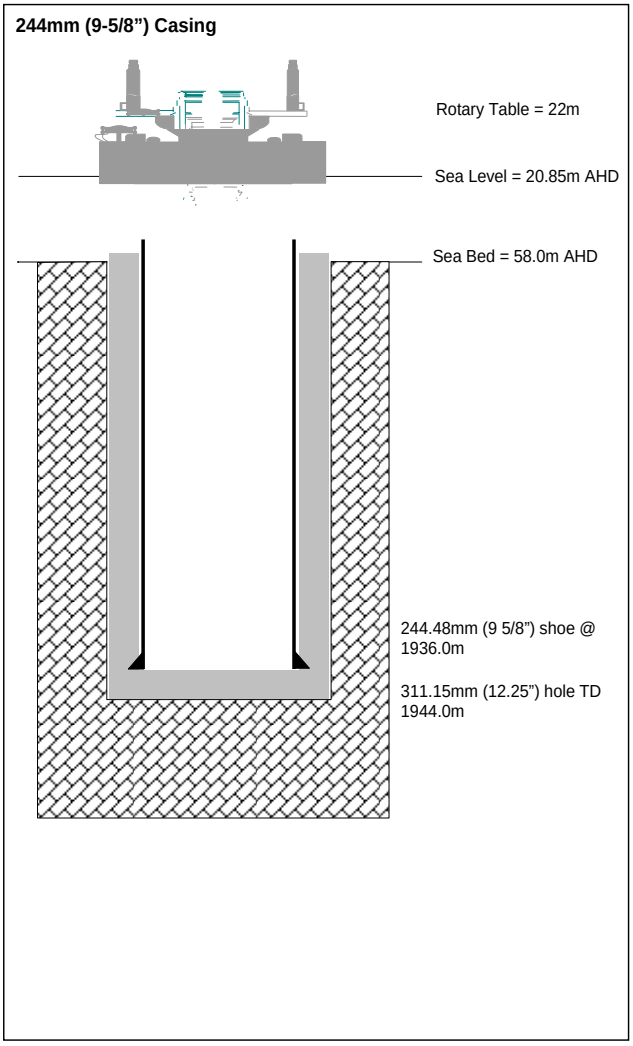
Weight: 1.5sg (12.5ppg)
Yield: 0.034m^3/sx (1.19ft^3/sx)
Volume: 76.89bbls

Tail Slurry
Sacks: 214Sx
Type “G”
Mix water: 4.001gal/sx
Additives: D 175 :0.010 D500 :1.100
D145A :0.050

Weight: 1.89sg (15.8ppg)
Yield: 0.045m^3/sx (1.160ft^3/sx)
Volume: 44.29bbls

Summary

113joints of 244mm (9-5/8”) casing, 273mm (10-3/4”) casing, 3 joint crossovers, 2 Pup Joints (SF60 shoe joint, intermediate joint and housing joint) were made up and run in the hole without difficulty on 311mm (12-1/4”) hole. The casing shoe was set at 1396.0 mMDRT. After circulating the casing capacity, the cement job proceeded as follows: pumped 5 bbls of seawater with dye, tested the lines to 4000psi, pumped a further 35 bbls of seawater with dye. Mixed and pumped 114 bbls of slurry, and displaced with 10 bbls of seawater. Continued displacing cement with mud and bumped the plug at 933 psi. Bled off the pressure and the floats held.

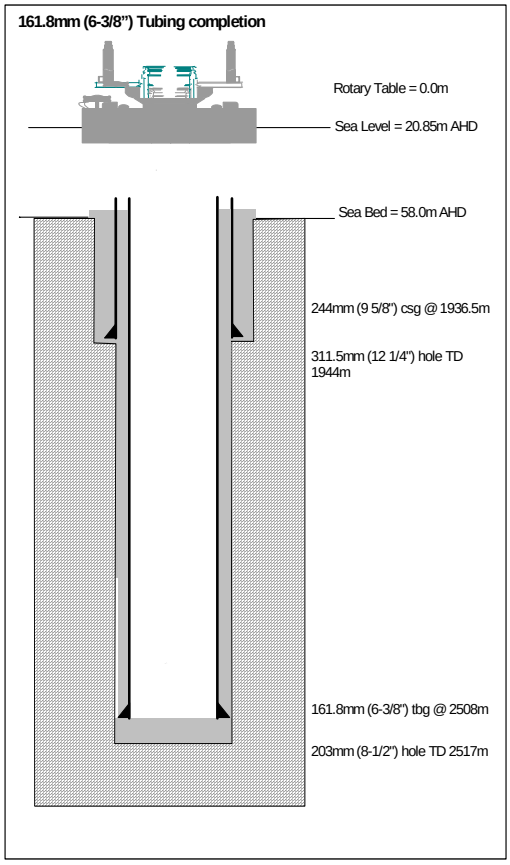


168mm (6-5/8”) Tubing Completion
14 - 15 August 2008

Hole Size 216mm (8-1/2”)
Depth 2517.0 mMDRT
168.4mm (6-5/8”) Casing

1 x 168mm (6-5/8”) Bullnose Assembly
66 x 168mm (6-5/8”) tubing
4 x 168mm (6 5/8”) Screen tubing
1 x 168mm (6-5/8”) Packer

ID 144.2mm (5.769")
Grade
Shoe Depth 1936. mMDRT



Summary

66 joints of tubing, including the shoe, four Screen tubing and packers were made up to the drill pipe and run in. The tubing shoe was set at 2508.0 mMDRT. Set the packer and continued circulating and displacing. Made up the rig for completion as per the program.

SECTION 11 : MUDLOGGING WELL REPORT
(Including Mudlog 1:500 & D-Exponent Log)

The Netherby 1DW1 Mudlogging Well Report also incorporates Netherby 1.
Only the Netherby 1 DW1 logs are enclosed.

END OF WELL REPORT

Santos Ltd

Netherby-1 / Netherby-1 DW1

15th July 2008 – 24th August 2008

by

BAKER HUGHES INTEQ

Netherby – 1 / Netherby-1 DW1

Final Well Report

SECTION 1

WELL SUMMARY

1.1 Well and Rig Information

Well Name	Netherby-1 / Netherby-1 DW1
Well Type:	Exploration Pilot Well Horizontal Gas Development Sidetrack Well
Operator:	Santos Ltd
Location:	Offshore Victoria
Block:	VIC /P44
Final Co-ordinates:	Latitude 38° 40' 48.58" S Longitude 142° 38' 25.7" E
UTM Co-ordinates:	Easting 642694.06 mE Northing 5717438.49 mN
Rig:	Ocean Patriot
Type:	Semi-submersible
Drilling Datum:	Mean Sea Level
Drill Floor Elevation:	20.8 mMDRT
Water Depth:	66.1 mMDRT
Spud Date:	15th July 2008
Total Depth:	Netherby-1: 1875.0 mMDRT (1668.0 mTVDRT) Netherby-1 DW1: 2517.0 mMDRT (1654.0 mTVDRT)
TD Date:	Netherby-1: 30th July 2008 Netherby-1 DW1 : 11th August 2008
Well Status:	Subsea Completed and Suspended
Baker Hughes INTEQ:	Data Engineers: Zulkifli Taib, Larry Pagana, Erwin Villafranca, Snehal Sadawarte Logging Geologists: Rahul Riccharia, Masudur Rahman Bambang Budiarto, Hansel Vaz

1.2 Introduction

Baker Hughes INTEQ Mudlogging provided formation evaluation, drill monitoring and pressure evaluation services for the Netherby-1 pilot hole from spud at 88.3 mMDRT until its total depth at 1875.0 mMDRT and the well's subsequent horizontal sidetrack development well Netherby-1 DW1 from 1505.0 to 2517.0 mMDRT. All depths mentioned in this report (unless specified) are in meters Measured Depth from the Rotary Table (mMDRT). Data was processed and stored using BHI ADVANTAGE V2.10U2 software.

The Netherby-1 (Pilot) exploration well was designed as a deviated well to test the Waarre A objective which if successful would pave the way for drilling and completing "U"-shaped horizontal production well over the reservoir section.

Netherby-1

Netherby -1 was spudded on July 14 2008 at 0730hrs at a depth of 88.3 mMDRT. The 914mm (36") hole section was drilled riser-less from 88.3 to 130.9 mMDRT using seawater and PHG sweeps. The 762mm (30") conductor was then run and cemented, with the shoe set at 130.9 mMDRT.

The 445mm (17-1/2") hole section was also drilled riser-less from 130.9 to 647.0 mMDRT using seawater and PHG sweeps. At the section TD, the hole was displaced with PHG mud prior to POOH. The bit was then pulled to run casing. Forty three (43) joints of 340mm (13-3/8") casing were ran and cemented with the shoe set at 642.2 mMDRT. The Marine Riser and BOPs were then run and pressure-tested as programmed.

The 311mm (12-1/4") BHA was RIH and tagged cement at 611.0 mMDRT. The cement, floats, shoe track and 3 meters of new formation from 647.0 to 650.0 mMDRT was drilled out. The hole was conditioned with the KCL-PHPA-Glycol mud then a Leak-off test was conducted to 2.12sg (17.7ppg) EMW. Continued drilling the 311mm (12-1/4") hole section from 650.0 to 1421.0 mMDRT where the hole was circulated clean and the BHA was pulled out of the hole. The tri-cone bit was changed to a PDC one and drilled the rest of the 311mm (12-1/4") hole section from 1421.0 mMDRT to the pilot hole's initial total depth at 1870.0 mMDRT (1744.0 mTVDRT). The bit was POOH and the wireline equipment was rigged-up. Attempts were made to log the hole with the wireline tools, however this failed, so it was decided to run the LWD/MWD tools with the 311mm (12-1/4") BHA.

Drilling on the 311mm (12-1/4") hole continued from 1870.0 mMDRT to the pilot holes total depth of 1875.0 mMDRT (1748.0 mTVDRT). TD was reached on July 30, 2008 at 2230hrs. The hole was circulated clean and logged up with the LWD/MWD tools. Based on the result of the logging, it was decided to drill the horizontal development well. The hole was then cemented and plugged back to 1421.0 mMDRT for the development well sidetrack.

Netherby-1 DW1

The 311mm (12-1/4") BHA was made up and RIH tagging the top of the cement plug at 1421.0 mMDRT. The cement was dressed and the sidetrack well kicked-off at 1450.0 mMDRT. Drilled the 311mm (12-1/4") hole section of the development well from 1450.0 mMDRT to the 244mm (9-5/8") casing point at 1944.0 mMDRT (1682.0 mTVDRT). The hole was circulated clean, spotted hi-vis on bottom, and the BHA was POOH.

The 244mm (9-5/8") casing was RIH and cemented with the shoe set at 1936.5 mMDRT. The 216mm (8-1/2") BHA was made up and RIH tagging the top of cement at 1900.0 mMDRT. The cement was drilled out, then the floats, shoe track and rathole, the 216mm (8-1/2") production hole section was then drilled from 1944.0 mMDRT to the well's total depth of 2517.0 mMDRT (1654.0 mTVDRT). The Netherby-1 DW1 well TD was reached on August 11, 2008 at 0130hrs. Preparations were then made to complete the well.

SECTION 2

DRILLING and ENGINEERING

2.1 Bit Run Summaries

Netherby 1

914mm (36”) Hole Section
July 15, 2008

Bit Run NB1 Summary

Bit Number	NB1
Bit Size	914mm (36”)
Bit Type	Y11C
S/N	M26690
Jets	3 x 24, 1 x 16
Depth In (mMDRT)	88.3
Depth Out (mMDRT)	130.9
Metres Drilled (m)	42.6
Drilling Hours	3.8
TBR (krevs)	13.2
Circulating Hours	5.5
Average ROP (m/hr)	11.2
API Condition	O-O-NO-A-O-I-NO-TD

Drilling Parameters

WOB (klbs)	5	-	17
RPM	41	-	82
Torque (kft-lbs)	1	-	9
Flow In (gpm)	97	-	797
Pump Pressure (psi)	318	-	1180

Mud System

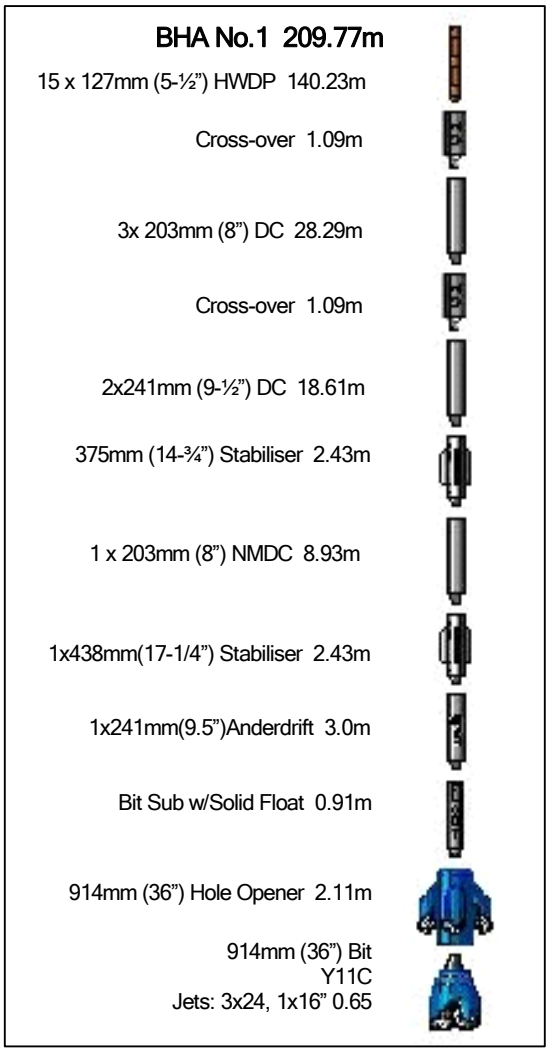
Sea water & hi-vis sweeps 1.07sg

Lithology

Returns to seabed.

Drilling Summary

Netherby 1 was spudded on July 15, 2008 at 07:30hrs. Drilled riser-less the 914mm (36”) hole section from 88.3 to 130.9 mMDRT using seawater and PHG sweeps. Circulated and displaced hole with 400bbls PHG sweeps before POOH for the 762mm (30”) conductor run.



445mm (17-1/2”) Hole Section
July 16, 2008

Bit Run NB2A Summary

Bit Number	NB2
Bit Size	445mm (17-1/2”)
Bit Type	HUGHES MXL-1V
S/N	6062681
Jets	4 x 18
Depth In (mMDRT)	131.0
Depth Out (mMDRT)	177.0
Metres Drilled (m)	46.0
Drilling Hours	2.0
TBR (krevs)	7.04
Circulating Hours	2.6
Average ROP (m/hr)	23
API Condition	1-1-WT-A-E-1-NO-TD

Drilling Parameters

WOB (klbs)	2	-	10
RPM	58	-	226
Torque (kft-lbs)	2	-	6
Flow In (gpm)	367	-	928
Pump Pressure (psi)	1090	-	1584

Mud System

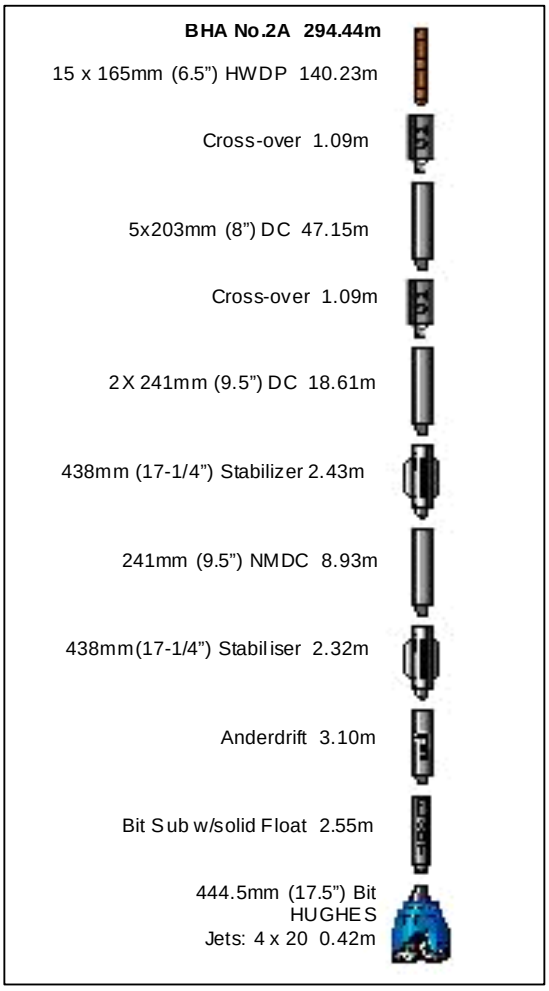
Seawater and PHG sweeps 1.05sg

Lithology

Returns to seabed.

Drilling Summary

NB2A was run in the hole and tagged the top of cement at 128.0 mMDRT. Drilled out the cement and casing shoe, then proceeded to drill new formation from 130.9 to 177.0 mMDRT. Circulated then POOH to install drilling Jars.



445mm (17-1/2”) Hole Section
July 17, 2008

Bit Run NB2B Summary

Bit Number	2 RR1
Bit Size	445mm (17-1/2”)
Bit Type	Hughes MXL-1V
S/N	6062681
Jets	4x18
Depth In (mMDRT)	177.0
Depth Out (mMDRT)	647.0
Metres Drilled (m)	470.0
Drilling Hours	11.2
TBR (krevs)	64.2
Circulating Hours	14.6
Average ROP (m/hr)	41.0
API Condition	0-0-WT-A-E-1-NO-TD

Drilling Parameters

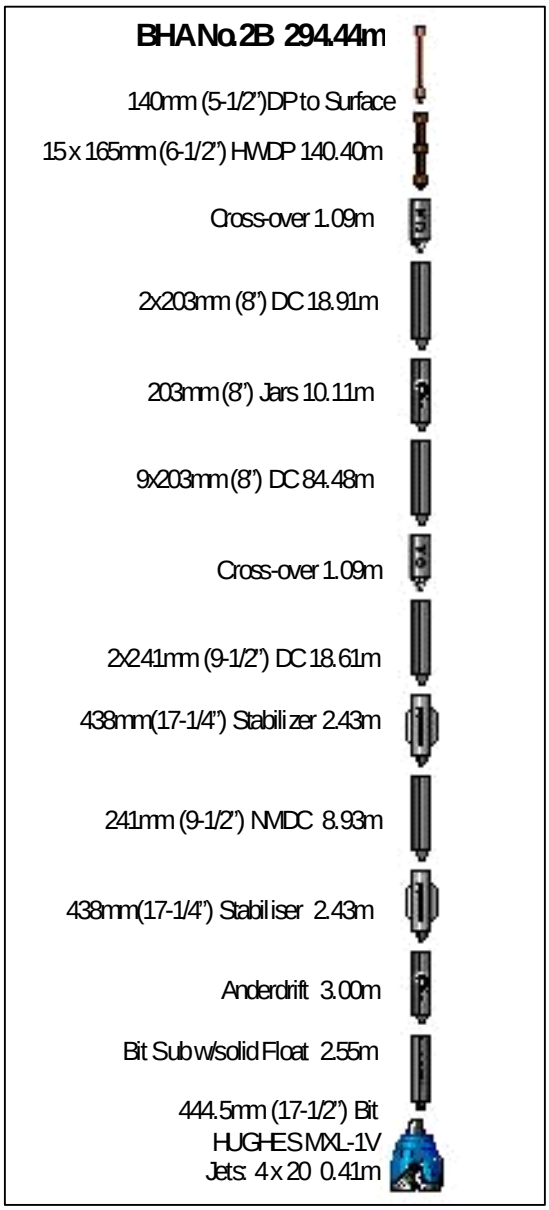
WOB (klbs)	4	-	32
RPM	16	-	133
Torque (kft-lbs)	4	-	9
Flow In (gpm)	375	-	1224
Pump Pressure (psi)	736	-	3252

Mud System
Sea water and PHG Sweeps 1.05sg

Lithology
Returns to seabed.

Drilling Summary

NB2B was run back to bottom and drilled from 177.0 to 647.0 mMDRT (section TD). Circulated bottoms up then POOH to run the 340mm (13-3/8”) casing and to install the Marine Riser and BOPs.



311mm (12-1/4”) Hole Section
July 20 - 23, 2008

Bit Run NB3 Summary

Bit Number	NB3
Bit Size	311mm (12-1/4”)
Bit Type	Hughes MXL-1X
S/N	6066569
Jets	1x14, 3X20
Depth In (mMDRT)	647.0
Depth Out (mMDRT)	1421.0
Meters Drilled (m)	774.0
Drilling Hours	10.4
TBR, krevs	76.1
Circulating Hours	34.0
Average ROP m/hr	74.0
API Condition	1-3-CT-A-X-I-ER-TD

Drilling Parameters

WOB (klbs)	14	-	39
RPM (Surf/Bit)	48/48	-	163/196
Torque (kft-lbs)	5	-	9
Flow In (gpm)	266	-	1180
Pump Pressure (psi)	1971		3000

Mud System

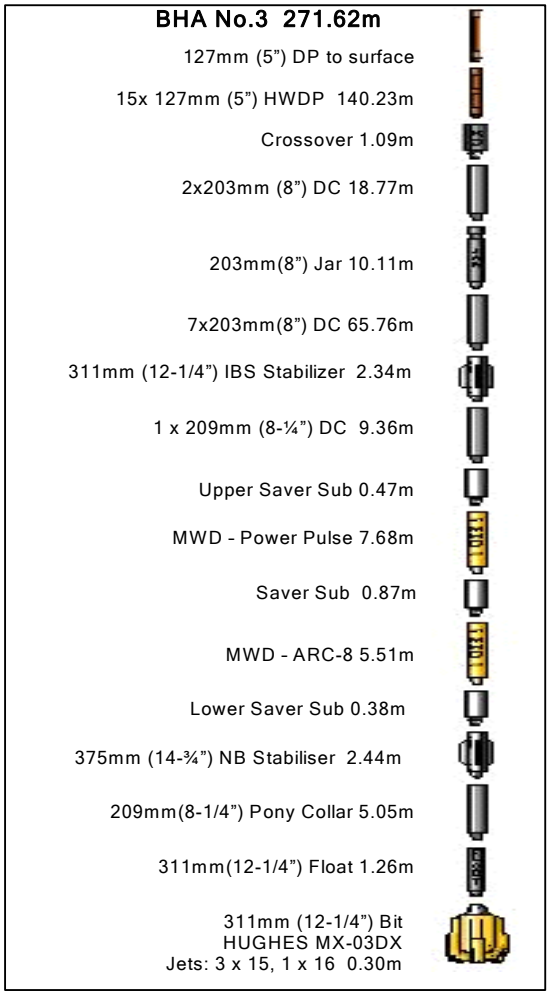
KGLY 1.13sg

Lithology

Claystone, Siltstone, Marl, Siltstone and sandstone

Drilling Summary

The 311mm (12-1/4”) BHA was made up with MWD tools and RIH. Shallow-tested the MWD tools satisfactorily and then continued RIH tagging the top of cement at 611.0 mMDRT. The cement, floats, shoe track, and 3 meters of new formation were drilled out from 647.0 to 650.0 mMDRT. Circulated bottoms up and a Leak-Off Test was conducted to 17.7ppg EMW before drilling ahead from 650.0 to 1421.0 mMDRT. Circulated the hole clean, pumped the slug, and POOH to change the bit.



311mm (12-1/4”) Hole Section
July 23 - 24, 2008

Bit Run NB4 Summary

Bit Number	NB4
Bit Size	311mm (12-1/4”)
Bit Type	REED HYCALOG
S/N	215850
Jets	6 X 16
Depth In (mMDRT)	1421.0
Depth Out (mMDRT)	1870.0
Meters Drilled (m)	449.0
Drilling Hours	10.4
TBR, krevs	187.0
Circulating Hours	19.8
Average ROP m/hr	43.17
API Condition	3-4-CT-A-X-I-ER-TD

Drilling Parameters

WOB (klbs)	4	-	45
RPM (Surf/Bit)	37/35	-	190/190
Torque (kft-lbs)	0	-	30
Flow In (gpm)	391	-	952
Pump Pressure (psi)	2532		3277

Mud System

KGLY 1.34sg

Lithology

Sandstone and Siltstone.

Drilling Summary

Picked-up a PDC bit and made up with MWD tools and RIH. Shallow-tested the MWD tools satisfactorily then continued RIH to bottom washing down from 1055.0 to 1421.0 mMDRT. Drilled ahead the 311mm (12-1/4”) hole section from 1421.0 mMDRT to the pilot hole T.D. at 1870.0 mMDRT. Circulated the hole clean, pumped the slug and POOH to run wireline logs.

BHA No.4 270.98m

311mm (12-1/4”) Hole Section
30 - 31 July, 2008

Bit Run NB5RR2 Summary

Bit Number	NB5RR2
Bit Size	311mm (12-1/4”)
Bit Type	MXL-1X
S/N	NA 5119202
Jets	3 x 20, 1 X 14
Depth In, m	1870
Depth Out, m	1875
Meters Drilled	5m
Drilling Hours	1.1
TBR, krevs	4.28
Circulating Hours	18.6
Average ROP m/hr	4.54
API Condition	1-1-NO-A-E-1/16-NO-TD

Drilling Parameters

WOB (klbs)	2	-	10
RPM (Surf/Bit)	88/188	-	
Torque (kft-lbs)	3-14.5	-	3.0-8.7
Flow In (gpm)	800	-	1000
Pump Pressure (psi)	2900		3850

Mud System

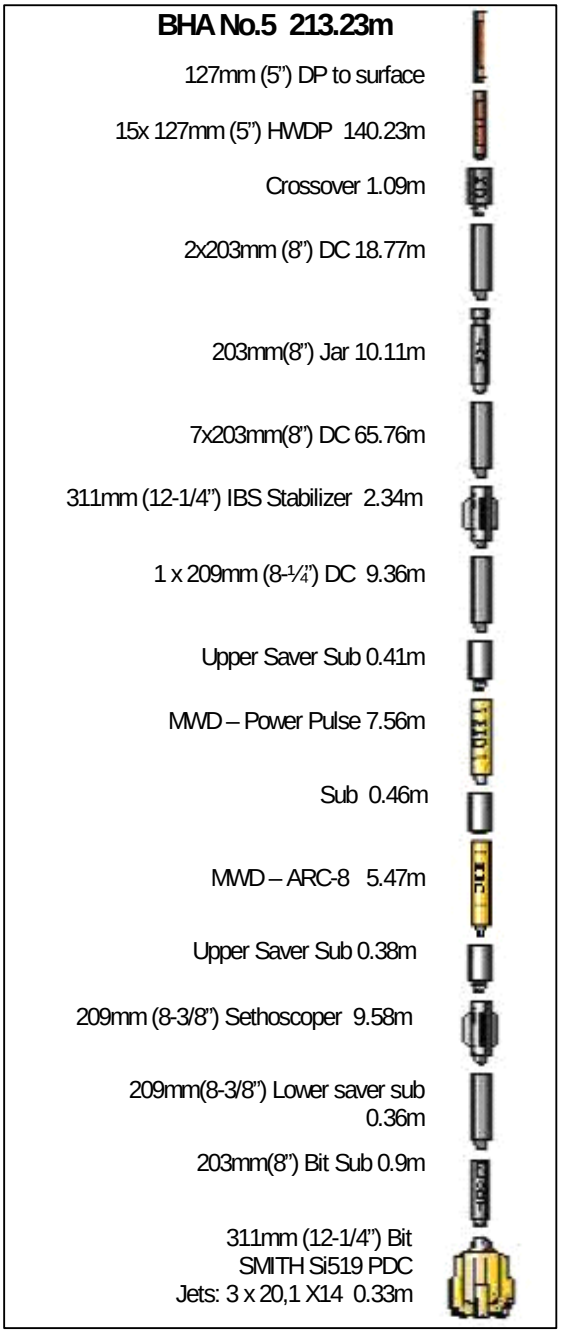
KGLY 1.34sg

Lithology

Sandstone and Siltstone.

Drilling Summary

Because of the failure of the wireline log run to log the bottom section of the hole, the MWD/LWD BHA was made up with the 311mm (12-1/4”) PDC bit. The hole was re-logged with MWD/LWD tool and then drilled the rathole section from 1870.0 mMDRT to the Pilot Hole’s total depth of 1875.0 mMDRT. At TD, the hole was circulated clean before pumping the slug and POOH.



Netherby-1 DW1

311mm (12-1/4”) Hole Section
2 – 3 August, 2008

Bit Run NB1 Summary

Bit Number	NB1
Bit Size	311mm (12-1/4”)
Bit Type	REED HYCALOG
S/N	218712
Jets	6 X 15
Depth In (mMDRT)	1421.0
Depth Out (mMDRT)	1944.0
Meters Drilled (m)	523.0
Drilling Hours	15.6
TBR, krevs	166.3
Circulating Hours	79.2
Average ROP m/hr	33.52
API Condition	1-5-BT-G -X-IN-CT-TD

Drilling Parameters

WOB (klbs)	5	-	25
RPM (Surf/Bit)	175	-	208
Torque (kft-lbs)	2.75	-	25.6
Flow In (gpm)	900	-	967
Pump Pressure (psi)	3400		3900

Mud System

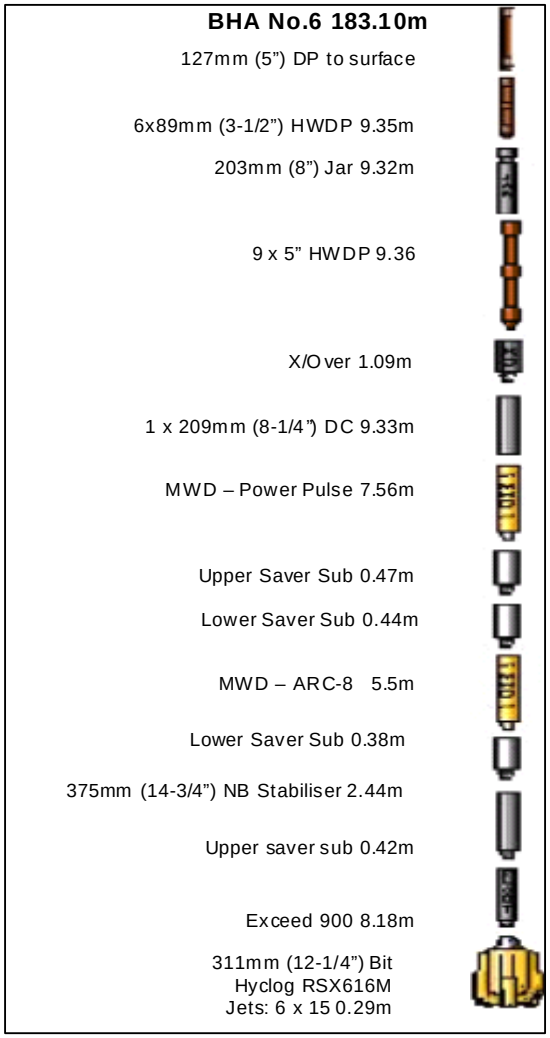
KGLY 1.32sg

Lithology

Sandstone and Siltstone.

Drilling Summary

NB4 was made up of MWD assemblies and a 311mm (12-1/4”) Hycalog bit. It was shallow tested satisfactorily before RIH. Tagged the top of the cement plug from 1421.0 mMDRT then drilled ahead the 311mm (12-1/4”) hole section sidetracking the well from 1505.0 mMDRT. Drilled and steered the well from 1505.0 mMDRT to the 244mm (9-5/8”) casing point at 1944.0 mMDRT. Circulated the hole clean and spotted hi-vis at bottom before POOH to run the 244mm (9-5/8”) casing.



203mm (8-1/2”) Hole Section
August 8, 2008

Bit Run NB2 Summary

Bit Number	NB2
Bit Size	203mm (8-1/2”)
Bit Type	REED RSX519M
S/N	119583
Jets	5 x 13
Depth In (mMDRT)	1944.0
Depth Out (mMDRT)	2517.0
Metres Drilled (m)	573.0
Drilling Hours	15.7
TBR (krevs)	235.6
Circulating Hours	65.4
Average ROP (m/hr)	36.4
API Condition	1-3-BT-G-X-IN-WT-TD

Drilling Parameters

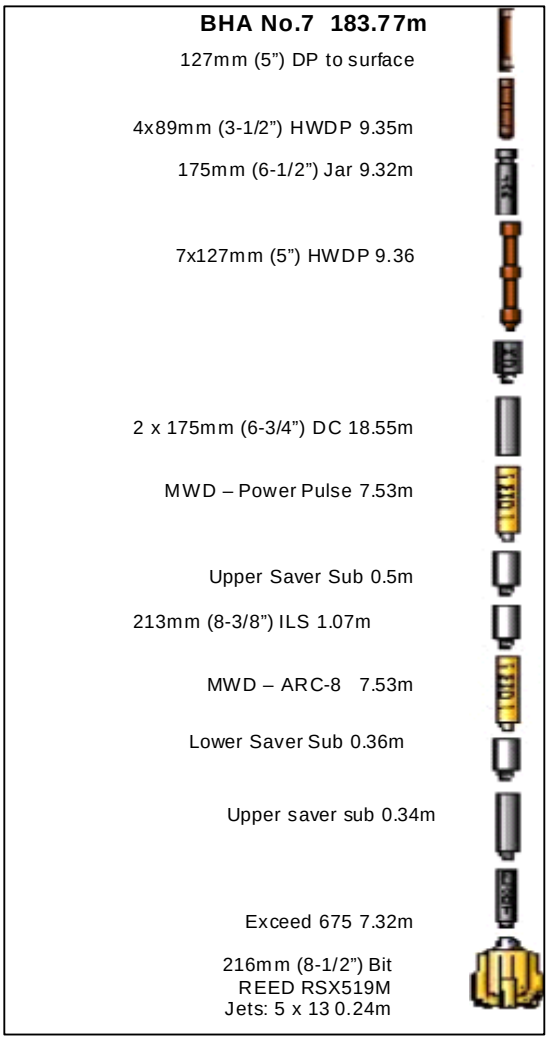
WOB (klbs)	10	-	25
RPM	150	-	205
Torque (kft-lbs)	10.5	-	26.0
Flow In (gpm)	610	-	640
Pump Pressure (psi)	1900	-	2400

Mud System
DIF mud and PHG Sweeps 1.15sg

Lithology
Returns to seabed.

Drilling Summary

NB2 was run back to bottom and drilled the horizontal section from 1944.0 to 2517.0 mMDRT. At TD, the hole was circulated clean prior to POOH. At surface, the BHA was racked back in the derrick and preparations were made for well completions.



2.2 Casing / Cementing Summary

Netherby 1

762mm (30”) Conductor Casing
16th July 2008

Hole Size	914mm (36”)
Depth	130.9 mMDRT

762mm (30”) Conductor

1 x 762mm (30”) Float shoe
1 x 762mm (30”) Intermediate Joint
1 x 762mm (30”) X-over Joint
1 x 762mm (30”) Wellhead Hosing

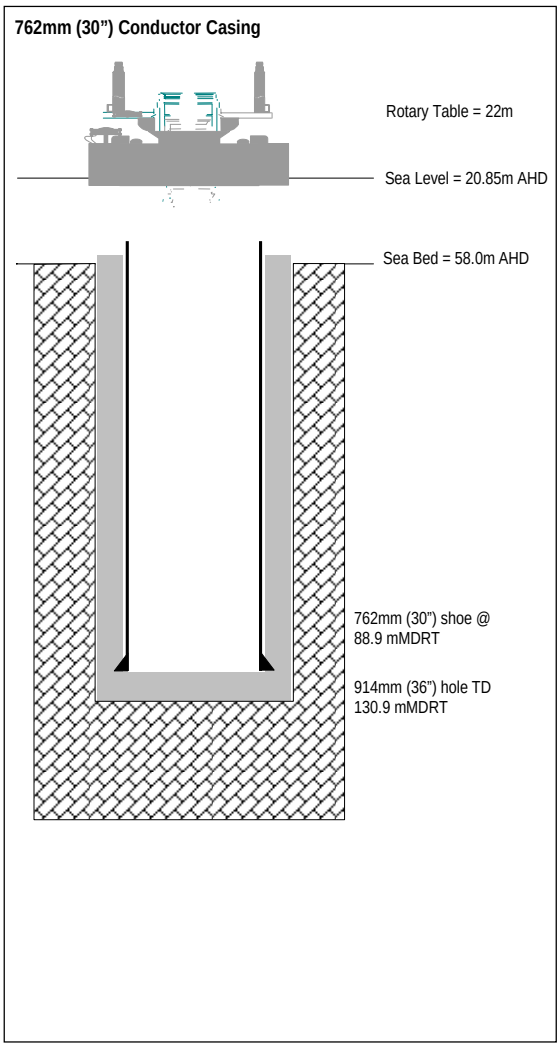
OD	762mm (30")
Grade	X-52
Shoe Depth	130.9 mMDRT

Cement Details:

Sacks:	890Sx	
Type	ABC / “G”	
Mix water:	5.29gal/sx	
Additives:	CaCl	1% BWOC
	Fluorescent Dye	1kg
Weight:	1.90sg (15.8ppg)	
Yield:	$0.03m^3$/sx ($1.19ft^3$/sx)	
Volume:	$27m^3$ (170bbls)	

Summary

4 joints of 762mm (30”) casing (SF60 shoe joint, intermediate joint and housing joint) were made up and run in the hole without difficulty on 140mm (5-1/2”) drill pipe. The casing shoe was set at 88.9 mMDRT. After circulating casing capacity, the cement job proceeded as follows: pumped 5 bbls of seawater with dye, tested lines to 1700psi, pumped a further 75 bbls of seawater with dye. Mixed and pumped 170 bbls of slurry, and displaced with 10 bbls of seawater. Bled off pressure and the floats held.

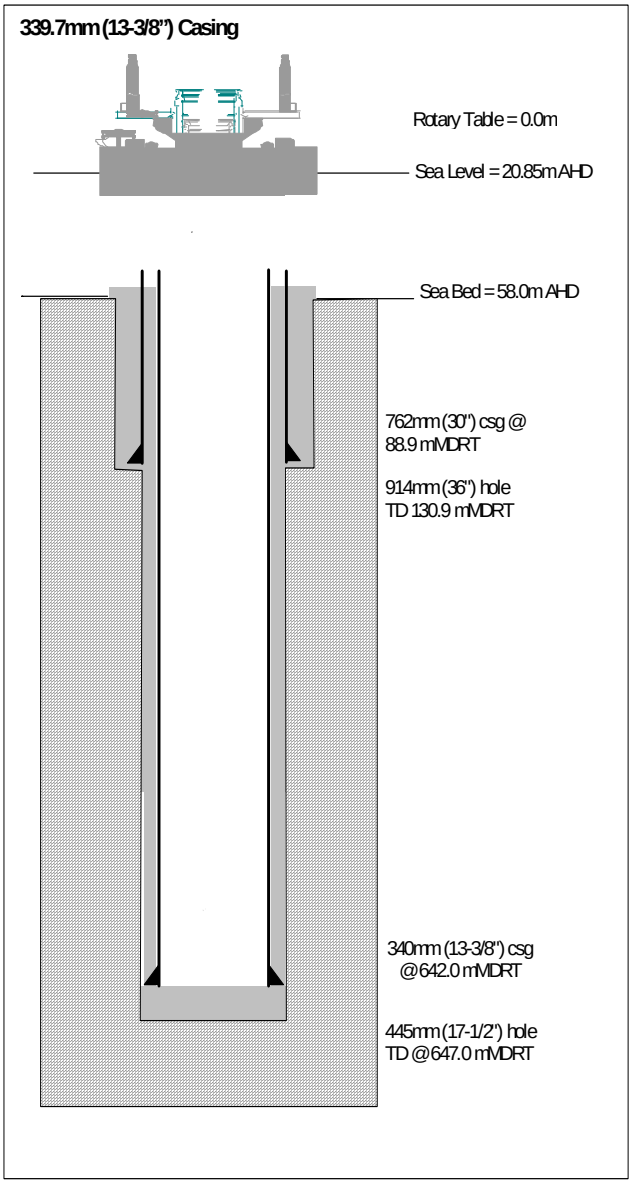


340mm (13-3/8”) Casing
18th July – 19th July 2008

Hole Size 444mm (17-1/2”)
Depth 647.0 mMDRT
339.7mm (13-3/8”) Casing

1 x 339.7mm (17-1/2”) Shoe A Joint
1 x 339.7mm (17-1/2”) Intermediate Joint
1 x 339.7mm (17-1/2”) Float Collar A
41 x 339.7mm (17-1/2”) Casing Joints
1 x 339.7mm (17-1/2”) X/O Joint
1 x 407.25mm (18-3/4”) Hanger Joint

ID 317mm (12.48")
Grade L-80
Shoe Depth 642.0 mMDRT



Cement Details:

Lead Slurry
Sacks: 368Sx
Type Class G
Mix water: 18.28m^3 (115bbls) Drill water
Additives: D047 0.03 gal sx
D075 0.45gal/sx
Weight: 1.50sg (12.0ppg)
Yield: 0.06m^3/sx (2.23ft^3/sx)
Volume: 146bbls

Tail Slurry
Sacks: 422Sx
Type Class G
Mix water: 8.59m^3 (54bbls) Drill water
Additives: D047 0.03gal/sx
D145A 0.05 gal/sx
D193 0.03 gal/sx
D081 0.03 gal/sx
Weight: 1.90sg (15.8ppg)
Yield: 0.03m^3/sx (1.18ft^3/sx)
Volume: 89bbls

Summary

Forty three joints of casing, including shoe, intermediate joints, float, were made up to drill pipe and run in. The casing shoe was set at 620.4 mMDRT. The cement job then proceeded as follows: pumped 5bbls of drill water to flush the lines, tested the lines to 3000psi, dropped the bottom dart and pumped with 30bbls of seawater. Mixed and pumped 146 bbls of lead slurry, mixed and pumped 89 bbls of tail slurry, then dropped the top dart. Pumped 10bbls of sea water and confirmed the top plug release. Pumped cement and drill water then changed over to rig pumps to finish the displacement. Bled off and checked returns.

Abandonment
31st July 2008

Cement Details:

Abandonment Plugs:

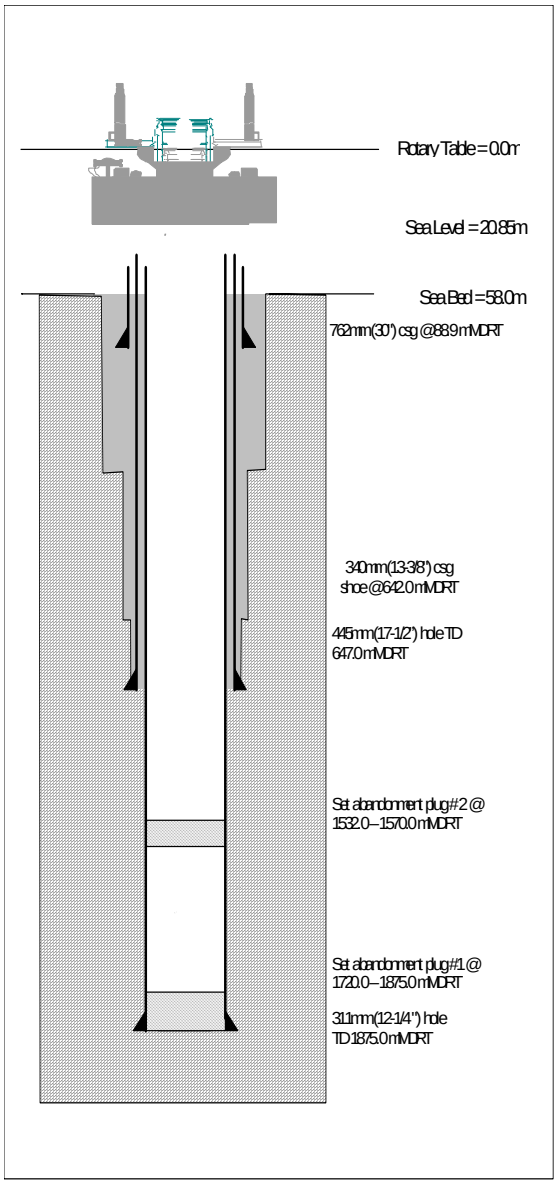
Plug # 1

Sacks:	417Sx	
Type	Class "G"	
Mix water:	10.81m^3 (68bbls) Drill water	
Additives:	D081	10.4gal
	D193	125gal
	D 175	4.2gal
	D 145A	37.5gal
	Weight: 1.90sg (15.8ppg)	
Yield:	0.03m^3/sx (1.16ft^3/sx)	
Volume:	13.68m^3 (86.10bbls)	

Plug # 2

Sacks:	417Sx	
Type	Class "G"	
Mix water:	7.95m^3 (50bbls) Drill water	
Additives:	D175	4.2 gal
	D193	125 gal
	D145A	37.5 gal
	Weight: 1.90sg (15.8ppg)	
Yield:	0.03m^3/sx (1.16ft^3/sx)	
Volume:	13.68m^3 (86.10bbls)	

Abandonment Plug#1: 1720.0 to 1875.0 mMDRT
Abandonment Plug#2: 1532.0 to 1570.0 mMDRT



2.2 Casing / Cementing Summary Netherby 1DW1

244mm (9 5/8”) & 273mm (10-3/4”)Casing 06 July 2008

Hole Size 311mm (12-1/4”)
Depth 1944.0 mMDRT

244.48mm (9-5/8”) Casing

1 x 244.48mm (9-5/8”) Float shoe
1 x 244.48mm (9-5/8”) Intermediate Joint
1 x 244.48mm (9-5/8”) Float Collar
3 x 244.48mm (9-5/8”) X-over Joint
2 x 244.48mm (9-5/8’) Pup Joint
113 x 244.48mm (9-5/8”) Casing
35 x 244.48mm (10-3/4”) Casing.

OD 244mm (9-5/8")
Grade L-80
Shoe Depth 1936.0 mMDRT

Cement Details:
Lead Slurry
Sacks: 193Sx
Type “G”
Mix water: 12.471gal/sx
Additives: D 175 :0.010 D075 :0.450
D081 :0.080 D193 :0.200

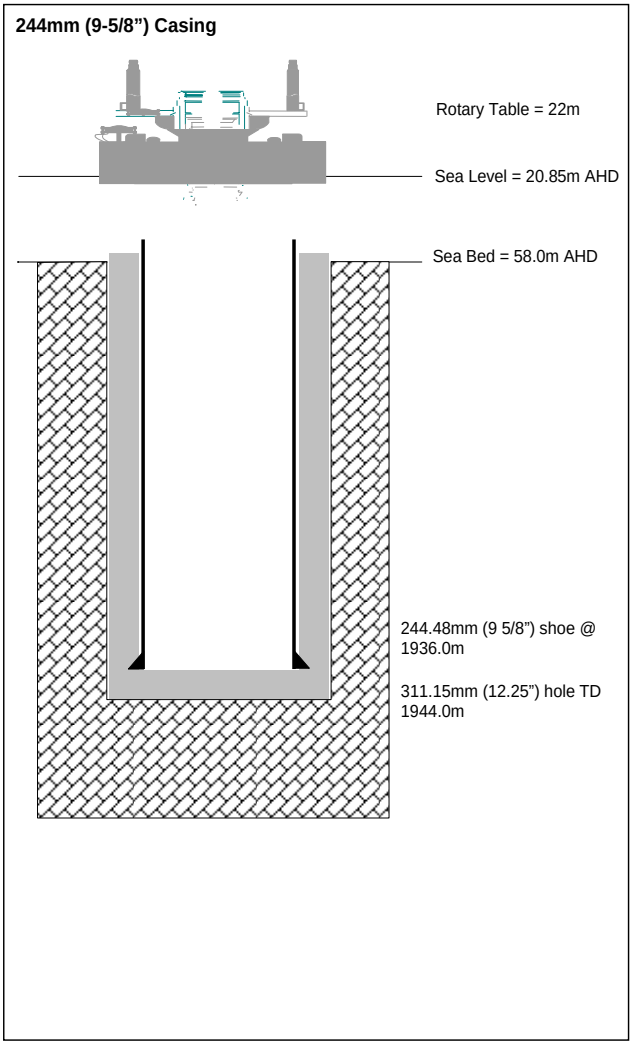
Weight: 1.5sg (12.5ppg)
Yield: 0.034m^3/sx (1.19ft^3/sx)
Volume: 76.89bbls

Tail Slurry
Sacks: 214Sx
Type “G”
Mix water: 4.001gal/sx
Additives: D 175 :0.010 D500 :1.100
D145A :0.050

Weight: 1.89sg (15.8ppg)
Yield: 0.045m^3/sx (1.160ft^3/sx)
Volume: 44.29bbls

Summary

113joints of 244mm (9-5/8”) casing, 273mm (10-3/4”) casing, 3 joint crossovers, 2 Pup Joints (SF60 shoe joint, intermediate joint and housing joint) were made up and run in the hole without difficulty on 311mm (12-1/4”) hole. The casing shoe was set at 1396.0 mMDRT. After circulating the casing capacity, the cement job proceeded as follows: pumped 5 bbls of seawater with dye, tested the lines to 4000psi, pumped a further 35 bbls of seawater with dye. Mixed and pumped 114 bbls of slurry, and displaced with 10 bbls of seawater. Continued displacing cement with mud and bumped the plug at 933 psi. Bled off the pressure and the floats held.

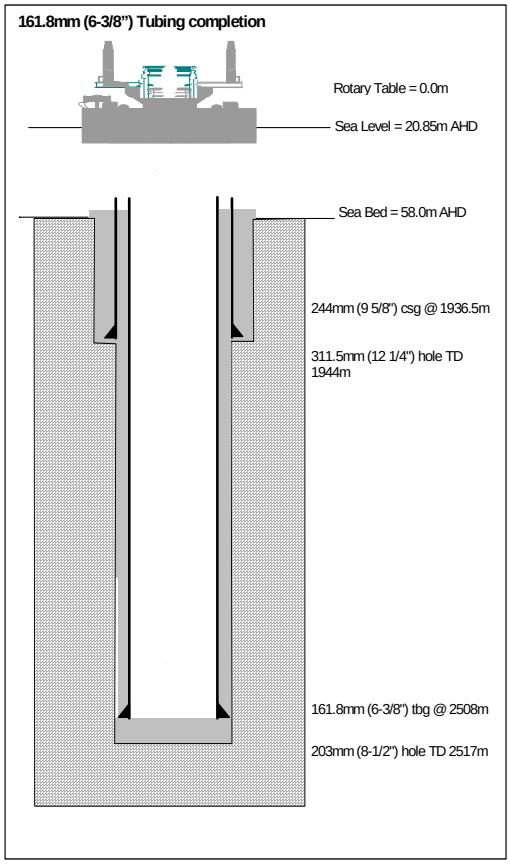


168mm (6-5/8”) Tubing Completion
14 - 15 August 2008

Hole Size 216mm (8-1/2”)
Depth 2517.0 mMDRT
168.4mm (6-5/8”) Casing

1 x 168mm (6-5/8”) Bullnose Assembly
66 x 168mm (6-5/8”) tubing
4 x 168mm (6 5/8”) Screen tubing
1 x 168mm (6-5/8”) Packer

ID 144.2mm (5.769")
Grade
Shoe Depth 1936. mMDRT



Summary

66 joints of tubing, including the shoe, four Screen tubing and packers were made up to the drill pipe and run in. The tubing shoe was set at 2508.0 mMDRT. Set the packer and continued circulating and displacing. Made up the rig for completion as per the program.

SECTION 3

GEOLOGY and SHOWS

3.1 Geology & Shows

Netherby – 1

Netherby-1was spud on 15th July 2008. All depths in this section are presented in measured depth from rotary table (mMDRT). Sampling commenced from 660.0 mMDRT, after setting the 340mm (13-3/8") casing and in drilling the 311mm (12-1/4") hole section. Samples were missed in the interval 940.0 to 970.0 mMDRT (3 samples).

Depth (mMDRT)	Sampling Interval (m)	No. of Samples
660 -1690	10	113
1690 – 1780	5	46
1780 – 1783	3	1
1783 – 1785	2	1
1785 – 1875 TD	5	18

The lithological sequence intersected at Netherby 1 is described below.

914mm (36") Hole Section:

Returns to seabed

444mm (17-1/2") Hole Section :

Returns to seabed

311 mm (12-1/4") Hole Section :

Interbedded Sandstone and Claystone; Calcareous Claystone between 650m-680m.

CALCAREOUS CLAYSTONE: Pale to very pale brown, brown grey in part, very soft to dispersive, amorphous, minor sub-blocky, common to abundant fossil fragments, corals, forams, minor quartz grains and lithics.

SILTSTONE: Medium to dark brown, moderately hard to hard, blocky to sub-blocky argillaceous in part, calcareous, common fossil fragments, rare pyrite nodules.

SANDSTONE: Off white, clear to translucent, fine to very fine, occasionally medium, moderately sorted, sub-angular to sub-round, moderately calcareous cement, common off white argillaceous matrix, occasionally lithics, loose, friable, common rock flour, poor to very poor visual porosity, poor inferred porosity, no fluorescence.

778.0 – 1004.5 mMDRT

Interbedded Sandstone and Claystone

SILTSTONE: Medium to dark brown, moderately hard to hard, blocky to sub-blocky argillaceous in part, calcareous, common fossil fragments, rare pyrite nodules.

SANDSTONE: Off white, clear to translucent, fine to very fine, occasionally medium, moderately sorted, sub-angular to sub-round, moderately calcareous cement, common off white argillaceous matrix, occasionally lithics, loose, friable, common rock flour, poor to very poor visual porosity, poor inferred porosity, no fluorescence.

1004.5 - 1069.0 mMDRT

Interbedded Sandstone and Siltstone

SANDSTONE: Off white, clear to translucent, pale orange, fine to very coarse, sub-angular to sub-round, weak siliceous cement, minor pale orange to pale grey argillaceous matrix, occasionally lithics, loose grains, friable in part, poor to fair inferred porosity, no fluorescence.

SILTSTONE: Medium to pale grey, pale orange, moderate hard to hard, argillaceous, grading to claystone in part, very soft to dispersive, amorphous, sub-blocky.

1069.0 - 1139.0 mMDRT

Sandstone interbedded with Claystone

SANDSTONE: Translucent, clear, occasionally yellow Fe stain, fine to coarse grained, poorly sorting, sub angular to predominately sub rounded, trace weak siliceous cement, minor to common light brown grey silty matrix, trace fine grained glauconite, predominately loose quartz grains, fair inferred porosity, no fluorescence.

SILTSTONE: Medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to claystone, occasionally moderately hard, blocky to sub blocky, trace lithics, slightly arenaceous in part

1139.0 - 1155.0 mMDRT

Sandstone interbedded with Claystone

SANDSTONE: Translucent, clear, occasionally yellow Fe stain, fine to coarse grained, poorly sorting, sub angular to predominately sub rounded, trace weak siliceous cement, minor to common light brown grey silty matrix, trace fine grained glauconite, predominately loose quartz grains, fair inferred porosity, no fluorescence.

SILTSTONE: Medium to dark brown, brown grey in part, moderate hard to hard, common argillaceous, occasional glauconite grains and carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky in part.

1155.0 - 1346.0 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Clear to translucent, off white, generally fine, occasionally very fine to medium, rare coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, minor pale grey argillaceous matrix, micro mica, occasional carbonaceous specks, loose grains, fair inferred porosity, no fluorescence.

SILTSTONE: Pale to medium grey brown, moderate hard, argillaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous.

1346.0m - 1560.0 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Clear to translucent, pale grey to off white, generally fine to medium, moderately well sorted, sub-angular to dominantly sub-round, weak siliceous cement, minor pale grey argillaceous matrix, micro mica, occasional carbonaceous specks, loose grains, poor to fair inferred porosity, no fluorescence.

SILTSTONE: Medium to dark grey, medium greenish grey, medium to dark grey brown, moderate hard, minor fine carbonaceous specks, rare fine grained glauconite, soft to firm, dispersive in part, blocky to sub blocky.

1560.0 - 1783.0 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Translucent, clear, light grey, fine to occasionally medium grained, trace loose coarse grains, sub angular to sub rounded, fair sorting, weak siliceous cement, common light grey argillaceous / silty matrix, rare very fine glauconite, trace carbonaceous specks, friable aggregates, loose in part, poor visual porosity, no fluorescence.

SILTSTONE: Medium brown, greenish grey, soft to firm, blocky locally very finely nor fine grained glauconite, trace nodular pyrite, trace fine carbonaceous specks, trace fine lithics.

1783.0 - 1792.5 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Clear to translucent, off white in part, fine to occasionally medium, rare coarse, moderately sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, loose, friable to moderately hard in part, poor visual and inferred porosity, no fluorescence.

SILTSTONE: Medium grey, locally medium brownish grey, firm, sub blocky to blocky. Argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite.

1792.5 - 1820.0 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Very light brownish grey, off white, very fine to fine grained, well sorted, sub rounded, abundant very light grey argillaceous matrix, common fine grained glauconite, minor carbonaceous fragments, soft, interbedded with and grading to arenaceous siltstone, very poor visual porosity, no fluorescence.

SILTSTONE: Medium brownish grey, medium dark grey in part, greenish grey, very finely arenaceous, common fine grained glauconite, common carbonaceous fragments, trace very fine lithics, firm to occasionally moderately hard, blocky to sub fissile.

1820.0 - 1870.0 mMDRT

Claystone with interbedded Sandstone

SANDSTONE: Translucent, clear, very light brownish grey, off white, very fine to medium grained, fair sorting, sub angular to sub rounded, common off white argillaceous matrix, trace fine grained glauconite, rare carbonaceous fragments, friable aggregates, poor to fair visual porosity, no fluorescence.

SILTSTONE: Medium brownish grey, medium dark grey in part, greenish grey, medium brownish grey, medium brown, very finely arenaceous, minor fine grained glauconite, rare fine carbonaceous fragments, rare fine grained lithics, firm to friable, blocky to sub blocky.

GAS & ROP TABLE

DEPTH (mMDRT)	ROP (m/hr) Min - Max	ROP (m/hr) Avg.	GAS (Unit) Min - max	GAS (Unit) Avg.
778.0 – 1004.5	8.34 – 244.35	109.41	0.0 – 0.0	0.0
1004.5 - 1069.0	18.25 – 159.19	44.18	0.0 – 0.0	0.0
1069.0 - 1139.0	19.63 – 168.13	76.01	0.0 – 0.0	0.0
1139.0 - 1155.0	17.95 – 147.90	66.04	0.0 – 29.01	2.38
1155.0 - 1346.0	10.42 – 217.41	56.11	0.0 – 8.08	1.29
1346.0 - 1560.0	0.00 – 92.92	36.67	1.54 – 22.25	4.47
1560.0 - 1783.0	11.52 – 95.85	38.50	4.70 – 29.66	8.75
1783.0 - 1792.5	24.88 – 78.34	40.25	7.08 – 9.53	8.72
1792.5 - 1820.0	11.20 – 90.69	49.44	4.54 – 732.57	182.83
1820.0 - 1875.0 TD	2.13 – 80.95	26.29	3.73 – 754.75	137.16

Netherby 1DW1

The Netherby-1 well was plugged back and sidetracked to Netherby 1DW1 from 1505.0 mMDRT. Sampling commenced from 1450.0 mMDRT while attempting to sidetrack. The following samples were collected in the sidetrack section.

Depth (mMDRT)	Sampling Interval (m)	No of Samples
1450 -1870	10	42
1870 – 2195	5	65
2195 – 2199	4	1
2199 – 2280	5	16
2280 – 2517	3	79

The lithological sequence intersected at Netherby 1DW1 is described below.

1450.0 - 1561.0 mMDRT

Cement with few stringers of Siltstone and minor Sandstone.

SILTSTONE: Medium dark grey to dark grey, occasionally brownish grey, locally very finely arenaceous, trace fine carbonaceous specks, trace forams, minor fine grained glauconite, trace fine grained lithics, firm to predominately moderately hard, blocky to sub blocky.

SANDSTONE: Clear, translucent, trace with orange Fe stain, very fine to fine grained, minor medium grained, rare loose coarse quartz grains, fair sorting, weak siliceous cement, minor light grey argillaceous matrix, trace nodular pyrite, friable to moderately hard aggregates, poor inferred porosity, no fluorescence.

1561.0 - 1898.0 mMDRT

Claystone with interbedded Sandstone

SILTSTONE: Medium dark brownish grey, dark grey, very finely arenaceous, argillaceous in part, minor fine grained glauconite, trace very fine lithics, soft, dispersive with argillaceous content easily washed from samples, locally moderately hard, blocky.

SANDSTONE: Clear to translucent, off white, dominantly fine to medium, minor coarse, moderately sorted, sub-round to occasionally sub-angular, moderately calcareous cement, occasional off white argillaceous matrix, locally common glauconite grains, minor lithics, friable to moderately hard, loose in part, very poor visual porosity, poor inferred porosity, no fluorescence.

1898.0 - 1929.0 mMDRT

Claystone with interbedded Sandstone

SILTSTONE: Pale to medium brown, medium to dark grey in part, argillaceous to minor arenaceous, occasional carbonaceous specks, minor pyrite nodules, and soft to firm, sub-blocky, amorphous.

SANDSTONE: Clear to translucent, off white, generally medium, minor coarse, sub-round to occasionally round, moderately calcareous cement, occasional off white argillaceous matrix, occasional glauconite grains, friable to moderately hard, loose, poor to very poor visual & inferred porosity, no fluorescence.

1929.0 - 1944.0 mMDRT

Claystone with interbedded Sandstone

SILTSTONE: Medium to dark greenish grey, medium dark grey, medium to dark brownish grey, locally arenaceous, rare fine carbonaceous specks, abundant fine grained glauconite, firm to moderately hard, blocky to sub blocky

SANDSTONE: Translucent, light grey, clear, very fine to fine grained, sub angular to predominately sub rounded, moderately well sorted, rare weak calcareous cement, common very light grey argillaceous matrix, common fine grained glauconite, trace very fine lithics, friable to loose, poor inferred porosity, no fluorescence.

1944.0 - 2517.0 mMDRT

Massive Sandstone with very rare Siltstone.

SILTSTONE: Medium to dark brownish grey, carbonaceous in part, dark grey, common carbonaceous flecks, trace disseminated pyrite, moderately hard, sub blocky to sub fissile.

SANDSTONE: Clear to dominantly translucent, pale grey to off white, medium to occasionally fine, moderately well sorted, sub-angular to sub-round, occasionally angular, weak siliceous cement, minor off white to pale grey argillaceous matrix, occasional to common carbonaceous specks and fragments, rare lithics, generally loose clean grains, good inferred porosity, no fluorescence.

GAS & ROP TABLE

DEPTH (mMDRT)	ROP (m/hr) Min - Max	ROP (m/hr) Avg.	GAS (Unit) Min - Max	GAS (Unit) Avg.
1561 – 1898	8.8 – 73.2	33.1	0.0 – 47.04	6.88
1561 – 1898	6.2 – 14.5	10.8	0.52 – 20.33	6.03
1929 - 1944	7.8 – 36.6	14.5	3.38 – 9.04	4.26
1944 - 2517	3.0 – 21.9	73.5	0.0 – 205.88	23.38

BAKER HUGHES

INTEQ

SAMPLE MANIFEST

Cutting samples were collected at the following intervals for NETHERBY- 1

DEPTH (mMDRT)	SAMPLE INTERVAL
650 m – 1690 m	10 m (104 Samples)
1695m – 1780m	5 m (46 Samples)
1780m-1783m	3 m (1 Samples)
1783m – 1785m	2 m (1 Samples)
1785m – 1870m/TD	5m (18 Samples)

PALYNOLOGY

Washed and Wet samples were collected in Plastic Zip lock bags and packed in Split boxes. Total 4small boxes.

BOX NO.	START DEPTH (mMDRT)	END DEPTH (mMDRT)
1	650 m	970 m
2	970 m	1420 m
3	1420 m	1800 m
4	1800 m	1870 m

Washed samples were collected in Cotton bags and packed in Pacart boxes. Total 14 boxes, missed samples 950m, 960m, 970m returns dump @the shale shaker.

BOX NO.	START DEPTH (mMDRT)	END DEPTH (mMDRT)
1	650m	710m
2	710m	810m
3	810m	910m
4	910m	1040m
5	1040m	1140m
6	1140m	1240m
7	1240m	1340m
8	1340m	1440m
9	1440m	1540m
10	1540m	1640m
11	1640m	1715m
12	1715m	1765m
13	1765m	1815m
14	1815m	1875m/TD

Samples should be sent to :

SET A: 1 x 100g to Santos
SET B: 1 x 100g to Santos

SET C: 1 x 200g to AGSO
SET D: 1 x 200g to VIC DPI

Delivery Instruction emailed for Vic DPI
To be included with the manifest.

Sample Shipping Manifest

Well: **Netherby 1DW1**
Includes: **Cutting Samples from Netherby 1DW1**
Date: **13 August 2008**
From: **BHI Unit / Ocean Patriot**
Location: **Bass Strait**

Geological Samples from Netherby 1DW1

Dispatch To:

Santos Core Library
Lot 44 Ocean Steamer Rd
Port Adelaide, S.A. 5015
Ph: 08 82413431 / 08 82413430
Fax: 08 82413452

Container number : OPC 2091
Boat Name/Number: Nor Captain

SAMPLE TYPE	No. Of Sets	COMPOSITION			PACKING DETAILS & NOTES
		Sample Box No.	Depth Interval (mMDRT)		
Set A,B,C,D: Washed samples in cotton bags Set A & B: Santos Set C: AGSO Set D: VIC DPI	1	1 2 3 4 5 6 7 8 9 10 11 12 13	1450 1550 1650 1750 1850 1940 2065 2199 2250 2301 2349 2397 2439	1550 1650 1750 1850 1940 2065 2199 2250 2301 2349 2397 2439 2517m TD	missed samples 2310m missed sample 2313
Sets E: Palaeontology Washed Set In Plastic zip-lock bags	1	1	1450 1940 2373	1940 2373 2517m TD	
Set: F Samplex trays/with Netherby-1 In side	1	1	1450	2517m TD	wooden box # 2

<u>For Santos Core Library:</u>
Lot 44 Ocean Steamer Rd
Port Adelaide, S.A. 5015
Ph: 08 82413431 / 08 82413430
Fax: 08 82413452

<u>For Victorian DPI:</u>
Attn: Terry Smith – Client Services Officer
Petroleum Information Energy Geoscience Group
Geoscience Victoria Branch Minerals and Petroleum Division
Department of Primary Industries
Level 9 55 Collins St.
Melbourne 3000
GPO Box 4440
Melbourne 3001

<u>For Australian Geological Survey Organisation (AGSO)</u>
Cnr Jerrabomberra Ave and Hindmarsh Drive
Symonston ACT 2609
Attn: Danny Britton
.

SECTION 4

PRESSURE EVALUATION

4.1 Pore Pressure Evaluation

Baker Hughes INTEQ formation pressure evaluation services commenced from 647.0 mMDRT in drilling the 311mm (12-1/4") hole section of Netherby-1 until the pilot well's TD at 1875.0 mMDRT (1848.0 mTVDRT) and also in drilling the well's subsequent sidetrack, Netherby-1 DW1, from 1505.0 to 2517.0 mMDRT (1654.0 mTVDRT). An average seawater density of 1.03sg was assumed as the normal saline pressure gradient for all calculations. Using real time data, such as the hydrocarbon gas trend, lithology, flow line temperature, corrected Drilling Exponent (Dxc) data, drilling fluid parameters, pore pressure estimates were made during the drilling of the well. For more details, please refer to Appendix 3, "Pressure Evaluation Plot" and also to Table 4, Pressure Summary Plot of this report.

The following brief description of the Dxc is an extraction from Baker Hughes INTEQ manual; **Formation Pressure Evaluation Pore Pressure Evaluation Techniques**. Please refer to it for further clarification..

Bingham (1965) proposed a relationship between penetration rate, weight on bit, rotary speed, and bit diameter, Jorden and Shirley (1966) solved the equation and allowed a constant, "a", to be unity, but made the d-exponent lithology specific. In a constant lithology, the d-exponent should increase as the depth, compaction and differential pressure across the bottom increase. Upon penetration of a geopressured zone, compaction and differential pressure will decrease and will be reflected by a decrease in the d-exponent

Since differential pressure is dependent upon the mud density as well as formation pore pressure, Rehm and McClendon (1971) proposed a correction for this, hence the Dxc (**Equation 4-12)**

$$\mathbf{Dxc = [\log (R/60N) / \log (12W/10^3B)] \times [N.FBG/ECD]}$$

Where, Dxc = corrected d-exponent (dimensionless)

R = rate of penetration (ft/hr)

N = rotary speed (rpm)

B = hole diameter (inches)

N.FBG = normal formation balance gradient (ppg)

ECD = effective circulating density (ppg)

W = weight on bit (1000 lbs)

Factors not considered by the Dxc in its basic form are drilling hydraulics, tooth efficiency (tooth wear and change in bit type) and lithology variation (matrix strength). If differential pressure becomes too large, the simple ratio correction will not completely compensate for its effect on the drill rate. In addition, the relationships among force applied (W/B), rotary speed (N), differential pressure (N.FBG/ECD), and rate of penetration (R) are more complex than the Dxc formulation would imply. While working within "normal" working ranges, radical changes in any of these parameters (for example, change in hole size after setting casing) may result in a change in the Dxc. 80824 Rev B /January 1996 Confidential

Whilst sliding with a down hole motor, bit RPM values are calculated from the flow rates used, as specified by the manufacturer. And in high angle deviated holes, the translation of the weight onto the bit may not be very exact, thus affecting the Dxc.

311mm (12-1/4”) Hole Section (Netherby-1)
311mm (12-1/4”) and 216mm (8-1/2”) Hole Sections (Netherby-1 DW1)

The 311mm (12-1/4”) pilot hole section was started with a mud weight 1.15sg that gradually increased to 1.31sg. The background gas ranged from 1 to 32 units with a few gas peaks. This section continued to be drilled in thin sequences of claystone interbedded with sandstone and siltstone until the pilot hole’s TD at 1875.0 mMDRT (1848mTVDRT). The general trend line of the DXC data shifted parallel with the normal compaction trend line which can be interpreted as normal pore pressure. The pore pressure at Netherby-1 and its sidetrack Netherby-1 DW1 was therefore estimated to be at a normal pressure gradient range of 1.03 to 1.05sgEMW.

311mm (12-1/4") and 216mm (8-1/2") Hole Sections

This section was drilled with a starting mud weight of 1.15sg. The background gas ranged from 1 to 32 units with a few gas peaks encountered. This section continued to be drilled in thin sequence of claystone interbedded with sandstone and siltstone until TD at 1944mTVD / 1681.7mMD, showing a steady trend until target section. There was gradual increased of mud weight until the TD section. The trend line of DXC shifted parallel with the normal compaction trend line which can be interpreted as normal pore pressure until TD section at 2517mMD / 1654.77mTVD. In addition, there were few gas peaks observed while drilling this section. With all above indications, the pore pressure of Netherby - 1 can be deduced as normal pressure gradient with a range from 1.03 to 1.05sg.

4.2 Fracture Pressure Evaluation

Fracture pressure estimation for Netherby-1 and its sidetrack Netherby-1 DW1 was made using the Baker Hughes INTEQ zero tensile strength method. For a full explanation of this method, refer to INTEQ Manual MS-156 "The Theory and Evaluation of Formation Pressures".

This data was used to provide the basis of a fracture pressure prediction using Daines' minimum tensile strength method. The model has the capacity to resolve and extrapolate the local principle stress regime, subsequent to the first fracture in a compact formation. For further information, please refer to the **Formation Pressure Evaluation Pore Pressure Evaluation Techniques**.

Daines' technique calculates the fracture pressures employing the following equation:

$$Pf = (\{S-Pp\} * \{u/1-u\}) + (\{S-Pp\} * B) + Pp$$

Where Pf = Fracture pressure (psi)

Pp = Pore pressure (psi)

S = Overburden pressure (psi)

u = Poisson's ratio (unitless)

B = Effective stress ratio

The Poisson's ratio was derived by comparing the formation type drilled with a list of established values. The effective stress ratio "Beta" was calculated from the results of leak off tests where the fracture gradient is actually measured. Once the ratio had been derived the result was used over the following hole section to calculate the fracture pressure using overburden pressure, estimated pore pressure and Poisson's ratio for each lithology.

It must however be stressed that this method of fracture pressure calculation relies heavily upon the formation being pressured up to the point of fracture. The use in the equation of data from formation integrity tests (in which the formation is pressured to a predetermined point and no further) rather than a full leak off test will underestimate subsequent fracture pressures.

445mm (17-1/2") Hole Section

A Leak-Off Test was performed below the 340mm (13-3/8") shoe at 642.0 mMDRT. The mud system used was water based mud weighted from 1.06sg. It can be inferred that formation strengths for this section were not exceeded by the Equivalent Circulating Density (ECD).

Casing Depth	Casing Size		Hole Size		Test Mud Density	LOT *EMW*	Test type
(mMDRT)	(in)	(mm)	(in)	(mm)	(ppg)	(ppg)	
642.0	13-3/8"	340	17-1/2	445	9.0	17.7	LOT

TABLES

BIT SUMMARY

OPERATOR	WELL NAME	LOCATION	CONTRACTOR	RIG
Santos Ltd	Netherby-1 & Netherby-1DW1	VIC /P44	Diamond Offshore General Company	Ocean Patriot

BAKER HUGHES INTEQ

Santos

Mud Pump Data

All Sections
165mm (6.0") Liners, 105mm (12") Stroke
97% Eff 0.1018bbl/stk

BIT DULL CHARACTERISTICS

BC - Broken Cone	CI - Cone Interference	JD - Junk Damage	PB - Pinched Bit	SS - Self-Sharpening
BT - Broken Teeth	CR - Cored	LC - Lost Cone	PN - Plugged Nozzle	TR - Tracking
BU - Balled Up	CT - Chipped Teeth	LN - Lost Nozzle	RG - Rounded Gauge	WO - Washed-Out Bit
CC - Cracked Cone	FC - Flat Crested Wear	LT - Lost Teeth	RO - Ring Out	WT - Worn Teeth
CD - Cone Dragged	HC - Heat Checking	OC - Off-Center Wear	SD - Shirttail Damage	NO - No Dull Characs.

REASONS PULLED

BHA - Bottomhole Assembly	LOG - Run Logs	FM - Formation Change	TD - Total / Csg depth
DMF - Downhole Motor failure	RIG - Rig repair	HP - Hole Problems	TQ - Torque
DSF - Drill String failure	CM - Condition Mud	HR - Hours	TW - Twist-Off
DST - Drill Stem Test	CP - Core Point	PP - Pump Pressure	WC - Weather Conditions
DTF - Downhole Tool Failure	DP - Drill Plug	PR - Penetration rate	WO - Washout - Drill String

BHA #	BIT No.	MAKE	TYPE	TFA sq.in.	JETS	SERIAL No.	DEPTH IN m	METRES ON BIT	HRS ON BOTTOM	AV ROP m/hr	IADC HRS	WOB klb	RPM Surf/Bit	TBR krev	SPP psi	FLOW IN gpm	TQ kft-lb	GRADE I	O	D	L	B	G	O	R	MW SG	REMARKS
Netherby 1																											
914mm (36") Hole Section 88.3 - 130.9 mMDRT																											
1	NB1 RR1		Y11C	1.5217	3 x24, 1 x 16	M26690	88.3	42.6	3.8	11.2	5.50	11	41-82 / 56-83	13.2	326	596	4.00	1	1	WT	A	E	I	NO	TD	SW (1.06)	Drill with 36" hole opener
445mm (17-1/2") Hole Section 130.9 - 647.0 mMDRT																											
2	NB2	Hughes	MXL-1V	0.9940	4 x 18.	6062681	130.9	46.0	2.0	23.0	3.50	5	85-100	7.0	1113	811	3.00	0	0	WT	A	E	I	NO	TD	SW (1.06)	Drill with 17.5" hole section
311mm (12-1/4") Hole Section 642.0 - 1875.0 mMDRT																											
3	NB3	Hughes	MXL-1X	1.0523	1 X14, 3 X 20	6066569	642.0	1421.0	10.4	74.0	16.00	5-30	155-160/ 155-196	83.1	1971-2250	850-960	3.0-9.0	1	3	CT	A	X	I	ER	PR	KGLY (1.13)	Change bit for formation
4	NB4	Reed	RSX616	1.071	6 X 16	215850	1421.0	1870.0	15.8	28.4	25.80	4-35	150-197/ 150-205	187.0	2532-3450	750-1006	1.2-30.0	3	4	CT	A	X	I	ER	TD	KGLY (1.34)	Run Wireline
5	NB5	Reed	MXL-1X	1.1689	3 x 20	5119202	1870.0	1875.0	4.5	413.0	2.10	2-10	55-158/ 88-188	0.4	2900-3950	800-1000	0.3-14.5	1	1	NO	A	E	1/16	NO	LOG	KGLY (1.34)	TD
Netherby 1DW1																											
311.5mm (12-1/4") Hole Section 1421.0 -1944.0 mMDRT																											
6	NB1	Hyclog	RSX616M	1.0354	6 X15	218712	1421.0	1944.0	15.6	33.5		5-325	155-175/ 175-208	167.8	3400-3900	900-967	2.75-25.6	1	5	BT	G	X	IN	CT	TD	KGLY (1.13)	Run Casing
216mm (8-1/2") Hole Section 1944.0 - 2517.0 mMDRT																											
7	NB2	Reed	RSX519M	0.778	6 X 13	119583	1944.0	2517.0	30.7	18.7		10-25	120-158/ 120-205	235.6	1900-2400	610-640	10.5-26	1	3	BT	G	X	IN	WT	TD	DIF (1.15)	TD

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Bit Hydraulics Summary

Santos

Operator	Well Name	Location	Drilling Contractor	Rig
Santos Ltd	**Netherby-1 / Netherby-1 DW1**	**VIC/P44**	**Diamond Offshore GC**	**Ocean Patriot**

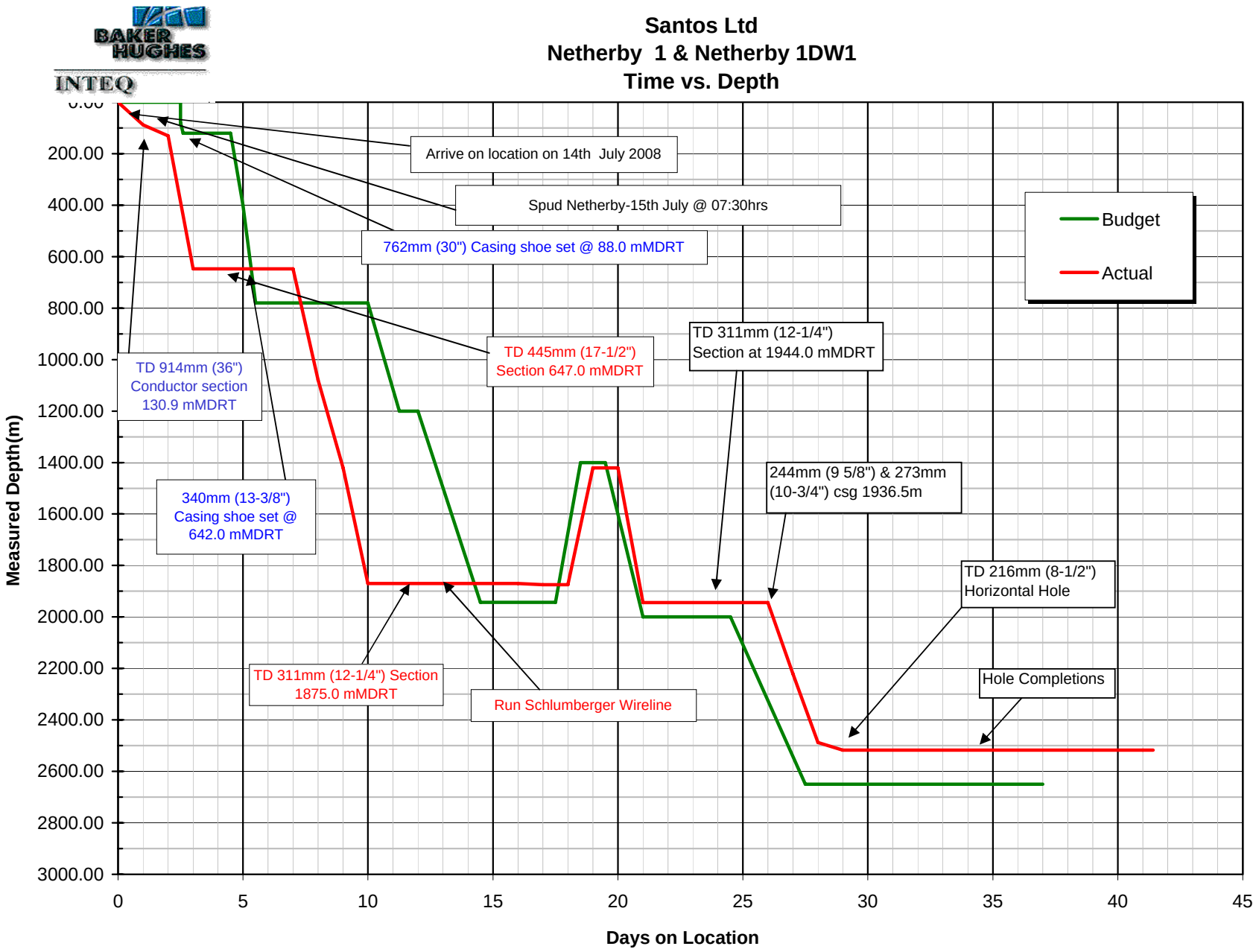
Drillstring Abbreviations

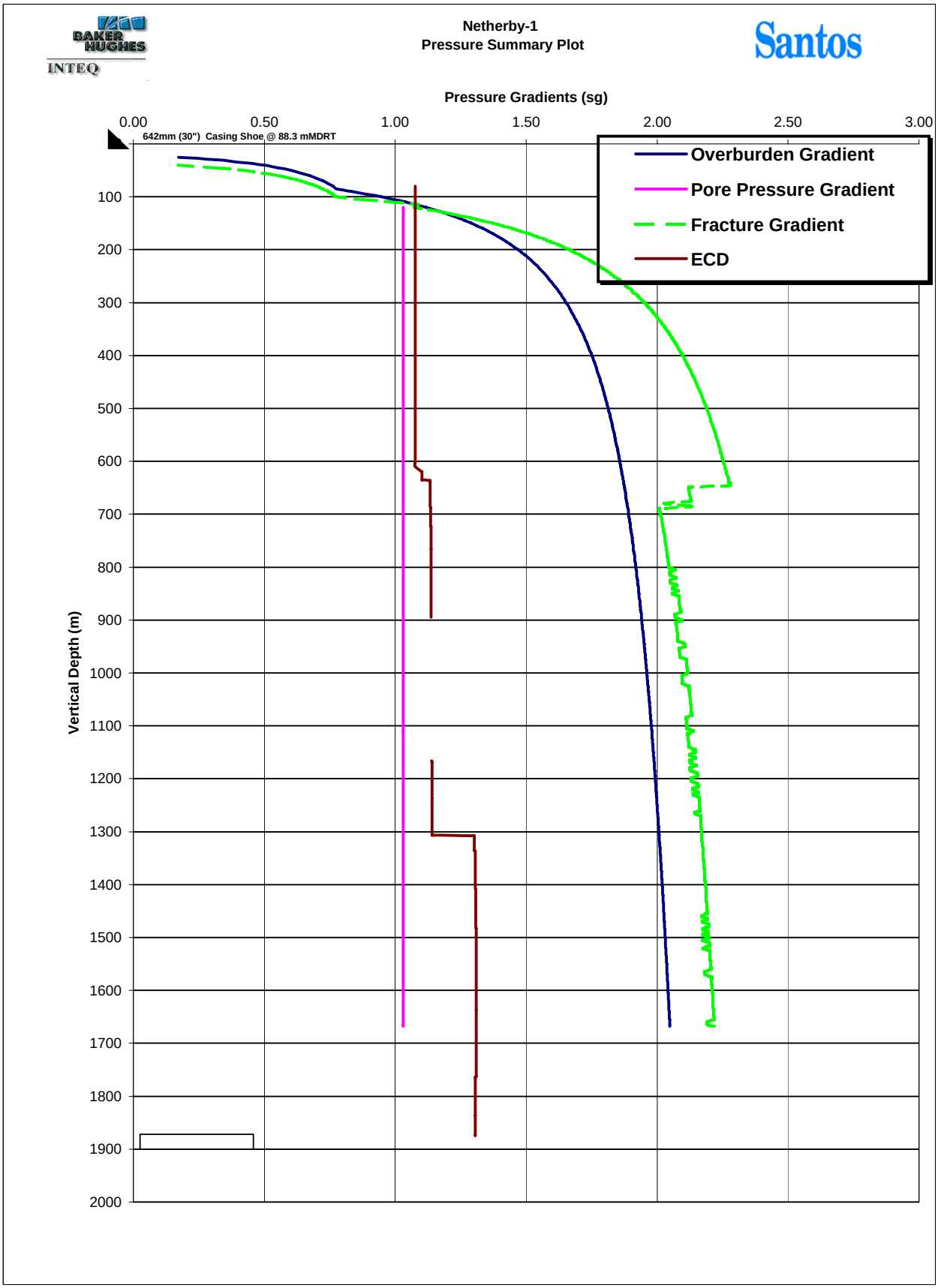
N Normal
M MWD
P Positive Displacement Motor
A Adjustable Gauge Stabilizer
S In-String Steering Collar
T TRACS Tool
C Core

Hydraulics Models

Power Law Model used for drilling with Mud
Bingham Model used for coring and drilling with seawater

Bit No.	Depth MD (m)	Hole Size mm	Jets x 1/32"	Drill String Type	Mud Type	Mud Density sg	PV	YP	Flow Rate gpm	Jet Vel m/sec	Impact Force lb/in2	Power/ Area HP/in2	Bit Loss psi	Bit Loss %	Pipe Loss psi	ECD sg	Annular Velocities DP OH m/min	Annular Velocities DC OH m/min	Annular Velocities DC Critical m/sec
Netherby - 1																			
914mm (36") Hole Section 88.0 - 130.9 mMDRT																			
NB1	130.9	914	3 X 24, 1 X16	N	SW, Hi-Vis Sweeps	1.06	11	105.0	596	18.9	0.10	0.01	19	0.91	100	1.07	N/A	2.9	0.0
444mm (17-1/2") Hole Section 130.9 - 647.0 mMDRT																			
NB2	647.0	444.5.	4 X 18	N	SW, Hi-Vis Sweeps	1.06	10	73.0	811	66.4	5.40	0.01	19	8.60	765	1.07	37.4	36.4	0.6
311mm (12-1/4") Hole Section 642.0 - 1875.0 mMDRT																			
NB3	1421.0	311	1 X 14, 3 X20	N	K Gly	1.10	17	27.0	980	155.0	12.90	2.10	695	30.00	1850	1.28	59.0	61.0	1.8
NB4	1870.0	311	6 X 16	N	K Gly	1.34	25	34.0	1006	124.0	10.20	2.20	780	32.00	1910	1.36	56.0	79.0	1.7
NB5	1875.0	311	3 x 20	N	K Gly	1.34	23	34.0	1000	105.0	10.10	2.20	780	31.00	1907	1.38	52.0	72.0	1.7
Netherby - 1DW1																			
311mm (12-1/4") Hole Section 1421.0 - 1944.0 mMDRT																			
NB1	1421.0	311	6 X 15	N	K Gly	1.34	22	34.0	960	155.0	12.90	2.10	695	30.00	1850	1.38	59.0	61.0	1.8
216mm (8-1/2") Hole Section 1944.0 - 2517.0 mMDRT																			
NB2	2517.0	203	6 X 13	N	DIF	1.15	22	34.0	640	81.7	13.65	3.53	741	10.20	1900	1.29	102.8	208.9	1.8


Santos Ltd
Netherby 1 & Netherby 1DW1
Time vs. Depth
Arrive on location on 14th July 2008
Spud Netherby-15th July @ 07:30hrs
762mm (30") Casing shoe set @ 88.0 mMDRT
TD 914mm (36") Conductor section 130.9 mMDRT
TD 445mm (17-1/2") Section 647.0 mMDRT
TD 311mm (12-1/4") Section at 1944.0 mMDRT
340mm (13-3/8") Casing shoe set @ 642.0 mMDRT
244mm (9 5/8") & 273mm (10-3/4") csg 1936.5m
TD 216mm (8-1/2") Horizontal Hole
TD 311mm (12-1/4") Section 1875.0 mMDRT
Run Schlumberger Wireline
Hole Completions
Budget
Actual
Measured Depth(m)
Days on Location
0.00
200.00
400.00
600.00
800.00
1000.00
1200.00
1400.00
1600.00
1800.00
2000.00
2200.00
2400.00
2600.00
2800.00
3000.00
0
5
10
15
20
25
30
35
40
45


Netherby-1
Pressure Summary Plot
Santos
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INTEQ
Pressure Gradients (sg)
0.00
0.50
1.00
1.50
2.00
2.50
3.00
642mm (30") Casing Shoe @ 88.3 mMDRT
Overburden Gradient
Pore Pressure Gradient
Fracture Gradient
ECD
Vertical Depth (m)
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000

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INTEQ

Santos

Company	**Santos Ltd**
Well	**Nertherby 1**
Permit	**VIC / P44**
Region	**Victoria**
Designation	**Horizontal Gas Development**
Coordinates	**Lat: 38° 40' 48.62" S** **Long: 142° 38' 25.75" E**
Ref Elevation	**RT-MSL 86.9m**
Total Depth	**1875.0 mMDRT**
Contractor	**Diamond Offshore Gen. Co.**
Rig	**Ocean Patriot**
Type	**Semi-submersible**

LOG INTERVAL

Depth	**642.0 to 1875.0 mMDRT**
Date	**15 - 30July 2008**
Scale	**1 : 500**
Data Engineers	**Larry Pagana , Zulkifli Taib, Erwin Villafranca. Snehal.**
Logging Geologists	**Masudur Rhaman, Rahul Richharia Bambang Budiarto, Hanzel Vaz**
Sample Catchers	**David Formaggin, Chris Decoster**

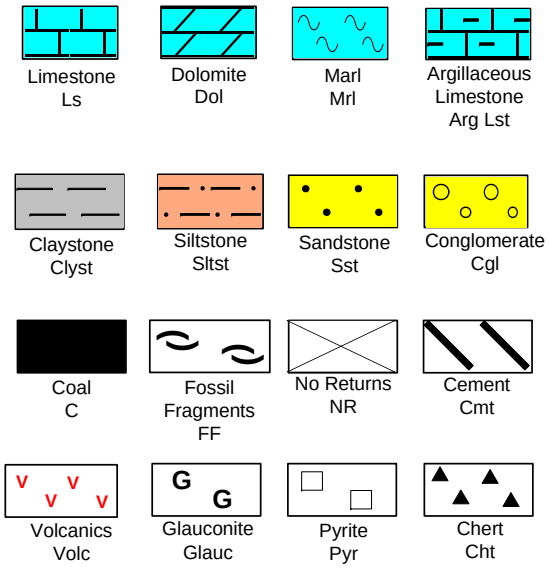
INTEQ LOG SUITE

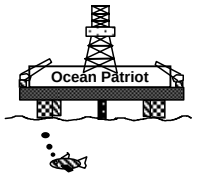
Formation Evaluation
Drilling Data Plot

ABBREVIATIONS

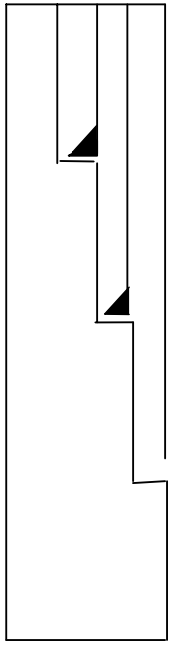
NB	New Bit	MD	Measured Depth
RR	Rerun Bit	GPM	Gallons per Min
CB	Core Bit	PP	Pump Pressure
WOB	Weight on Bit	MW	Mud Weight sg
RPM	Revs per Minute	FV	Funnel Viscosity
FLC	Flow Check	F	Filtrate - API
FCG	Flow Check Gas	FC	Filter Cake
PR	Poor Returns	PV	Plastic Viscosity
NR	No Returns	YP	Yield Point
BG	Background Gas	Sol	Solids %
WTG	Wiper Trip Gas	Sd	Sand %
TG	Trip Gas	Cl	Chlorides
POG	Pumps Off Gas	RM	Mud Resistivity
CG	Connection Gas	RMF	Filtrate Resistivty
SWG	Swab Gas	TVD	True Vertical Depth

LITHOLOGY SYMBOLS





RT- AHD 22.0m
W Depth 64.0m AHD



Seabed 80.5 mMDRT

Returns to Seafloor
Seawater and hi-vis sweeps

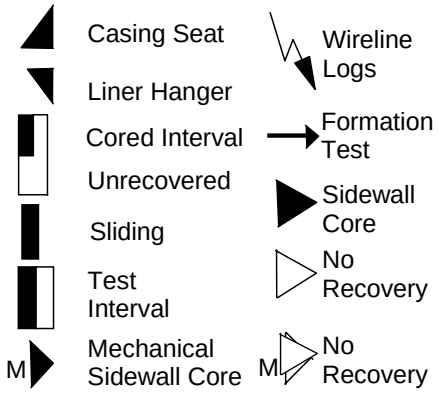
762mm (30") csg set @ 88.0 mMDRT
914mm (36") hole to 130.9 mMDRT

Returns to Seafloor
Seawater and hi-vis sweeps

340mm (13-3/8") csg set @ 642.0 mMDRT
445mm (17-1/2") hole to 647.0 mMDRT

Drilling Fluid: Water based
KGLY 1.12 - 1.30 sg

311mm (12-1/4") hole TD to 1875.0 mMDRT



APPENDICES

Appendix - A

FORMATION EVALUATION LOG

Appendix - B

DRILLING DATA PLOT

Appendix - C

DRILLING DATA PRESSURE PLOT

Appendix - D

GAS RATIO PLOT

SECTION 12 : RIG POSITIONING REPORT

Netherby 1DW1 is a directional hole leading off the main Netherby 1 well bore.
The final Rig Position (at surface) is at the Netherby 1 location.

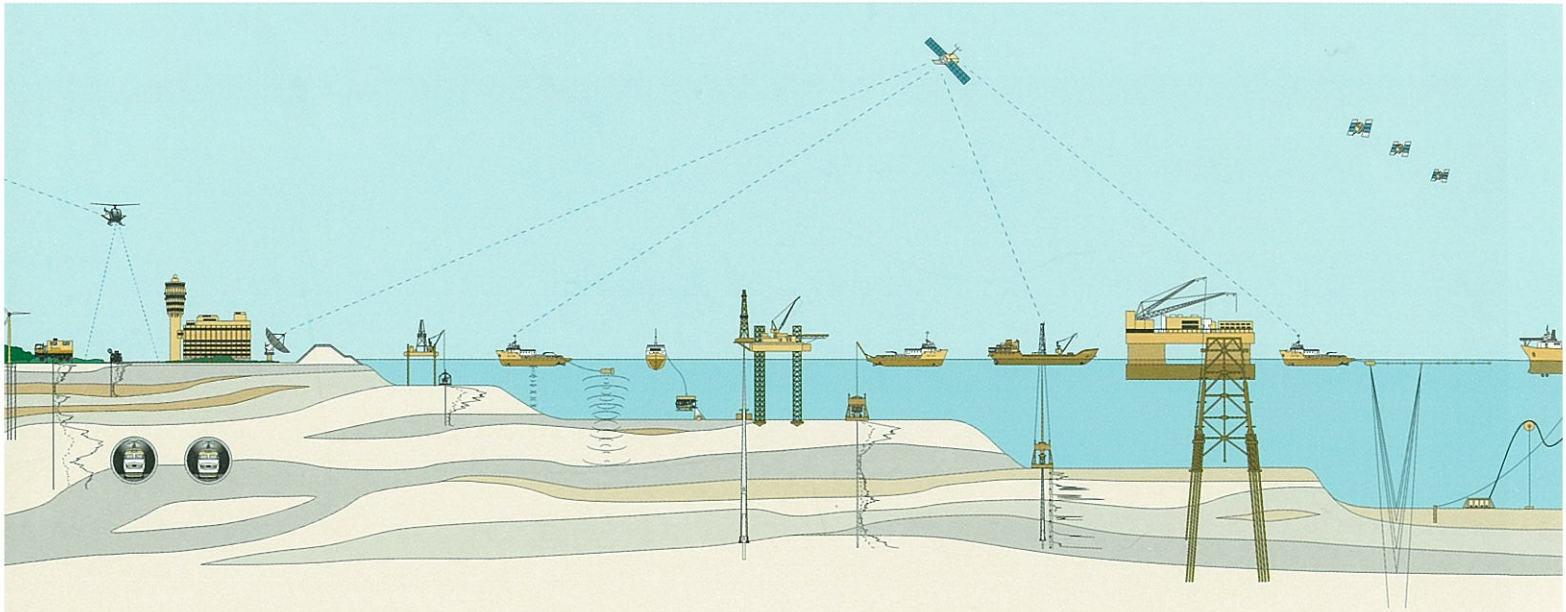
FUGRO BTW Ltd

OCEAN PATRIOT RIG MOVE TO NETHERBY-1 LOCATION

FUGRO BTW LTD JOB NO. 08008

Client : SANTOS Ltd
Level 28, Forrest Centre
221 St Georges Terrace
Perth, WA 6000
AUSTRALIA

Date of Survey : July 2008



14-22 Connett Rd West, Bell Block, PO Box 39, New Plymouth, NZ. Tel: 64 6 7695040 Fax: 64 6 7696262

REPORT FOR THE OCEAN PARTIOT RIG MOVE TO NETHERBY-1

FUGRO-BTW JOB NO. 08008

Client : SANTOS Ltd

Date of Survey : 10 July – 18 July 2008

0	Final	G. Marshall	20 July 2008
Rev	Description	Checked and Approved	Date

14-22 Connett Road West, Bell Block, PO Box 39, New Plymouth

CONTENTS

FIGURES

TABLES

APPENDICES

ABSTRACT

Between 10 July and 16 June 2008, Fugro-BTW Ltd (Fugro) provided equipment and personnel for the semi-submersible Mobile Offshore Drilling Unit Ocean Patriot rig move from Pecten East-1 in Permit , VIC/P 44, 60 Nm East of Portland, Melbourne, Australia to Netherby-1 in Permit VIC/P-44, 60 Nm East of Portland, Melbourne, Australia.

Surface positioning was provided by Fugro's Starfix 8200 High Performance Global Positioning System (Starfix 8200 HP) and Starfix.Seis Navigation Software.

The final position for the drill stem derived from HP observations at Netherby-1 is:

Location Name:	**Netherby-1**
Easting (m):	642694.063
Northing (m):	5717438.489
Latitude:	38° 40' 48.5777" S
Longitude:	142° 38' 25.7447" E
Rig Heading:	215.56° (True)

This position is 1.49m at a bearing of 001.39° (Grid) from the proposed Netherby-1 location.

All coordinates in this report are referenced to the Geocentric Datum of Australia 1994 (GDA94) and projected onto the Map Grid of Australia 1994 (MGA94) Zone 54 (CM 141°E), unless otherwise stated.

All times in this report are quoted in Australian Eastern Standard Time (AEST) unless otherwise stated.

1.0 INTRODUCTION

Fugro-BTW Ltd (Fugro) was contracted by Santos Ltd to provide navigation and positioning survey services onboard the semi-submersible Mobile Offshore Drilling Unit (MODU) *Ocean Patriot*, during the rig move from Pecten East-1 in Permit VIC/P-44, 60 Nm East of Portland, Melbourne, Australia to Netherby-1 7.4 Km SW of Pecten East-1 in the same permit area..

A general location diagram is shown in Figure 1-1.

This report details the equipment used, survey parameters adopted, procedures employed and the results achieved. A section on safety is included in Section 3.0 of this report.

1.1 Scope of Work

Personnel and equipment were provided on a 24 hour per day basis for:

- Calibration and function testing of the survey equipment onboard the rig and the two Anchor Handling Vessels (AHVs).
- Surface navigation for the *Ocean Patriot* using Fugro's Starfix HP (High Performance) DGPS services.
- Surface navigation for AHVs during anchoring operations, using Starfix HP DGPS.
- Final rig surface positioning for Netherby-1 using DGPS observations.
- Final reporting of the positioning results.

1.2 Sequence of Events

On 10 July 2008, G. Marshall, C. Tidey and H. Stewart, Fugro-BTW Ltd departed Auckland and New Plymouth, New Zealand for Melbourne, Australia. Personnel remained overnight in Melbourne.

On 11 July 2008, G. Marshall, C. Tidey and H. Stewart departed Melbourne for the *Ocean Patriot*.

All navigation systems remained mobilised from the rig move to the Pecten East-1 location. These systems were checked and stated as operational at 11:30 July 2008.

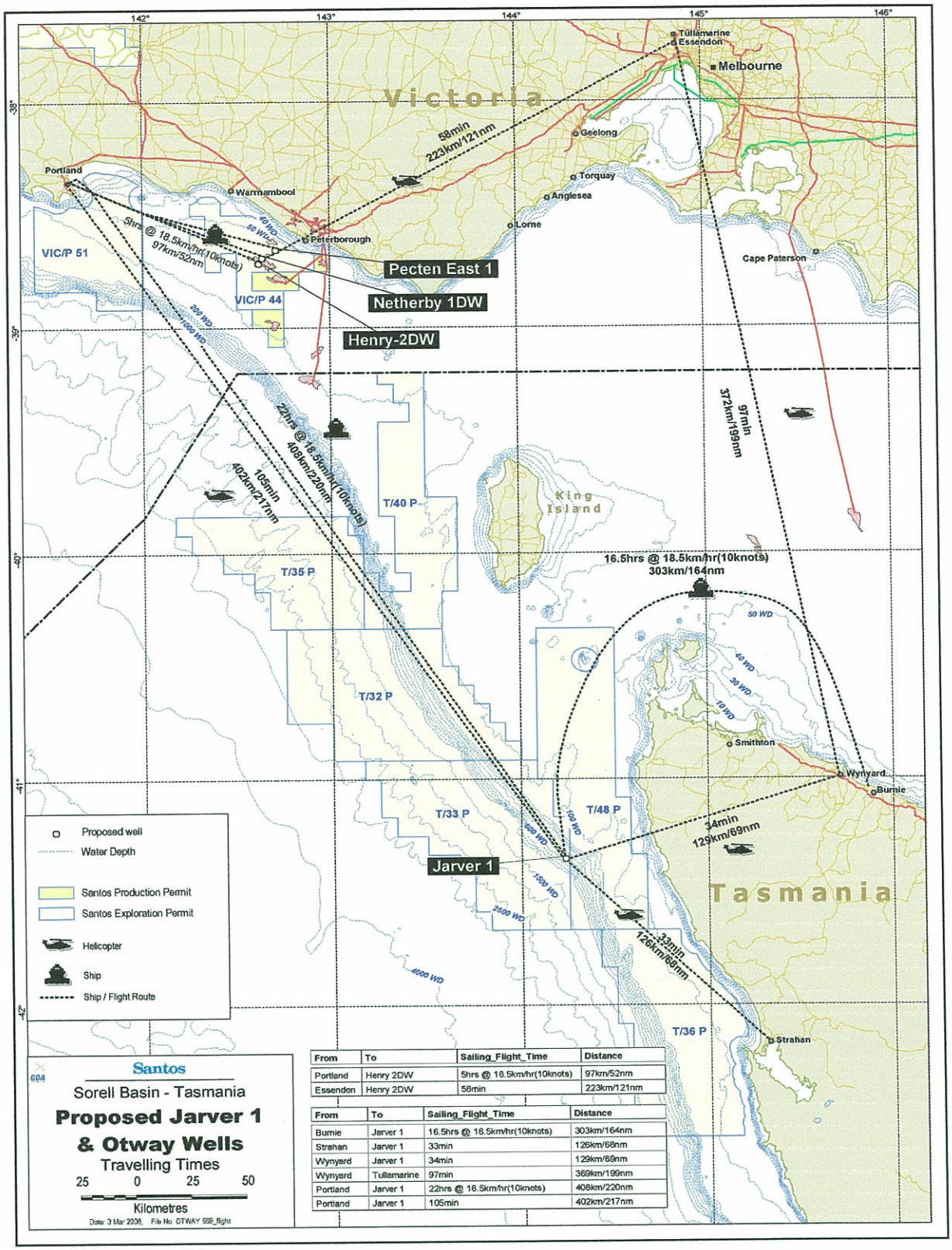
Operational requirements and bad weather delayed the commencement of the rig move until 13 July 2008.

De-mooring operations commenced at 16:14 on 13 July 2008 and were completed at 10:12 14 June 2008. The rig was towed from location at Pecten East-1 at 10:12 on 14 July 2008.

The rig was moored on location at Pecten East-1 22:49 on 14 July 2008.

C. Tidey departed the rig on 14 July 2008 returning to New Zealand that evening. H. Stewart departed the rig on 16 July 2008 returning to New Zealand that evening. G. Marshall departed the rig on 16 July 2008 returning to New Zealand that evening.

Further details of Fugro's involvement in the rig move are presented in the Daily Operations Reports included in Appendix A.



From	To	Sailing_Flight_Time	Distance
Portland	Henry 2DW	5hrs @ 18.5km/hr(10knots)	97km/52nm
Essendon	Henry 2DW	58min	223km/121nm

From	To	Sailing_Flight_Time	Distance
Burnie	Jarver 1	16.5hrs @ 18.5km/hr(10knots)	303km/164nm
Strahan	Jarver 1	33min	126km/68nm
Wynyard	Jarver 1	34min	129km/69nm
Wynyard	Tullamarine	97min	369km/199nm
Portland	Jarver 1	22hrs @ 18.5km/hr(10knots)	408km/220nm
Portland	Jarver 1	105min	402km/217nm

FIGURE 1-1 : GENERAL LOCATION DIAGRAM

2.0 RESULTS

2.1 Final Position

The final position of the *Ocean Patriot* drill stem was established after the 30" casing had been cemented. A mean position was calculated from seven hours of HP data logged between 22:45 16 July and 05:45 on 17 July 2008. During this period, calculated drill stem coordinates from the primary and secondary positioning systems were logged at five second intervals in Starfix.Seis. Data from the primary positioning system were used for the final position calculation.

Differential GPS corrections were derived using a multi-reference solution with base station data from Melbourne, Bathurst, Cobar and Ceduna.

GDA94 geographical positions for Netherby-1 are shown in Table 2-1.

GDA94			
Position	**Method**	**Latitude**	**Longitude**
Drill Stem at Surface	Starfix HP	38° 40' 48.5777" S	142° 38' 25.7447" E
Proposed Location	-	38° 40' 48.62" S	142° 38' 25.75" E

TABLE 2-1 : GEOGRAPHICAL POSITIONS FOR NETHERBY-1

GDA94 grid coordinates (CM 141°E) for Netherby-1 are shown in Table 2-2.

GDA94, MGA, Zone 54, CM 141°E			
Position	**Method**	**Easting (m)**	**Northing (m)**
Drill Stem at Surface	HP	642694.063	5717438.489
Proposed Location	-	642694.000	5717437.000

TABLE 2-2 : GRID COORDINATES FOR NETHERBY-1

This position is 1.49m at a bearing of 002.41° (Grid) from the design location.

A copy of the original rig position field report is contained in Appendix B.

2.2 Rig Heading

The heading of the *Ocean Patriot* was established by calculating the average heading during seven hours of gyro data logged between 22:45 16 July and 05:45 on 17 July 2008. During this period, gyro readings were logged at five second intervals in Starfix.Seis.

The *Ocean Patriot*'s heading is shown in Table 2-3.

Description	Method	True	Grid
Rig Heading	Gyro	215.56°	216.59°
Proposed Heading	-	215.00°	216.03°

TABLE 2-3 : RIG HEADING FOR NETHERBY-1

2.3 Anchor Positions

The approximate locations of the *Ocean Patriot*'s anchors are shown in Table 2-4.

GDA94, MGA, Zone 54, CM 141°E				
Anchor	**Easting (m)**	**Northing (m)**	**Azimuth (T)**	**Deployed By**
1	641371	5716879	246.1°	*Far Grip*
2	641265	5717570	274.2°	*Nor Captain*
3	642105	5718751	334.8°	*Nor Captain*
4	642845	5718841	005.1°	*Far Grip*
5	644025	5718010	065.7°	*Far Grip*
6	644146	5717289	094.8°	*Far Grip*
7	643251	5716086	156.6°	*Far Grip*
8	642542	5715979	184.9°	*Far Grip*

TABLE 2-4 : ANCHOR POSITIONS FOR NETHERBY-1

The approximate coordinates of the *Ocean Patriot*'s anchors were calculated from:

- The azimuth from the fairlead position to the AHVs stern position at the time of anchor deployment.
- The range from the fairlead positions to the anchors is obtained using the onboard chain counters and tension readings to derive the distance corrected for catenary.

3.0 SAFETY

All work undertaken by Fugro personnel during the project was performed within the guidelines of Fugro's Health Safety & Environmental Management System Manual (HSEMS).

Fugro personnel worked within all project safety guidelines and plans adopted by SANTOS Ltd and Diamond Offshore.

No safety incidents involving Fugro personnel were reported during the project.

Fugro personnel attended all relevant safety meetings onboard the rig as required.

4.0 SURVEY OPERATIONS

4.1 Mobilisation

The survey equipment onboard the *Ocean Patriot* was confirmed as operational after arrival at 11:30 on 11 July 2008. Rig offsets were checked and sun observations were conducted to determine C-O values for the Gyro compass.

4.2 General Survey Procedures

The *Ocean Patriot* was taken under tow from Pecten East-1 by the *Nor Captain* at 10:12 14 July 2008 with the *Far Grip* following with anchor 5 on deck due to the short distance between sites.

Anchor deployment operations commenced at 13:01 hours on 14 July 2008, when Anchor #5 was deployed by the *Far Grip*. All other anchors were deployed by the two AHVs. During the deployment of these anchors, the AHVs were provided with a waypoint and corresponding runline via the Wombat telemetry system. The AHVs ran out the anchors along this line to the desired drop point.

The *Ocean Patriot* was positioned at Netherby-1 with all anchoring, pre-tensioning and ballasting complete at 22:50 14 July 2008. Final position data was logged between 22:45 16 July and 05:45 on 17 July 2008. A rig positioning field report was issued to the SANTOS Ltd Company Representative (see Appendix B).

4.3 Demobilisation

The survey equipment onboard the *Ocean Patriot* was left online to assist in rig operations during the Netherby-1 campaign.

C. Tidey departed the rig on 14 July 2008, H. Stewart departed the rig on 16 July 2008 and G. Marshall departed the rig on 17 July 2008.

5.0 EQUIPMENT CALIBRATION

5.1 DGPS Navigation Integrity Check

In order to prove the correct operation of the navigation systems installed on board the *Ocean Patriot*, DGPS data were logged for 60 minutes on 11 July 2008, whilst the rig was located at Pecten East-1.

A comparison of the independent primary and secondary DGPS was also conducted. The results from both of these checks are provided in Table 5-1.

GDA94, MGA, Zone 55, CM 147°E		
	Easting (m)	**Northing (m)**
Established Well Coordinates	649022.644	5721208.496
Observed Coordinates	649023.325	5721208.548
Difference	0.319	0.052
Primary Navigation	649022.644	5721208.496
Secondary Navigation	649022.154	5721208.686
Difference	**0.49**	**-0.19**

TABLE 5-1 : DGPS NAVIGATION INTEGRITY CHECK

The DGPS check described above demonstrated that the navigation systems onboard the *Ocean Patriot* were set up and working correctly.

A positioning check list was completed during the tow to confirm the proposed rig position and to ensure that the correct geodetic datum, transformation and projection parameters were being used. Geodetic calculations were performed using both Starfix.Seis and the off-line geodetic calculation package GEO.

Details of all positioning checks are provided in Appendix C.

5.2 Gyro Compass Calibration

The calibration of the survey gyro compasses comprised a number of angles observed from the sun to the rig centreline. These observations were carried on 13 July 2008, whilst the rig was moored at the Pecten East-1 location.

The calculated values were compared to the observed gyro compass values logged in Starfix.Seis and a mean C-O value of 0.23° was determined. This correction was applied in the navigation suite.

Details of the gyro calibration are included in Appendix C.

6.0 SURVEY PARAMETERS

6.1 Geodetic Parameters

All coordinates are referenced to the Geocentric Datum of Australia 1994 (GDA94) unless otherwise noted. The Global Positioning System (GPS) operates on the World Geodetic System 1984 (WGS84) datum. Fugro's Differential GPS Reference Stations are currently defined in the International Terrestrial Reference Frame 2000 (ITRF2000 Epoch 2008.5) datum. Due to the continual refinement of the WGS84 reference frame, for all cases, the transformation parameters indicate that the WGS84 and ITRF2000 reference frames are essentially identical.

Datum	:	**World Geodetic System 1984 (WGS84)**
Reference Spheroid	:	World Geodetic System 1984
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257223563

Datum	:	**Geocentric Datum of Australia 1994 (GDA94)**
Reference Spheroid	:	Geodetic Reference System 1980 (GRS80)
Semi Major Axis	:	6378137.000m
Inverse flattening	:	298.257222101

The following seven parameter datum transformation (Table 6-1) was used in Fugro's software to transform WGS84 (ITRF2000 Epoch 2008.5) coordinates to GDA94 coordinates. These parameters are calculated from the 14 parameter transformation defined by Geoscience Australia. Fugro follows the Coordinate Frame Rotation convention (as defined by UKOOA) for datum transformations.

Transformation Parameters from WGS84 (ITRF2000 Epoch 2008.5) to GDA94			
dX	+0.0174m	rX	+0.017554"
dY	-0.0484m	rY	+0.015065"
dZ	-0.1035m	rZ	+0.018157"
dS	+0.003362ppm		

TABLE 6-1 : TRANSFORMATION PARAMETERS

The proposed drilling location and all project coordinates are grid coordinates on the Map Grid of Australia.

Grid	:	**Map Grid of Australia (MGA94)**
Projection	:	Universal Transverse Mercator
Latitude of Origin	:	0°
Central Meridian	:	141° E (UTM Zone 54)
Central Scale Factor	:	0.9996
False Easting	:	500000m
False Northing	:	10000000m
Units	:	Metres

6.2 Differential GPS Reference Stations

Fugro's Differential GPS Reference Stations are currently defined in the ITRF2000 (Epoch 2008.5) datum and are shown in Table 6-2.

ITRF2000, Epoch 2008.5					
Station	**Id**	**Latitude**	**Longitude**	**Height (m)**	**Uplink**
Melbourne	385	37° 47' 59.26402" S	144° 57' 39.31144" E	67.338	OCSat/APSat
Bathurst	336	33° 25' 46.87757" S	149° 34' 01.97016" E	756.670	OCSat
Cobar	316	31° 29' 57.42962" S	145° 50' 20.34599" E	270.176	OCSat
Ceduna	355	32° 07' 03.04719" S	133° 42' 22.85207" E	7.280	OCSat

TABLE 6-2 : DGPS REFERENCE STATIONS

6.3 Project Coordinates and Tolerances

Project target coordinates and surface tolerance for Jarver-1 were supplied by SANTOS Ltd and are shown in Table 6-3. Client supplied project information is provided in Appendix D.

GDA94, MGA, Zone 54, CM 141°E			
Location	**Easting (m)**	**Northing (m)**	**Tolerance**
Netherby-1	642694.00	5717437.00	3m radius

TABLE 6-3 : PROJECT DESIGN COORDINATES

7.0 SURVEY EQUIPMENT, VESSEL AND PERSONNEL

7.1 Equipment

Survey equipment used for positioning the *Ocean Patriot* is shown in Table 7-1.

Equipment Listing	
Ocean Patriot	
2 x	Starfix 8200HP (1 OCSat link, 1 APSat link)
2 x	Pentium III computers, running Fugro's Starfix.Seis navigation software suite (1 spare)
2 x	20" monitors for Seis
3 x	20" monitors (on QC rep, one Radio room, one spare)
1 x	SG Brown gyro compass
1 x	Tokimec gyro compass
2 x	Uninterruptible power supply units (UPS)
2 x	Teledesign radio/modem
1 x	Theodolite, tripod and dark glass
1 x	Printer
AHVs (complete system per vessel, plus one complete set of spares)	
1 x	Pentium 4 computer, running Starfix Display/Wombat
1 x	Monitor
1 x	Starfix 8200HP unit
1 x	Fluxgate compass
1 x	Teledesign radio/modem

TABLE 7-1 : EQUIPMENT LIST

All systems were provided complete with all necessary cabling, connectors, power supplies, antennae, accessories, manuals and consumables.

Refer to Figure 7-1 for an equipment flow diagram for the *Ocean Patriot* and Figure 7-2 for the equipment flow diagram for the AHVs.

7.2 Vessels

The vessels used for anchor handling and towing the *Ocean Patriot* were the *Far Grip* and the *Pacific Wrangler*.

Refer to Figure 7-3 for the rig offsets.

7.3 Personnel

Fugro personnel involved in the rig move and positioning operations were as follows:

Geoff Marshall	Surveyor in Charge	10 July – 17 July 2008
Hellen Stewart	Surveyor	10 July – 16 July 2008
Craig Tidey	Surveyor	10 July – 14 July 2008

SANTOS Ltd was represented during the rig move by:

John Tighe	Survey QC Representative	10 July – 17 July 2008

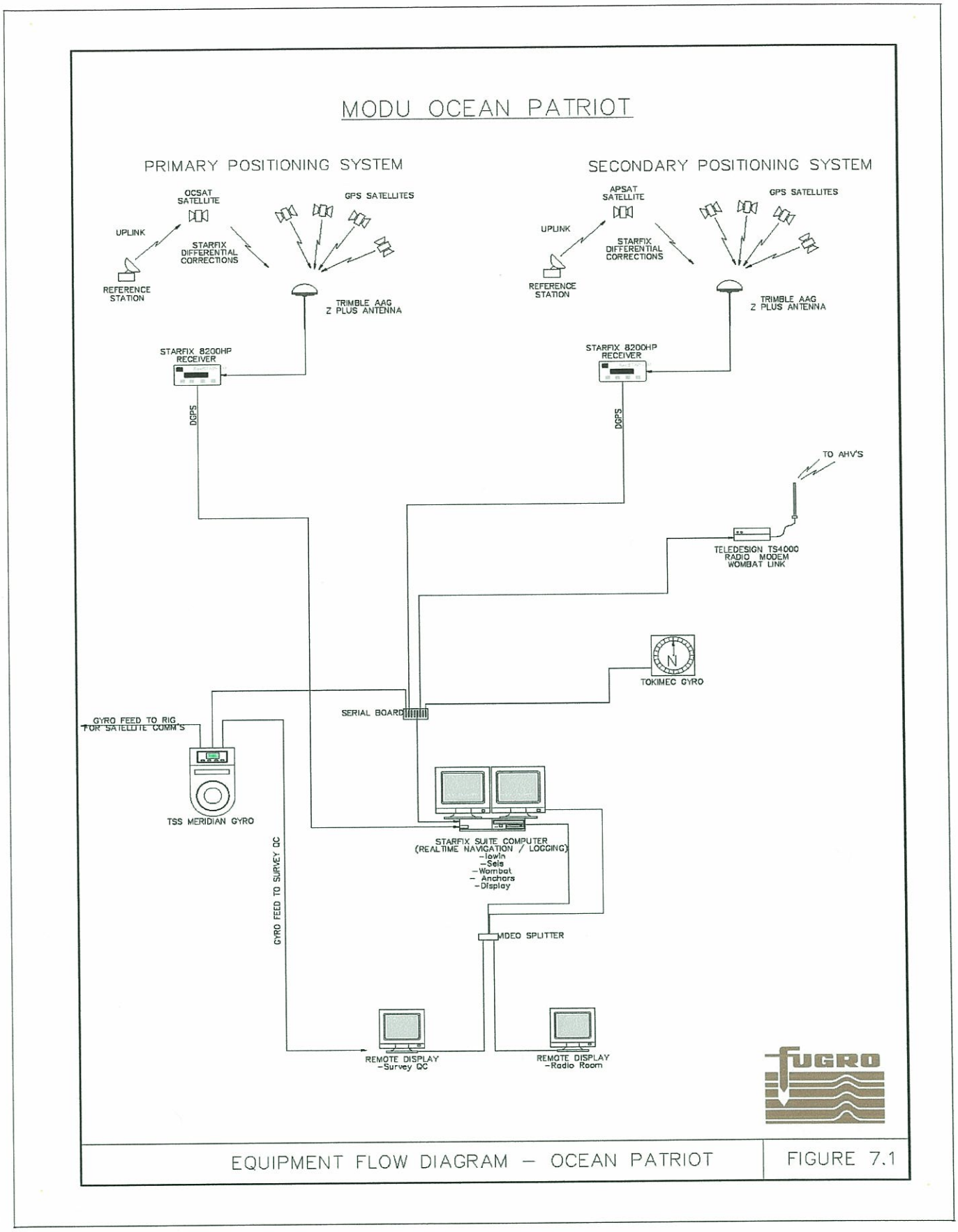


FIGURE 7-1 : EQUIPMENT FLOW DIAGRAM – MODU *OCEAN PATRIOT*

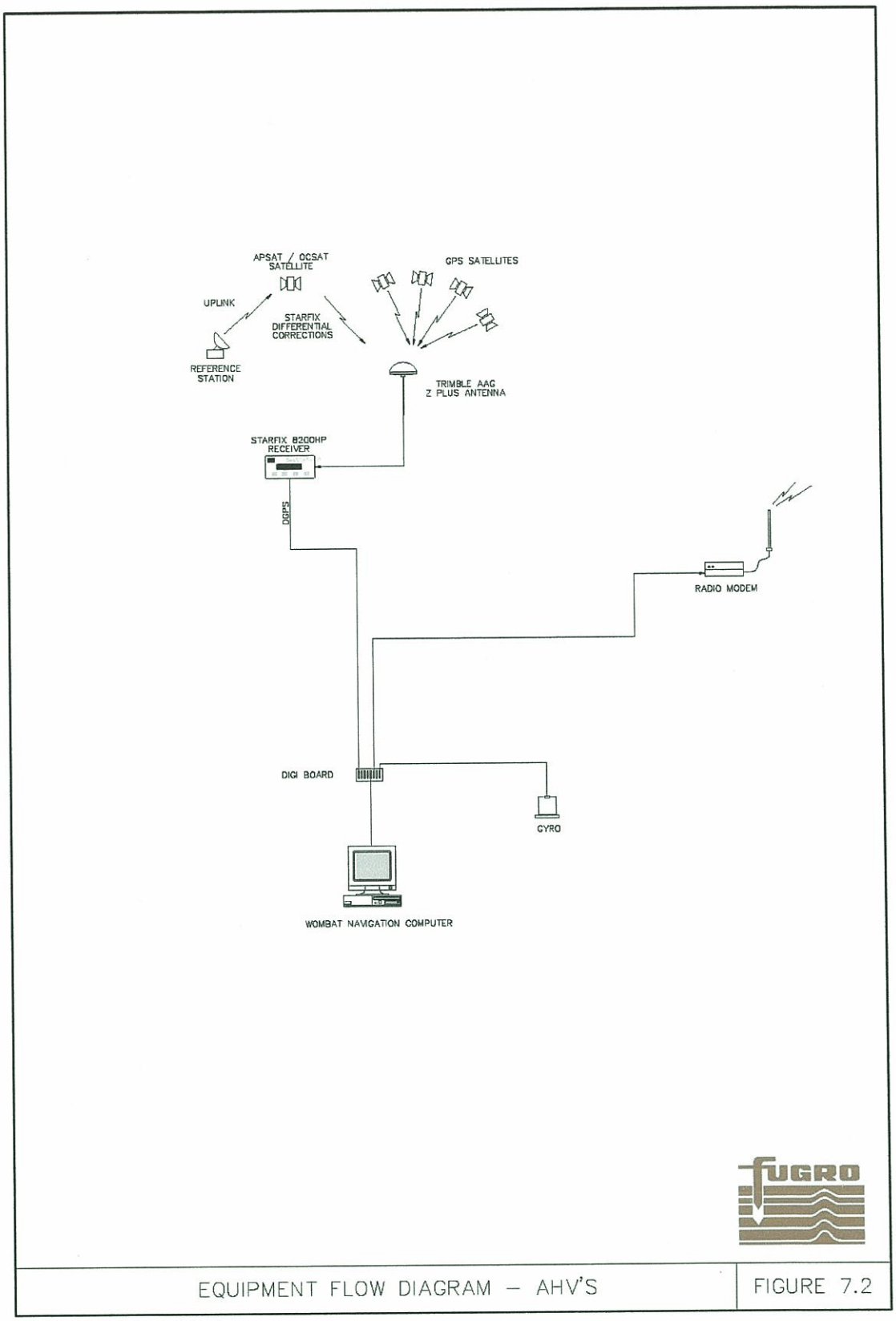


FIGURE 7-2 : EQUIPMENT FLOW DIAGRAM – AHVS

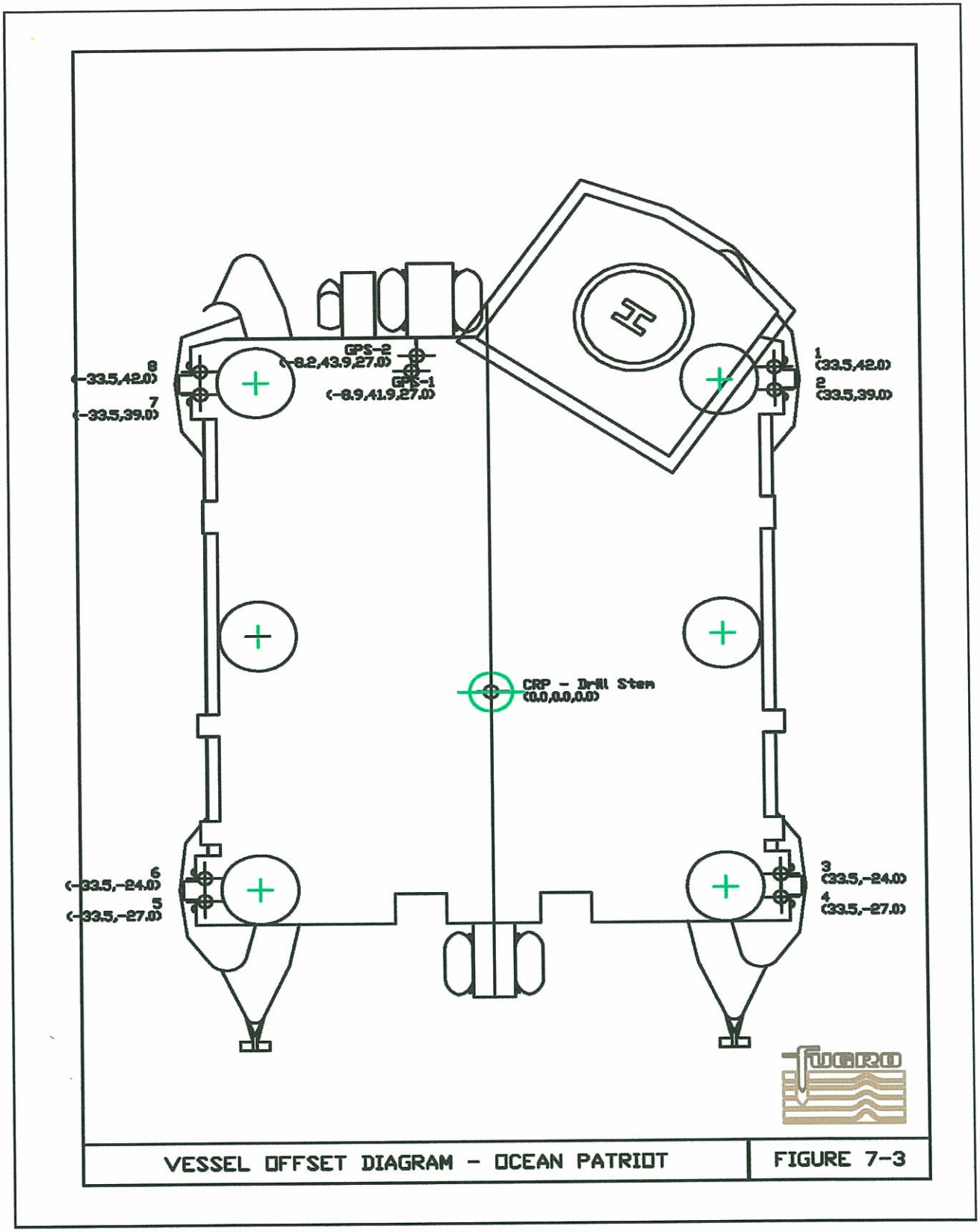


FIGURE 7-3 : RIG OFFSET DIAGRAM – MODU *OCEAN PATRIOT*

8.0 CONCLUSIONS AND RECOMMENDATIONS

- The *Ocean Patriot* was successfully positioned during the recovery of anchors and the tow to Pecten East-1.
- The *Far Grip* and *Pacific Wrangler* were successfully positioned during the towing and anchoring operations.
- The surface position of the Pecten East-1 well was determined.
- Both Fugro personnel worked well together with the Tow-masters, Marine and AHV crews resulting in a safe, efficient and positive working environment.

9.0 DISTRIBUTION

Copies of this report have been distributed as follows:

SANTOS Ltd	: 1 hard copy
Attn: Mr David Crane	: 1 electronic copy

APPENDIX A
DAILY OPERATIONS REPORTS

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 10/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
1300 NZST	1530 NZST	C. Tidey and H. Stewart depart New Plymouth for Auckland.
1530 NZST	1830 AEST	G. Marshall, C. Tidey and H. Stewart depart Auckland for Melbourne.
1830	2359	G. Marshall, C. Tidey and H. Stewart overnight at Holiday Inn, Melbourne.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	C. Tidey	Surveyor
Radio Modem	2	Radio Modem	3	H. Stewart	Surveyor
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-1

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 11/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	0830	G. Marshall, C. Tidey and H. Stewart overnight at Holiday Inn, Melbourne.
0830	1000	G. Marshall, C. Tidey and H. Stewart attend helicopter check in and safety briefing.
1000	1115	G. Marshall, C. Tidey and H. Stewart fly to Ocean Patriot.
1130		Navigation systems operational.
1135	1200	Held JHA for rig operations.
1230	1300	H. Stewart attends rig induction.
1445	1545	Logging data for Pre Rig Move Report.
1530	1540	C. Tidey and H. Stewart attend Santos project induction.
1545	2359	Standing by for rig move.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	1	Ocean Patriot Rig Induction.
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	1	JHA-005 Rig Operations.
HSE / Project Meetings	2	Santos Project Induction.

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	C. Tidey	Surveyor
Radio Modem	2	Radio Modem	3	H. Stewart	Surveyor
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-2

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 12/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	2359	Standing by for rig move.
0700	0715	Held JHA for Billy Pugh transfer.
0745	0915	C. Tidey and H. Stewart Billy Pugh transfer to Nor Captain to change radio modem freq.
0800	0900	G. Marshall attends rig move meeting.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	1	
HSE / Project Meetings	1	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	C. Tidey	Surveyor
Radio Modem	2	Radio Modem	3	H. Stewart	Surveyor
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-3

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 13/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	1614	Standing by for rig move.
0815	0930	Conduct gyro calibration.
1030	1100	Weekly fire and abandonment drills.
1614	1624	No. 7 PCC passed to Far Grip.
1617	1626	No. 3 PCC passed to Nor Captain.
1624	1634	Far Grip chasing out on No. 7.
1626	1647	Nor Captain chasing out on No. 3
1634	1753	Far Grip at No. 7. Standing by until PGB secured in Moon pool.
1647	1800	Nor Captain at No. 3. Standing by until PGB secured in Moon pool.
1753	1914	Anchor No. 7 off bottom. Heaving in.
1800	1813	Anchor No. 3 off bottom. Heaving in.
1813	2025	No. 3 anchor on deck. Changing out No. 3 PCC.
1856	2114	Heaving in on No. 3.
1914	1925	All stop on No. 7. Preparing to pass PCC.
1925	1936	No. 7 PCC back to rig. Far Grip moving to No. 6.
1936	1941	No. 6 PCC passed to Far Grip.
1941	1955	Far Grip chasing out on No. 6.
1955	1959	Far Grip at No. 7. Recovering anchor.
1959	2030	No. 6 off bottom. Heaving in on No. 6.
2030	2233	No. 6 anchor on deck. Changing out No. 6 PCC.
2114	2202	No. 3 PCC back to rig. Nor Captain moving to set up for tow.
2202		Tow Bridal passed to Nor Captain.
2246	2254	All stop on No. 6. Preparing to pass PCC.
2254	2312	No. 6 PCC back to rig. Far Grip moving to No. 2.
2312	2320	No. 2 PCC passed to Far Grip.
2320	2333	Far Grip chasing out on No. 2.
2333	2336	Far Grip at No. 2. Recovering anchor.
2336	2359	No. 2 off bottom. Heaving in on No. 2.

HSE DETAILS		
Emergency Muster	1	Weekly Drill
Incidents	0	
Safety Drills Fire/Abandon	1	Weekly Drill
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	1	Weekly Safety Meeting

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	C. Tidey	Surveyor
Radio Modem	2	Radio Modem	3	H. Stewart	Surveyor
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-4

DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 14/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	0052	Continue heaving in on No. 2.
0052	0058	All stop on No. 2. Preparing to pass PCC.
0058	0121	No. 2 PCC back to rig. Far Grip moving to No. 8.
0121	0125	No. 8 PCC passed to Far Grip.
0125	0139	Far Grip chasing out on No. 8.
0139	0143	Far Grip at No. 8. Recovering anchor.
0143	0148	No. 8 off bottom. Recovering to deck to change out PCC.
0148	0319	No. 8 on deck. Changing out PCC.
0319	0330	No. 8 off deck. Heaving in on No.8.
0330	0337	All stop on No. 8. Preparing to pass PCC.
0337	0405	No. 8 PCC back to rig. Far Grip moving to No. 4.
0405	0415	No. 4 PCC passed to Far Grip.
0415	0430	Far Grip chasing out on No. 4.
0430	0433	Far Grip at No. 4. Recovering anchor.
0433	0556	No. 4 off bottom. Heaving in on No.4.
0556	0604	All stop on No. 4. Preparing to pass PCC
0604	0624	No. 4 PCC back to rig. Far Grip moving to No. 1.
0624	0626	No. 1 PCC passed to Far Grip.
0626	0642	Far Grip chasing out on No. 1.
0642	0645	Far Grip at No. 1. Recovering anchor.
0645	0807	No. 1 off bottom. Heaving in on No.1.
0807	0815	All stop on No. 1. Preparing to pass PCC
0815	0833	No. 1 PCC back to rig. Far Grip moving to No. 5.
0833	0838	No. 5 PCC passed to Far Grip.
0838	0855	Far Grip chasing out on No. 5.
0842	0933	Heaving in on No. 5.
0855	0938	Far Grip at No. 5. Recovering anchor.
0900	0915	C. Tidey attends helicopter safety briefing.
0933	0938	No. 5 anchor off bottom. Heaving in on No. 5.
0938	1244	No. 5 anchor on deck.
1006	1012	Nor Captain lengthening tow to 500m.
1012	1244	Stop heaving No. 5 at 200m. Commence tow to Netherby-1.
1115	1215	C. Tidey departs rig for return to New Plymouth.
1230	1230	Statement of Facts. Change invoicing from Pecten East-1 to Netherby-1.
1244	1329	Start paying out on No.5 anchor. Far Grip holding position.
1257	1301	Far Grip lowering No. 5 to seabed.
1301	1329	No. 5 on bottom.
1329	1343	Rig over location. Holding on No.5 and Nor Captain maintaining station, Far Grip stripping back.
1343	1410	No. 5 PCC passed to rig. Far Grip proceeding to No.1.
1410	1416	No. 1 PCC passed to Far Grip.
1416	1425	Paying out on No. 1 to 200m.
1425	1439	Far Grip running No. 1.
1439	1445	No. 1 on bottom.
1445	1506	Far Grip stripping back on No.1.
1506	1519	No. 1 PCC passed to rig. Far Grip proceeding to No.4.
1519	1525	No. 4 PCC passed to Far Grip.
1525	1535	Paying out on No. 4 to 200m.
1535	1551	Far Grip running No. 4.

1551	1558	No. 4 on bottom.
1558	1622	Far Grip stripping back on No. 4.
1622	1637	No. 4 PCC passed back to rig. Far Grip proceeding to No. 8.
1637	1642	No. 8 PCC passed to Far Grip.
1642	1652	Paying out on No. 8 to 200m.
1652	1708	Far Grip running No. 8.
1708	1712	No. 8 on bottom.
1712	1748	Far Grip stripping back on No. 8.
1748	1803	No. 8 PCC passed back to rig. Far Grip proceeding to No. 7.
1803	1813	No. 7 PCC passed to Far Grip.
1818	1844	Tow bridal passed from Nor Captain to rig. Nor Captain setting up to run No.3.
1813	1830	Paying out on No. 7 to 200m.
1830	1846	Far Grip running No. 7.
1844	1850	No. 3 PCC passed to Nor Captain.
1846	1848	No. 7 on bottom.
1848	1913	Far Grip stripping back on No. 7.
1850	1908	Paying out on No. 3 to 200m. Nor Captain setting up to run No.3.
1908	1928	Nor Captain running No. 3.
1913	1926	No. 7 PCC passed back to rig.
1926	1933	No. 6 PCC passed to Far Grip.
1928	1930	No. 3 on bottom.
1930	2005	Nor Captain stripping back on No. 3.
1933	1944	Paying out on No. 6 to 200m. Far Grip setting up to run No.6.
1944	2000	Far Grip running No. 6.
2000	2002	No. 6 on bottom.
2002	2026	Far Grip stripping back on No. 6.
2005	2018	No. 3 PCC passed back to rig. Far Grip proceeding to No. 2.
2018	2028	No. 2 PCC passed to Nor Captain.
2026	-	No. 6 PCC passed back to rig. Far Grip released to running standby.
2028	2040	Paying out on No. 2 to 200m. Nor Captain setting up to run No.2.
2040	2104	No. 2 anchor on back. Nor Captain trying to turn it over.
2104	2105	No. 2 anchor correct way round. Preparing to run.
2105	2121	Nor Captain running No.2
2121	2124	No. 2 on bottom.
2124	2208	Nor Captain stripping back on No.2.
2133	2143	Cross tensioning on No's 4 & 8. Held at 180 MT.
2154	2204	Cross tensioning on No's 3 & 7. Held at 195 MT.
2208	-	No. 2 PCC passed back to rig. Nor Captain released to running standby.
2217	2227	Cross tensioning on No's 1 & 5. Held at 180 MT.
2234	2244	Cross tensioning on No's 2 & 6. Held at 180 MT.
2244	2249	Skidding rig onto location.
2250	2300	Logging for Pre Spud Fix.
2300	2359	Waiting for well to be spudded.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	1	C. Tidey Helicopter Safety Briefing

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	C. Tidey	Surveyor
Radio Modem	2	Radio Modem	3	H. Stewart	Surveyor
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-5

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 15/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	2300	Waiting for well to be spudded.
2300	2359	Manoeuvring rig to run 30" casing

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	0	
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	H. Stewart	Surveyor
Radio Modem	2	Radio Modem	3		
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-6

Fugro-BTW
PM-F50
DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 16/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	0156	Manoeuvring rig to run 30" casing.
0156	1216	30'" Casing run. Commence logging for Final Fix.
1000	1020	H. Stewart attends helicopter safety briefing.
1130	1245	H. Stewart departs rig for Melbourne then New Plymouth
1216	1232	Stop logging due to relocation of rig on unlatching from 30" casing.
1232	2226	Recommence logging Final Fix data.
2226	2245	Relocating rig to centre up over 30" casing.
2245	2359	Commence logging for final fix.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	1	H. Stewart attends helicopter safety briefing.
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4	H. Stewart	Surveyor
Radio Modem	2	Radio Modem	3		
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-7

Fugro-BTW
PM-F50

DAILY OPERATIONS REPORT

CLIENT: SANTOS LTD	LOCATION: BASS STRAIT, AUSTRALIA	DATE: 17/07/08
PROJECT: RIG MOVE TO NETHERBY-1 LOCATION	VESSEL: OCEAN PATRIOT	JOB NO: 08008

FROM	TO	SUMMARY OF OPERATIONS
0001	0545	Continue logging for Final Fix.
1000	1020	G. Marshall attends helicopter safety briefing.
1130	1245	G. Marshall departs rig for Melbourne then New Plymouth, New Zealand.

HSE DETAILS		
Emergency Muster	0	
Incidents	0	
Safety Drills Fire/Abandon	0	
Safety Notices Received	0	
Vessel inductions	0	
Toolbox Meetings	0	
Hazard Cards Submitted	0	
JHA's	1	G. Marshall attends helicopter safety briefing.
HSE / Project Meetings	0	

EQUIPMENT RIG	NO.	EQUIPMENT REMOTE	NO.	PERSONNEL	TITLE
Starfix Seis	2	Starfix Wombat (remote)	3	G. Marshall	Surveyor in Charge
Starfix HP DGPS	3	Fluxgate Compass	4		
Radio Modem	2	Radio Modem	3		
UPS	2	Starfix HP DGPS	3		
Theodolite	1	UPS	3		
Gyro	2				
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					

AUTHORISED CONTRACT CHANGES / COMMENTS: NOTE THAT EQUIPMENT ON PACIFIC WRANGLER ON STANDBY RATES.

Party Chief Signature:	Client Representative Signature:	D O R Number
		08008-8

APPENDIX B
FINAL POSITIONING DATA

Santos

Netherby-1 Final Fix

FUGRO

Fugro Job Number	08008
Job Name	Rig Move from Pecten East-1 to Netherby-1
Fugro Personnel	G. Marshall - Surveyor in Charge
	C. Tidey - Surveyor
	H. Stewart - Surveyor
Client Name	SANTOS Ltd
Client Representative	J. Tighe
Sampling Started	16 Jul 2008 12:45:24 PM UTC
Sampling Ended	16 Jul 2008 7:45:57 PM UTC
Output File Name	"198 19 45 57(1).pdf"
Comment	Netherby-1 Final Fix Report

Ocean Patriot At Otway Basin - Final DGPS Position Fix Summary for Drill Stem

Drill Stem Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°40'48.5777"S
Longitude	142°38'25.7447"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	642694.063 m
Northing	5717438.489 m
Final Rig Heading	215.56 °T (Convergence 1.03° Aust/NZ)
Gyro C-O	0.23 °

Drill Stem Position is 1.49 m on a bearing of 1.39 °T (2.41 °G) FROM intended location

Intended Offset / Well Location

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°40'48.6261"S
Longitude	142°38'25.7432"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	642694.000 m
Northing	5717437.001 m

Team Leader / Surveyor: _____

Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention	+RZ=-RLongitude		
Projection	**Universal Transverse Mercator Zone: 54**		
Grid Name	MGA		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	141°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	1°01'31.1070"		

Final Primary Antenna Position (NMEA GPS 1.GGA)

4777 observations used out of a total of 5012

Primary Antenna Offset from CRP

Starboard	-9.020 m
Forward	44.010 m
Up	27.000 m

Mean

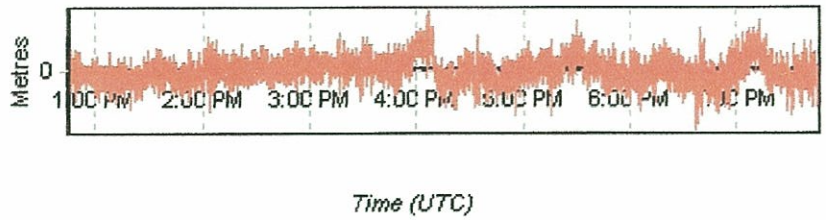
Geodetic Datum	**WGS84**
Latitude	38°40'49.8829"S
Longitude	142°38'25.0024"E
Spheroidal Ht	24.05 m
Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°40'49.9091"S
Longitude	142°38'24.9892"E
Spheroidal Ht	24.10 m
Projection	**Universal Transverse Mercator Zone: 54**
Easting	642675.073 m
Northing	5717397.776 m
HDOP	1.05
Heading	215.56 °T
Age Of Corrections	11.2 s
Satellites	10

Standard Deviation

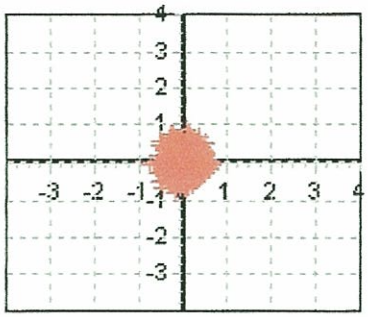
Latitude or Northing	0.17 m
Longitude or Easting	0.16 m
Spheroidal Height	0.28 m
HDOP	0.20
Heading	0.07 °T

Netherby-1 Final Fix

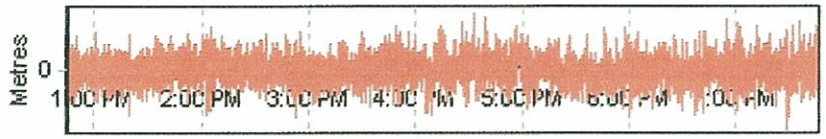
Primary (NMEA GPS 1.GGA) - Delta Latitude



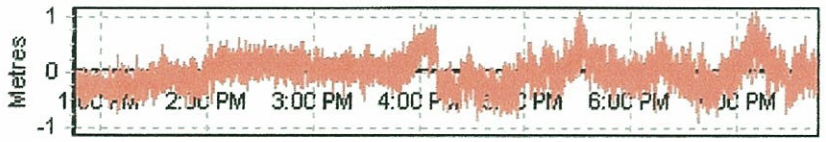
Delta Easting (m) V's Delta Northing (m)



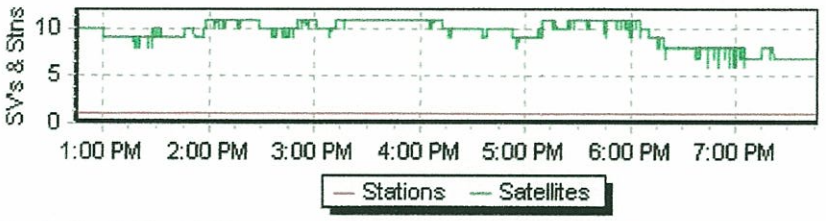
Primary (NMEA GPS 1.GGA) - Delta Longitude



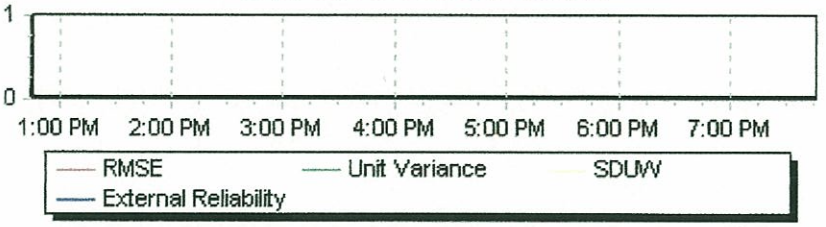
Primary (NMEA GPS 1.GGA) - Delta Height



Primary (NMEA GPS 1.GGA) - Satellites & Stations



Primary (NMEA GPS 1.GGA) - Qualities



Final Secondary Antenna Position (NMEA GPS 2.GGA)
5047 observations used out of a total of 5047

Seconday Antenna Offset from CRP

Starboard	-9.750 m
Forward	42.010 m
Up	27.000 m

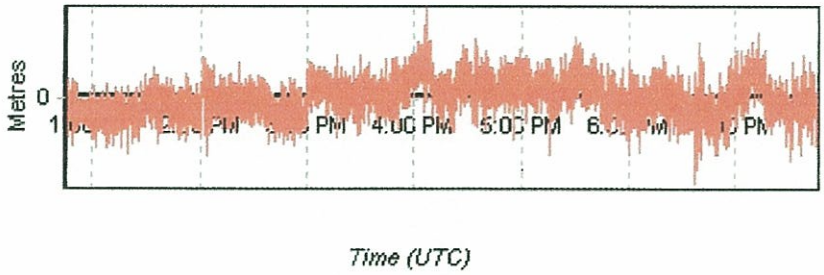
Mean

Geodetic Datum	**WGS84**
Latitude	38°40'49.8329"S
Longitude	142°38'25.0724"E
Spheroidal Ht	24.28 m
Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°40'49.8590"S
Longitude	142°38'25.0592"E
Spheroidal Ht	24.34 m
Projection	**Universal Transverse Mercator Zone: 54**
Easting	642676.792 m
Northing	5717399.289 m
HDOP	1.10
Age Of Corrections	12.5 s
Satellites	9

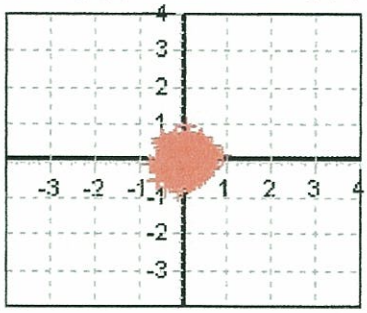
Standard Deviation

Latitude or Northing	0.20 m
Longitude or Easting	0.19 m
Spheroidal Height	0.32 m
HDOP	0.24

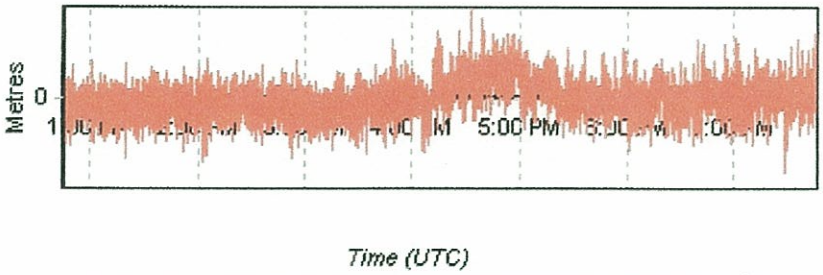
Secondary (NMEA GPS 2.GGA) - Delta Latitude



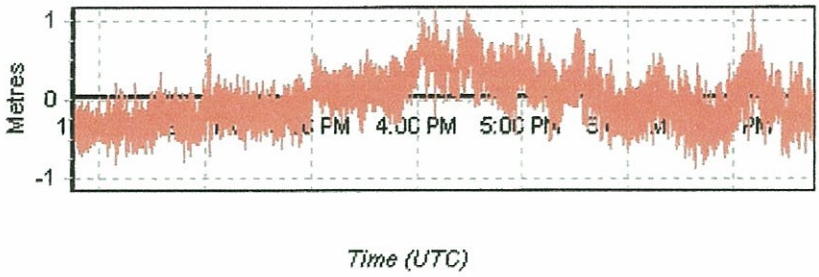
Delta Easting (m) V's Delta Northing (m)



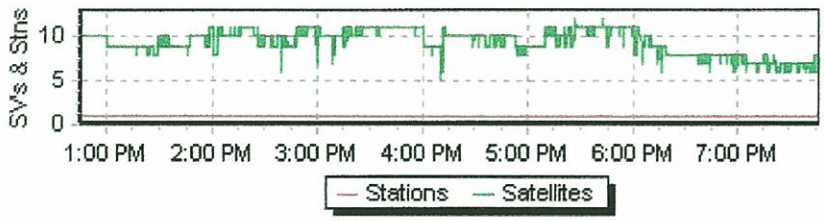
Secondary (NMEA GPS 2.GGA) - Delta Longitude



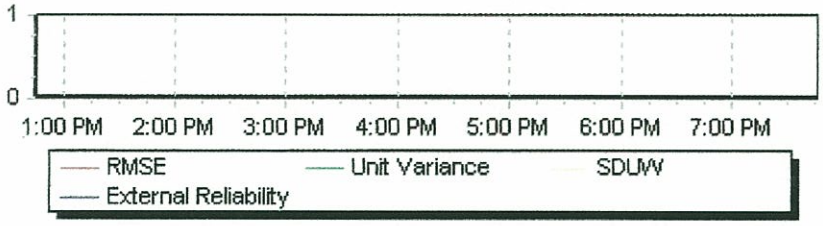
Secondary (NMEA GPS 2.GGA) - Delta Height



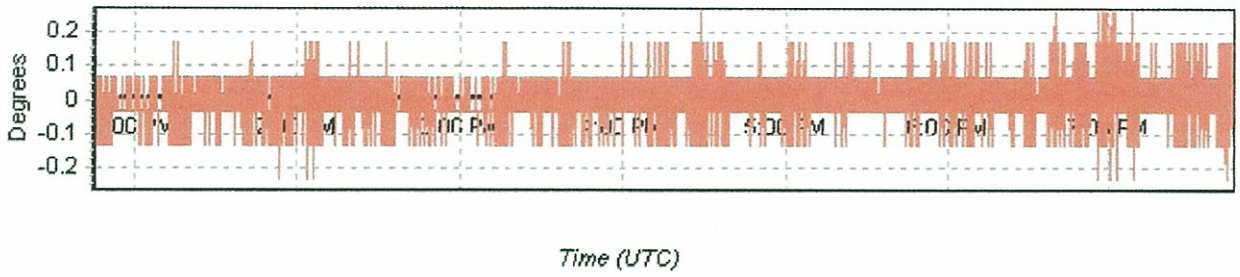
Secondary (NMEA GPS 2.GGA) - Satellites & Stations



Secondary (NMEA GPS 2.GGA) - Qualities



TSS Meridian.HDT - Delta Heading

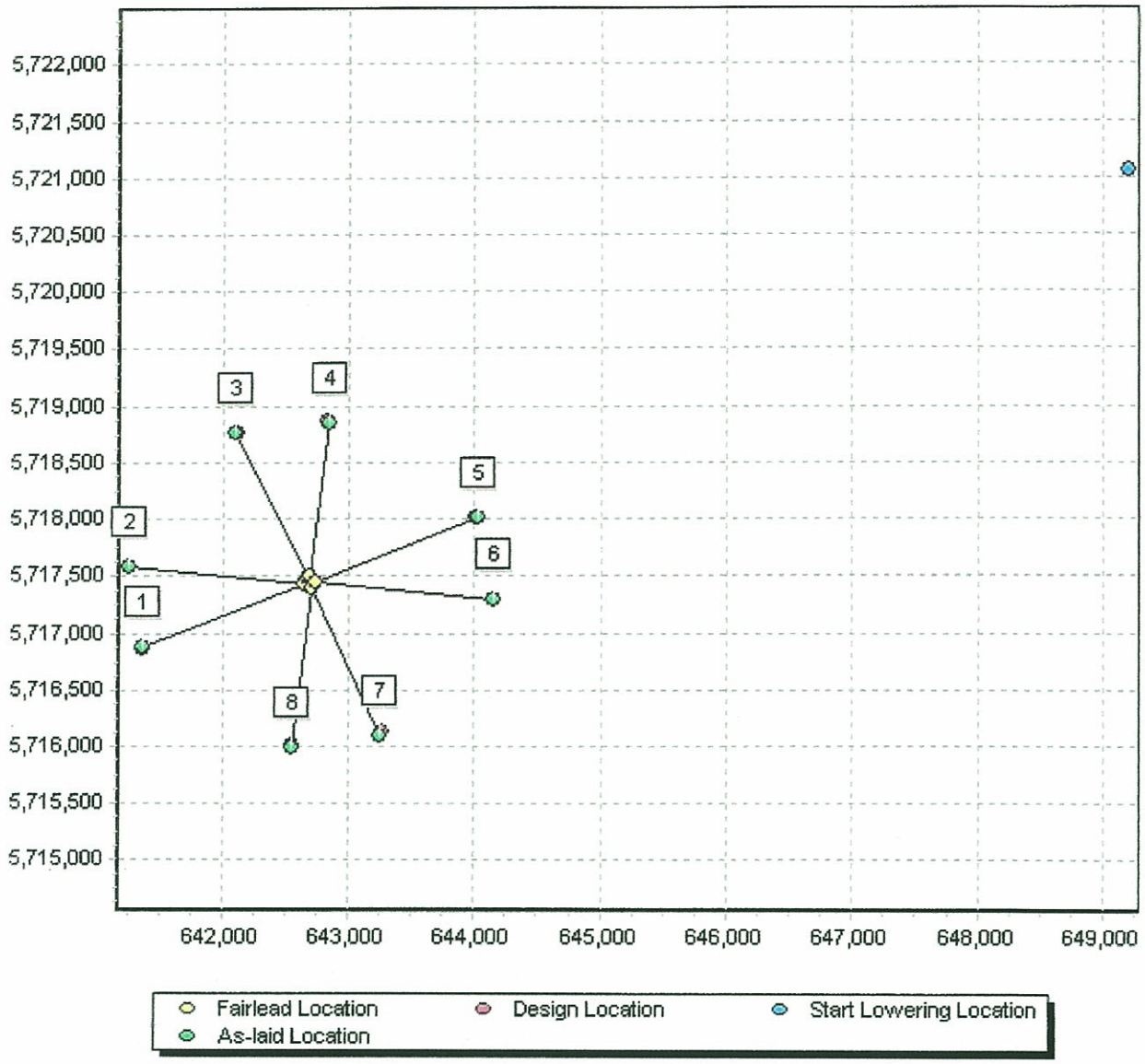


Anchors of Ocean Patriot

Fairlead	Status	Universal Transverse Mercator Zone: 54		
1	Laid	38°41'08.2159"S	142°37'31.3459"E	(Design)
		641368.869 m	5716856.537 m	
2	Laid	38°40'45.0958"S	142°37'26.2393"E	(Design)
		641258.115 m	5717571.431 m	
3	Laid	38°40'06.4033"S	142°38'00.8094"E	(Design)
		642114.711 m	5718749.335 m	
4	Laid	38°40'02.2619"S	142°38'30.2685"E	(Design)
		642828.943 m	5718864.280 m	
5	Laid	38°40'29.4281"S	142°39'19.7669"E	(Design)
		644010.083 m	5718005.332 m	
6	Laid	38°40'52.5769"S	142°39'25.9230"E	(Design)
		644145.945 m	5717289.050 m	
7	Laid	38°41'31.2458"S	142°38'50.3200"E	(Design)
		643264.242 m	5716112.533 m	
8	Laid	38°41'35.3888"S	142°38'20.8512"E	(Design)
		642550.009 m	5715997.588 m	
6		38°38'47.5737"S	142°42'52.1544"E	(Start Lowering)
		649201.200 m	5721050.805 m	
1		38°41'07.4707"S	142°37'31.4274"E	(As-Laid)
		641371.245 m	5716879.472 m	
		23.057 m @	185°54'50.6974"	(TO design:Grid)
2		38°40'45.1483"S	142°37'26.5111"E	(As-Laid)
		641264.653 m	5717569.697 m	
		6.764 m @	284°51'18.5525"	(TO design:Grid)
3		38°40'06.3662"S	142°38'00.3874"E	(As-Laid)
		642104.533 m	5718750.661 m	
		10.263 m @	97°25'13.5561"	(TO design:Grid)
4		38°40'02.9945"S	142°38'30.9532"E	(As-Laid)
		642845.087 m	5718841.402 m	
		28.001 m @	324°47'28.3404"	(TO design:Grid)
5		38°40'29.2787"S	142°39'20.3967"E	(As-Laid)
		644025.386 m	5718009.664 m	
		15.905 m @	254°11'42.8517"	(TO design:Grid)
6		38°40'52.5769"S	142°39'25.9230"E	(As-Laid)
		644145.945 m	5717289.050 m	
		0.000 m @	0°00'00.0000"	(TO design:Grid)
7		38°41'32.1223"S	142°38'49.7939"E	(As-Laid)
		643251.044 m	5716085.744 m	
		29.864 m @	26°13'38.5252"	(TO design:Grid)
8		38°41'35.9812"S	142°38'20.5358"E	(As-Laid)
		642542.062 m	5715979.462 m	
		19.792 m @	23°40'24.8632"	(TO design:Grid)

Netherby-1 Final Fix

Anchor Positions



MODU Ocean Patriot

DRILLING RIG POSITION

Location – Netherby-1

PRELIMINARY NOTIFICATION

To:	**Chris Roots**	**SANTOS Senior Drilling Engineer**
	Dennis Gore	**OIM Ocean Patriot**
From:	**John Tighe**	**SANTOS/RPS Energy Survey Rep**
Date:	**17 July 2008**	**Time: 0730 Hrs**

DGPS Position Fix

On completion of cementing the 30"conductor, Differential GPS position fixes were recorded at 5 second intervals from 2245 hrs on 16 July to 0545 hrs on 17 July 2008.

Drillstem Location:

Latitude:	**38° 40' 48.578 " South**
Longitude:	**142° 38' 25.745 " East**
Easting:	**642 694.06 m E**
Northing:	**5 717 438.49 m N**

Datum:	**GDA 94**	**Spheroid**	**GRS80**
Projection:	**MGA Zone 54 CM 141° East**		
Rig Heading:	**215.6° (T)**		

This position is 1.49 metres on a bearing of 1.4° (T) from the intended location

Netherby-1 Intended Location:-

Latitude:	38° 40' 48.62" South
Longitude:	142° 38' 25.75" East
Easting:	642 694 m E
Northing:	5 717 437 m N
Datum:	GDA 94 Spheroid GRS80
Projection:	MGA Zone 54S CM = 141° East
Rig Heading:	215.0° (T)

.....

John Tighe
RPS Energy

.....

Geoffrey Marshall
FUGRO-BTW Survey

APPENDIX C
RIG MOVE POSITIONING SYSTEM SETUP, CHECKS AND CALIBRATIONS

Starfix.Geo Report (v4.01.10)

COORDINATE SYSTEMS

Coordinate System	Coordinate System 1	Coordinate System 2
Datum	WGS84	GDA94-ITRF2008.50
Spheroid	WGS84	GRS80
Semi-Major Axis	6378137.000 m	6378137.000 m
Inverse Flattening	298.2572235630	298.2572221010
Projection	Universal Transverse Mercator	Universal Transverse Mercator
Grid		Map Grid Australia
Latitude Of Origin	0° 00' 00.00000" N	0° 00' 00.00000" N
Longitude Of Origin	141° 00' 00.00000" E	141° 00' 00.00000" E
False Easting	500000.000 m	500000.000 m
False Northing	10000000.000 m	10000000.000 m
Central Scale Factor	0.9996000000	0.9996000000
Projection Units	metres	metres
Conversion to metres	1.0000000000	1.0000000000
Convergence Convention	Australia/New Zealand	Australia/New Zealand
Geoid Model		

TRANSFORMATION FROM SYSTEM 1 TO SYSTEM 2

7 PARAMETER (COORDINATE FRAME ROTATION)

System 1 to System 2		WGS84 To System 1 WGS84	WGS84 To System 2 GDA94-ITRF2008.50
dX	0.0174 m	0.0000 m	0.0174 m
dY	-0.0484 m	0.0000 m	-0.0484 m
dZ	-0.1035 m	0.0000 m	-0.1035 m
rX	0.017554"	0.000000"	0.017554"
rY	0.015065"	0.000000"	0.015065"
rZ	0.018157"	0.000000"	0.018157"
dS	0.003362 ppm	0.000000 ppm	0.003362 ppm

TRANSFORMATION CALCULATIONS

Point Name	Netherby-1	Netherby-1
Latitude	38° 40' 48.59991" S	38° 40' 48.62606" S
Longitude	142° 38' 25.75640" E	142° 38' 25.74322" E
Spheroidal Height	-0.055 m	0.000 m
Geoid-Spheroid Sep	0.000 m	0.000 m
X	-3962767.983 m	-3962767.423 m
Y	3025330.117 m	3025330.090 m
Z	-3964661.828 m	-3964662.492 m
Easting	642694.333 m	642694.000 m
Northing	5717437.801 m	5717437.001 m
Local Height	-0.055 m	0.000 m
Point Scale Factor	0.9998507437	0.9998507425
Convergence	1° 01' 31.55747" (ANZ)	1° 01' 31.54982" (ANZ)

SIC

FUGRO-BTW SEIS Setup for Project 08008 Rig Move to Netherby-1 Location for SANTOS

Datum 1: Datum: GDA94-ITRF2008.50
Spheroid: GRS80
SemiMajor Axis: 6378137.000
1/Flattening: 298.2572221010
Eccentricity^2: 0.006694380022901

Projection: Universal Transverse Mercator
Grid Name: MGA
Lat. Origin: 0°00'00.0000"N
Lon. Origin: 141°00'00.0000"E
False East: 500000.000m
False North: 10000000.000m
Scale Factor: 0.9996
Convergence: Australia/New Zealand

Datum 2: Datum: WGS84
Spheroid: WGS84
SemiMajor Axis: 6378137.000
1/Flattening: 298.2572235630
Eccentricity^2: 0.006694379990141

Datum2>1:Parameters: From WGS84 to GDA94-ITRF2008.50
DX: 0.0174m RX: 0.0176"
DY: -0.0484m RY: 0.0151"
DZ: -0.1035m RZ: 0.0182"
D Scale: 0.0034ppm Rot Convention: +RZ=-RLongitude

Sundry : Vertical Datum:
Ell. Sep: 0.0000m
Distances: Spheroidal
Bearings: True
Units: metres
Conversion: 1.0000000000

Nav. 1: System: NMEA GPS 1.GGA (In Use)
Type: Lat - Long
Priority: 1
Time-out: 5.0s
Offset Name: GPS_1
X Offset: -9.02m
Y Offset: 44.01m
Ant. Height: 27.00m

Nav. 2: System: NMEA GPS 2.GGA
Type: Lat - Long
Priority: 2
Time-out: 5.0s
Offset Name: GPS_2
X Offset: -9.75m
Y Offset : 42.01m
Ant. Height : 27.00m

Dead Reckoning: No Timeout: 30.0s

Heading 1 : System: TSS Meridian.HDT (In Use)
Priority: 1
Time-out: 3.0s
Offset Name: Drill Stem
X Offset: 0.00m
Y Offset: 0.00m
Z Offset: 0.00m
Correction: 0.14 Degrees

Heading 2 : System: Rig Gyro.HDT
Priority: 3
Time-out: 3.0s
Offset Name: Drill Stem
X Offset: 0.00m
Y Offset: 0.00m
Z Offset: 0.00m
Correction: 0.00 Degrees

Offsets:

Name	X	Y	Z
GPS_2	-9.75	42.01	27.00
GPS_1	-9.02	44.01	27.00
Drill Stem	0.00	0.00	0.00
Tow point	0.00	54.50	0.00

Fairlead:

Name	X	Y	Z
1	33.50	42.00	0.00
2	33.50	39.00	0.00
3	33.50	-24.00	0.00
4	33.50	-27.00	0.00
5	-33.50	-27.00	0.00
6	-33.50	-24.00	0.00
7	-33.50	39.00	0.00
8	-33.50	42.00	0.00

Signature:_____
Surveyor in Charge

Signature:_____
Client Representative

Santos

Pre-Rig Move Position Report

FUGRO

Fugro Job Number	**08008**
Job Name	**Rig Move from Pecten East-1 to Netherby-1**
Fugro Personnel	**G. Marshall - Surveyor in Charge**
	C. Tidey - Surveyor
	H. Stewart - Surveyor
Client Name	**SANTOS Ltd**
Client Representative	**J. Tighe**
Sampling Started	**11 Jul 2008 4:44:03 AM UTC**
Sampling Ended	**11 Jul 2008 5:44:04 AM UTC**
Output File Name	**"193 05 44 04.pdf"**
Comment	**Pecten East-1 Pre-Rig Move Fix Report**

Ocean Patriot At Otway Basin - Final DGPS Position Fix Summary for Drill Stem

Drill Stem Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°38'42.5662"S
Longitude	142°42'44.6774"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	649023.325 m
Northing	5721208.548 m
Final Rig Heading	213.71 °T (Convergence 1.07° Aust/NZ)
Gyro C-O	0.14 °

Drill Stem Position is 0.68 m on a bearing of 84.55 °T (85.62 °G) FROM intended location

Intended Offset / Well Location

Geodetic Datum	**GDA94-ITRF2008.50**
Latitude	38°38'42.5683"S
Longitude	142°42'44.6493"E
Projection	**Universal Transverse Mercator Zone: 54**
Easting	649022.644 m
Northing	5721208.496 m

Team Leader / Surveyor: _____

Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention	+RZ=-RLongitude		
Projection	**Universal Transverse Mercator Zone: 54**		
Grid Name	MGA		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	141°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	1°04'10.1146"		

Fugro Job Number	08008
Job Name	Rig Move from Pecten East-1 to Netherby-1
Fugro Personnel	G. Marshall - Surveyor in Charge
	C. Tidey - Surveyor
	H. Stewart - Surveyor
Client Name	SANTOS Ltd
Client Representative	J. Tighe
Sampling Started	14 Jul 2008 12:50:51 PM UTC
Sampling Ended	14 Jul 2008 1:00:51 PM UTC
Output File Name	"196 13 00 51(1).pdf"
Comment	Netherby-1 Pre-Spud Report

Ocean Patriot At Otway Basin - Final DGPS Position Fix Summary for Drill Stem

Drill Stem Offset From CRP

Starboard	0.000 m
Forward	0.000 m
Up	0.000 m

Geodetic Datum GDA94-ITRF2008.50

Latitude	38°40'48.6256"S
Longitude	142°38'25.7602"E

Projection Universal Transverse Mercator Zone: 54

Easting	642694.410 m
Northing	5717437.008 m

Final Rig Heading 214.35 °T (Convergence 1.03° Aust/NZ)
Gyro C-O 0.23 °

Drill Stem Position is 0.41 m on a bearing of 87.94 °T (88.96 °G) FROM intended location

Intended Offset / Well Location

Geodetic Datum GDA94-ITRF2008.50

Latitude	38°40'48.6261"S
Longitude	142°38'25.7432"E

Projection Universal Transverse Mercator Zone: 54

Easting	642694.000 m
Northing	5717437.001 m

Team Leader / Surveyor: _____

Client Representative : _____

Geodetic Parameters

Geodetic Datum	**GDA94-ITRF2008.50**		
Spheroid	**GRS80**		
Semi-Major Axis	6378137.000		
Inverse Flattening	298.2572221010		
Eccentricity^2	0.006694380022901		
DX	0.0174m	RX	0.0176 arc seconds
DY	-0.0484m	RY	0.0151 arc seconds
DZ	-0.1035m	RZ	0.0182 arc seconds
D Scale	0.0034ppm		
Rotation Convention +RZ=-RLongitude			
Projection	**Universal Transverse Mercator Zone: 54**		
Grid Name	MGA		
Latitude of Origin	0°00'00.0000"N		
Longitude of Origin	141°00'00.0000"E		
False Easting	500000.000m		
False Northing	10000000.000m		
Convergence	1°01'31.1407"		

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	08008	**Vessel:**	Ocean Patriot
Job Description:	Rig Move from Pecten East-1 to Netherby-1	**Instrument:**	Wild T1
Client:	SANTOS Ltd	**Serial No:**	131383
Surveyor:	G. Marshall	**Date:**	July 12, 2008
Gyro Compass (Serial No):	TSS Meridian 5509	**Time Zone :**	10

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	299°	53 '	15 "

Enter approximate WGS84 position of instrument :

	D	M	S
Latitude (ϕ)	-38 °	38 '	43 "
Longitude (λ)	142 °	42 '	45 "

Observations

Obs. No.	Date	UTC	Instrument Position		Calculated Sun Azimuth at UTC		Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude (ϕ) DMS	Longitude (λ) DMS	DMS	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	12-Jul-08	22:44:37	-038° 38' 43.00"	142° 42' 45.00"	052° 30' 28.59"	52.508 °	138°	38'	40	138.644	213.751 °	213.60 °	0.2625	0.15 °
2	12-Jul-08	22:26:53	-038° 38' 43.00"	142° 42' 45.00"	055° 32' 53.31"	55.548 °	141°	16'	20	141.272	214.163 °	213.90 °	0.2625	0.26 °
3	12-Jul-08	22:27:39	-038° 38' 43.00"	142° 42' 45.00"	055° 25' 9.02"	55.419 °	141°	03'	20	141.056	214.251 °	214.10 °	0.2625	0.15 °
4	12-Jul-08	22:28:35	-038° 38' 43.00"	142° 42' 45.00"	055° 15' 42.75"	55.262 °	140°	46'	40	140.778	214.372 °	214.20 °	0.2625	0.17 °
5	12-Jul-08	22:29:44	-038° 38' 43.00"	142° 42' 45.00"	055° 04' 3.43"	55.068 °	140°	53'	10	140.886	214.069 °	213.80 °	0.2625	0.27 °
6	12-Jul-08	22:31:01	-038° 38' 43.00"	142° 42' 45.00"	054° 51' 0.94"	54.850 °	140°	41'	20	140.689	214.049 °	213.80 °	0.2625	0.25 °
7	12-Jul-08	22:31:33	-038° 38' 43.00"	142° 42' 45.00"	054° 45' 35.09"	54.760 °	140°	17'	40	140.294	214.353 °	214.10 °	0.2625	0.25 °
8	12-Jul-08	22:32:14	-038° 38' 43.00"	142° 42' 45.00"	054° 38' 37.04"	54.644 °	140°	37'	40	140.628	213.903 °	213.70 °	0.2625	0.20 °
9	12-Jul-08	22:32:54	-038° 38' 43.00"	142° 42' 45.00"	054° 31' 48.57"	54.530 °	140°	04'	50	140.081	214.337 °	214.10 °	0.2625	0.24 °
10	12-Jul-08	22:33:44	-038° 38' 43.00"	142° 42' 45.00"	054° 23' 17.13"	54.388 °	140°	19'	20	140.322	213.953 °	213.70 °	0.2625	0.25 °
11	12-Jul-08	22:35:19	-038° 38' 43.00"	142° 42' 45.00"	054° 07' 2.77"	54.117 °	140°	12'	40	140.211	213.794 °	213.60 °	0.2625	0.19 °
12	12-Jul-08	22:36:48	-038° 38' 43.00"	142° 42' 45.00"	053° 51' 46.80"	53.863 °	139°	55'	40	139.928	213.823 °	213.60 °	0.2625	0.22 °
13	12-Jul-08	22:39:12	-038° 38' 43.00"	142° 42' 45.00"	053° 26' 58.26"	53.450 °	139°	16'	20	139.272	214.065 °	213.80 °	0.2625	0.26 °
14	12-Jul-08	22:39:48	-038° 38' 43.00"	142° 42' 45.00"	053° 20' 44.86"	53.346 °	139°	08'	0	139.133	214.100 °	213.80 °	0.2625	0.30 °
15	12-Jul-08	22:40:44	-038° 38' 43.00"	142° 42' 45.00"	053° 11' 2.99"	53.184 °	138°	56'	50	138.947	214.124 °	213.90 °	0.2625	0.22 °
16	12-Jul-08	22:41:25	-038° 38' 43.00"	142° 42' 45.00"	053° 03' 56.19"	53.066 °	138°	49'	20	138.822	214.131 °	213.90 °	0.2625	0.23 °
17	12-Jul-08	22:41:56	-038° 38' 43.00"	142° 42' 45.00"	052° 58' 33.05"	52.976 °	138°	50'	20	138.839	214.024 °	213.80 °	0.2625	0.22 °
18	12-Jul-08	22:42:47	-038° 38' 43.00"	142° 42' 45.00"	052° 49' 40.59"	52.828 °	138°	11'	40	138.194	214.521 °	214.30 °	0.2625	0.22 °
19	12-Jul-08	22:45:16	-038° 38' 43.00"	142° 42' 45.00"	052° 23' 38.98"	52.394 °	138°	07'	20	138.122	214.159 °	213.90 °	0.2625	0.26 °
20	12-Jul-08	22:44:02	-038° 38' 43.00"	142° 42' 45.00"	052° 36' 35.66"	52.610 °	138°	07'	0	138.117	214.381 °	214.20 °	0.2625	0.18 °

Mean	**0.23 °**
Std. Deviation	**0.04**
Maximum	**0.30 °**
Minimum	**0.15 °**
Range	**0.15**

Ocean Patriot moored at Pecten East-1. 20 kt winds, 3-4m swell.

Signature G. Marshall

SURVEYOR / PARTY CHIEF

GYRO COMPASS CALIBRATION BY SUN AZIMUTH - CALCULATION SUMMARY

Fugro Job Number:	08008	**Vessel:**	Ocean Patriot
Job Description:	Rig Move from Pecten East-1 to Netherby-1	**Instrument:**	Wild T1
Client:	SANTOS Ltd	**Serial No:**	5017
Surveyor:	G. Marshall	**Date:**	July 12, 2008
Gyro Compass (Serial No):	ANSCHUTZ	**Time Zone :**	10

Vessel Details

	D	M	S
Enter correction from RO to vessel centreline	299°	53 '	15 "

Enter approximate WGS84 position of instrument :

	D	M	S
Latitude (ϕ)	-38 °	38 '	43 "
Longitude (λ)	142 °	42 '	45 "

Observations

Obs. No.	Date	UTC	Instrument Position		Calculated Sun Azimuth at UTC		Observed Direction to Sun				Calc'd Vessel Hdg	Obs'd Vessel Hdg	Sun Semi Diameter	(C-O) Degrees
			Latitude (ϕ) DMS	Longitude (λ) DMS	DMS	Dec. Deg	Deg	Min	Sec	Dec. Deg				
1	12-Jul-08	22:44:37	-038° 38' 43.00"	142° 42' 45.00"	052° 30' 28.59"	52.508 °	138°	38'	40	138.644	213.751 °	213.30 °	0.2625	0.45 °
2	12-Jul-08	22:26:53	-038° 38' 43.00"	142° 42' 45.00"	055° 32' 53.31"	55.548 °	141°	16'	20	141.272	214.163 °	213.80 °	0.2625	0.36 °
3	12-Jul-08	22:27:39	-038° 38' 43.00"	142° 42' 45.00"	055° 25' 9.02"	55.419 °	141°	03'	20	141.056	214.251 °	213.90 °	0.2625	0.35 °
4	12-Jul-08	22:28:35	-038° 38' 43.00"	142° 42' 45.00"	055° 15' 42.75"	55.262 °	140°	46'	40	140.778	214.372 °	214.00 °	0.2625	0.37 °
5	12-Jul-08	22:29:44	-038° 38' 43.00"	142° 42' 45.00"	055° 04' 3.43"	55.068 °	140°	53'	10	140.886	214.069 °	213.70 °	0.2625	0.37 °
6	12-Jul-08	22:31:01	-038° 38' 43.00"	142° 42' 45.00"	054° 51' 0.94"	54.850 °	140°	41'	20	140.689	214.049 °	213.60 °	0.2625	0.45 °
7	12-Jul-08	22:31:33	-038° 38' 43.00"	142° 42' 45.00"	054° 45' 35.09"	54.760 °	140°	17'	40	140.294	214.353 °	214.00 °	0.2625	0.35 °
8	12-Jul-08	22:32:14	-038° 38' 43.00"	142° 42' 45.00"	054° 38' 37.04"	54.644 °	140°	37'	40	140.628	213.903 °	213.50 °	0.2625	0.40 °
9	12-Jul-08	22:32:54	-038° 38' 43.00"	142° 42' 45.00"	054° 31' 48.57"	54.530 °	140°	04'	50	140.081	214.337 °	213.90 °	0.2625	0.44 °
10	12-Jul-08	22:33:44	-038° 38' 43.00"	142° 42' 45.00"	054° 23' 17.13"	54.388 °	140°	19'	20	140.322	213.953 °	213.60 °	0.2625	0.35 °
11	12-Jul-08	22:35:19	-038° 38' 43.00"	142° 42' 45.00"	054° 07' 2.77"	54.117 °	140°	12'	40	140.211	213.794 °	213.50 °	0.2625	0.29 °
12	12-Jul-08	22:36:48	-038° 38' 43.00"	142° 42' 45.00"	053° 51' 46.80"	53.863 °	139°	55'	40	139.928	213.823 °	213.50 °	0.2625	0.32 °
13	12-Jul-08	22:39:12	-038° 38' 43.00"	142° 42' 45.00"	053° 26' 58.26"	53.450 °	139°	16'	20	139.272	214.065 °	213.70 °	0.2625	0.36 °
14	12-Jul-08	22:39:48	-038° 38' 43.00"	142° 42' 45.00"	053° 20' 44.86"	53.346 °	139°	08'	0	139.133	214.100 °	213.70 °	0.2625	0.40 °
15	12-Jul-08	22:40:44	-038° 38' 43.00"	142° 42' 45.00"	053° 11' 2.99"	53.184 °	138°	56'	50	138.947	214.124 °	213.80 °	0.2625	0.32 °
16	12-Jul-08	22:41:25	-038° 38' 43.00"	142° 42' 45.00"	053° 03' 56.19"	53.066 °	138°	49'	20	138.822	214.131 °	213.80 °	0.2625	0.33 °
17	12-Jul-08	22:41:56	-038° 38' 43.00"	142° 42' 45.00"	052° 58' 33.05"	52.976 °	138°	50'	20	138.839	214.024 °	213.70 °	0.2625	0.32 °
18	12-Jul-08	22:42:47	-038° 38' 43.00"	142° 42' 45.00"	052° 49' 40.59"	52.828 °	138°	11'	40	138.194	214.521 °	214.10 °	0.2625	0.42 °
19	12-Jul-08	22:45:16	-038° 38' 43.00"	142° 42' 45.00"	052° 23' 38.98"	52.394 °	138°	07'	20	138.122	214.159 °	213.70 °	0.2625	0.46 °
20	12-Jul-08	22:44:02	-038° 38' 43.00"	142° 42' 45.00"	052° 36' 35.66"	52.610 °	138°	07'	0	138.117	214.381 °	214.00 °	0.2625	0.38 °

Mean	**0.38 °**
Std. Deviation	**0.05**
Maximum	**0.46 °**
Minimum	**0.29 °**
Range	**0.17**

Ocean Patriot moored at Pecten East-1. 20 kt winds, 3-4m swell.

Signature G. Marshall

SURVEYOR / PARTY CHIEF

APPENDIX D
CLIENT SUPPLIED INFORMATION

1 WELL ENGINEERING

1.1 Well Summary

Well Name :	Nertherby-1 / 1DW
Well Designation :	Horizontal Gas Development
Permit :	VIC/P44
Operator :	Santos Ltd
Interest Holders	Santos 50%, Mittwell 25%, AWE 25%
Anticipated spud date :	3Q 2008
Budget Duration :	37 Days
Drilling Contractor / Rig :	Diamond Offshore General Company / Ocean Patriot
RT - SL	22m
Water Depth	64 m (LAT)
Geographic Surface Location :	Lat: 38° 40' 48.62" S Long: 142° 38' 25.75" E Easting: 642694 m E Northing: 5717437 m N GDA94 datum UTM54s
Surface Position Tolerance:	3 m radius
Target Locations: (GDA94, UTM54S)	**Netherby-1 Pilot** Lat: 38° 40' 54.60" S Long: 142° 38' 40.27" E Easting: 643041.8 m E Northing: 5717246.7 m N Depth: 1636 mRT TVD **Netherby-1DW Heel** Lat: 38° 40' 57.87" S Long: 142° 38' 48.18" E Easting: 643231.1 m E Northing: 5717142.3 m N Depth: 1642 mRT TVD **Netherby-1DW Toe** Lat: 38° 41' 06.77" S Long: 142° 39' 09.70" E Easting: 643746.0 m E Northing: 5716858.6 m N Depth: 1643 mRT TVD
Primary Objectives :	Waarre A Formation (1636 mRT TVD, pilot hole)
Secondary Objective :	No Secondary Target
Well Depth (TD):	1823 mRT MD (Pilot hole) 2503 mRT MD (Production hole)
Max BHT (°C):	69°C @ 1704 mRT TVD

Supervisor

Subject: FW: Rig positioning_Netherby / scaffolding

From: Thomson, Jeff [mailto:Jeff.Thomson@santos.com]
Sent: Friday, 11 July 2008 1:26 PM
To: Ocean Patriot Senior Drilling Supervisor
Subject: RE: Rig positioning_Netherby / scaffolding

Chris

Heading tolerance is 215 degrees plus or minus a maximum of 5 degrees.
Surface position tolerance is plus or minus 3 metres.
30" wellhead tolerance is 2 metres plus or minus 0.25 metres

regards

Jeff Thomson
Senior Drilling Engineer
Santos Ltd
Level 28, Forrest Centre
221 St Georges Tce
Perth WA 6000
AUSTRALIA

Ph: 61-8-9460-8962

Mobile: 0418-583-920

From: Supervisor [mailto:supervisor@oceanpatriot.com.au]
Sent: Friday, 11 July 2008 11:18
To: Thomson, Jeff
Subject: Rig positioning_Netherby

Hej Jeff,

Please advise tolerance on the heading (if any). Usually we would expect ~5°

Regards
Chris

Santos

RIG MOVE PROCEDURES
OCEAN PATRIOT

From Pecten East-1
To
Netherby-1

INDEX

Reviewed by:		**Signed**	**Date**
Barge Supervisor:	Dale Johnson		7th July 2008
OIM:	Dennis Gore		7th July 2008
Rig Manager:	Steve Vacula		7th July 2008
Company Rep:			

INTRODUCTION

The purpose of this procedure is to provide a comprehensive set of conditions/guidelines for the safe and effective operation of the "Ocean Patriot". The procedure spans the full scope of the operation from the rig departure location to the arrival location.

The Ocean Patriot will be moved from the Pecten East-1 to the Netherby-1 location on or about the 8th July 2008

The rig will be moved at drilling draft with NO mud in pits and a MAXIMUM of 100 mt of pipe in the derrick.

No mud to be mixed until the primary anchors have been set, after which 500 bbls can be mixed while deploying the secondary anchors.

LOCATION DETAILS

The distance from the Pecten East-1 location to the Netherby-1 location is approximately 7.4 nautical miles. Estimated tow time will be 3 hours @ 2.5 kts.

Present Location:

NAME:	Pecten East-1
Latitude	38° 38' 42.5683" South
Longitude	142° 42' 44.6493" East
Water Depth	58 Meters
Rig final heading	215°

Seabed obstructions: No seabed obstructions at present or new location.

New location:

Name:	Netherby-1
Latitude	38° 40' 48.62" South
Longitude	142° 38' 25.75" East
Water Depth	64 Meters
Rig Heading:	215°

PERSONNEL RESPONSIBILITIES

The following refers to personnel involved in the rig move and mooring of the rig.

Santos Company Representative / Drilling Supervisor

- Point of contact for any emergency response that may be required during the tow.
- Liaise with OIM in regards to rig move status.
- Responsible for final position acceptance at new location as advised by the surveyors.

Santos Marine Representative

- Will liaise with the Rig's personnel and the AHTS with regards of the Rig move and mooring operations. He will liaise with the client representative and will ensure the mooring operations are done safely and in a timely manner.

Ocean Patriot OIM:

- Overall responsibility for all operations and safety of the rig and personnel at all times.
- Make decision when it is safe and practical to commence operations within the limitations of the rig's operating manual having consulted with the Barge Master.
- Ensure placement of competent Diamond Offshore personnel to ensure safe and correct deployment of anchors and handling of tow gear.
- Ensure that necessary rig move notifications are transmitted and navigation warnings are broadcast.
- Ensure that all relevant authorities are kept informed of the rig move status.

Barge Master:

- Will liaise with OIM and advise on marine operations and vessel deployment.
- Will liaise with AHV's Masters regarding tow wire deployment, course and speeds.
- Consult with survey representative on rig positioning and advise OIM accordingly.
- Liaise with OIM regarding changes to ballast or stability conditions, equipment failure or any other circumstances likely to affect safety.
- Ensure that all additional marine equipment provided for mooring is certified and correctly recorded upon deployment. Maintain detailed rig move log and complete Diamond Offshore rig move paperwork.

Rig Positioning Supervisor:

- Liaise with OIM and Company Representative regarding navigational equipment and positional confidence.
- Responsible for proper operation of positioning equipment.
- Responsible for providing constant data showing position of rig and vessels at all times during the move.
- Maintain log of movement of the unit until rig move completed. Provide final location position after move is completed.

AHV's Masters:

- Responsible for safety of their respective vessels and when towing, for the safety of the tow.
- Ensure that appropriate navigation warnings are issued at regular intervals.
- Ensure that all items of anchor handling gear are handled in a proper and safe manner.
- Ensure that all anchor handling operations are conducted in a safe manner with due regard to safe working practices and good seamanship.
- Inform Barge Master of any defects noted in anchors and/or jewelry.
- Ensure that all systems and equipment on Anchor handling vessel are operable and fit for purpose.

GENERAL INFORMATION REGARDING RIG MOVE

The rig move shall be preceded by a Rig Move Meeting on board the rig that shall include the OIM, Barge Master, AHV's Masters, Surveyors, Survey QA Technician and company Representative. The meeting shall examine de-mooring, tow and mooring operations to ensure a full understanding of procedures. If a pre-move meeting on the rig is not possible, the move will be discussed with the AHV's masters on VHF radio.

Approved procedures shall be followed as closely as circumstances permit, having due regards to the limitations of the rig and the AHV's. Should any deviation from the procedures be deemed necessary, the OIM and Company Representative are to be informed.

Prior to the commencement of the rig move, a weather forecast shall be obtained and a suitable weather window identified to allow each stage of the operation to be completed without weather interruption.

De-mooring and mooring operations will be carried out in accordance with Diamond Offshore Procedures and Policies.

ANCHOR HANDLING VESSELS (Far Grip and Nor Captain)

Two anchor handling vessels will be provided for the de-mooring and mooring operations.

All anchor handling vessel gear is to be in good working order.

Anchor handling vessels to be suitably manned for 24 hours continuous operation.

DGPS survey equipment shall be provided and installed on the AHV's and the rig by Fugro prior to departure from Pecten East-1 location.

Back-up to this equipment shall be the AHV's respective navigational equipment.

DE-MOORING OPERATIONS

The Ocean Patriot is presently moored at Pecten East-1 location as follows:

Rig Heading: 215°

Anchor #	Type	Bearing	Distance
1	Stevpris	242°	1390m
2	Stevpris	275°	1400m
3	Stevpris	334°	1373m
4	Stevpris	004°	1363m
5	Stevpris	065°	1411m
6	Stevpris	094°	1394m
7	Stevpris	154°	1377m
8	Stevpris	183°	1356m

Anchor retrieval will commence after well operations are complete.

Note: During anchor retrieval plan to replace PCC Collars on chains 3,6 and 8. This will require decking of these anchors and disconnecting the chain from the anchor.

The secondary anchors will be recovered first. They are 2, 3, 6 and 7. There is no set order. All anchors will be heaved in and left hanging below the pontoon as the winch operator will be unable to see the bolsters. As per Marine Alert 030 the primary anchors are to be left hanging 10.6m (7.2 on rev. counter) below pontoon and secondary anchors 7.6m (6.4 on rev. counter) below pontoon. Chains will be marked with yellow paint once anchor is secured.

Note:The AHV's will pull the chaser wire up the deck using a deck tugger to prove there is no weight on the PCC wire. Once the PCC wire is proved not to have weight on it the crane will hook on to the PCC and the AHV's will disconnect the tugger from the PCC. The rig crane will hang the PCC in the normal manner.This is very critical because the rig winch operator cannot see the anchor.

After the 4 secondary anchors have been recovered, the Nor Captain will be put on the towing bridle and the Far Grip will continue recovering primary anchors. Depending on the weather, anchor 4 or 5 will be recovered last. The Far Grip will chase out to the last anchor and stand by, the rig will commence heaving in chain. This will give the rig winch operator a reference point to indicate which way the chain is leading from the rig and allow him to make corrections using the Nor Captain on the tow bridle to move the rig's heading to prevent the rig from drifting over and getting the chain under the pontoon. At approx. 500m of chain out the Far Grip will break the anchor off bottom. When the anchor is approx. 80m from the rig the Far Grip can start slacking the anchor down and when the anchor is hanging below the pontoon the winch operator will stop hauling in and the PCC will be recovered to the rig. Tow may commence when the last anchor is hung off below the pontoon and the PCC is recovered to the rig.

Course to next location will be agreed on by the towing vessel master, the surveyor on the rig and approved by the rig OIM.

If the main tow bridle should part, there is an "emergency" tow wire at the starboard aft of the rig. If required the wire will be passed to the boat in the same manner as passing No. 4PCC.

In addition, all 8 anchors have PCC wires that can be used as emergency tow lines.

Notifications

Navigation warnings shall be transmitted at regular intervals throughout the passage to warn other vessels of rig position and progress.
Notification shall be transmitted to all Helicopter Operators

MOORING OPERATION AT NEW LOCATION

Anchor pattern for the Netherby-1 location is as follows:

Standard 30 / 60 degree anchor pattern.

Rig Heading: 215°

Anchor #	Type	Bearing	Distance
1	Stevpris	245°	1400 m
2	Stevpris	275°	1400 m
3	Stevpris	335°	1400 m
4	Stevpris	005°	1400 m
5	Stevpris	065°	1400 m
6	Stevpris	095°	1400 m
7	Stevpris	155°	1400 m
8	Stevpris	185°	1400 m

The Nor Captain will tow the rig to location and make the approach on a line over #4 or #5 anchor drop point (depending on weather conditions)
Prior to arrival on location, the tow vessel will shorten the tow wire to allow the rig to be maneuvered onto location. The tow will be stopped short of the anchor drop point to allow the Far Grip to come in and take either PCC # 4 or 5. The rig will pay out approx. 200m of chain. The Nor Captain will then move ahead to the anchor drop point. The Far Grip will hold station over the anchor drop point and the rig will start paying out chain as the Nor Captain pulls the rig ahead to location. The Far Grip will put the anchor on bottom once approx. 500m of chain has been paid out. When the rig is over location the winch brake will be set and the Nor Captain will put tension on the tow wire to tighten up the chain to allow the Far Grip to chase back to the rig. The remaining 3 primary anchors will be run and the Nor Captain will be taken off the tow bridle and made ready for anchor handling. The secondary anchors will be deployed using both AHV's and in no particular order.

CONVENTIONAL ANCHOR HANDLING PROCEDURES FOR DEPLOYMENT

AHV's connect PCC wire into work wire.

The AHV's will pay out approx. 100m of wire and take tension on the chain.

The rig will pay out chain as required.

The AHV's must maintain tension on the work wire to ensure the anchor orientation remains the same while it is pulled up to the tail roller.

Once the rig and AHV's are ready the AHV's will commence to run the anchor on the designated bearing.

Chain pay out speed and AHV's speed is monitored to keep the rig as level as possible while running anchors at drilling draft.

Rig continues to pay out chain while the AHV's increase power as horizontal distance away from the rig increases.

When the AHV is at the anchor drop location, and on instructions from the Ocean Patriot, it will lower the anchor to the seabed.

Once the anchor is on the seabed, the surveyor will take a fix on the anchor.

Then the rig will commence tensioning the chain to confirm the anchor is holding.

Tension must be maintained on the chain to enable the AHV's to chase back to the rig.

Once the AHV has chased back, the PCC will be passed back to the rig.

Example:
Rig moves in on a heading of 245°, at a speed of +/- 1 kt to come across anchor #5 drop point. The rig will be stopped short of #5 drop point and #5 PCC will be passed to the Far Grip. # 5 Winch operator will pay out chain to approximately 200m and the tow will continue to # 5 anchor drop point. As the rig moves over anchor #5 drop point the Far Grip holds station at #5 position and the rig winch operator starts paying out chain while the Nor Captain continues to move towards location. While the rig is paying out chain the Far Grip will lower #5 anchor to bottom at approx. 500m of chain out. The winch operator will continue paying out chain to location. When the rig gets to location, the winch operator will stop paying out chain and set the brake. At this time the Nor Captain will increase

power to stretch #5 chain to allow the Far Grip to chase back to the rig. #1 Anchor will be run next, then #4 and then #8. These anchors will be run out to a minimum of 1350 meters.

After the Nor Captain has been released from the tow bridle the secondary anchors will be run next. These are #2, 3, 6 and 7. These anchors will be run out to a minimum of 1350 meters and in no particular order.

.

CROSS TENSIONING

When anchor deployment is completed the anchors will be pre-tensioned to ensure adequate holding.

Each pair of opposite anchors (usually commencing with the primary anchors) is tensioned to 180 mt (397 kips) and held for 10 mins.

Anchors will be pre-tensioned in the following opposite pairs:

No. 1 and No. 5
No. 4 and No. 8
No. 2 and No. 6
No. 3 and No. 7

When all anchors have been successfully pre-tensioned, the tensions will be slacked off to working tensions and rig position adjusted for working at the Netherby-1 location.

ANCHOR SLIPPAGE

In the event that anchor slippage occurs during insurance cross-tensioning, the anchor should be chased out and picked up to the stern of the AHV to check for fouling and correct orientation. If the orientation of the anchor was correct the anchor will then be recovered as required, and re-run on a bearing 2-3 degrees removed from the original run line. The anchor will be re-set on the bottom and the PCC chased back to the rig once sufficient tension has been put on the chain.

Any further slippage will result in either running the anchor with additional chain out (to increase the amount of ground chain) or deploying additional piggy-back anchors.

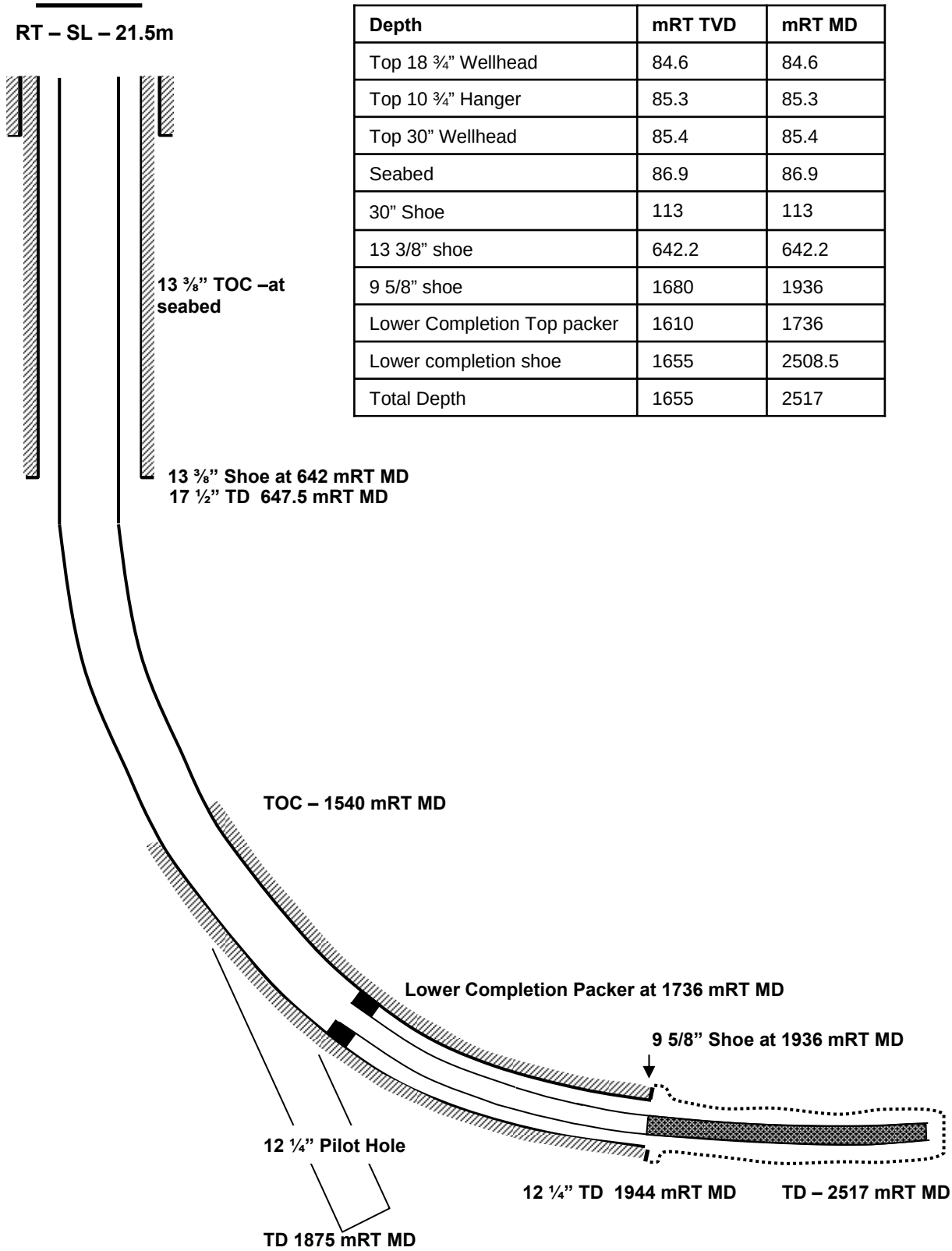
SECTION 13 : COMPLETION REPORT

Netherby 1 was plugged back and sidetracked as Netherby 1DW1.

The Netherby 1DW1 Completions Report also incorporates Netherby 1.

Well: Netherby-1DW1 Well Status Diagram

Depth	mRT TVD	mRT MD
Top 18 ¾” Wellhead	84.6	84.6
Top 10 ¾” Hanger	85.3	85.3
Top 30” Wellhead	85.4	85.4
Seabed	86.9	86.9
30” Shoe	113	113
13 3/8” shoe	642.2	642.2
9 5/8” shoe	1680	1936
Lower Completion Top packer	1610	1736
Lower completion shoe	1655	2508.5
Total Depth	1655	2517



SECTION 14: DEVIATION SUMMARY

Surveys and schematics are presented overleaf.

Santos

Schlumberger

Netherby-1DW1 Geodetic Survey

Report Date:	August 21, 2008	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Santos Limited	Vertical Section Azimuth:	118.740°
Field:	Netherby	Vertical Section Origin:	N 0.000 m, E 0.000 m
Structure / Slot:	Netherby / 1	TVD Reference Datum:	RKB
Well:	Netherby-1DW	TVD Reference Elevation:	22.0 m relative to MSL
Borehole:	Netherby-1DW1	Sea Bed / Ground Level Elevation:	-65.000 m relative to MSL
UWI/API#:		Magnetic Declination:	10.776°
Survey Name / Date:	Netherby-1DW1 / August 3, 2008	Total Field Strength:	60758.464 nT
Tort / AHD / DDI / ERD ratio:	130.946° / 1190.59 m / 5.882 / 0.705	Magnetic Dip:	-69.864°
Grid Coordinate System:	GDA94/MGA94 Zone 54	Declination Date:	August 03, 2008
Location Lat/Long:	S 38 40 48.578, E 142 38 25.745	Magnetic Declination Model:	BGGM 2007
Location Grid N/E Y/X:	N 5717438.490 m, E 642694.060 m	North Reference:	Grid North
Grid Convergence Angle:	-1.02543044°	Total Corr Mag North -> Grid North:	+11.801°
Grid Scale Factor:	0.99985074	Local Coordinates Referenced To:	Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth Grid (deg)	TVD (m)	Vertical Section (m)	NS Grid North (m)	EW Grid North (m)	DLS (deg/30 m)	Northing (m)	Easting (m)	Latitude	Longitude
Tie-In	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
Sea Floor	87.00	0.00	0.00	87.00	0.00	0.00	0.00	0.00	5717438.49	642694.06	S 38 40 48.578	E 142 38 25.745
	110.29	0.34	228.85	110.29	-0.02	-0.05	-0.05	0.44	5717438.44	642694.01	S 38 40 48.579	E 142 38 25.742
	139.31	0.48	70.38	139.31	0.03	-0.06	0.00	0.83	5717438.43	642694.06	S 38 40 48.580	E 142 38 25.745
	168.50	0.56	302.02	168.50	-0.03	0.06	-0.01	0.96	5717438.55	642694.05	S 38 40 48.576	E 142 38 25.744
	196.58	0.62	250.43	196.58	-0.27	0.08	-0.27	0.55	5717438.57	642693.79	S 38 40 48.575	E 142 38 25.733
	224.66	0.70	303.64	224.66	-0.54	0.12	-0.55	0.64	5717438.61	642693.51	S 38 40 48.574	E 142 38 25.722
	252.74	0.64	294.72	252.73	-0.87	0.28	-0.84	0.13	5717438.77	642693.22	S 38 40 48.569	E 142 38 25.710
	280.80	0.72	298.73	280.79	-1.20	0.43	-1.14	0.10	5717438.92	642692.92	S 38 40 48.564	E 142 38 25.697
	309.51	0.65	287.17	309.50	-1.54	0.57	-1.45	0.16	5717439.06	642692.61	S 38 40 48.560	E 142 38 25.684
	337.98	0.69	292.15	337.97	-1.87	0.68	-1.76	0.07	5717439.17	642692.30	S 38 40 48.557	E 142 38 25.671
	366.89	0.70	359.25	366.88	-2.13	0.92	-1.93	0.80	5717439.41	642692.13	S 38 40 48.549	E 142 38 25.664
	395.80	0.92	12.26	395.78	-2.28	1.32	-1.88	0.30	5717439.81	642692.18	S 38 40 48.536	E 142 38 25.666
	424.75	0.87	19.30	424.73	-2.39	1.76	-1.76	0.13	5717440.25	642692.30	S 38 40 48.522	E 142 38 25.671
	453.68	0.56	88.31	453.66	-2.30	1.97	-1.54	0.88	5717440.46	642692.52	S 38 40 48.515	E 142 38 25.679
	482.49	0.59	96.35	482.47	-2.04	1.96	-1.26	0.09	5717440.45	642692.81	S 38 40 48.515	E 142 38 25.691
	511.36	0.65	96.56	511.34	-1.75	1.92	-0.94	0.06	5717440.41	642693.12	S 38 40 48.516	E 142 38 25.704
	540.27	0.70	100.87	540.24	-1.43	1.87	-0.61	0.07	5717440.36	642693.45	S 38 40 48.517	E 142 38 25.718
	569.05	0.71	112.99	569.02	-1.09	1.77	-0.27	0.16	5717440.26	642693.79	S 38 40 48.521	E 142 38 25.732
	597.90	0.69	128.34	597.87	-0.74	1.59	0.03	0.20	5717440.08	642694.09	S 38 40 48.526	E 142 38 25.745
	617.15	0.84	123.17	617.12	-0.48	1.44	0.24	0.26	5717439.93	642694.30	S 38 40 48.531	E 142 38 25.753
	634.46	0.94	124.68	634.43	-0.22	1.29	0.46	0.18	5717439.78	642694.52	S 38 40 48.536	E 142 38 25.763
	660.03	0.52	130.06	659.99	0.11	1.10	0.72	0.50	5717439.59	642694.78	S 38 40 48.542	E 142 38 25.774
	745.23	2.31	160.81	745.16	1.76	-0.77	1.58	0.66	5717437.72	642695.64	S 38 40 48.602	E 142 38 25.811
	773.50	4.27	158.54	773.39	2.99	-2.29	2.16	2.08	5717436.20	642696.21	S 38 40 48.651	E 142 38 25.835
	801.23	5.89	157.85	801.01	4.89	-4.57	3.07	1.75	5717433.92	642697.13	S 38 40 48.724	E 142 38 25.875
	831.45	7.57	152.25	831.02	7.75	-7.77	4.58	1.79	5717430.72	642698.64	S 38 40 48.827	E 142 38 25.940
	859.94	9.31	137.33	859.20	11.50	-11.12	7.02	2.93	5717427.37	642701.08	S 38 40 48.934	E 142 38 26.043
	889.70	11.19	126.87	888.49	16.64	-14.63	10.96	2.66	5717423.87	642705.02	S 38 40 49.046	E 142 38 26.209
	919.19	12.15	123.94	917.37	22.57	-18.08	15.82	1.15	5717420.42	642709.88	S 38 40 49.155	E 142 38 26.413
	948.90	12.93	122.08	946.37	29.00	-21.59	21.23	0.89	5717416.91	642715.29	S 38 40 49.265	E 142 38 26.639
	979.41	13.44	120.85	976.07	35.95	-25.22	27.17	0.57	5717413.28	642721.23	S 38 40 49.380	E 142 38 26.887
	1007.51	14.16	120.45	1003.36	42.65	-28.63	32.94	0.78	5717409.86	642726.99	S 38 40 49.487	E 142 38 27.128
	1036.14	14.55	118.54	1031.10	49.74	-32.13	39.12	0.64	5717406.37	642733.17	S 38 40 49.597	E 142 38 27.386
	1065.20	14.60	118.24	1059.22	57.06	-35.60	45.55	0.09	5717402.89	642739.60	S 38 40 49.706	E 142 38 27.655
	1096.08	14.09	118.27	1089.14	64.71	-39.23	52.29	0.50	5717399.27	642746.34	S 38 40 49.819	E 142 38 27.937
	1124.66	14.01	116.68	1116.87	71.64	-42.43	58.44	0.41	5717396.07	642752.49	S 38 40 49.919	E 142 38 28.194
	1153.50	15.82	116.95	1144.73	79.06	-45.78	65.07	1.88	5717392.72	642759.12	S 38 40 50.024	E 142 38 28.470
	1182.04	19.92	117.65	1171.89	87.82	-49.80	72.84	4.32	5717388.70	642766.89	S 38 40 50.150	E 142 38 28.795
	1210.10	23.56	117.60	1197.95	98.21	-54.62	82.05	3.89	5717383.88	642776.10	S 38 40 50.301	E 142 38 29.179
	1239.36	25.76	114.79	1224.54	110.40	-59.99	93.01	2.56	5717378.51	642787.05	S 38 40 50.469	E 142 38 29.636
	1267.39	29.36	115.62	1249.39	123.34	-65.52	104.74	3.87	5717372.98	642798.78	S 38 40 50.641	E 142 38 30.126
	1294.27	33.74	116.12	1272.29	137.38	-71.66	117.39	4.90	5717366.84	642811.43	S 38 40 50.833	E 142 38 30.654
	1322.42	33.97	116.49	1295.67	153.05	-78.61	131.45	0.33	5717359.89	642825.49	S 38 40 51.050	E 142 38 31.240
	1350.13	34.69	115.42	1318.55	168.66	-85.45	145.50	1.02	5717353.06	642839.54	S 38 40 51.264	E 142 38 31.826
	1379.95	34.59	115.60	1343.08	185.58	-92.75	160.79	0.14	5717345.76	642854.83	S 38 40 51.492	E 142 38 32.465
Tie-In	1408.27	35.05	116.50	1366.33	201.73	-99.85	175.32	0.73	5717338.66	642869.36	S 38 40 51.713	E 142 38 33.071
	1429.41	34.97	116.54	1383.65	213.85	-105.26	186.17	0.12	5717333.24	642880.21	S 38 40 51.883	E 142 38 33.524

	1487.90	35.17	112.27	1431.53	247.35	-119.14	216.76	1.26	5717319.37	642910.79	S 38 40 52.315	E 142 38 34.799
	1505.00	35.50	109.55	1445.48	257.14	-122.67	226.00	2.82	5717315.84	642920.03	S 38 40 52.424	E 142 38 35.184
	1517.15	35.81	105.68	1455.35	264.09	-124.81	232.75	5.62	5717313.70	642926.77	S 38 40 52.489	E 142 38 35.465
	1543.44	37.54	107.13	1476.43	279.43	-129.25	247.81	2.21	5717309.26	642941.83	S 38 40 52.625	E 142 38 36.091
	1569.82	39.74	109.42	1497.04	295.62	-134.42	263.44	2.98	5717304.09	642957.46	S 38 40 52.783	E 142 38 36.742
	1600.60	42.06	111.11	1520.30	315.55	-141.40	282.34	2.51	5717297.11	642976.36	S 38 40 52.999	E 142 38 37.529
	1629.46	44.65	112.85	1541.29	335.23	-148.82	300.71	2.96	5717289.69	642994.73	S 38 40 53.229	E 142 38 38.294
	1657.18	47.47	114.86	1560.52	355.11	-156.90	318.96	3.43	5717281.61	643012.97	S 38 40 53.480	E 142 38 39.055
	1686.89	50.14	117.99	1580.09	377.44	-166.86	338.97	3.59	5717271.66	643032.98	S 38 40 53.791	E 142 38 39.890
	1715.23	52.55	119.95	1597.79	399.57	-177.58	358.32	3.02	5717260.93	643052.33	S 38 40 54.128	E 142 38 40.699
	1744.26	55.92	121.19	1614.76	423.11	-189.57	378.60	3.63	5717248.95	643072.60	S 38 40 54.504	E 142 38 41.546
	1773.52	59.64	122.89	1630.36	447.82	-202.70	399.57	4.09	5717235.82	643093.57	S 38 40 54.918	E 142 38 42.424
	1804.17	64.78	123.05	1644.64	474.85	-217.45	422.31	5.03	5717221.07	643116.31	S 38 40 55.383	E 142 38 43.375
	1832.79	69.15	123.30	1655.84	501.10	-231.86	444.35	4.59	5717206.66	643138.35	S 38 40 55.837	E 142 38 44.298
	1860.88	73.78	123.07	1664.76	527.65	-246.44	466.64	4.95	5717192.09	643160.63	S 38 40 56.297	E 142 38 45.230
	1889.08	77.80	122.38	1671.68	554.91	-261.21	489.63	4.34	5717177.32	643183.62	S 38 40 56.763	E 142 38 46.192
	1919.55	79.76	122.50	1677.61	584.74	-277.24	514.85	1.93	5717161.29	643208.84	S 38 40 57.268	E 142 38 47.248
To MD	1946.54	80.97	122.53	1682.13	611.29	-291.54	537.29	1.35	5717146.99	643231.27	S 38 40 57.718	E 142 38 48.187
	1973.95	83.60	122.37	1685.81	638.39	-306.12	560.21	2.88	5717132.42	643254.19	S 38 40 58.178	E 142 38 49.145
	2011.18	87.85	121.02	1688.58	675.46	-325.62	591.79	3.59	5717112.92	643285.76	S 38 40 58.791	E 142 38 50.466
	2031.41	89.37	120.87	1689.08	695.67	-336.02	609.14	2.27	5717102.52	643303.11	S 38 40 59.119	E 142 38 51.192
	2060.00	89.80	121.67	1689.28	724.23	-350.86	633.57	0.95	5717087.69	643327.54	S 38 40 59.585	E 142 38 52.214
	2089.29	89.46	120.38	1689.47	753.49	-365.95	658.67	1.37	5717072.59	643352.63	S 38 41 0.060	E 142 38 53.263
	2112.91	89.48	119.43	1689.69	777.11	-377.73	679.14	1.21	5717060.82	643373.10	S 38 41 0.430	E 142 38 54.119
	2148.38	93.04	121.22	1688.91	812.55	-395.63	709.75	3.37	5717042.92	643403.70	S 38 41 0.993	E 142 38 55.398
	2177.62	94.65	120.61	1686.95	841.70	-410.62	734.78	1.77	5717027.94	643428.73	S 38 41 1.464	E 142 38 56.445
	2204.99	96.37	120.79	1684.32	868.93	-424.52	758.20	1.90	5717014.03	643452.15	S 38 41 1.901	E 142 38 57.424
	2234.16	96.29	119.97	1681.11	897.90	-439.19	783.21	0.84	5716999.37	643477.15	S 38 41 2.362	E 142 38 58.469
	2262.23	94.85	119.65	1678.38	925.84	-453.07	807.45	1.58	5716985.48	643501.39	S 38 41 2.798	E 142 38 59.483
	2291.13	95.36	119.68	1675.81	954.62	-467.32	832.46	0.53	5716971.24	643526.40	S 38 41 3.246	E 142 39 0.528
	2321.31	95.04	119.36	1673.07	984.67	-482.13	858.62	0.45	5716956.43	643552.55	S 38 41 3.711	E 142 39 1.621
	2350.31	93.87	118.72	1670.82	1013.58	-496.16	883.90	1.38	5716942.40	643577.82	S 38 41 4.151	E 142 39 2.677
	2378.82	94.18	118.17	1668.82	1042.02	-509.71	908.90	0.66	5716928.86	643602.83	S 38 41 4.576	E 142 39 3.721
	2407.67	94.16	117.99	1666.72	1070.79	-523.25	934.29	0.19	5716915.31	643628.21	S 38 41 5.000	E 142 39 4.782
	2436.52	94.22	117.82	1664.61	1099.56	-536.72	959.72	0.19	5716901.85	643653.63	S 38 41 5.422	E 142 39 5.844
	2465.68	95.68	118.34	1662.10	1128.61	-550.39	985.35	1.59	5716888.18	643679.26	S 38 41 5.850	E 142 39 6.914
	2494.27	98.42	119.26	1658.59	1156.98	-564.06	1010.21	3.03	5716874.51	643704.12	S 38 41 6.279	E 142 39 7.953
	2517.00	98.30	119.30	1655.28	1179.47	-575.06	1029.82	0.17	5716863.52	643723.73	S 38 41 6.624	E 142 39 8.773

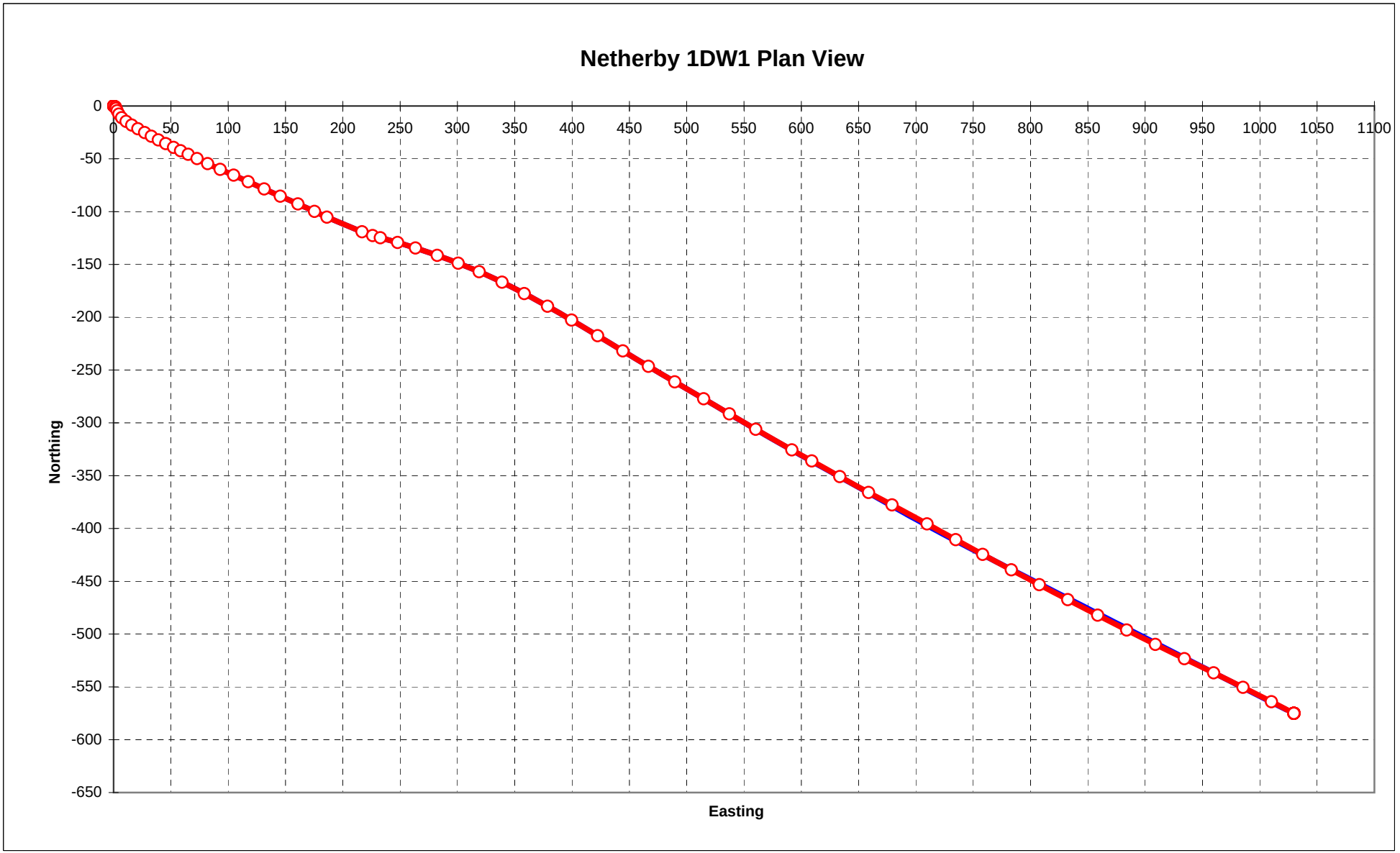
Survey Type: Definitive Survey

Survey Error Model: SLB ISCWSA version 24 * 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type	Borehole -> Survey
0.00	87.00	Act-Stns	SLB_EMS-STD-Depth Only	Netherby-1 -> Netherby-1
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 -> Netherby-1
634.46	1408.27	Act-Stns	SLB_MWD+SAG	Netherby-1 -> Netherby-1
1408.27	2517.00	Act-Stns	SLB_MWD+SAG	Netherby-1DW1 -> Netherby-1DW1

**Italicized stations are NOT used in position calculations.*


Netherby 1DW1 Plan View
Northing
Easting
0
-50
-100
-150
-200
-250
-300
-350
-400
-450
-500
-550
-600
-650
0
50
100
150
200
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650
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750
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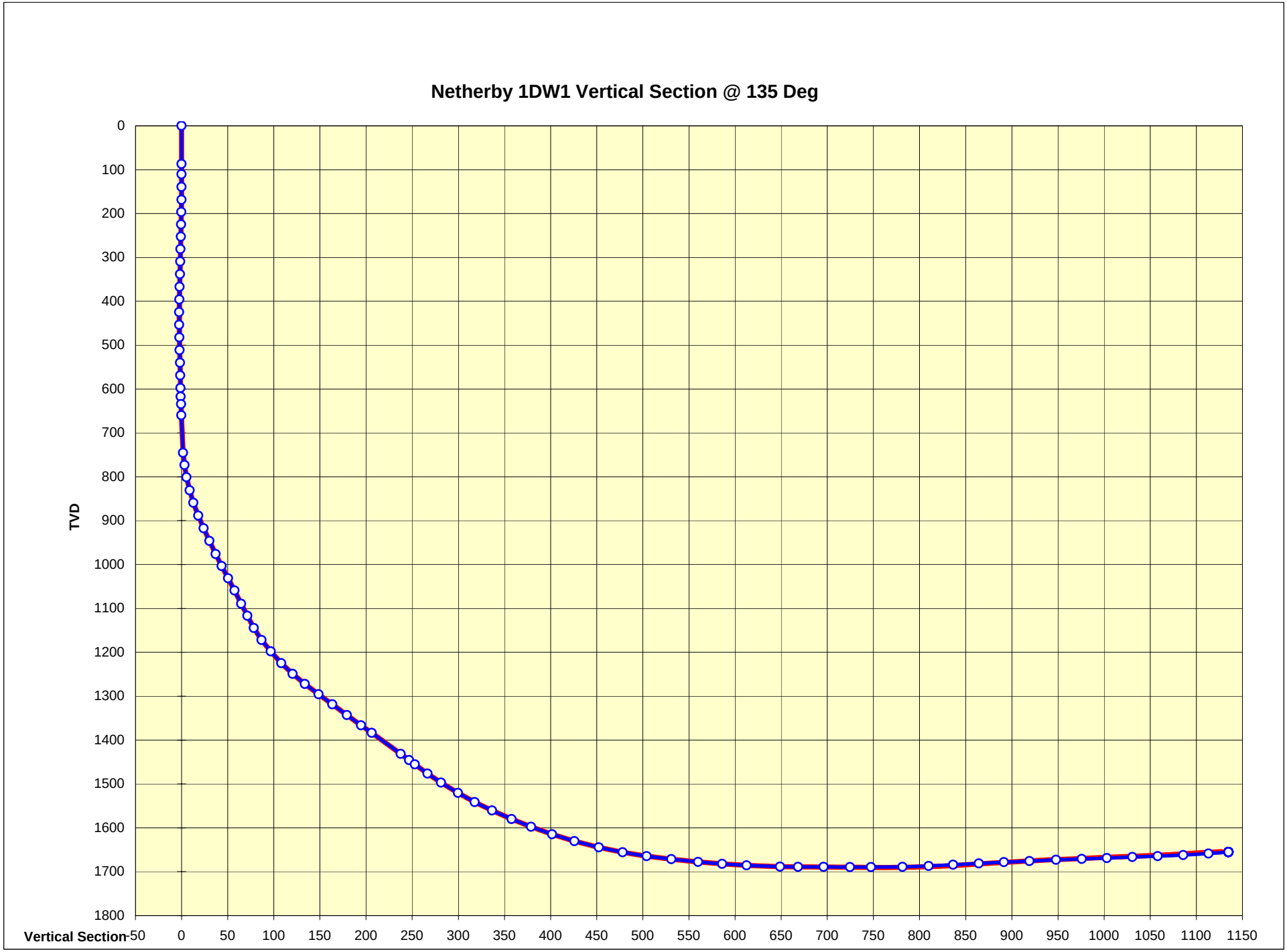
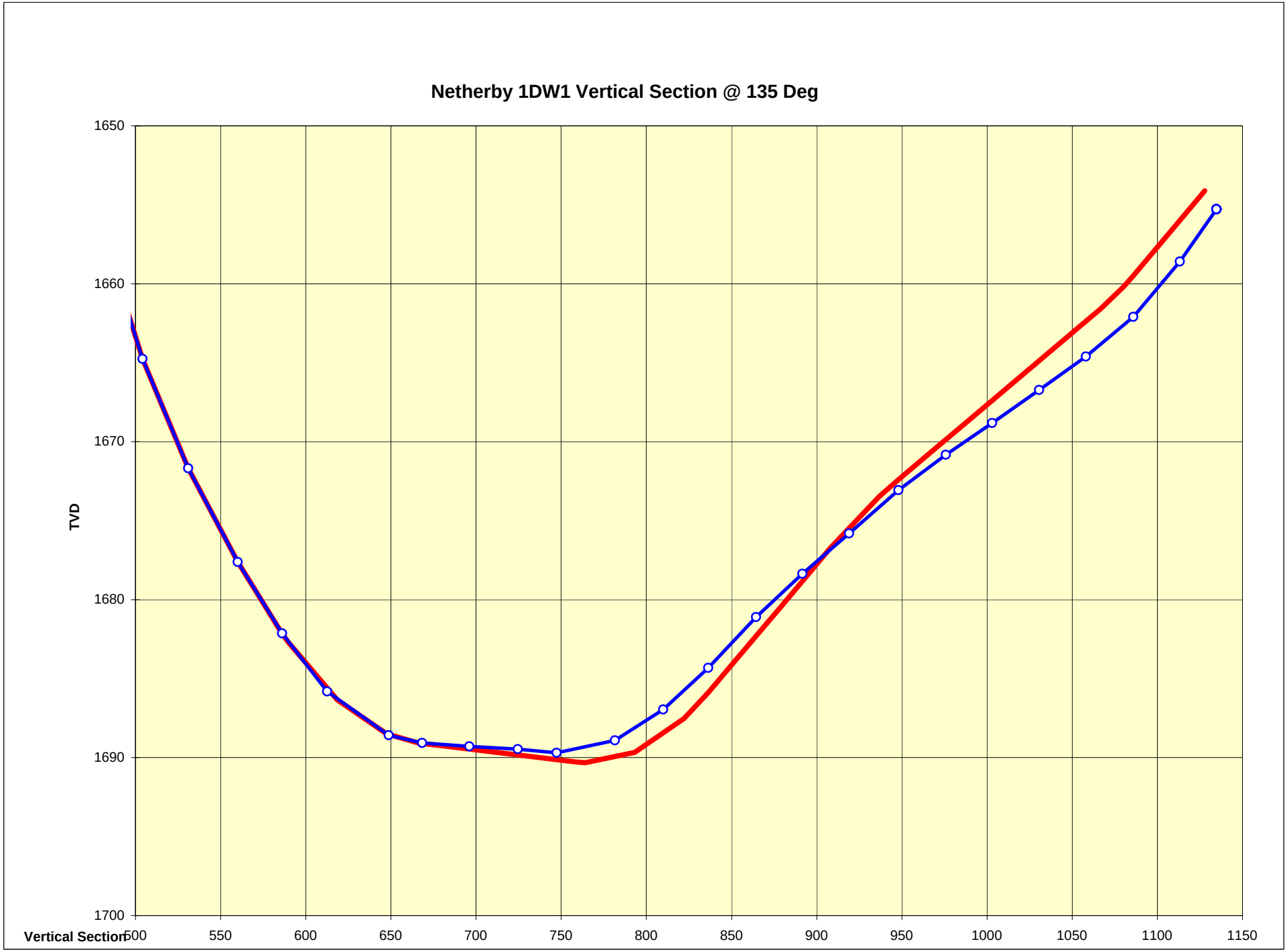
850
900
950
1000
1050
1100


Netherby 1DW1 Vertical Section @ 135 Deg
TVD
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Vertical Section
-50
0
50
100
150
200
250
300
350
400
450
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150


Netherby 1DW1 Vertical Section @ 135 Deg
TVD
1650
1660
1670
1680
1690
1700
Vertical Section
500
550
600
650
700
750
800
850
900
950
1000
1050
1100
1150

SECTION 15: PRELIMINARY PALYNOLOGY REPORT

No Palynology Report was prepared for Netherby 1DW1.

SECTION 16: WELL TESTING REPORT

Santos

Well Testing Report

Well : Netherby 1DW Rig : Ocean Patriot

Job No : 2008-020 Date : 07-Aug-08 to 21-Aug-08

Schlumberger

Santos

Well Testing Services Report

Oil Company	: Santos
Country	: Australia
Field	: Otway
Well Name	: Netherby-1DW
Test Type	: Completion Clean Up
Test Date	: 19-Aug-08
Report Number	: 2008-020

Slb Representative	: Andy Gilles
Client Representative	: Paul Nardone

Print Date: 10-Sep-2008

Index

Schlumberger

Santos

Job Information

Oil Company	: Santos
Country	: Australia
Field	: Otway
Well Name	: Netherby-1DW
Test Type	: Completion Clean Up
Test Date	: 19-Aug-08
Report Number	: 2008-020

Slb Representative	: Andy Gilles
Client Representative	: Paul Nardone

Print Date: 10-Sep-2008

Well and Measurement Information

General Information

Report Number	: 2008-020
Oil Company	: Santos
Field	: Otway
Well Name	: Netherby-1DW
Country	: Australia
State / Province	: Victoria

Operation Data

Test Date	: 19-Aug-08
Test Type	: Completion Clean Up
Rig / Installation	: Ocean Patriot
Client Representative	: Paul Nardone
SLB Representative	: Andy Gilles

Well Data

Well Type	: Gas Development Well
Fluid Type	: Gas
Maximum Deviation	: 96.5 deg
Test Interval	: 1992m MDRT

Depth Information

Well and Measurement Information

Total Depth	: 2504m MDRT
Depth Reference	: RT

Well Head

ESD	: ESD-C / 794
Choke	: FMF-G / 753

Separators

Separator A	: SEP-T / 768

Other Equipment

Heater	: STX-CCN / 758
Tank	: VST-F / 757
Burner	: BRN-HCA / 844, 845

Gravitometers

Oil	: Hydrometer
Gas	: Ranarex

Schlumberger

Santos

Operation Information

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Events

07-Aug-08 11:00:00	Two SWT personnel arrived location, Ocean Patriot.
07-Aug-08 15:00:00	Started rigging up welltest equipment.
08-Aug-08 11:00:00	One TDA personnel arrived location.
08-Aug-08 15:00:00	Started rigging up STAN cables and sensors.
18-Aug-08 18:00:00	Preparation to displace tubing to diesel.
18-Aug-08 18:45:00	Closed choke manifold (CM).
18-Aug-08 19:10:00	Filled up riser with sea water.
18-Aug-08 19:18:00	Pressure tested (PT) surface line. Pressured up from cement unit to 500 psi for 5 minutes. Good test.
18-Aug-08 19:26:00	Increased pressure from cement unit to 5000 psi for 10 minutes. Good test.
18-Aug-08 19:53:00	Bled off pressure to 0 psi at CM.
18-Aug-08 19:55:00	Closed CM.
18-Aug-08 19:56:00	Opened Lubircator valve (LUBV).
18-Aug-08 20:10:00	Run in hole (RIH) slickline (SL) with 6.7" lower crown plug.
18-Aug-08 20:18:00	Pressured up from cement unit to 2000 psi to equalize pressure across crown plug.
18-Aug-08 20:20:00	Started jarring with SL to set crown plug.
18-Aug-08 20:32:00	Bled off pressure to 0 psi at CM. Closed CM.
18-Aug-08 20:37:00	SL on surface.
18-Aug-08 21:21:00	Started PT landing string to 5000 psi for 10 minutes.
18-Aug-08 21:38:00	Bled off pressure to 0 psi. Closed CM.
18-Aug-08 21:40:00	RIH SL to pull crown plug.
18-Aug-08 21:50:00	Started POOH with crown plug.
18-Aug-08 22:10:00	SL on surface.
18-Aug-08 22:54:00	Closed Annular Access Valve (AAV) and Annular Master Valve (AMV).
18-Aug-08 23:15:00	Closed LUBV.
18-Aug-08 23:18:00	Started PT against LUBV to 200 psi for 5 minutes.
18-Aug-08 23:24:00	Increased pressure to 5000 psi, PT for 10 minutes. Good test.
18-Aug-08 23:38:00	Bled off pressure to 0 psi at CM. Closed CM.
19-Aug-08 00:00:00	Closed Swab Valve (SV). Opened Master valve (MV).
19-Aug-08 00:50:00	Held Job Safety Analysis (JSA) for pumping diesel.
19-Aug-08 01:13:00	Opened AAV and AMV.
19-Aug-08 01:55:00	Opened CM. Lined up to surge tank (ST).
19-Aug-08 02:06:00	Started pumping diesel for displacement above LUBV.
19-Aug-08 02:14:00	Stopped pumping diesel.
19-Aug-08 02:15:00	Closed CM.
19-Aug-08 02:18:00	Opened LUBV.
19-Aug-08 02:25:00	Continued pumping diesel.

Events

19-Aug-08 04:21:00	Stopped pumping diesel.
19-Aug-08 04:32:00	Closed AAV.
19-Aug-08 04:39:00	Lined up valves and prepared to set packer.
19-Aug-08 04:41:00	Pressured up TRSV control line to 7000 psi to open Tubing Retrievable Safety Valve (TRSV).
19-Aug-08 04:44:00	Pressured up tubing pressure from cement unit to 1300 psi for 5 minutes.
19-Aug-08 04:50:00	Increased tubing pressure to 4200 psi and hold for 15 minutes to fully set packer.
19-Aug-08 05:08:00	Bled down tubing pressure to 600 psi.
19-Aug-08 05:13:00	Bled down TRSV control line pressure to 6500 psi.
19-Aug-08 05:20:00	Increased tubing pressure to 3000 psi.
19-Aug-08 05:22:00	Bled off TRSV control line pressure to 0 psi. Closed TRSV.
19-Aug-08 05:27:00	Bled down tubing pressure to 500 psi. Inflow test TRSV.
19-Aug-08 05:39:00	Pressured up tubing pressure to 3000 psi to equalize across TRSV.
19-Aug-08 05:45:00	Pressured up TRSV control line to 6000 psi. TRSV opened.
19-Aug-08 05:47:00	Bled down tubing pressure at CM to 700 psi.
19-Aug-08 05:49:00	Bled down TRSV control line to 5000 psi.
19-Aug-08 06:08:00	Equalised pressure across AAV to 1800 psi. Opened AAV.
19-Aug-08 06:35:00	Closed AAV. Inflow test AAV by bleeding off pressure at cement unit.
19-Aug-08 06:50:00	Closed AMV and opened AAV. Inflow test AMV by bleeding off pressure at cement unit.
19-Aug-08 07:05:00	Equalised pressure and opened AMV.
19-Aug-08 07:10:00	Closed AAV.
19-Aug-08 07:15:00	Opened KWV.
19-Aug-08 07:25:00	Started procedure to Lock Open MC-FLCV Flapper.
19-Aug-08 07:28:00	Applied 3830 psi surface pressure through cement unit. Cycle #1.
19-Aug-08 07:35:00	Bled down surface pressure to 730 psi through CM.
19-Aug-08 07:41:00	Applied 3830 psi surface pressure through cement unit. Cycle #2.
19-Aug-08 07:44:00	Bled down surface pressure to 730 psi through CM.
19-Aug-08 07:50:00	Applied 3840 psi surface pressure through cement unit. Cycle #3.
19-Aug-08 07:52:00	Bled down surface pressure to 730 psi through CM.
19-Aug-08 08:00:00	Applied 3840 psi surface pressure through cement unit. Cycle #4.
19-Aug-08 08:04:00	Bled down surface pressure to 730 psi through CM.
19-Aug-08 08:12:00	Applied 2380 psi surface pressure through cement unit. Cycle #5.
19-Aug-08 08:16:00	Bled down surface pressure to 650 psi through CM.
19-Aug-08 08:19:00	Observed tubing pressure to establish equalisation through poppet and MC-FLCV piston.
19-Aug-08 08:56:00	Closed Kill Wing Valve (KWV).
19-Aug-08 09:15:00	**Start of Well Clean Up and Test**

Events

19-Aug-08 09:20:00	**Opened well on 16/64" adj choke to ST.**
19-Aug-08 09:22:00	Increased to 20/64" adj. choke.
19-Aug-08 09:25:00	Increased to 24/64" adj. choke.
19-Aug-08 09:30:00	Flowed back to ST 15 bbls of diesel.
19-Aug-08 09:31:00	Diverted flow to Evergreen burner.
19-Aug-08 09:44:00	Increased to 28/64" adj. choke.
19-Aug-08 09:45:00	BSW 15% water, 85% diesel.
19-Aug-08 10:00:00	BSW 3% water, 7% mud, 90% diesel.
19-Aug-08 10:15:00	BSW 3% water, 7% mud, 90% diesel.
19-Aug-08 10:37:00	Gas to surface. Diverted flow to gas flare.
19-Aug-08 10:40:00	Diverted flow through steam exchanger.
19-Aug-08 10:40:00	H2S = 0 ppm.
19-Aug-08 10:41:00	Diverted flow to gas flare.
19-Aug-08 10:47:00	Increased to 32/64" adj. choke.
19-Aug-08 10:50:00	H2S = 0 ppm, CO2 = 0 %.
19-Aug-08 10:55:00	Increased to 36/64" adj. choke.
19-Aug-08 11:15:00	BSW 100% mud.
19-Aug-08 11:19:00	Increased to 40/64" adj. choke.
19-Aug-08 11:30:00	BSW 100% mud.
19-Aug-08 11:31:00	Decreased to 32/64" adj. choke. Gas flare not burning well due to mud.
19-Aug-08 11:32:00	Decreased to 28/64" adj. choke.
19-Aug-08 12:07:00	Increased to 32/64" adj. choke.
19-Aug-08 12:16:00	Increased to 36/64" adj. choke.
19-Aug-08 12:19:00	Increased to 40/64" adj. choke.
19-Aug-08 12:23:00	Decreased to 36/64" adj. choke.
19-Aug-08 12:40:00	Increased to 40/64" adj. choke.
19-Aug-08 12:42:00	Decreased to 36/64" adj. choke.
19-Aug-08 13:15:00	BSW 100% mud.
19-Aug-08 13:18:00	Increased to 40/64" adj. choke.
19-Aug-08 13:26:00	Bypassed steam exchanger.
19-Aug-08 13:30:00	Diverted flow through steam exchanger.
19-Aug-08 13:31:00	BSW 100% mud.
19-Aug-08 13:44:00	Decreased to 36/64" adj. choke.
19-Aug-08 14:00:00	BSW 100% mud.
19-Aug-08 14:02:00	Increased to 40/64" adj. choke.
19-Aug-08 14:22:00	Increased to 44/64" adj. choke.
19-Aug-08 14:36:00	Decreased to 40/64" adj. choke.
19-Aug-08 14:40:00	Increased to 44/64" adj. choke.
19-Aug-08 14:41:00	Bypassed steam exchanger.

Events

19-Aug-08 14:44:00	Increased to 48/64" adj. choke.
19-Aug-08 14:45:00	H2S = 0 ppm.
19-Aug-08 14:53:00	Increased to 52/64" adj. choke.
19-Aug-08 15:00:00	H2S = 0 ppm, CO2 = 0 %, BSW 100% mud.
19-Aug-08 15:03:00	Increased to 56/64" adj. choke.
19-Aug-08 15:28:00	Increased to 60/64" adj. choke.
19-Aug-08 15:31:00	Increased to 64/64" adj. choke.
19-Aug-08 15:32:00	Diverted flow through steam exchanger.
19-Aug-08 15:42:00	Increased to 64/64" fixed choke.
19-Aug-08 15:53:00	H2S = 0 ppm, CO2 = 0 %, BSW = 99% mud, 1% condensate.
19-Aug-08 16:39:00	Diverted flow through separator.
19-Aug-08 17:35:00	**Lowered 4.000" orifice plate.**
19-Aug-08 18:00:00	Gas SG 0.620.
19-Aug-08 19:00:00	Gas SG 0.616.
19-Aug-08 19:05:00	H2S = 0 ppm, CO2 = 0 %, BSW 99% mud, 1% condensate.
19-Aug-08 19:15:00	Oil SG 0.783 at 14 degC.
19-Aug-08 19:25:00	Oilphase took PVT oil sample #1 from separator oil sight glass, CSB14803QA, and gas sample #1 from separator gas line, GSBA1429.
19-Aug-08 19:40:00	Finished PVT oil and gas samples #1.
19-Aug-08 20:10:00	Gas SG 0.605
19-Aug-08 20:26:00	Oilphase took PVT oil sample #2 from separator oil sight glass, CSB4578EA, and gas sample #2 from separator gas line, GSBA0851.
19-Aug-08 20:32:09	Oil SG 0.778 at 17 degC.
19-Aug-08 20:36:00	Finished PVT oil and gas samples #2.
19-Aug-08 20:38:00	**Lifted 4.000" orifice plate.**
19-Aug-08 20:42:00	Shut in the well at CM.
19-Aug-08 21:15:00	Recovered 0.5 bbl of condensate from separator.
19-Aug-08 21:30:00	**End of Well Clean up and Test.**

Test Objectives

Well Clean Up and Test

Objectives

a) Clean up well to required BSW.

b) Determine trace element concentration of the Waarre A gas (eg. H2S, mercury).

c) Prove the effectiveness of the sand face completion design.

Test Procedure

1. Locked open MC-FLCV Flapper.
2. Opened well on 16/64" adj.choke.
3. Increased adj.choke gradually to 64/64" adj.choke. Duration of flow, 6 hrs 22 min.
4. Switched flow to 64/64" fixed choke. Duration of flow, 4 hrs 58 min.
5. Diverted flow through separator. Started measurement, 3 hrs 3 min.
6. Collected PVT samples.
7. Bypassed meters and separator.
8. End of Clean Up test.

Schlumberger

Santos

Summary Of Results

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Summary of Results

FP#	Operation			Duration Time	Choke Size		Wellhead Conditions		Cond. Rate	Gas Rate	Water Rate	CGR Total	Oil SG	Gas s.g.	BSW	CO2	H2S	Cummmulative		
					size	Type	Press	Temp.										Oil	Gas	Water
		Start Time	End Time	hrs	64th		psiA	degC	stbd	MMscfd	bwpd	bbl/MMScf	API	Air=1	%	%	ppm	bbl	MMscf	bbl
1	Clean Up	19 Aug 09:20	19 Aug 15:42	06:22	16 to 64	Adj.	1999	37	N/A	NA	N/A	N/A	NA	NA	100	0	0	N/A	NA	N/A
2	Clean Up	19 Aug 15:42	19 Aug 20:40	04:58	64	Fixed	2078	40	N/A	51.093	N/A	N/A	50	0.616	99	0	0	N/A	6.450	N/A
																	Total	0	6.450	0

Remarks :
* N/A value due to very low flowrate.
* Values are taken at end of each flow period or the nearest available value where applicable
* Flowrate were taken at last data each "Flowing" Period
* Cummulative values are calculated when the flow pass through Separator
* CO2 & H2S reading are taken using Dragger pump. Refer to Oilphase report for tube used

Schlumberger

Santos

Main Results

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Main Results - Clean Up Test Data

Overview of Clean Up Period

Time	ChokeSize (1/64 in)	Whp (psia)	Wht (°C)	Whdcp (psia)	BSW (%)	WhH2S (ppm)	WhCO2 (%)	GasQ (MMscf/d)
19-Aug-08 09:15:00	Start of Well Clean Up and Test							
09:15:00		536	12	18				
19-Aug-08 09:20:00	Opened well on 16/64" adj choke to ST.							
09:20:00	16	530	12	16				
19-Aug-08 09:22:00	Increased to 20/64" adj. choke.							
19-Aug-08 09:25:00	Increased to 24/64" adj. choke.							
09:25:00	24	469	12	54				
19-Aug-08 09:30:00	Flowed back to ST 15 bbls of diesel.							
09:30:00	24	445	13	66				
19-Aug-08 09:31:00	Diverted flow to Evergreen burner.							
09:35:00	24	413	13	63				
09:40:00	24	383	13	62				
19-Aug-08 09:44:00	Increased to 28/64" adj. choke.							
19-Aug-08 09:45:00	BSW 15% water, 85% diesel.							
09:45:00	28	372	14	76	15			
09:50:00	28	392	15	77	15			
09:55:00	28	443	16	81	15			
19-Aug-08 10:00:00	BSW 3% water, 7% mud, 90% diesel.							
10:00:00	28	514	17	84	10			
10:05:00	28	597	18	90	10			
10:10:00	28	693	19	96	10			
19-Aug-08 10:15:00	BSW 3% water, 7% mud, 90% diesel.							
10:15:00	28	803	20	113	10			
10:20:00	28	923	21	120	10			
10:25:00	28	1052	22	127	10			
10:30:00	28	1194	23	137	10			
10:35:00	28	1309	24	142	10			
19-Aug-08 10:37:00	Gas to surface. Diverted flow to gas flare.							
19-Aug-08 10:40:00	Diverted flow through steam exchanger.							
19-Aug-08 10:40:00	H2S = 0 ppm.							
10:40:00	28	1331	24	406	10			
19-Aug-08 10:41:00	Diverted flow to gas flare.							
10:45:00	28	1320	20	239	10			
19-Aug-08 10:47:00	Increased to 32/64" adj. choke.							
19-Aug-08 10:50:00	H2S = 0 ppm, CO2 = 0 %.							
10:50:00	32	1302	17	301	10	0	0	
19-Aug-08 10:55:00	Increased to 36/64" adj. choke.							
10:55:00	36	1296	17	292	10	0	0	
11:00:00	36	1323	18	403	10	0	0	
11:05:00	36	1420	20	299	10	0	0	
11:10:00	36	1502	22	456	10	0	0	
19-Aug-08 11:15:00	BSW 100% mud.							
11:15:00	36	1581	24	486	10	0	0	
19-Aug-08 11:19:00	Increased to 40/64" adj. choke.							

Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Time	ChokeSize (1/64 in)	Whp (psia)	Wht (°C)	Whdcp (psia)	BSW (%)	WhH2S (ppm)	WhCO2 (%)	GasQ (MMscf/d)
19-Aug-08 11:20:00	40	1649	24	621	100	0	0	
11:25:00	40	1725	25	647	100	0	0	
19-Aug-08 11:30:00	BSW 100% mud.							
11:30:00	40	1742	26	665	100	0	0	
19-Aug-08 11:31:00	Decreased to 32/64" adj. choke. Gas flare not burning well due to mud.							
19-Aug-08 11:32:00	Decreased to 28/64" adj. choke.							
11:35:00	28	1830	26	355	100	0	0	
11:40:00	28	1860	25	365	100	0	0	
11:45:00	28	1898	24	372	100	0	0	
11:50:00	28	1923	23	378	100	0	0	
11:55:00	28	1940	23	379	100	0	0	
12:00:00	28	1957	22	384	100	0	0	
12:05:00	28	1967	22	381	100	0	0	
19-Aug-08 12:07:00	Increased to 32/64" adj. choke.							
12:10:00	32	1967	21	489	100	0	0	
12:15:00	32	1972	21	484	100	0	0	
19-Aug-08 12:16:00	Increased to 36/64" adj. choke.							
19-Aug-08 12:19:00	Increased to 40/64" adj. choke.							
12:20:00	40	1946	22	629	100	0	0	
19-Aug-08 12:23:00	Decreased to 36/64" adj. choke.							
12:25:00	36	1932	23	585	100	0	0	
12:30:00	36	1934	24	592	100	0	0	
12:35:00	36	1935	24	590	100	0	0	
19-Aug-08 12:40:00	Increased to 40/64" adj. choke.							
12:40:00	40	1953	24	588	100	0	0	
19-Aug-08 12:42:00	Decreased to 36/64" adj. choke.							
12:45:00	36	2002	25	615	100	0	0	
12:50:00	36	2023	25	618	100	0	0	
12:55:00	36	2034	25	617	100	0	0	
13:00:00	36	2043	25	617	100	0	0	
13:05:00	36	2049	25	619	100	0	0	
13:10:00	36	2052	25	620	100	0	0	
19-Aug-08 13:15:00	BSW 100% mud.							
13:15:00	36	2054	25	628	100	0	0	
19-Aug-08 13:18:00	Increased to 40/64" adj. choke.							
13:20:00	40	2034	25	747	100	0	0	
13:25:00	40	2034	26	744	100	0	0	
19-Aug-08 13:26:00	Bypassed steam exchanger.							
19-Aug-08 13:30:00	Diverted flow through steam exchanger.							
13:30:00	40	2037	26	464	100	0	0	
19-Aug-08 13:31:00	BSW 100% mud.							
13:35:00	40	2046	26	749	100	0	0	
13:40:00	40	2057	27	753	100	0	0	
19-Aug-08 13:44:00	Decreased to 36/64" adj. choke.							
13:45:00	36	2093	27	641	100	0	0	
13:50:00	36	2102	26	646	100	0	0	
13:55:00	36	2108	25	646	100	0	0	

Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Time	ChokeSize (1/64 in)	Whp (psia)	Wht (°C)	Whdcp (psia)	BSW (%)	WhH2S (ppm)	WhCO2 (%)	GasQ (MMscf/d)
19-Aug-08 14:00:00	BSW 100% mud.							
14:00:00	36	2111	25	649	100	0	0	
19-Aug-08 14:02:00	Increased to 40/64" adj. choke.							
14:05:00	40	2096	26	765	100	0	0	
14:10:00	40	2093	27	757	100	0	0	
14:15:00	40	2092	27	752	100	0	0	
14:20:00	40	2093	27	752	100	0	0	
19-Aug-08 14:22:00	Increased to 44/64" adj. choke.							
14:25:00	44	2066	27	873	100	0	0	
14:30:00	44	2074	29	878	100	0	0	
14:35:00	44	2086	29	887	100	0	0	
19-Aug-08 14:36:00	Decreased to 40/64" adj. choke.							
19-Aug-08 14:40:00	Increased to 44/64" adj. choke.							
14:40:00	44	2101	29	851	100	0	0	
19-Aug-08 14:41:00	Bypassed steam exchanger.							
19-Aug-08 14:44:00	Increased to 48/64" adj. choke.							
19-Aug-08 14:45:00	H2S = 0 ppm.							
14:45:00	48	2072	29	635	100	0	0	
14:50:00	48	2075	30	641	100	0	0	
19-Aug-08 14:53:00	Increased to 52/64" adj. choke.							
14:55:00	52	2045	31	726	100	0	0	
19-Aug-08 15:00:00	H2S = 0 ppm, CO2 = 0 %, BSW 100% mud.							
15:00:00	52	2061	32	726	100	0	0	
19-Aug-08 15:03:00	Increased to 56/64" adj. choke.							
15:05:00	56	2035	32	811	100	0	0	
15:10:00	56	2051	33	814	100	0	0	
15:15:00	56	2061	34	809	100	0	0	
15:20:00	56	2067	34	808	100	0	0	
15:25:00	56	2072	34	805	100	0	0	
19-Aug-08 15:28:00	Increased to 60/64" adj. choke.							
15:30:00	56	2043	34	880	100	0	0	
19-Aug-08 15:31:00	Increased to 64/64" adj. choke.							
19-Aug-08 15:32:00	Diverted flow through steam exchanger.							
15:35:00	64	1987	35	1038	100	0	0	
15:40:00	64	1999	37	1036	100	0	0	
19-Aug-08 15:42:00	Increased to 64/64" fixed choke.							
15:45:00	64	2023	38	993	100	0	0	
15:50:00	64	2025	37	991	100	0	0	
19-Aug-08 15:53:00	H2S = 0 ppm, CO2 = 0 %, BSW = 99% mud, 1% condensate.							
15:55:00	64	2028	38	988	99	0	0	
16:00:00	64	2028	38	985	99	0	0	
16:05:00	64	2031	38	982	99	0	0	
16:10:00	64	2031	39	983	99	0	0	
16:15:00	64	2034	39	981	99	0	0	
16:20:00	64	2034	39	981	99	0	0	
16:25:00	64	2037	39	979	99	0	0	
16:30:00	64	2037	39	976	99	0	0	

Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Time	ChokeSize (1/64 in)	Whp (psia)	Wht (°C)	Whdcp (psia)	BSW (%)	WhH2S (ppm)	WhCO2 (%)	GasQ (MMscf/d)
19-Aug-08 16:35:00	64	2040	39	974	99	0	0	
19-Aug-08 16:39:00	Diverted flow through separator.							
16:40:00	64	2040	40	965	99	0	0	
16:45:00	64	2040	40	991	99	0	0	
16:50:00	64	2043	40	1017	99	0	0	
16:55:00	64	2046	40	1016	99	0	0	
17:00:00	64	2046	40	1017	99	0	0	
17:05:00	64	2047	40	1014	99	0	0	
17:10:00	64	2049	40	1013	99	0	0	
17:15:00	64	2049	39	1033	99	0	0	
17:20:00	64	2052	39	1034	99	0	0	
17:25:00	64	2051	39	1033	99	0	0	
17:30:00	64	2055	39	1034	99	0	0	
19-Aug-08 17:35:00	Lowered 4.000" orifice plate.							
17:35:00	64	2057	40	1038	99	0	0	
17:40:00	64	2058	40	1038	99	0	0	50.407
17:45:00	64	2058	40	1038	99	0	0	50.419
17:50:00	64	2057	40	1037	99	0	0	50.448
17:55:00	64	2061	40	1033	99	0	0	50.470
19-Aug-08 18:00:00	Gas SG 0.620.							
18:00:00	64	2061	40	1029	99	0	0	50.501
18:05:00	64	2060	40	1025	99	0	0	50.541
18:10:00	64	2063	40	1024	99	0	0	50.552
18:15:00	64	2063	40	1023	99	0	0	50.565
18:20:00	64	2063	40	1017	99	0	0	50.592
18:25:00	64	2066	41	1009	99	0	0	50.615
18:30:00	64	2066	40	1001	99	0	0	50.654
18:35:00	64	2066	40	997	99	0	0	50.670
18:40:00	64	2066	41	997	99	0	0	50.684
18:45:00	64	2069	41	996	99	0	0	50.678
18:50:00	64	2069	41	990	99	0	0	50.581
18:55:00	64	2069	41	992	99	0	0	50.654
19-Aug-08 19:00:00	Gas SG 0.616.							
19:00:00	64	2069	41	991	99	0	0	50.758
19-Aug-08 19:05:00	H2S = 0 ppm, CO2 = 0 %, BSW 99% mud, 1% condensate.							
19:05:00	64	2071	41	988	99	0	0	50.719
19:10:00	64	2072	41	986	99	0	0	50.701
19-Aug-08 19:15:00	Oil SG 0.783 at 14 degC.							
19:15:00	64	2072	41	986	99	0	0	50.801
19:20:00	64	2073	41	985	99	0	0	50.854
19-Aug-08 19:25:00	Oilphase took PVT oil sample #1 from separator oil sight glass, CSB14803QA, and gas sample #1 from separator gas line, GSBA1429.							
19:25:00	64	2072	41	983	99	0	0	50.874
19:30:00	64	2072	41	983	99	0	0	50.884
19:35:00	64	2075	41	980	99	0	0	50.902
19-Aug-08 19:40:00	Finished PVT oil and gas samples #1.							
19:40:00	64	2075	41	980	99	0	0	50.902

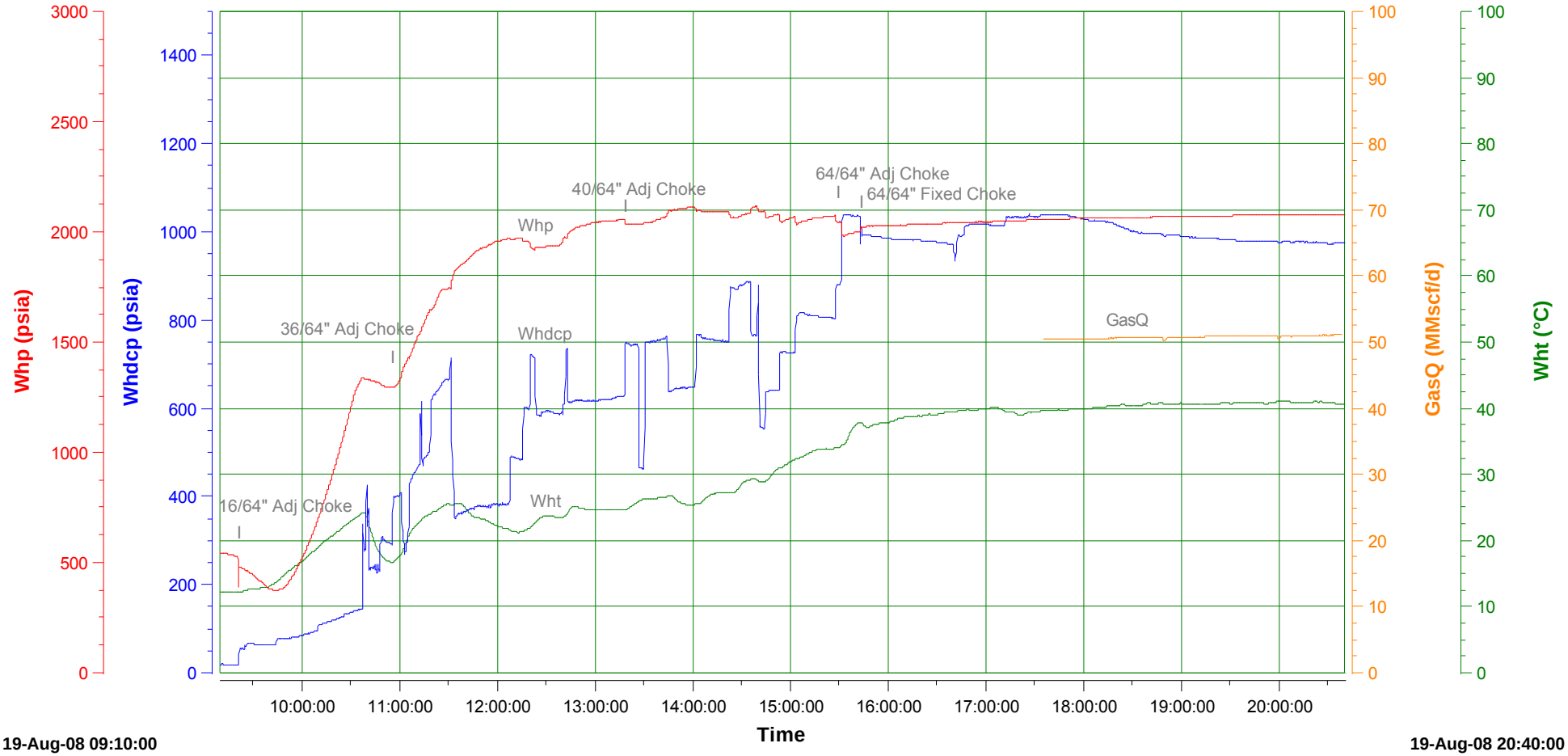
Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Time	ChokeSize (1/64 in)	Whp (psia)	Wht (°C)	Whdcp (psia)	BSW (%)	WhH2S (ppm)	WhCO2 (%)	GasQ (MMscf/d)
19-Aug-08 19:45:00	64	2075	41	980	99	0	0	50.941
19:50:00	64	2075	41	981	99	0	0	50.958
19:55:00	64	2077	41	980	99	0	0	50.970
20:00:00	64	2078	41	974	99	0	0	50.894
20:05:00	64	2078	41	978	99	0	0	50.882
19-Aug-08 20:10:00	Gas SG 0.605							
20:10:00	64	2078	41	978	99	0	0	50.927
20:15:00	64	2078	41	977	99	0	0	51.003
20:20:00	64	2078	41	975	99	0	0	50.967
20:25:00	64	2078	41	976	99	0	0	51.008
19-Aug-08 20:26:00	Oilphase took PVT oil sample #2 from separator oil sight glass, CSB4578EA, and gas sample #2 from separator gas line, GSBA0851.							
20:30:00	64	2078	41	973	99	0	0	51.045
19-Aug-08 20:32:09	Oil SG 0.778 at 17 degC.							
20:35:00	0	2078	41	976	99	0	0	51.061
19-Aug-08 20:36:00	Finished PVT oil and gas samples #2.							
19-Aug-08 20:38:00	Lifted 4.000" orifice plate.							
20:40:00	0	2078	41	975	99	0	0	
19-Aug-08 20:42:00	Shut in the well at CM.							
20:45:00	0	2249	41	15	99	0	0	
20:50:00	0	2246	36	15	99	0	0	
20:55:00	0	2246	32	15	99	0	0	
21:00:00	0	2247	29	15	99	0	0	
21:05:00	0	2246	26	15	99	0	0	
21:10:00	0	2246	23	15	99	0	0	
19-Aug-08 21:15:00	Recovered 0.5 bbl of condensate from separator.							
21:15:00	0	2247	22	15	99	0	0	
21:20:00	0	2246	20	15	99	0	0	
21:25:00	0	2246	19	15	99	0	0	
21:30:00	0	2245	18	15	99	0	0	
19-Aug-08 21:30:00	End of Well Clean up and Test.							

Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Main Results - Clean Up Test Graphic

Overview of Clean Up Period



Whp [Range : (0.00 : 3000.00) (psia)]
Whdcp [Range : (0.00 : 1500.00) (psia)]
GasQ [Range : (0.00 : 100.00) (MMscf/d)]
Wht [Range : (-0.00 : 100.00) (°C)]

Schlumberger

Santos

Gas Results

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Gas Results - Clean Up Test Data

64/64" Fixed Choke and 4.000" Orifice Plate

Time	Whp (psia)	GasP (psia)	GasDP (inH2O)	GasT (°C)	GasGr (SG)	H2S (ppm)	CO2 (%)	GasQ (MMscf/d)	GasV (MMscf)
19-Aug-08 15:42:00	Increased to 64/64" fixed choke.								
15:42:00	2001			14					
19-Aug-08 15:53:00	H2S = 0 ppm, CO2 = 0 %, BSW = 99% mud, 1% condensate.								
19-Aug-08 16:39:00	Diverted flow through separator.								
17:30:00	2055	706		29	0.616	0	0		
19-Aug-08 17:35:00	Lowered 4.000" orifice plate.								
17:35:00	2057	704	263	30	0.616	0	0		0.000
17:40:00	2058	704	263	30	0.616	0	0	50.407	0.175
17:45:00	2058	704	264	30	0.616	0	0	50.419	0.350
17:50:00	2057	704	264	30	0.616	0	0	50.448	0.525
17:55:00	2061	704	264	29	0.616	0	0	50.470	0.700
19-Aug-08 18:00:00	Gas SG 0.620.								
18:00:00	2061	705	264	29	0.616	0	0	50.501	0.876
18:05:00	2060	705	264	29	0.616	0	0	50.541	1.051
18:10:00	2063	705	264	29	0.616	0	0	50.552	1.227
18:15:00	2063	705	265	30	0.616	0	0	50.565	1.402
18:20:00	2063	706	264	30	0.616	0	0	50.592	1.578
18:25:00	2066	706	265	30	0.616	0	0	50.615	1.754
18:30:00	2066	706	265	30	0.616	0	0	50.654	1.930
18:35:00	2066	706	265	29	0.616	0	0	50.670	2.106
18:40:00	2066	707	265	30	0.616	0	0	50.684	2.282
18:45:00	2069	707	265	30	0.616	0	0	50.678	2.458
18:50:00	2069	701	264	30	0.616	0	0	50.581	2.633
18:55:00	2069	706	265	29	0.616	0	0	50.654	2.809
19-Aug-08 19:00:00	Gas SG 0.616.								
19:00:00	2069	707	265	29	0.616	0	0	50.758	2.985
19-Aug-08 19:05:00	H2S = 0 ppm, CO2 = 0 %, BSW 99% mud, 1% condensate.								
19:05:00	2071	705	265	29	0.616	0	0	50.719	3.161
19:10:00	2072	706	266	29	0.616	0	0	50.701	3.338
19-Aug-08 19:15:00	Oil SG 0.783 at 14 degC.								
19:15:00	2072	707	266	29	0.616	0	0	50.801	3.514
19:20:00	2073	707	266	29	0.616	0	0	50.854	3.690
19-Aug-08 19:25:00	Oilphase took PVT oil sample #1 from separator oil sight glass, CSB14803QA, and gas sample #1 from separator gas line, GSBA1429.								
19:25:00	2072	707	266	29	0.616	0	0	50.874	3.867
19:30:00	2072	707	266	29	0.616	0	0	50.884	4.044
19:35:00	2075	705	267	29	0.616	0	0	50.902	4.221
19-Aug-08 19:40:00	Finished PVT oil and gas samples #1.								
19:40:00	2075	705	267	29	0.616	0	0	50.902	4.397
19:45:00	2075	705	267	29	0.616	0	0	50.941	4.574
19:50:00	2075	705	267	29	0.616	0	0	50.958	4.751
19:55:00	2077	705	267	28	0.616	0	0	50.970	4.928
20:00:00	2078	697	266	28	0.616	0	0	50.894	5.105
20:05:00	2078	702	268	28	0.616	0	0	50.882	5.281

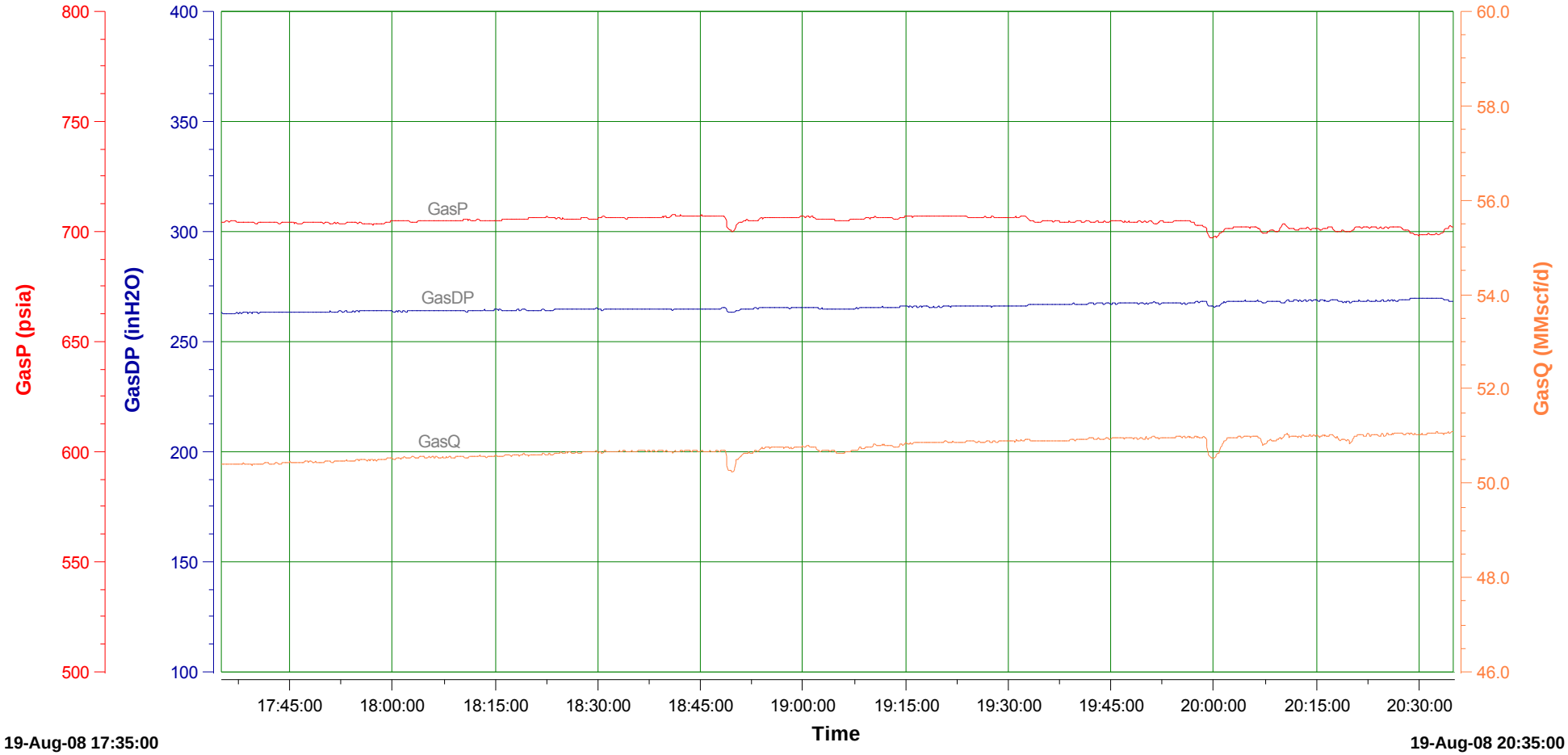
Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Time	Whp (psia)	GasP (psia)	GasDP (inH2O)	GasT (°C)	GasGr (SG)	H2S (ppm)	CO2 (%)	GasQ (MMscf/d)	GasV (MMscf)
19-Aug-08 20:10:00	Gas SG 0.605								
20:10:00	2078	703	268	28	0.616	0	0	50.927	5.458
20:15:00	2078	701	269	28	0.616	0	0	51.003	5.635
20:20:00	2078	700	268	28	0.616	0	0	50.967	5.812
20:25:00	2078	702	268	28	0.616	0	0	51.008	5.989
19-Aug-08 20:26:00	Oilphase took PVT oil sample #2 from separator oil sight glass, CSB4578EA, and gas sample #2 from separator gas line, GSBA0851.								
20:30:00	2078	698	270	28	0.616	0	0	51.045	6.167
19-Aug-08 20:32:09	Oil SG 0.778 at 17 degC.								
20:35:00	2078	702	268	28	0.616	0	0	51.061	6.344
19-Aug-08 20:36:00	Finished PVT oil and gas samples #2.								
19-Aug-08 20:38:00	Lifted 4.000" orifice plate.								

Note 1: Standard Conditions: 14.73 (psia) at 60 (°F).

Gas Results - Clean Up Test Graphic

64/64" Fixed Choke and 4.000" Orifice Plate



GasP [Range : (500.00 : 800.00) (psia)]
GasDP [Range : (100.00 : 400.00) (inH2O)]
GasQ [Range : (46.00 : 60.00) (MMscf/d)]

Schlumberger

Santos

Oilphase Report

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Oilphase-DBR Sampling & Analysis Services
Schlumberger
23 Brennan Way
Belmont
WA 6104
Ph:+61894755300

Santos
Field Operations Report

Job No:	AOH 554
Field:	Permit VIC P-44
Well:	Netherby 1DW
Date:	16th to 21st August, 2008
Rig:	Ocean Patriot
Test:	Clean Up

SAMPLING OPERATION PERSONNEL:

Client Representative: Paul Nardone

Oilphase Personnel: Chas Watter
Xenofon Antoniou

Date submitted: 1st September, 2008
Approved by: Yagan Bibby
Date: 2nd September, 2008

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Summary

Santos Ltd. contracted Oilphase-DBR, the sampling and analysis specialists of Schlumberger, to provide the on-site analysis and sampling services during the clean up for the Gas Development Well Netherby - 1DW. The sampling operations completed consisted of;

2 x PVT set (1 x 700cc CSB, 1 x 20Ltr GSB).
3 x Separator Gas Samples (150cc GSB).
1 x Brine Sample (1 Litre Glass Bottle).
1 x Mud Sample (1 Litre Glass Bottle).
3 x Dead Condensate (1L Glass Bottle, 5L Can & 25L Can).
1 x Water Sample (1L Glass Bottle).
1 x Mud Filtrate Sample (50cc Glass Bottle).

In addition to sampling, onsite analysis performed included;

2 x Mercury (using the PSA Sir Galahad, Mercury in gas analyser).
2 x Radon (using Pylon Radon in gas analysis kit).
5 x H2S and 3 x CO2 Gastec length of stain gas detection tubes.
1 x water sample analysis (density, pH, chlorides, alkalinity).

Sampling and analysis was performed as per the Santos sampling program and as per instructions by Paul Nardone (Well Test Engineer).

Sample Shipment
All samples were labeled and packed as per DG regulations and were packed into Santos container FWKSP005. At which stage Santos Rig (Ocean Patriot) logistics organised their final shipping destinations.

Sequence of Events

Date	Time	Event
17-Aug-08	11:00	Oilphase personnel (Xenofon Antoniou) arrived on the Ocean Patriot.
	15:00	Start to unpack equipment and setup.
18-Aug-08	11:00	Oilphase personnel (Chas Watter) arrived on the Ocean Patriot.
	12:00	Collect Sample # 1.01 & 1.02 from the mud pits.
	13:00	Rig Fire Drill.
	14:00	Continue equipment setup and calibration.
19-Aug-08	2:06	Started displacing to diesel.
	4:50	Fully set packer.
	9:20	Opened well on 16/64" adjustable choke.
	9:45	BS&W: 15% Water & 85% Diesel.
	10:00	BS&W: 3% Water, 7% Mud & 90% Diesel.
	10:15	BS&W: 3% Water, 7% Mud & 90% Diesel.
	10:37	Gas to surface.
	10:40	H_2S: 0 ppm.
	10:50	H_2S: 0 ppm & CO_2: 0%.
	11:15	BS&W: 100% mud.
	11:30	BS&W: 100% mud.
	13:15	BS&W: 100% mud.
	13:31	BS&W: 100% mud.
	14:00	BS&W: 100% mud.
	14:45	H_2S: 0 ppm.
	15:00	BS&W: 100% mud. H2S: 0 ppm & CO2: 0%.
	15:53	H_2S: 0 ppm & CO_2: 0%.
	16:39	Flow diverted through the separator.
	19:25	Take Sample # 1.03 - 1.04 (PVT set)
	20:26	Take Sample # 1.05 - 1.06 (PVT set)
	20:45	Take Sample # 1.07- 1.08 (150cc Gas Sample).
	20:52	Take Sample # 1.09 (Dead Condensate).
	20:55	Take Sample # 1.10 (150cc Gas Sample).
	21:30	Take Sample # 1.11 (Water Sample).
	21:35	Take Sample # 1.12 - 1.13 (Dead Condensate).
	20:42	Shut in well at the choke manifold.
	21:00	Start packing up Oilphase equipment.
20-Aug-08	6:00	Continue packing up equipment.
	11:00	Pack Samples into Santos Container.
	13:00	Collect Sample # 1.14 (Mud Filtrate).
	17:00	Oilphase equipment packed up.
21-Aug-08	13:00	Oilphase personnel (Chas Watter & Xenofon Antoniou) leave Ocean Patriot.

Client: Santos
Job No: AOH 554
Date: 16th to 21st August, 2008

Well: Netherby 1DW
Field: Permit VIC P-44
Rig: Ocean Patriot

Schlumberger

OFFSHORE SAMPLE LISTING

Sample No	Sample Date	Sample Time	Sample Nature	Chamber S/N	Sample Point	P opening psig @ °C	Transfer Cond. psig @ °C	Final Pressure psig @ °C	Bottle S/N	Bottle Type	Sample Vol (cc)	Comments
1.01	18-Aug-08	12:00	Brine	N/A	Mud Pit	N/A	N/A	N/A	N/A	1L Glass Bottle	1000	
1.02	18-Aug-08	12:00	WBM	N/A	Mud Pit	N/A	N/A	N/A	N/A	1L Glass Bottle	450	
1.03	19-Aug-08	19:25	PVT Oil	N/A	Separator Oil Sight Glass	N/A	710 @ 11	300 @ 11	14803-QA	CSB	600	
1.04	19-Aug-08	19:25	PVT Gas	N/A	Separator Gas Line	N/A	710 @ 11	710 @ 11	A-1429	20L GSB	20000	
1.05	19-Aug-08	20:26	PVT Oil	N/A	Separator Oil Sight Glass	N/A	700 @ 11	300 @ 11	4578-EA	CSB	600	
1.06	19-Aug-08	20:26	PVT Gas	N/A	Separator Gas Line	N/A	700 @ 11	700 @ 11	A-0851	20L GSB	20000	
1.07	19-Aug-08	20:45	Gas Sample	N/A	Separator Gas Line	N/A	690 @ 11	690 @ 11	001	150cc GSB	150	
1.08	19-Aug-08	20:50	Gas Sample	N/A	Separator Gas Line	N/A	690 @ 11		002	150cc GSB	150	
1.09	19-Aug-08	20:52	Condensate	N/A	Separator Oil Sight Glass	N/A	N/A	N/A	N/A	1L Glass Bottle	500	
1.10	19-Aug-08	20:55	Gas Sample	N/A	Separator Gas Line	N/A	690 @ 11	690 @ 11	003	150cc GSB	150	
1.11	19-Aug-08	21:30	Water Sample	N/A	Separator Water Sight Glass	N/A	N/A	N/A	N/A	1L Glass Bottle	300	
1.12	19-Aug-08	21:35	Condensate Sample	N/A	Separator Oil Sight Glass	N/A	N/A	N/A	N/A	5L Can	5000	
1.13	19-Aug-08	21:45	Condensate Sample	N/A	Separator Oil Sight Glass	N/A	N/A	N/A	N/A	25L Can	10000	
1.14	20-Aug-08	13:30	Mud Filtrate Sample	N/A	Mud Engineer	N/A	N/A	N/A	N/A	50 cc Glass Bottle	20	

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.01	**Sample Nature:**	Brine
Bottle No:	N/A	**Flow Period:**	N/A
Sampling Date:	18-Aug-08	**Formation:**	N/A
Sampling Time	12:00	**DST No:**	N/A
Sampling Point:	Mud Pit		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	1 Litre Glass Bottle	**Gas Cap Created**:	N/A
Sample Bottle Volume:	1 Litre	**Fluid Remaining**:	N/A
Sample Volume:	1000cc	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.02	**Sample Nature:**	WBM
Bottle No:	N/A	**Flow Period:**	N/A
Sampling Date:	18-Aug-08	**Formation:**	N/A
Sampling Time	12:00	**DST No:**	N/A
Sampling Point:	Mud Pit		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	1 Litre Glass Bottle	**Gas Cap Created**:	N/A
Sample Bottle Volume:	1 Litre	**Fluid Remaining**:	N/A
Sample Volume:	450cc	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.03	**Sample Nature:**	PVT Oil
Bottle No:	14803-QA	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	19:25	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	CSB	**Gas Cap Created**:	60cc
Sample Bottle Volume:	700cc	**Fluid Remaining**:	40cc
Sample Volume:	600 cc	**Final Pressure:**	300psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	1.04	**In Bottle No:**	A-1429	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	706.6 psia	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	28.9°C	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	50.9 MMscf/d	**Oil rate (sep cond):**	N/A
WHP:	2072.4 psia	**Gas gravity (air = 1):**	0.616	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	9.6 psi	**Oil line temp:**	N/A
Choke size:	64/64" fixed	**Gas pressure:**	706.6 psia	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	28.9℃	**GOR (total):**	N/A
H2S:	0ppm	**FB factor:**	3720.32	**WOR:**	N/A
CO_2:	0ppm	**FPV factor:**	1.0533	**BSW (choke):**	N/A

REMARKS

Commencement of sampling PVT sets was confirmed by Paul Nardone (Santos Completion Engineer).

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.04	**Sample Nature:**	PVT Gas
Bottle No:	A-1429	**Flow Period:**	Clean Up
Sampling Date:	18-Aug-08	**Formation:**	N/A
Sampling Time	19:25	**DST No:**	N/A
Sampling Point:	Separator Gas Line		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	GSB	**Gas Cap Created**:	N/A
Sample Bottle Volume:	20 Litre	**Fluid Remaining**:	N/A
Sample Volume:	20 Litre	**Final Pressure:**	710psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	1.03	**In Bottle No:**	14803-QA	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	706.6 psia	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	28.9°C	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	50.9 MMscf/d	**Oil rate (sep cond):**	N/A
WHP:	2072.4 psia	**Gas gravity (air = 1):**	0.616	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	9.6 psi	**Oil line temp:**	N/A
Choke size:	64/64" fixed	**Gas pressure:**	706.6 psia	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	28.9℃	**GOR (total):**	N/A
H2S:	0ppm	**FB factor:**	3720.32	**WOR:**	N/A
CO_2:	0ppm	**FPV factor:**	1.0533	**BSW (choke):**	N/A

REMARKS

Commencement of sampling PVT sets was confirmed by Paul Nardone (Santos Completion Engineer).

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.05	**Sample Nature:**	PVT Oil
Bottle No:	4578-EA	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:26	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	CSB	**Gas Cap Created**:	60cc
Sample Bottle Volume:	700cc	**Fluid Remaining**:	40cc
Sample Volume:	600 cc	**Final Pressure:**	300psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	1.06	**In Bottle No:**	A-0851	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	701.8 psia	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	28.0°C	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	51.03 MMscf/d	**Oil rate (sep cond):**	N/A
WHP:	2078.4 psia	**Gas gravity (air = 1):**	0.605	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	9.7 psi	**Oil line temp:**	N/A
Choke size:	64/64" fixed	**Gas pressure:**	701.8 psia	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	28.0℃	**GOR (total):**	N/A
H2S:	0ppm	**FB factor:**	3720.32	**WOR:**	N/A
CO_2:	0ppm	**FPV factor:**	1.0535	**BSW (choke):**	N/A

REMARKS

Commencement of sampling PVT sets was confirmed by Paul Nardone (Santos Completion Engineer).

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.06	**Sample Nature:**	PVT Gas
Bottle No:	A-0851	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:26	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	GSB	**Gas Cap Created**:	N/A
Sample Bottle Volume:	20 Litre	**Fluid Remaining**:	N/A
Sample Volume:	20 Litre	**Final Pressure:**	700psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	1.05	**In Bottle No:**	4578-EA	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	701.8 psia	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	28.0°C	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	51.03 MMscf/d	**Oil rate (sep cond):**	N/A
WHP:	2078.4 psia	**Gas gravity (air = 1):**	0.605	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	9.7 psi	**Oil line temp:**	N/A
Choke size:	64/64" fixed	**Gas pressure:**	701.8 psia	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	28.0℃	**GOR (total):**	N/A
H2S:	0ppm	**FB factor:**	3720.32	**WOR:**	N/A
CO_2:	0ppm	**FPV factor:**	1.0535	**BSW (choke):**	N/A

REMARKS

Commencement of sampling PVT sets was confirmed by Paul Nardone (Santos Completion Engineer).

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.07	**Sample Nature:**	Gas Sample
Bottle No:	001	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:45	**DST No:**	N/A
Sampling Point:	Separator Gas Line		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	GSB	**Gas Cap Created**:	N/A
Sample Bottle Volume:	150cc	**Fluid Remaining**:	N/A
Sample Volume:	150cc	**Final Pressure:**	690psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Gas Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.08	**Sample Nature:**	Gas Sample
Bottle No:	002	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:50	**DST No:**	N/A
Sampling Point:	Separator Gas Line		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	GSB	**Gas Cap Created**:	N/A
Sample Bottle Volume:	150cc	**Fluid Remaining**:	N/A
Sample Volume:	150cc	**Final Pressure:**	690psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Gas Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.09	**Sample Nature:**	Condensate
Bottle No:	N/A	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:52	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	1 Litre Glass Bottle	**Gas Cap Created**:	N/A
Sample Bottle Volume:	1 Litre	**Fluid Remaining**:	N/A
Sample Volume:	500cc	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.10	**Sample Nature:**	Gas Sample
Bottle No:	003	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:50	**DST No:**	N/A
Sampling Point:	Separator Gas Line		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	GSB	**Gas Cap Created**:	N/A
Sample Bottle Volume:	150cc	**Fluid Remaining**:	N/A
Sample Volume:	150cc	**Final Pressure:**	690psig @ 11°C

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Gas Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.11	**Sample Nature:**	Water Sample
Bottle No:	N/A	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	20:30	**DST No:**	N/A
Sampling Point:	Separator Water Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	1 Litre Glass Bottle	**Gas Cap Created**:	N/A
Sample Bottle Volume:	1 Litre	**Fluid Remaining**:	N/A
Sample Volume:	300cc	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.12	**Sample Nature:**	Condensate Sample
Bottle No:	N/A	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	21:35	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	5 litre Can	**Gas Cap Created**:	N/A
Sample Bottle Volume:	5 litre	**Fluid Remaining**:	N/A
Sample Volume:	5 litre	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Sample taken from static separator whilst well shut in.

Surface Sample Data Sheet

IDENTIFICATION

Sample No:	1.13	**Sample Nature:**	Condensate Sample
Bottle No:	N/A	**Flow Period:**	Clean Up
Sampling Date:	19-Aug-08	**Formation:**	N/A
Sampling Time	21:45	**DST No:**	N/A
Sampling Point:	Separator Oil Sight Glass		
Perforations :	N/A		

SHIPPING CONDITIONS

Sample Bottle Type:	25 litre Can	**Gas Cap Created**:	N/A
Sample Bottle Volume:	25 litre	**Fluid Remaining**:	N/A
Sample Volume:	10 litre	**Final Pressure:**	Atmospheric

MATCHED WITH SAMPLES

Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A
Sample No:	N/A	**In Bottle No:**	N/A	**Sample No:**	N/A	**In Bottle No:**	N/A

PRODUCTION CONDITIONS DURING SAMPLING

BHP:	N/A	**Sep pressure:**	N/A	**Oil rate (std cond)**	N/A
BHT:	N/A	**Sep temp:**	N/A	**Corrected by:**	N/A
At depth:	N/A	**Gas rate (std cond):**	N/A	**Oil rate (sep cond):**	N/A
WHP:	N/A	**Gas gravity (air = 1):**	N/A	**Oil gravity 60/60:**	N/A
WHT:	N/A	**Gas diff pressure:**	N/A	**Oil line temp:**	N/A
Choke size:	N/A	**Gas pressure:**	N/A	**Water rate:**	N/A
Stable since:	N/A	**Gas temp:**	N/A	**GOR (total):**	N/A
H2S:	N/A	**FB factor:**	N/A	**WOR:**	N/A
CO_2:	N/A	**FPV factor:**	N/A	**BSW (choke):**	N/A

REMARKS

Sample taken from static separator whilst well shut in.

Onsite Analysis

Hg in Gas

#	Sample Date	Sampling Time	Hg concentration at std conditions (ng/m^3)*
1	19-Aug-08	19:10 - 20:00	35.57
2	19-Aug-08	20:10 - 20:55	40.25

* This value is calculated as a cummulative Hg reading from 2 Amasil tubes sampled in series.

Radon in Gas

#	Sample Date	Sampling Time	Average Radon concentration at std conditions (Bq/m^3)**
1	19-Aug-08	18:10 - 18:45	146.40
2	19-Aug-08	18:45 - 19:20	141.42

** This value is calculated as an average Radon concentration from 2 Lucas cells sampled in series.

Water Analysis

Sample #	Sample Nature	Density @ °C	pH @ °C	Chlorides (mg/L)	Alkalinity (mg/L)		
					OH^-	CO_3^{2-}	HCO_3^-
1.09	Condensate	1.032 @ 20	7.61 @ 20	31,660	0	0	70
N/A	4pm BSW	1.076 @ 19.8	8.08 @ 19.4	64,585	0	0	63
1.14	Mud Filtrate	N/A	N/A	139,363	N/A	N/A	N/A

N.B: Barium and Sulfate analysis not completed due to limited water sample. Conductivity reading off meter scale. Sample 1.09 and BSW were filtered to capture water.

Gas Tubes

Date	Time	Sampling Point	H2S	Gas Tube Range	CO2	Gas Tube Range
19-Aug-08	10:40	Choke	0	0-40ppm	-	0-20%
19-Aug-08	10:50	Choke	0	0-40ppm	0	0-20%
19-Aug-08	14:45	Choke	0	0-40ppm	-	0-20%
19-Aug-08	15:00	Choke	0	0-40ppm	0	0-20%
19-Aug-08	15:53	Choke	0	0-40ppm	0	0-20%

Schlumberger

Santos

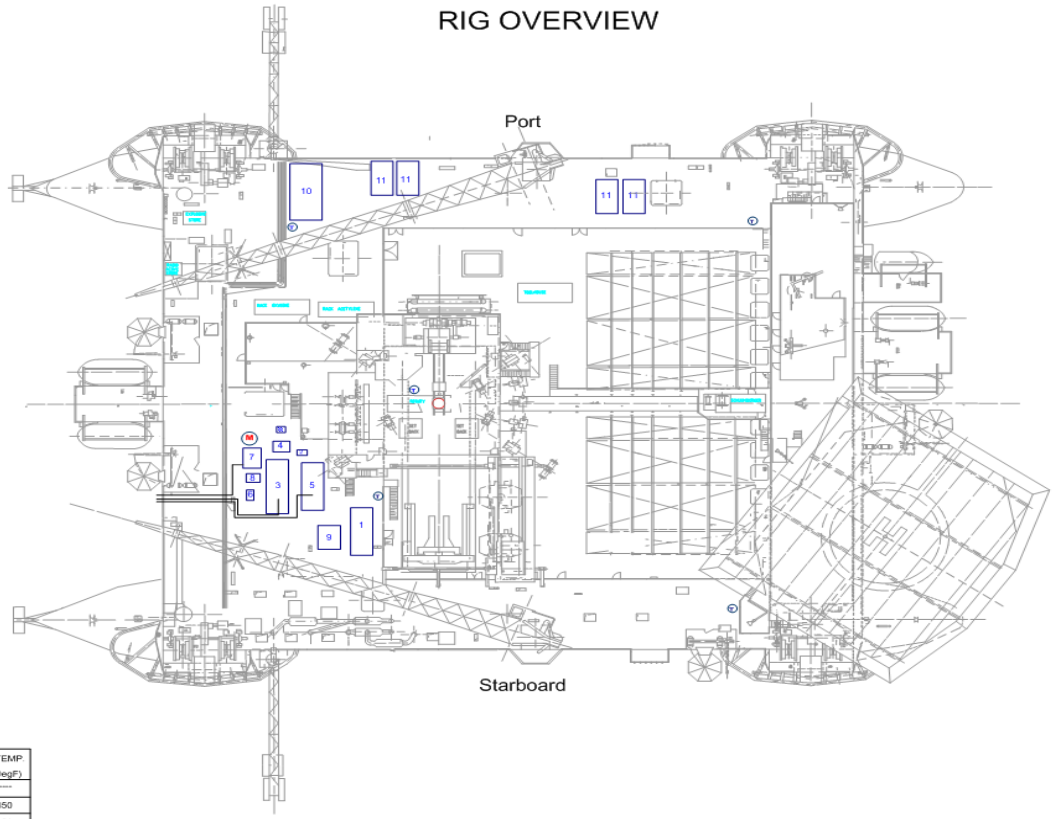
Annex

Oil Company : Santos
Country : Australia
Field : Otway
Well Name : Netherby-1DW
Test Type : Completion Clean Up
Test Date : 19-Aug-08
Report Number : 2008-020

Slb Representative : Andy Gilles
Client Representative : Paul Nardone

Print Date: 10-Sep-2008

Surface Layout



ESD BUTTON

Methanol with Pump

ITEM	DESCRIPTION	DIMENSIONS (M)			WEIGHT (KG)	PRESS. (Psi)	TEMP (DegF)
		Length	Width	Height			
1	PRESSURISED LABORATORY	3.5	2.3	2.9	8000	----	----
2	SURFACE SAFETY VALVE	1.3	0.6	1.2	544	10K	350
3	STEAM HEAT EXCHANGER	6.5	2.34	2.6	12200	10K	250
4	CHOKE MANIFOLD	2.7	2.1	1.1	4050	10K	250
5	3-PHASE SEPARATOR (WET WT)	5.7	2.5	2.5	16000	1440	212
6	OIL MANIFOLD	2.1	0.7	0.5	350	1440	212
7	SURGE TANK (WET WT)	2.4	2.6	7.4	27900	150	212
8	TRANSFER PUMP	1.5	1.5	2.0	2700	350	212
9	WELLTEST WORKSHOP	5.0	2.4	2.7	10000	----	----
10	STEAM GENERATOR (WET WT)	6.1	2.4	2.8	16000	150	350
11	AIR COMPRESSOR	4.0	2.3	2.2	7500	125	105
12	ESD	0.92	0.92	1.2	340	----	----
13							
14							
15							

2	25/4/08	FINAL	HT	PS
1	20/1/08	ISSUED FOR APPROVALS	EY	DG
0	05/1/08	MODIFY AS ADVISED BY RIG	EY	PS
REV	DATE	REDRAWN ON VISIO	BY	APR.
DRN.	E YEOW	Layout Drawing		
DATE	10/12/07			
CKD	D. GIBBS	RIG OCEAN PATRIOT		
APP.				
JOB No.	2008-020	CLIENT : SANTOS Nertherby-1 DW		

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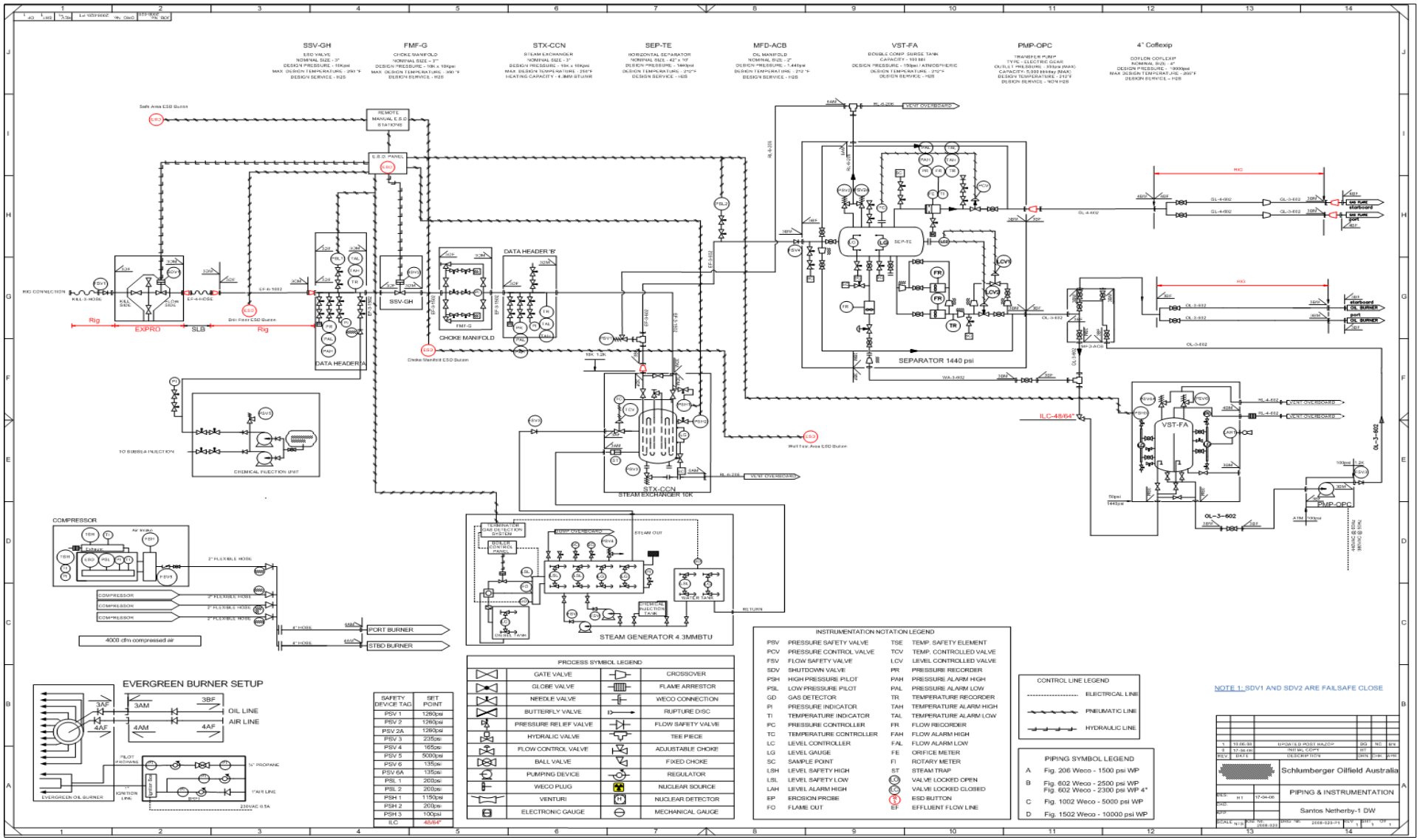
DRAWING No.	SCALE	REV
2008-020 H1	NTS	2

P & ID



SAFETY DEVICE TAG	SET POINT
PSV 1	1280psi
PSV 2	1280psi
PSV 2A	1280psi
PSV 3	235psi
PSV 4	165psi
PSV 5	5000psi
PSV 6	135psi
PSV 6A	135psi
PSL 1	200psi
PSL 2	200psi
PSH 1	1150psi
PSH 2	200psi
PSH 3	100psi
ILC	48/64"

PROCESS SYMBOL LEGEND

	GATE VALVE		CROSSOVER
	GLOBE VALVE		FLAME ARRESTOR
	NEEDLE VALVE		WECO CONNECTION
	BUTTERFLY VALVE		RUPTURE DISC
	PRESSURE RELIEF VALVE		FLOW SAFETY VALVE
	HYDRALIC VALVE		TEE PIECE
	FLOW CONTROL VALVE		ADJUSTABLE CHOKE
	BALL VALVE		FIXED CHOKE
	PUMPING DEVICE		REGULATOR
	WECO PLUG		NUCLEAR SOURCE
	VENTURI		NUCLEAR DETECTOR
	ELECTRONIC GAUGE		MECHANICAL GAUGE

INSTRUMENTATION NOTATION LEGEND

PSV	PRESSURE SAFETY VALVE	TSE	TEMP. SAFETY ELEMENT
PCV	PRESSURE CONTROL VALVE	TCV	TEMP. CONTROLLED VALVE
FSV	FLOW SAFETY VALVE	LCV	LEVEL CONTROLLED VALVE
SDV	SHUTDOWN VALVE	PR	PRESSURE RECORDER
PSH	HIGH PRESSURE PILOT	PAH	PRESSURE ALARM HIGH
PSL	LOW PRESSURE PILOT	PAL	PRESSURE ALARM LOW
GD	GAS DETECTOR	TR	TEMPERATURE RECORDER
PI	PRESSURE INDICATOR	TAH	TEMPERATURE ALARM HIGH
TI	TEMPERATURE INDICATOR	TAL	TEMPERATURE ALARM LOW
PC	PRESSURE CONTROLLER	FR	FLOW RECORDER
TC	TEMPERATURE CONTROLLER	FAH	FLOW ALARM HIGH
LC	LEVEL CONTROLLER	FAL	FLOW ALARM LOW
LG	LEVEL GAUGE	FE	ORIFICE METER
SC	SAMPLE POINT	FI	ROTARY METER
LSH	LEVEL SAFETY HIGH	ST	STEAM TRAP
LSL	LEVEL SAFETY LOW	LO	VALVE LOCKED OPEN
LAH	LEVEL ALARM HIGH	LC	VALVE LOCKED CLOSED
EP	EROSION PROBE	E	ESD BUTTON
FO	FLAME OUT	EF	EFFLUENT FLOW LINE

CONTROL LINE LEGEND

----------	ELECTRICAL LINE
~~	PNEUMATIC LINE
-/-/-/-/-	HYDRAULIC LINE

PIPING SYMBOL LEGEND

A	Fig. 206 Weco - 1500 psi WP
B	Fig. 602 Weco - 2500 psi WP Fig. 602 Weco - 2300 psi WP 4"
C	Fig. 1002 Weco - 5000 psi WP
D	Fig. 1502 Weco - 10000 psi WP

STAN Computation

1 GAS COMPUTATIONS

1.1 Gas deviation factor

The selected method for the gas deviation factor computation is provided by Standing ("Volumetric Phase Behavior of Oil Field Hydrocarbon Systems", 1977).

From gas specific gravity measurement, the specific gravity of the hydrocarbon fraction is computed. This computation requires the knowledge of the specific gravity of the non-hydrocarbon fraction (CO_2, H_2S, N_2). These values are found in the "Engineering Data Book" (by the Gas Processor Suppliers Association, 1977).

The pseudo critical pressure and temperature of the hydrocarbon fraction are then obtained from Standing's correlation. We then apply Kay's mixing rule to compute the pseudo critical properties of the gas mixture. For this calculation, the required pseudo critical properties of the non-hydrocarbon fraction are also found in the "Engineering Data Book".

The pseudo critical properties of the gas mixture are corrected of their non-hydrocarbon component with Wichert and Aziz correlation ("Calculate Z's for Sour Gases" Hydrocarbon Processing, May 1977).

2 OIL COMPUTATIONS

2.1 Volume correction factor of dead oil - ASTM nomenclature

ASTM nomenclature determines effects of temperature on volume variations between any temperature and standard temperature.

Oil density measurement provided by sampling is converted in oil density at base temperature according to ASTM nomenclature (ASTM D 1250-80). Having oil density at base temperature, oil density at any temperature can be computed, an shrinkage factor is then defined by:

STAN Computation

$$b_o = \frac{\rho_{shrT}}{\rho_{T_o}} * (1 - Shr)$$

Where:

Shr is the shrinkage value,

ρ_{shrT} is oil density at shrinkage measurement temperature,

ρ_{T_o} is oil density at ASTM base temperature.

2.2 GOR2

From an oil sample, oil density is measured. We then applied Volume Correction Factor from the ASTM nomenclature to deduce $(\rho_{oil})_{60^o F}$.
GOR2 is then computed as follow:

$$R_{s\tan k} = \left(P^{LC}\right)_{psia} * \left(\frac{1.797}{(\gamma_o)_{60^o F}^{60^o F}} - 1.838 \right)$$

Where:

$(\gamma_o)_{60^0 F}^{60^0 F}$ is the oil specific gravity at 60° F /60° F

Nomenclature

AAV	Annular Access Valve
AMV	Annular Master Valve
bbls	barrels
BSW	Basic sediment and water
CM	Choke manifold
GasDP	Gas Differencial Pressure
GasGr	Gas Density
GasP	Gas Pressure
GasQ	Gas flowrate separator
GasV	Gas cummulative
inH20	inch of water
JSA	Job Safety Analysis
KWV	Kill Wing Valve
LUBV	Lubricatior Valve
MMsfc	Million Standard Cubic Feet
MV	Master Valve
P&ID	Piping and Instrumentation Diagram
ppm	parts per million
psi	Pounds per square inch
psia	Absolute pounds per square inch
PT	Pressure Test
RIH	Run in hole
SL	Slickline
ST	Surge Tank
SV	Swab Valve
TRSV	Tubing Retrievable Safety Valve
Whdcp	Wellhead downstream choke pressure
Whp	Wellhead presure
Wht	Wellhead temperature
WhH2S	ppm of Hydrogen Sulphide gas
WhCO2	Percent of Carbon Dioxide gas