

SANTOS – MITSUI - AWE

COMPILED FOR

SANTOS LIMITED
(A.B.N. 80 007 550 923)

NETHERBY 1

BASIC DATA REPORT

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NETHERBY 1

BASIC DATA REPORT

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LOCATION MAP

GENERAL DATA CARD

WELL: NETHERBY 1	WELL CATEGORY: OFFSHORE EXPLORATION	SPUD: 07:30 hours 15/07/2008			
	WELL INTENT: GAS	TD REACHED: 22:30 hours 30/07/2008			
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 RELEASED: 21:00 hours 02/08/2008			
		RIG: OCEAN PATRIOT			
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		STATUS: PLUGGED BACK AND SIDETRACKED			
TD: 1875.5 m (Logger Extrap.), 1875 m MD (Driller) -1727.5 m SS TVD (Logger Extrap.)		REMARKS: Netherby 1 was plugged back and sidetracked after encountering good gas shows in the Waarre A unit. Netherby 1 sidetracked as Netherby 1DW1 at 21:00 hours on 02/08/2008.			
PBTD: Well Plugged and Abandoned – Cement Plugs Set					
TYPE STRUCTURE: Tilted Block Fault					
TYPE COMPLETION: Plugged Back and Sidetracked					
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 1/2")	340 mm (13 3/8")	642.2 m	L80, 101 kg/m (68 lb/ft)
		311 mm (12 1/4")	Plugged back & sidetracked		

LOG (WIRELINE)	SUITE / RUN	INTERVAL (m)	COMMENTS
PEX-HGNS-DSI	1 / 1		
GR		1775 – Surface	66°C / 10.5 hours / 1755 m
TNPH		1777 – 643.5	
HNGS		1783 – 643.5	5 attempts to get to bottom were made with wireline plus one attempt at pipe conveyed logging. None were able to pass obstruction at 1792.5 m.
RXOZ		1781 – 643.5	
RHOZ		1781 – 643.5	
HRLT		1785 – 643.5	
HCAL		1781 – 643.5	
SP		1755 – 643.5	
DSI		1762 – 643.5	

LOG (LWD)	SUITE / RUN	INTERVAL (m)	COMMENTS
ARC - MWD	1 / 1	647.5 – 1421	311 mm (12 1/4") hole section. Final Circulating Temperature: 59°C.
ARC - MWD	1 / 2	1421 – 1870	311 mm (12 1/4") hole section. Final Circulating Temperature: 81°C.
MWD-ARC-SONIC-SADN-Stethoscope	1 / 3	1741 – 1875	Hole washed down from 1741 m to 1870 m and new hole drilled from 1870-1875 m acquiring LWD data. 17 stethoscope points: 4 valid, 5 tight, 7 no tests (tool problem), 1 no seal.

SECTION 1 : WELL HISTORY

1.1 **INTRODUCTION**

Netherby 1 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 Netherby 1 (35° Pilot) well is 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 1 DW1) over the Waarre A reservoir.

Executive Summary (Reproduced from the well program)

The Netherby prospect is situated in the VIC/P 44 exploration license in the Otway Basin. The proposed drill location is 17.4km from the Victorian coastline in water depths of about 65 metres. The nearest wells are Pecten 1A (2.3 km E) and Henry 1 ST1 (4.7 km SSE).

The prospect is analogous in structural style and seismic amplitudes to the Henry Field where gas was discovered in the Late Cretaceous Waarre A reservoir target in August 2005. The Netherby prospect is located in the adjacent fault block immediately north of the Henry Field. The Netherby 1 (35° Pilot) well is 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 1 DW1) over the Waarre A reservoir.

The Waarre A sandstone target exhibits a strong full-stack seismic amplitude anomaly that conforms to depth structure. Due to the similarity in structure and seismic attributes to the neighboring Henry Field it is assessed to have a high technical chance of success of 73%. Mean recoverable resource is estimated at 138 bcf with an upside recoverable resource of 267 bcf.

The Netherby 1 DW1 well will be completed and 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 through the new pipeline.

Regional Prospect Setting

The Otway Basin is a northwest-southeast trending feature located along the southern margin of Australia, spanning both the onshore and offshore of South Australia, Victoria and Tasmania. Rifting in the Otway Basin was initiated during the Late Jurassic to Early Cretaceous and was associated with the rotation and separation of Antarctica from Australia. This early tectonism produced northwest trending rifts in the west of the basin which progressively became more north-easterly trending in the eastern part of the basin. Sedimentation during this period consisted of carbonaceous lacustrine shales, minor volcanics and sands. As rifting continued, deposition of the 'Crayfish Group' was dominated by amalgamated fluvio-lacustrine syn-rift sediments. As rifting waned during the Aptian and Albian, the basin was dominated by the post rift sag phase volcanoclastic fluvio-lacustrine Eumeralla Formation. The Eumeralla is regarded as economic basement in the eastern Otway Basin.

Following the Cenomanian uplift and erosion, rifting recommenced during the Late Cretaceous with structural rotation occurring from a NNW-SSE to a NNE-SSW direction. Significant structural growth occurred during this period within the Waarre Formation, particularly the Waarre 'C'. At this time, the Shipwreck trough emerged as the principal depocentre within the Otway Basin. The Waarre Formation is generically subdivided into three sub units - 'A', 'B' and 'C'. The Waarre A represents a basal Transgressive Systems Tract (TST) with a fluvial dominated sand rich lower Waarre A directly overlying the Cenomanian Unconformity (K75). It is proposed that this unit on-lapped the Mussel Platform.

Following the initial Marine transgression, several regressive sequences are evident within the mid to upper Waarre A. The Waarre B is a thin but correctable shale, deposited under marginal marine to estuarine conditions. Within the onshore Port Campbell Embayment, the Waarre C sands are the principal gas reservoirs and have been further subdivided into Ca & Cb units (Partridge 1999). The Waarre Ca represents a return to a sand prone depositional setting with shallow marine to fluvial fades evident. The Waarre Cb unconformably overlies the Ca and represents a change to more fluvial conditions. An associated sequence boundary, the K77 separates the Waarre Ca & Cb. Further transgression and flooding of the Waarre Cb resulted in the deposition of the marginal to marine Flaxman Fm and Belfast Mudstone units, which locally act as top seal for the Waarre Fm, where not eroded by the overlying K85 Santonian Unconformity.

The Shipwreck group sediments are unconformably overlain by the Sherbrook Group, separated by the K85 unconformity. The first unit of the Sherbrook is the Skull Creek Mudstone which acts as top seal for many of the known hydrocarbon producing reservoirs.

Drilling Opportunity Description

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 proposed Netherby 1 (Pilot) exploration well is located in the VIC/P 44 exploration permit in offshore Victoria. Water depth at the proposed location is 65 metres, being approximately 17.4km from the Victorian coastline. The well will be situated on the Pecten High immediately adjacent to the Shipwreck Trough. The nearest well is Pecten 1A located 2.3km 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 Netherby prospect has been defined by interpretation of the 2001 Casino 3D seismic survey (O1CAS3D). A re-interpretation of the data was undertaken in early to mid 2005 following the drilling of the Martha 1 exploration well. Re-interpretation illuminated three potential Waarre A prospects on the Pecten High that exhibited full-stack seismic amplitude anomalies that all conformed to structural closure. These prospects were named Pecten East, Netherby and Henry. Henry was drilled in August 2005 and successfully intersected gas in the Waarre A.

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 exhibits strong full-stack minimum seismic amplitudes similar to the 2005 Henry discovery. These seismic amplitudes are the primary method for estimating the areal distribution of hydrocarbons as well as providing confidence in the probability of technical success. The main amplitude anomaly covers an area of 11.4 km², while the P90 and P10 areas are 5.2 km² and 23.0 km² respectively.

Based on the extent of the minimum full-stack seismic amplitude anomaly and the current depth mapping an interpreted gas-water-contact (GWC) occurs between 1750m to 1760m TVDSS. This GWC interpretation is similar to the log interpreted GWC at Pecten 1A of 1752m TVDSS. The Waarre A gas column of approximately 160m is estimated based on the current depth map.

The spill point for the Netherby Waarre A level is not clear. It appears however, that the Netherby prospect lies on a fill and spill chain from the Pecten East prospect based on the amplitude conformance to structure of several small fault-dependent closures to the north of the Netherby prospect. The Pecten East spill point is interpreted at the tip of a NW-SE trending fault to the south. This spill point occurs where the displacement across the south-bounding east to west fault diminishes and is transferred into two faults with less fault displacement. At this point, the Waarre A is juxtaposed against the Waarre C and this may provide a conduit for migration of hydrocarbons up-dip and into the smaller fault-dependent closures that ultimately spill into the Netherby prospect.

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 Netherby 1 DW1 well design will be revised following the drilling of the Netherby 1 Pilot well.

Play - WAARRE FORMATION

The Netherby prospect lies on the western flank of the Shipwreck Trough within the proven gas prone Eumeralla source - Waarre reservoir Petroleum System. The Waarre play has proven commerciality both onshore and offshore. Several productive fields lie onshore in the Port Campbell Embayment, whilst offshore Minerva and Casino are producing gas from the Waarre Formation reservoir units. The Henry discovery is undergoing development. Other discoveries include La Bella, Martha and Halladale/Blackwatch.

Both the Pecten East (Waarre A) and Netherby prospects are analogous to the Henry discovery made in August 2005.

Closure

Mapping of the Casino 3D seismic volume has defined the presence of a robust TWT and depth structural closure at Netherby. The Netherby Waarre A structure is interpreted as a rotated (tilted) fault block with major bounding faults to the north and south. Structural dip is to the east and west. Seismic amplitude extractions on the Waarre A horizon exhibit conformance to structure on the eastern side of the prospect.

Reservoir

Based on seismic mapping and structural-stratigraphic relationships, the main reservoir target that provides the seismic anomalies along the Pecten High are interpreted to be the Waarre A. Reasonable confidence in the interpretation of Waarre A reservoir is based the presence of Waarre A in Henry-1/1ST1. Casino 4 and Henry 1ST1 core data have confirmed the productivity of this unit. Some risk is attributed to the fact that the reservoir is of a different quality to Henry since Netherby exhibits a stronger seismic amplitude response.

Seal

The Skull Creek Mudstone provides a regionally pervasive and effective top seal. Fault throw and juxtaposition relationships are critical to fill and spill of hydrocarbons and the sealing of hydrocarbons within the faulted traps. Along the main northern and southern bounding faults which dip predominantly to the south significant throw is observed. On the northern fault the Waarre A is juxtaposed against hanging-wall Eumeralla while on the southern bounding fault the Waarre A is juxtaposed against footwall Skull Creek Mudstone.

Charge

Excellent chance that gas has migrated into Netherby as it located on the Pecten High, a major focus of hydrocarbon migration from the Shipwreck Trough (the most likely source kitchen). Seismic amplitude conformance to structure also acts as a key indicator of gas presence. Fill and spill from the Pecten East spill point is interpreted via a number of small fault dependent closures.

1.2 GENERAL DATA

Well Name:	NETHERBY 1
Well Classification:	Gas Exploration
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: 1875 m MDRT Logger: 1875.5 m RT
Status:	Plugged Back and Sidetracked
License:	VIC/P 44, Offshore Victoria
Date Drilling Commenced:	07:30 hours on 15 th July, 2008
Date Drilling Completed:	22:30 hours on 30 th July 2008
Date Rig Released:	21:00 hours on 2 nd August 2008 (Netherby 1 sidetracked as Netherby 1DW1)
Total Well Time:	19 days.
Contractor:	Diamond Offshore
Rig:	Ocean Patriot (Semi-submersible)

1.3 **DRILLING SUMMARY**

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

Netherby 1 was spudded on the 15th July, 2008 at 07:30 hours utilising the semi-submersible mobile offshore drilling unit (MODU) "Ocean Patriot". A 914mm (36") hole was drilled from seafloor at 86.9m MDRT to 130.9m MDRT. At this point the well was displaced to PHG mud. The 914mm (36") drilling assembly was pulled from the hole. The 762mm (30") conductor was run with the Permanent Guide Base (PGB) stabbed in and landed out on the Temporary Guide Base (TGB). The casing was then circulated and cemented. The running tool was released and pulled out to surface.

The 445mm (17½") bottom hole assembly was made up and run into the hole tagging cement at 128m. The cement and shoe track were drilled to 130.9m. Drilling 445mm (17½") hole continued from 130.9m sweeping the hole at connections and mid stand with PHG to aid annular cleaning. At 177m two stands of HWDP were pulled out of hole and replaced with the remaining 203mm (8") drill collars and run in hole. The 445mm (17½") hole was then continued to a section TD of 647.5m. The hole was displaced to PHG and a KCl pill spotted on bottom. An Electronic Multi-Shot (EMS) survey tool was dropped. The string was pulled from the hole to surface wiping tight spots from 370m to 360m and from 304m to 303m. At this point 43 joints of 340mm (13 3/8") 101 kg/m (68 lb/ft) L80 casing were run on 127mm (5") drill pipe. The 340mm (13 3/8") casing was landed with the shoe set at 642.2m and cemented as per program. Lead: 41.3m³ (260 bbl) class "G" cement at 1.5sg (12.5ppg). Tail: 17.1m³ (108bbl) class "G" cement at 1.9sg (15.8ppg). The cement was displaced with seawater using the rig pumps. Bumped plug to 12.4MPa (1800psi). The running tool was released and pulled from the hole.

The Horizontal Subsea Tree (Xmas Tree) was moved to the well centre in the moon pool and made up to the first stand of drill pipe. The Xmas Tree was lowered to the seafloor on drill pipe, landed and latched. At this point the connection was pressure tested, and the running tool retrieved.

The Blow Out Preventers (BOP) were moved to the moon pool and made up to the first riser joint. The Blow Out Preventer and marine riser were run and the BOP landed and latched. The connector and casing were pressure tested. The slip joint was scoped out. The BOP was then pressure tested as per program.

Bit 3, a 311mm (12¼") Hughes Christensen MXL-1X Mill Tooth bit, was made up with the ARC-MWD tools and run into the hole tagging the top of cement at 614m. The cement, shoe track and 3.5m of new hole were drilled to 651m. The hole was circulated clean and a Leak-Off Test (LOT) conducted yielding an Equivalent Mud Weight (EMW) of 2.12sg (17.7 ppg). The 311mm (12¼") hole was drilled ahead from 651m to 968m, at which point the well was displaced to a 1.09sg (9.1 ppg) KCl mud system. Drilling then resumed from 968m to 1421m, where a planned bit trip was performed.

The bit was changed out for Bit 4, a 311mm (12¼") Reed RSX616. Drilling of 311mm (12¼") hole continued from 1421m to total depth at 1870m (Driller). Total depth was initially reached at 23:00hrs on 24th July 2008. After reaching total depth the hole was circulated clean and the drill string pulled out of the hole, back reaming as required.

Suite 1 wireline logs were conducted at total depth by Schlumberger consisting of Run 1: PEX-DSI-HNGS; Run 2: TLC-PEX-HNGS. Five attempts were made to get run 1 to bottom, unsuccessfully. Two wiper trips were also performed. Neither run 1 or 2 were able to pass 1792.5m. The well was logged up from 1792.5m to surface.

Bit 5, a 311mm (12¼") Hughes Christensen MXL-1X Mill Tooth bit, was made up with MWD-ARC-SONIC-SADN-Stethoscope tools and run into the hole. The hole was reamed down from 1741m to 1870m acquiring LWD data. New hole was drilled from 1870m to 1875m to enable LWD data acquisition. Total depth was reached at 22:30hrs on 30th July 2008. A LWD stethoscope pressure survey was then performed (17 tests: 4 valid, 5 tight, 7 no tests (tool problem), 1 no seal).

Following LWD logs the well was plugged back. Cement plugs were set as follows: Plug 1: 1870m–1720m, Plug 2: 1720-1570m, Plug 3: 1570-1421m (kick off plug). A 311mm (12¼") directional Bottom Hole Assembly was made up and run in the hole tagging cement at 1421m. Soft cement was drilled out from 1421m to 1455m, and the well time drilled from 1455m to 1505m. Netherby 1DW1 was sidetracked from the Netherby 1 wellbore from 1505m at 21:00 hours on 2nd August 2008.

(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. CO₂ detection

From spud to 647.5m returns were to the seafloor. Ditch cuttings were collected at 10m intervals from 647.5m to 1690m, and 5m intervals from 1690m to TD at 1875m in the 311mm (12¼") 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. Anadrill's detailed report is attached in Section 3.4: LWD END OF WELL REPORT

TABLE 1: LWD SUMMARY

LOG (LWD)	SUITE / RUN	INTERVAL (m)	COMMENTS
ARC - MWD	1 / 1	647.5 – 1421	311 mm (12¼") hole section. Final Circulating Temperature: 59°C.
ARC - MWD	1 / 2	1421 – 1870	311 mm (12¼") hole section. Final Circulating Temperature: 81°C.
MWD-ARC-SONIC-SADN-Stethoscope	1 / 3	1741 – 1875	Hole washed down from 1741 m to 1870 m and new hole drilled from 1870-1875 m acquiring LWD data. 17 stethoscope points; 4 valid, 5 tight, 7 no tests (tool problem), 1 no seal.

(d) Testing

No production tests were conducted at the Netherby 1 location.

(e) Coring

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

Electric Logging Services were provided by Schlumberger. One suite of electric logs were conducted at total depth as follows:

TABLE 2: WIRELINE LOGGING SUMMARY

LOG (Wireline)	SUITE / RUN	INTERVAL (m)	COMMENTS
PEX-HGNS-DSI	1 / 1		
GR		1775 – Surface	66°C / 10.5 hours / 1755 m
TNPH		1777 – 643.5	
HNGS		1783 – 643.5	5 attempts to get to bottom were made with wireline plus one attempt at pipe conveyed logging. None were able to pass obstruction at 1792.5 m.
RXOZ		1781 – 643.5	
RHOZ		1781 – 643.5	
HRLT		1785 – 643.5	
HCAL		1781 – 643.5	
SP		1755 – 643.5	
DSI		1762 – 643.5	

(h) Stethoscope Pressure Data

A Stethoscope pressure survey was conducted at the Netherby 1 location. A total of 17 pretests were attempted of which 4 were normal tests, 5 were tight, 7 were no test (tool problem), 1 no seal. The Stethoscope Pressure Survey data is presented in Section 3.4: PRESSURE SURVEY RESULTS.

(i) Hole Deviation

Netherby 1 was drilled as a 35° pilot well. An electronic multi-shot (EMS) survey was taken after drilling the 445mm (17½") hole section. Deviation surveys were taken while drilling the deviated 311mm (12¼") hole section 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 1 location.

(k) Casing & Cementing Summary

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

TABLE 3: CASING AND CEMENTING DETAILS

HOLE SIZE	DEPTH	CASING SIZE	CASIN G 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 30.8m ³ (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: 41.3m ³ (260bbls) class "G" at 1.5sg (12.5ppg) Tail: 17.1m ³ (108bbls) class "G" at 1.9sg (15.8ppg). Displaced with seawater using the rig pumps. Bumped plug with 12.4MPa (1800psi).

SECTION 2 : LITHOLOGICAL DESCRIPTIONS

SECTION 2.1: CUTTINGS DESCRIPTIONS

2.1 NETHERBY 1 - LITHOLOGICAL DESCRIPTIONS

(Depths are referenced to Drillers Depth)

Depth From (m)	Depth To (m)	%	Lithology and Shows
<p>NETHERBY 1 was spudded on 15th July 2008 utilising the semi submersible drilling facility "Ocean Patriot". Note: all returns were to the seafloor prior to running the 340mm (13 3/8") casing, blow out preventer and marine riser at 647.5m.</p>			
648	660	100	<u>CALCAREOUS CLAYSTONE</u> : pale to very pale brown, brown grey in part, common to abundant fossil fragments, corals, forams, minor quartz grains and lithics, very soft to dispersive, amorphous, minor sub-blocky.
660	670	60 40	<u>CALCAREOUS CLAYSTONE</u> : pale to very pale brown, brown grey in part, common to abundant fossil fragments, corals, forams, minor quartz grains and lithics, very soft to dispersive, amorphous, minor sub-blocky. <u>SILTSTONE</u> : medium to dark brown, argillaceous in part, calcareous, common fossil fragments, rare pyrite nodules, moderately hard to hard, blocky to sub-blocky.
670	680	40 30 30	<u>SANDSTONE</u> : 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. <u>CALCAREOUS CLAYSTONE</u> : pale to very pale brown, brown grey in part, common to abundant fossil fragments, corals, forams, minor quartz grains and lithics, very soft to dispersive, amorphous, minor sub-blocky. <u>SILTSTONE</u> : medium to dark brown, argillaceous in part, calcareous, common fossil fragments, rare pyrite nodules, moderately hard to hard, blocky to sub-blocky.
680	690	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, off white in part, very fine to coarse, occasionally very coarse, sub-round to dominantly sub-angular, weak siliceous cement, minor off white argillaceous matrix, occasional lithics, common Fe staining, minor calcareous inclusions, loose grains, fair to occasionally good inferred porosity, no fluorescence.

690	700	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, off white in part, very fine to coarse, occasionally very coarse, sub-round to dominantly sub-angular, weak siliceous cement, minor off white argillaceous matrix, occasional lithics, common Fe staining, minor calcareous inclusions, loose grains, fair to occasionally good inferred porosity, no fluorescence.
700	710	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, medium to very coarse, sub-round to sub-angular, weak siliceous cement, rare off white argillaceous matrix, occasional lithics, common Fe staining, minor calcareous inclusions, loose grains, fair to good inferred porosity, no fluorescence.
710	720	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, medium to very coarse, sub-round to sub-angular, weak siliceous cement, rare off white argillaceous matrix, occasional lithics, common Fe staining, minor calcareous inclusions, loose grains, fair to good inferred porosity, no fluorescence.
720	730	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, medium to very coarse, sub-angular to dominantly sub-round, weak siliceous cement, no matrix, occasional lithics, common orange Fe staining, rare calcareous inclusions, generally loose grains, fair to good inferred porosity, no fluorescence.
730	740	100	<u>SANDSTONE</u> : pale to medium orange, orange brown, medium to very coarse, sub-angular to dominantly sub-round, weak siliceous cement, no matrix, occasional lithics, common orange Fe staining, rare calcareous inclusions, generally loose grains, fair to good inferred porosity, no fluorescence.
740	750	100	<u>SANDSTONE</u> : medium orange, translucent in part, medium to very coarse, poor sorted, sub-angular to dominantly sub-round, weak siliceous cement, no matrix, occasionally lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.
750	760	100	<u>SANDSTONE</u> : medium orange, translucent in part, medium to very coarse, poor sorted, sub-angular to dominantly sub-round, weak siliceous cement, no matrix, occasionally lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.
760	770	100	<u>SANDSTONE</u> : medium orange, translucent in part, medium to very coarse, poor sorted, sub-angular to dominantly sub-round, occasionally round, weak siliceous cement, no matrix, occasionally lithics, generally loose clean grains, fair to good inferred porosity, no fluorescence.

770	780	90	<u>SANDSTONE</u> : 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.
		10	<u>SILTSTONE</u> : medium to pale grey, pale orange, argillaceous, grading to CLAYSTONE in part, very soft to dispersive, amorphous, sub-blocky.
780	790	80	<u>SANDSTONE</u> : 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.
		20	<u>SILTSTONE</u> : medium to pale grey, pale orange, argillaceous, grading to CLAYSTONE in part, very soft to dispersive, amorphous, sub-blocky.
790	800	100	<u>SANDSTONE</u> : translucent, clear, occasionally light grey, common yellow Fe staining, sub angular to sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement, rare light brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, predominately bit dis-aggregated quartz grains, friable to occasionally moderately hard aggregates, poor to fair inferred porosity, no fluorescence.
800	810	80	<u>SANDSTONE</u> : translucent, clear, occasionally light grey, common yellow Fe staining, sub angular to sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement, rare light brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, predominately bit dis-aggregated quartz grains, friable to occasionally moderately hard aggregates, poor to fair inferred porosity, no fluorescence.
		20	<u>SILTSTONE</u> : medium reddish brown, medium to dark grey, common yellow – orange Fe staining, very finely arenaceous, soft, blocky to sub blocky.
810	820	40	<u>SANDSTONE</u> : translucent, clear, occasionally light grey, common yellow Fe staining, sub angular to sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement, rare light brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, predominately bit dis-aggregated quartz grains, friable to occasionally moderately hard aggregates, poor to fair inferred porosity, no fluorescence.
		60	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, argillaceous grading to CLAYSTONE, very finely arenaceous, moderately hard, blocky to sub blocky.

820	830	30	<u>SANDSTONE</u> : translucent, clear, occasionally light grey, common yellow Fe staining, sub angular to predominately sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement, common light brown argillaceous / silty matrix, trace lithics, rare muscovite, trace nodular pyrite, friable to occasionally moderately hard aggregates, poor to fair inferred porosity, no fluorescence.
		70	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, argillaceous grading to CLAYSTONE, very finely arenaceous, moderately hard, blocky to sub blocky.
830	840	10	<u>SANDSTONE</u> : translucent, clear, occasionally light grey, sub angular to predominately sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace lithics, trace muscovite, friable to occasionally moderately hard fine grained aggregates, poor to fair inferred porosity, no fluorescence.
		90	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
840	850	100	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
850	860	100	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
		trace	<u>SANDSTONE</u> : as above, translucent, clear, fine to coarse loose quartz grains, generally as above.
860	870	100	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.

870	880	20	<u>SANDSTONE</u> : translucent, clear, trace light grey, sub angular to predominately sub rounded, fine to very coarse predominately medium grained, poor sorting, trace weak siliceous cement in fine grained aggregates, trace medium brown argillaceous / silty matrix, trace lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.
		80	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
880	890	20	<u>SANDSTONE</u> : translucent, clear, trace light grey, sub angular to predominately sub rounded, fine to very coarse predominately medium grained, poor sorting, trace weak siliceous cement in fine grained aggregates, trace medium brown argillaceous / silty matrix, trace lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.
		80	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
890	900	50	<u>SANDSTONE</u> : translucent, clear, trace light grey, sub angular to predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.
		50	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.
900	910	50	<u>SANDSTONE</u> : translucent, clear, trace light grey, sub angular to predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.
		50	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.

910	920	50	<p><u>SANDSTONE</u>: translucent, clear, trace light grey, sub angular to predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.</p>
		50	
920	930	30	<p><u>SANDSTONE</u>: translucent, clear, trace light grey, predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace fine grained lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.</p>
		70	
930	940	50	<p><u>SANDSTONE</u>: translucent, clear, trace light grey, predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace fine grained lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.</p>
		50	
940	950		Returns dumped at the shale shakers.
950	960		Returns dumped at the shale shakers. Switching mud system to KCl/Glycol/PHPA.
960	970		Returns dumped at the shale shakers. Switching mud system to KCl/Glycol/PHPA.

970	980	20 80	<p><u>SANDSTONE</u>: translucent, clear, trace light grey, predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace fine grained lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.</p>
980	990	100	<p><u>SILTSTONE</u>: medium to dark brown, medium to dark brownish grey, argillaceous grading to CLAYSTONE, very finely arenaceous, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky.</p>
990	1000	70 30	<p><u>SANDSTONE</u>: translucent, clear, medium brown, fine to medium grained, moderately sorted, sub angular to sub rounded, abundant medium brown silty matrix, trace very fine lithics, trace carbonaceous specks, friable, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown, medium to dark brownish grey, very finely arenaceous grading to and interbedded with silty SANDSTONE, argillaceous with CLAYSTONE component washing from samples, trace very fine lithics, soft to firm, dispersive in part, blocky.</p>
1000	1010	50 50	<p><u>SANDSTONE</u>: translucent, clear, medium brown, fine to medium grained, minor coarse, poor to fair sorting, sub angular to sub rounded, abundant medium brown silty matrix, trace very fine lithics, trace carbonaceous specks, friable, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown, medium to dark brownish grey, very finely arenaceous grading to and interbedded with silty SANDSTONE, argillaceous with CLAYSTONE component washing from samples, trace very fine lithics, soft to firm, dispersive in part, blocky.</p>
1010	1020	100	<p><u>SILTSTONE</u>: medium to dark brown, medium to dark greyish brown, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, soft to firm, dispersive in part, blocky.</p>
1020	1030	100	<p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.</p>

1030	1040	100	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.
1040	1050	50	<u>SANDSTONE</u> : 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, predominately loose quartz grains, fair inferred porosity, no fluorescence. (Note: Cavings?)
		50	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.
1050	1060	20	<u>SANDSTONE</u> : 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.
		80	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.
1060	1070	10	<u>SANDSTONE</u> : 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.
		90	<u>SILTSTONE</u> : medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.
1070	1080	80	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to coarse, very coarse in part, poorly sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor pyrite nodules, occasional lithics, rare glauconite grains, generally loose grains, friable, poor visual porosity, poor visual porosity, fair to good inferred porosity, no fluorescence.
		20	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional glauconite grains and carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky in part.

1080	1090	90	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to coarse, very coarse in part, poorly sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, minor pyrite nodules, occasional lithics, generally loose grains, friable, poor visual porosity, poor visual porosity, fair to good inferred porosity, no fluorescence.
		10	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.
1090	1100	90	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to very coarse, poorly sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional mica flecks, occasional lithics, generally loose grains, friable, poor visual porosity, poor visual porosity, fair to good inferred porosity, no fluorescence.
		10	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.
1100	1110	80	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to very coarse, poorly sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional mica flecks, occasional lithics, generally loose grains, friable, poor visual porosity, poor visual porosity, fair to good inferred porosity, no fluorescence.
		20	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.
1110	1120	90	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to very coarse, poorly sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional mica flecks, occasional carbonaceous specks and fragments, generally loose grains, fair to good inferred porosity, no fluorescence.
		10	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.
1120	1130	90	<u>SANDSTONE</u> : clear to translucent, frosted, off white, medium to very coarse, poorly sorted, sub-angular to commonly round, weak siliceous cement, rare pale grey argillaceous matrix, occasional mica flecks, occasional carbonaceous specks and fragments, generally loose grains, fair to good inferred porosity, no fluorescence.
		10	<u>SILTSTONE</u> : medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.

1130	1140	70	<u>SANDSTONE</u> : 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.
		30	<u>SILTSTONE</u> : pale to medium grey brown, argillaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous. Note: Dispersive silts washing out
1140	1150	70	<u>SANDSTONE</u> : clear to translucent, off white, generally fine, occasionally very fine to medium, 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.
		30	<u>SILTSTONE</u> : pale to medium grey brown, argillaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous. Note: Dispersive silts washing out.
1150	1160	80	<u>SANDSTONE</u> : 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.
		20	<u>SILTSTONE</u> : pale to medium brown, grey brown in part, argillaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous. Note: Dispersive silts washing out.
1160	1170	80	<u>SANDSTONE</u> : 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 and lithics, loose grains, poor to fair inferred porosity, no fluorescence.
		20	<u>SILTSTONE</u> : pale to medium brown, grey brown in part, argillaceous, occasionally locally arenaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous. Note: Dispersive silts washing out.

1170	1180	50	<u>SANDSTONE</u> : clear to translucent, off white, fine to medium occasionally coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.
		50	<u>SILTSTONE</u> : medium brown grey, pale brown in part, common argillaceous, common micro mica, locally common carbonaceous specks and fragments, very soft to dispersive, amorphous, rare sub-blocky.
1180	1190	60	<u>SANDSTONE</u> : clear to translucent, off white, fine to medium occasionally coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.
		40	<u>SILTSTONE</u> : medium brown grey, pale brown in part, common argillaceous to arenaceous, common micro mica, locally common carbonaceous specks and fragments, very soft to dispersive, amorphous, rare sub-blocky.
1190	1200	70	<u>SANDSTONE</u> : clear to translucent, off white, fine to medium occasionally coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.
		30	<u>SILTSTONE</u> : medium brown grey, pale brown in part, common argillaceous to arenaceous, common micro mica, locally common carbonaceous specks and fragments, very soft to dispersive, amorphous, rare sub-blocky.
1200	1210	40	<u>SANDSTONE</u> : clear to translucent, off white, fine to medium, moderately sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.
		60	<u>SILTSTONE</u> : medium brown grey, brown red in part, common argillaceous to arenaceous, common micro mica, locally common carbonaceous specks and fragments, very soft to dispersive, amorphous, rare sub-blocky.

1210	1220	90	<p><u>SANDSTONE</u>: clear to translucent, off white, fine to dominantly medium, occasionally coarse, moderately sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown grey, brown red in part, common argillaceous to arenaceous, common micro mica, locally common carbonaceous specks, very soft to dispersive, amorphous, rare sub-blocky.</p>
		10	
1220	1230	70	<p><u>SANDSTONE</u>: clear to translucent, off white, fine to dominantly medium, occasionally coarse, moderately sorted, sub-angular to sub-round, weak siliceous cement, minor pale grey argillaceous matrix, occasional lithics, generally loose clean grains, poor to occasionally fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown grey, brown red in part, common argillaceous to arenaceous, common micro mica, locally common carbonaceous specks, very soft to dispersive, amorphous, rare sub-blocky.</p>
		30	
1230	1240	20	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional lithics, rare Fe staining, generally loose clean grains, fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to occasionally dark brown, medium green grey, argillaceous, occasionally arenaceous, micro mica, minor carbonaceous specks, very soft to dispersive, firm in part, amorphous, sub-blocky.</p>
		80	
1240	1250	100	<p><u>SILTSTONE</u>: medium to dark brown, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, amorphous, sub-blocky.</p>
1250	1260	10	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brown, green grey in part, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, amorphous, sub-blocky.</p>
		90	

1260	1270	20	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to very coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark brown, green grey in part, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, amorphous, sub-blocky.</p>
		80	
1270	1280	20	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to very coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: pale to medium brown grey, occasionally dark brown, green grey in part, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, occasionally hard, amorphous, sub-blocky.</p>
		80	
1280	1290	20	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to medium, occasionally coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: pale to medium brown grey, occasionally dark brown, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, occasionally hard, amorphous, sub-blocky.</p>
		80	
1290	1300	10	<p><u>SANDSTONE</u>: clear to translucent, occasionally off white, fine to medium, occasionally coarse, poorly sorted, sub-angular to sub-round, weak siliceous cement, occasional off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown to brown grey, occasionally dark brown, argillaceous, occasional carbonaceous specks, rare pyrite nodules, dispersive, soft to very soft, occasionally hard, amorphous, sub-blocky.</p>
		90	
1300	1310	100	<p><u>SILTSTONE</u>: medium brown to brown grey, occasionally dark brown, argillaceous, occasional carbonaceous specks, rare pyrite nodules, dispersive, soft to very soft, occasionally hard, amorphous, sub-blocky.</p>

1310	1320	10 90	<p><u>SANDSTONE</u>: clear to translucent, off white, fine to coarse, sub-round, weak siliceous cement, rare pale brown argillaceous matrix, occasional carbonaceous specks, loose grains, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brown, rare brown grey, argillaceous, minor carbonaceous specks, dispersive, soft to very soft, amorphous, occasionally sub-blocky.</p>
1320	1330	10 90	<p><u>SANDSTONE</u>: light grey, translucent, fine to occasionally medium grained, sub angular to sub rounded, moderately well sorted, weak siliceous cement, common light grey argillaceous / silty matrix, rare very fine glauconite, trace carbonaceous specks, friable aggregates, poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark olive grey, medium to dark grey brown, minor fine carbonaceous specks, rare fine grained glauconite, soft to firm, dispersive in part, blocky to sub blocky.</p>
1330	1340	10 90	<p><u>SANDSTONE</u>: light grey, translucent, fine to occasionally medium grained, trace loose coarse grains, sub angular to sub rounded, moderately well sorted, weak siliceous cement, common light grey argillaceous / silty matrix, rare very fine glauconite, trace carbonaceous specks, friable aggregates, poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium to dark grey, medium greenish grey, medium to dark grey brown, minor fine carbonaceous specks, rare fine grained glauconite, soft to firm, dispersive in part, blocky to sub blocky.</p>
1340	1350	20 80	<p><u>SANDSTONE</u>: 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.</p> <p><u>SILTSTONE</u>: medium to dark grey, medium greenish grey, medium to dark grey brown, minor fine carbonaceous specks, rare fine grained glauconite, soft to firm, dispersive in part, blocky to sub blocky.</p>
1350	1360	trace 100	<p><u>SANDSTONE</u>: as above.</p> <p><u>SILTSTONE</u>: medium brown, olive brown, medium to dark greenish grey, minor to common fine grained glauconite, trace carbonaceous specks, soft to firm, dispersive to blocky.</p>
1360	1370	trace 100	<p><u>SANDSTONE</u>: as above.</p> <p><u>SILTSTONE</u>: medium brown, olive brown, medium to dark greenish grey, minor fine grained glauconite, trace carbonaceous specks, soft to firm, dispersive to blocky.</p>

1370	1380	100	<u>SILTSTONE</u> : medium brown, olive brown, medium to dark greenish grey, minor fine grained glauconite, trace carbonaceous specks, soft to firm, dispersive to blocky.
1380	1390	100	<u>SILTSTONE</u> : medium brown, greenish brown, greenish grey, minor to common fine grained glauconite, trace carbonaceous specks, trace fine grained lithics, soft to firm, blocky to dispersive.
1390	1400	100	<u>SILTSTONE</u> : medium brown, greenish grey, locally very finely arenaceous, minor fine grained glauconite, trace nodular pyrite, trace fine carbonaceous specks, trace fine lithics, soft to firm, blocky.
1400	1410	100	<u>SILTSTONE</u> : medium brown, greenish grey, locally very finely arenaceous, rare fine grained glauconite, trace forams, trace fine carbonaceous specks, trace fine lithics, soft to firm, blocky.
1410	1420	100	<u>SILTSTONE</u> : medium brown, greenish grey, locally very finely arenaceous, rare fine grained glauconite, trace forams, trace fine carbonaceous specks, trace fine lithics, soft to firm, blocky.
1420	1430	30 70	<u>SANDSTONE</u> : translucent, clear, light grey, fine to coarse grained, poor sorting, sub angular to predominately sub rounded, weak siliceous cement, common light grey argillaceous and silty matrix in fine to medium grained aggregates, medium to coarse grains predominately loose, rare nodular pyrite, rare fine grained glauconite, poor visual and inferred porosity, no fluorescence. <u>SILTSTONE</u> : medium grey, light to medium brownish grey, very finely arenaceous, rare glauconite, trace forams, trace shell fragments, firm, blocky, soft to dispersive in part.
1430	1440	40 60	<u>SANDSTONE</u> : translucent, clear, light grey, fine to coarse grained, poor sorting, sub angular to predominately sub rounded, weak siliceous cement, common light grey argillaceous and silty matrix in fine to medium grained aggregates, medium to coarse grains predominately loose, rare nodular pyrite, trace red lithics, rare glauconite, poor visual and inferred porosity, no fluorescence. <u>SILTSTONE</u> : medium grey, light to medium brownish grey, very finely arenaceous, rare glauconite, trace forams, trace shell fragments, firm, blocky, soft to dispersive in part.

1440	1450	20	<u>SANDSTONE</u> : translucent, clear, light grey, fine grained, trace medium to coarse, fair sorting, sub angular to predominately sub rounded, weak siliceous cement, common light grey argillaceous and silty matrix in fine grained aggregates, trace nodular pyrite, trace red lithics, rare glauconite, poor visual and inferred porosity, no fluorescence.
		80	<u>SILTSTONE</u> : medium grey, light to medium brownish grey, very finely arenaceous, rare glauconite, trace forams, firm, blocky, soft to dispersive in part.
1450	1460	30	<u>SANDSTONE</u> : clear to translucent, off white, fine, occasionally medium to coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional calcareous inclusions, rare pyrite nodules, poor visual and inferred porosity, no fluorescence.
		70	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, occasionally pale green, generally argillaceous, occasional lithics, very soft to dispersive, amorphous, sub-blocky.
1460	1470	10	<u>SANDSTONE</u> : clear to translucent, off white, fine, occasionally medium to coarse, moderately sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional calcareous inclusions, occasional glauconite grains, poor visual and inferred porosity, no fluorescence.
		90	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, occasionally pale green, generally argillaceous, occasional carbonaceous specks and lithics, very soft to dispersive, amorphous, sub-blocky.
1470	1480	100	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, occasionally pale green, generally argillaceous, occasional carbonaceous specks and lithics, very soft to dispersive, amorphous, sub-blocky.
1480	1490	100	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, generally argillaceous, rare locally arenaceous, occasional carbonaceous specks and lithics, very soft to dispersive, amorphous, sub-blocky.
1490	1500	20	<u>SANDSTONE</u> : clear to translucent, pale grey, fine to very fine, rare medium to coarse, sub-angular to sub-round, weak siliceous cement, occasional pale grey argillaceous matrix, minor glauconite grains, occasional lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.
		80	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, generally argillaceous, rare locally arenaceous, occasional carbonaceous specks and lithics, rare pyrite nodules, very soft to dispersive, rare hard to very hard, amorphous, sub-blocky.

1500	1510	70	<u>SANDSTONE</u> : clear to translucent, pale grey, fine to very fine, rare medium to coarse, sub-angular to sub-round, weak siliceous cement, occasional pale grey argillaceous matrix, minor glauconite grains, occasional lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.
		30	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, generally argillaceous, rare locally arenaceous, occasional carbonaceous specks and lithics, rare pyrite nodules, very soft to dispersive, amorphous, sub-blocky.
1510	1520	20	<u>SANDSTONE</u> : clear to translucent, pale grey, fine to very fine, rare medium to coarse, sub-angular to sub-round, weak siliceous cement, occasional pale grey argillaceous matrix, minor glauconite grains, occasional lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.
		80	<u>SILTSTONE</u> : pale to occasionally medium brown, brown grey in part, generally argillaceous, rare locally arenaceous, occasional carbonaceous specks and lithics, very soft to dispersive, amorphous, sub-blocky.
1520	1530	60	<u>SANDSTONE</u> : clear to translucent, pale grey, fine to very fine, rare medium to coarse, sub-angular to sub-round, weak siliceous cement, occasional pale grey argillaceous matrix, minor glauconite grains, occasional lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.
		40	<u>SILTSTONE</u> : pale grey, pale to medium brown, argillaceous, locally common quartz grains, occasional pyrite nodules, hard to very hard, soft in part, fissile to sub-blocky, amorphous in part.
1530	1540	20	<u>SANDSTONE</u> : 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.
		80	<u>SILTSTONE</u> : pale to medium grey, medium grey brown, argillaceous to occasionally arenaceous, occasional glauconite grains, minor carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky.
1540	1550	60	<u>SANDSTONE</u> : 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.
		40	<u>SILTSTONE</u> : pale to medium grey, medium grey brown, argillaceous to occasionally arenaceous, occasional glauconite grains, minor carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky.

1550	1560	40 60	<p><u>SANDSTONE</u>: 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.</p> <p><u>SILTSTONE</u>: pale to medium grey, medium grey brown, argillaceous to occasionally arenaceous, occasional glauconite grains, minor carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky.</p>
1560	1570	20 80	<p><u>SANDSTONE</u>: 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.</p> <p><u>SILTSTONE</u>: pale brown to pale grey brown, argillaceous in part, occasional carbonaceous specks and minor fragments, very soft to dispersive, amorphous, sub-blocky.</p>
1570	1580	10 90	<p><u>SANDSTONE</u>: 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.</p> <p><u>SILTSTONE</u>: pale brown to pale grey brown, argillaceous in part, occasional carbonaceous specks and minor fragments, very soft to dispersive, amorphous, sub-blocky.</p>
1580	1590	100	<u>SILTSTONE</u> : pale brown to pale grey brown, argillaceous in part, locally arenaceous, occasional carbonaceous specks and minor fragments, very soft to dispersive, amorphous, sub-blocky.
1590	1600	100	<u>SILTSTONE</u> : pale brown to pale grey brown, argillaceous in part, locally arenaceous, occasional carbonaceous specks and minor fragments, soft to dispersive, minor moderately hard, amorphous, sub-blocky.
1600	1610	Trace 100	<p><u>SANDSTONE</u>: off white to pale grey, very fine, well sorted, sub-angular to sub-round, moderately calcareous cement, occasional pale grey argillaceous to silty matrix, occasional lithics, friable to moderately hard, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: pale brown to pale grey brown, argillaceous in part, locally arenaceous, occasional carbonaceous specks and minor fragments, very soft to dispersive, amorphous, sub-blocky.</p>

1610	1620	10 90	<p><u>SANDSTONE</u>: off white to pale grey, very fine, well sorted, sub-angular to sub-round, moderately calcareous cement, occasional pale grey argillaceous to silty matrix, occasional lithics, friable to moderately hard, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: pale brown to pale grey brown, argillaceous in part, locally arenaceous, occasional carbonaceous specks and minor fragments, very soft to dispersive, amorphous, sub-blocky.</p>
1620	1630	100	<p><u>SILTSTONE</u>: medium brown, occasionally pale brown, argillaceous in part, minor carbonaceous specks and fragments, very soft to firm, dispersive in part, sub-blocky, amorphous.</p>
1630	1640	20 80	<p><u>SANDSTONE</u>: translucent, clear, light grey, very fine to fine grained, sub rounded, well sorted, minor calcareous cement, minor light grey silty matrix, trace very fine glauconite, trace carbonaceous specks, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brownish grey, medium brown, medium grey, argillaceous, commonly very finely arenaceous grading to and interbedded with very fine SANDSTONE, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.</p>
1640	1650	20 80	<p><u>SANDSTONE</u>: translucent, clear, light grey, light brown, very fine to fine grained, sub rounded, well sorted, minor calcareous cement, minor light grey silty matrix, trace very fine glauconite, trace carbonaceous specks, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium brownish grey, medium brown, medium grey, argillaceous, commonly very finely arenaceous grading to and interbedded with very fine SANDSTONE, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.</p>
1650	1660	100	<p><u>SILTSTONE</u>: medium grey, medium brownish grey, medium brown, argillaceous, occasionally very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.</p>

1660	1670	10 90	<u>SANDSTONE</u> : light brownish grey, translucent, clear, very fine to fine grained, sub rounded, well sorted, minor calcareous cement, minor light grey silty matrix, rare very fine glauconite, trace carbonaceous specks, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence. <u>SILTSTONE</u> : medium grey, medium brownish grey, medium brown, argillaceous, occasionally very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1670	1680	100	<u>SILTSTONE</u> : medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1680	1690	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1690	1695	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1695	1700	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky. Note: trace medium loose quartz grains.
1700	1705	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1705	1710	trace 100	<u>SANDSTONE</u> : light brownish grey, very fine to fine grained, sub angular to sub rounded, well sorted, minor calcareous cement, common light brown grey silty matrix, rare very fine glauconite, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence. <u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1710	1715	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.

1715	1720	100	<u>SILTSTONE</u> : as above, medium grey, locally medium brownish grey, argillaceous, minor very finely arenaceous, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.
1720	1725	100	<u>SILTSTONE</u> : as above, medium grey, firm, sub blocky to blocky.
1725	1730	100	<u>SILTSTONE</u> : as above, medium grey, firm, sub blocky to blocky. Trace fine quartz grains.
1730	1735	100	<u>SILTSTONE</u> : medium grey, medium brownish grey, argillaceous, occasionally very finely arenaceous, trace fine carbonaceous specks, trace fine glauconite, trace forams, firm, sub blocky to blocky.
1735	1740	100	<u>SILTSTONE</u> : as above.
1740	1745	100	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, trace fine glauconite, firm to moderately hard, blocky to sub fissile.
1745	1750	100	<u>SILTSTONE</u> : as above.
1750	1755	100	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, trace fine glauconite, firm to moderately hard, blocky to sub fissile.
1755	1760	100 trace	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, minor fine grained glauconite, firm to moderately hard, blocky to sub fissile. <u>SANDSTONE</u> : light brownish grey, very fine to fine grained, sub angular to sub rounded, well sorted, minor calcareous cement, common light brown grey silty matrix, minor to common very fine glauconite, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence.
1760	1765	100 trace	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, minor fine grained glauconite, firm to moderately hard, blocky to sub fissile. <u>SANDSTONE</u> : light brownish grey, very fine to fine grained, sub angular to sub rounded, well sorted, minor calcareous cement, common light brown grey silty matrix, common very fine glauconite, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence.

1765	1770	100	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, minor fine grained glauconite, firm to moderately hard, blocky to sub fissile.
1770	1775	100	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, trace fine carbonaceous specks, minor fine grained glauconite, firm to moderately hard, blocky to sub fissile.
1775	1780	100	<u>SILTSTONE</u> : medium grey, medium dark grey, brownish grey, argillaceous, common carbonaceous fragments, common fine grained glauconite, rare lithics, firm to moderately hard, blocky to sub fissile.
1780	1783	90 10	<u>SILTSTONE</u> : medium brownish grey, medium dark grey, greenish grey, very finely arenaceous, abundant fine grained glauconite, common carbonaceous fragments, trace very fine lithics, firm to occasionally moderately hard, blocky to sub fissile. <u>SANDSTONE</u> : very light brownish grey, very fine grained, well sorted, sub rounded, abundant 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.
1783	1785	70 30	<u>SILTSTONE</u> : medium brownish grey, medium dark grey, greenish grey, very finely arenaceous, abundant fine grained glauconite, common carbonaceous fragments, trace very fine lithics, firm to occasionally moderately hard, blocky to sub fissile. <u>SANDSTONE</u> : 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.
1785	1790	50 50	<u>SILTSTONE</u> : 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. <u>SANDSTONE</u> : very light brownish grey, off white, very fine to fine grained, well sorted, sub rounded, abundant off white to light grey argillaceous matrix, common fine grained glauconite, common carbonaceous fragments, soft, interbedded with and grading to arenaceous SILTSTONE, very poor visual porosity, no fluorescence.

1790	1795	50	<u>SILTSTONE</u> : 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.
		50	<u>SANDSTONE</u> : very light brownish grey, off white, very fine to fine grained, minor medium, moderately well sorted, sub rounded, abundant off white to light grey argillaceous matrix, minor to common fine grained glauconite, common carbonaceous fragments, trace nodular pyrite, soft to friable aggregates, very poor visual porosity, no fluorescence.
1795	1800	50	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, rare fine grained glauconite, minor carbonaceous fragments, firm to friable, blocky to sub fissile.
		50	<u>SANDSTONE</u> : translucent, clear, very light brownish grey, off white, very fine to medium grained, trace coarse, fair sorting, sub rounded, abundant off white argillaceous matrix, trace fine grained glauconite, rare carbonaceous fragments, soft to friable aggregates, poor visual porosity, no fluorescence.
1800	1805	60	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, rare fine grained glauconite, minor carbonaceous fragments, firm to friable, blocky to sub fissile.
		40	<u>SANDSTONE</u> : translucent, clear, very light brownish grey, off white, very fine to medium grained, trace coarse, fair sorting, sub rounded, abundant off white argillaceous matrix, trace fine grained glauconite, rare carbonaceous fragments, soft to friable aggregates, poor visual porosity, no fluorescence.
1805	1810	50	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, rare fine grained glauconite, minor carbonaceous fragments, firm to friable, blocky to sub fissile.
		50	<u>SANDSTONE</u> : translucent, clear, very light brownish grey, off white, very fine to medium grained, moderately well sorted, sub angular to sub rounded, minor to common off white argillaceous matrix, trace fine grained glauconite, trace carbonaceous fragments, friable aggregates, fair inferred porosity, no fluorescence.
1810	1815	50	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, trace fine grained glauconite, rare carbonaceous fragments, firm to friable, blocky to sub fissile.
		50	<u>SANDSTONE</u> : translucent, clear, very light brownish grey, off white, very fine to medium grained, moderately well sorted, sub angular to sub rounded, minor to common off white argillaceous matrix, trace lithics, trace nodular pyrite, trace carbonaceous flecks, friable aggregates, fair inferred porosity, no fluorescence.

1815	1820	60	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, trace fine grained glauconite, rare carbonaceous fragments, firm to friable, blocky to sub fissile.
		40	<u>SANDSTONE</u> : 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.
1820	1825	40	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, rare carbonaceous fragments, firm to friable, blocky to sub fissile.
		60	<u>SANDSTONE</u> : translucent, clear, very light brownish grey, off white, very fine to fine grained, minor medium, fair sorting, sub angular to sub rounded, common off white to very light brown argillaceous matrix, rare carbonaceous fragments, friable aggregates, poor visual porosity, no fluorescence.
1825	1830	80	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, rare fine carbonaceous fragments, trace very fine glauconite, firm, blocky to sub blocky.
		20	<u>SANDSTONE</u> : translucent, clear, very light grey, off white, very fine to fine grained, minor medium to coarse, poor sorting, sub angular to sub rounded, minor off white to very light brown argillaceous matrix, trace to minor carbonaceous fragments, friable aggregates, common bit dis-aggregated quartz grains, poor to fair visual porosity, no fluorescence.
1830	1835	40	<u>SILTSTONE</u> : medium brownish grey, very finely arenaceous, minor fine carbonaceous fragments, trace fine grained lithics, firm, blocky to sub blocky.
		60	<u>SANDSTONE</u> : translucent, clear, very light grey, very fine to medium grained, trace coarse, poor sorting, sub angular to predominately sub rounded, minor off white argillaceous matrix, minor carbonaceous fragments, friable aggregates, common bit dis-aggregated quartz grains, poor to fair visual porosity, no fluorescence.
1835	1840	40	<u>SILTSTONE</u> : 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.
		60	<u>SANDSTONE</u> : translucent, light greenish grey, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.

1840	1845	30	<u>SILTSTONE</u> : 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.
		70	<u>SANDSTONE</u> : light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.
1845	1850	30	<u>SILTSTONE</u> : 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.
		70	<u>SANDSTONE</u> : light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.
1850	1855	10	<u>SILTSTONE</u> : 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.
		90	<u>SANDSTONE</u> : light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.
1855	1860	10	<u>SILTSTONE</u> : 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.
		90	<u>SANDSTONE</u> : light greenish grey, white, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.

1860	1865	20	<u>SILTSTONE</u> : as above, 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.
		80	<u>SANDSTONE</u> : as above, light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.
1865	1870	40	<u>SILTSTONE</u> : as above, 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.
		60	<u>SANDSTONE</u> : as above, light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.
1870	1875	100	<u>SILTSTONE</u> : medium dark grey, greenish grey, minor fine grained glauconite, trace fine carbonaceous specks, trace very fine lithics, moderately hard, blocky to sub blocky.
		trace	<u>SANDSTONE</u> : trace medium to coarse loose quartz grains.

SECTION 2.2 : ROTARY SIDEWALL CORE DESCRIPTIONS

Due to hole conditions preventing Run 1 getting to bottom,
a sidewall core run was not attempted.

SECTION 2.3 : CATALOGUE OF WELLSITE SAMPLES

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 1 Catalogue of Wellsite Samples also incorporates Netherby 1DW1.

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

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

For Victorian DPI:
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

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

SECTION 3: WIRELINE LOGGING REPORTS

SECTION 3.1 : SUITE 1 - LOGGING ORDER FORM

Santos

A.B.N. 80 007 550 923

LOGGING ORDER FORM

COMPANY: SANTOS & PARTNERS

WELL: Netherby 1

FIELD: Gas / Oil Exploration

RIG: Ocean Patriot

STATE: Victoria

LOCATION: 01CAS3D, INL-6790 XLN-3484

BLOCK: Otway Basin

LICENCE: Vic/P44

LATITUDE: 38°40'48.578" S

LONGITUDE: 142° 38' 25.745" E

ELEVATIONS:

RT-SL: 20.8 m MSL

WATER DEPTH 66.1 m

SEABED-RT: 86.9 m MSL

914mm (36") HOLE: 130.9m

762mm (30") CSG 130.9m

WT: 461kg/m (310lb/ft)

445mm (17.5") HOLE: 647.5m

340mm (13.375") CSG: 642.2m

WT: 101 kg/m (68 lb/ft)

311mm (12.25") HOLE: 1870.0m

TD (DRILLER): 1870m

MUD SYSTEM: KCl / Glycol

CIRC STOPPED @ 01:00hrs, 25-07-08

BARITE: 6.5%

WT: 11.0

VIS: 53

pH: 9.0

FLUID LOSS: 4.0

Circulation at total depth finished at: 00:50hrs, 25-07-08

Total depth reached at 23:00hrs on 24/07/08

GEOLOGIST: D. Adderley / J. Pitman

INFORMATION GIVEN ABOVE IS TO BE USED ON LOG HEADER SHEETS

HOLE CONDITIONS (TIGHT SPOTS, DEVIATION, COALS, BARITE IN MUD, ETC.)

Maximum deviation: 35° from 1408m to 1870m.

Tight spots while pulling out of hole were observed between 1774m-1316m, 1239m-936m and at 758m. Back reamed from 1546m to casing shoe at 642m

DRILL STEM TESTS/CORED INTERVALS:

nil

COMMENTS (TO BE INCLUDED IN REMARKS SECTION OF HEADER SHEET):

Standard Santos scales to be applied to all logs run.

Santos

A.B.N. 80 007 550 923

LOGGING ORDER FORM

LOGGING PROGRAMME:

LOG	INTERVAL	COMMENTS
<u>Run 1:</u> PEX-DSI-HNGS (HALS-MFCL-GR-SP-Density-Neutron)	TD to the Casing Shoe GR to surface Spectral log from TD to 1730m.	
<u>Run 2:</u> MDT & MDT samples(6 tank carrier + 2 dump chambers)	TBA	Pressures only if the hole is dry. 6 x PVT, 2 x 1 gal chambers.
<u>Run 3:</u> CMR	over reservoir sections	Contingent on success
<u>Run 4:</u> VSP (Checkshot)		15m intervals to loss of signal in 13 3/8" casing
<u>Run 5:</u> Rotary SWC(MSCT)	TBA (approx. 25 cores)	Contingent on success CST tool as back up for MSCT

REMARKS: (ALL OPERATIONS AS PER SANTOS OPERATING PROCEDURES)

- TENSION CURVE - TO BE DISPLAYED ON LOG FROM T.D. TO CASING SHOE.
- ALL CALIBRATIONS IN CASING MUST BE VERSUS DEPTH.
- ALL THERMOMETER READINGS TO BE RECORDED ON LOG
- ALL SCALES AND PRESENTATIONS TO CONFIRM TO STANDARDS UNLESS OTHERWISE ADVISED.
- THE FIELD/EDIT TAPE MUST BE A MERGED COPY OF ALL LOGS RUN. SEPARATE TAPES ARE ONLY ACCEPTABLE AS AN INTERIM MEASURE.
- ANY CHANGE FROM STANDARD PROCEDURES/SCALES TO BE NOTED IN REMARKS SECTION.
- RM, RMF, RMC AND BHT MUST BE ANNOTATED ON LOGS. LOGS SHOULD ALSO INDICATE IF ON DEPTH OR NOT.
- LOG DATA IS TO BE TRANSMITTED AS SOON AS POSSIBLE AFTER ACQUISITION. IF ANY DELAYS ARE LIKELY OR IF DATA TRANSMISSION WILL ADVERSELY EFFECT THE OPERATION THEN THE WELLSITE GEOLOGIST MUST BE IMMEDIATELY INFORMED.

SECTION 3.2 : SUITE 1 – FIELD ELECTRIC LOGGING REPORT

SANTOS LIMITED**FIELD ELECTRIC LOG REPORT**

WELL: NETHERBY 1 **GEOLOGISTS:** D.Adderley/J.Pitman
LOGGING ENGINEER: Y.Zhuang / A.Ives
RUN NO.: SUITE 1 **DATE LOGGED:** 25-29/07/08
DRILLERS DEPTH: 1870m (post wireline logs **LOGGERS DEPTH:** 1792.5m (unable to reach total depth)
the well was deepened to 1875m)
ARRIVED ON SITE: 21/07/08
ACTUAL LOG TIME: 9.5 hours * **LOST TIME LOGGER:** 0.50 hr Run 1 / 3
TOTAL TIME: 86.5 hours * **LOST TIME OTHER:** 77 hours *
*Times as at completion TLC run.

LOST TIME SUMMARY:

11.25 hrs Run 1 attempt 1 PEX-HNGS-DSI, unable to pass 1365m. The tool string was pulled out and a hole finder attached however it was still unable to get past 1365m – 2nd pass.

18.00 hrs Wiper trip 1.

6.50 hrs Run 1 attempt 2 PEX-HNGS-DSI, unable to pass 1783m.

13.50 hrs Wiper trip 2.

5.75 hrs Run 1 attempt 3 PEX-HNGS-DSI, unable to pass 1792.5m, hole logged to surface. Tool string reconfigured with a lower centraliser and knuckle joint however still unable to pass 1791m. (5.75hrs lost time allocated to 2nd pass)

22.0 hrs Run 1 attempt 4 TLC-PEX-HNGS, pipe conveyed tools were unable to pass 1790.5m

TYPE OF LOG	PEX-HNGS-DSI (unable to pass 1365m – conduct a wiper trip)	PEX-HNGS-DSI (unable to pass 1783m – conduct a wiper trip)	PEX-HNGS-DSI (unable to pass 1792.5m – log up)
TIME CIRC. STOPPED	01:00 hrs 25/07/08	13:00 hrs 26/07/08	11:00 hrs 27/07/08
TIME TOOL RIG UP	15:30 hrs 25/07/08	21:00 hrs 26/07/08	16:45 hrs 27/07/08
TIME TOOL RIH	17:30 hrs 25/07/08	22:15 hrs 26/07/08	18:00 hrs 27/07/08
TIME TOOL RIG DOWN	02:45 hrs 26/07/07	03:00 hrs 27/07/07	08:00 hrs 28/07/08
TOTAL TIME	11.25 hrs	6.0 hrs	15.25 hrs

TYPE OF LOG	TLC-PEX-HNGS (pipe conveyed – unable to pass 1790.5m – wiper trip)		
TIME CIRC. STOPPED	11:00 hrs 27/07/08		
TIME TOOL RIG UP	08:00 hrs 28/07/08		
TIME TOOL RIH	11:30 hrs 28/07/08		
TIME TOOL RIG DOWN	06:00 hrs 29/07/08		
TOTAL TIME	22:00 hrs		

TYPE OF LOG	FROM (m)	TO (m)	REPEAT SECTION	TIME SINCE LAST CIRCULATION	BHT
RUN 1 PEX-HNGS-DSI (attempt 1)				unable to pass 1365m – conduct a wiper trip.	
RUN 1 PEX-HNGS-DSI (attempt 2)				unable to pass 1783m – conduct a wiper trip	
RUN 1 PEX-HNGS-DSI (attempt 3 logged up)			No repeat section as per Santos procedures.	9 hours 30 minutes unable to pass 1792.5m – log up	66□ C (151□ Fht) 1741.5m
GR	1775	Surface			
TNPH	1777	643.5			
HNGS	1783	643.5			
RXOZ	1781	643.5			
RHOZ	1781	643.5			
HRLT	1785	643.5			
HCAL	1781	643.5			
SP	1755	643.5			
DSI	1762	643.5			
RUN 1 PEX-HNGS-DSI (attempt 4) TLC-PEX-HNGS				pipe conveyed – unable to pass 1790.5m – wiper trip	

25/07/08 MUD SYSTEM: KCl / Glycol Rm = 0.1103 ohm.m @ 21.6 deg C Rmf = 0.0867 ohm.m @ 21.7 deg C Rmc = 0.1284 ohm.m @ 21.6 deg C	MW: 1.32sg (11ppg) FV: 53 PV/YP: 26/41 FL: 4.0 pH: 9.0
Mud properties post wiper trip 1 on 26/07/08 MUD SYSTEM: KCl / Glycol Rm = 0.1065 ohm.m @ 18.7 deg C Rmf = 0.0898 ohm.m @ 18.4 deg C Rmc = 0.1238 ohm.m @ 19.5 deg C	MW: 1.34sg (11.2ppg) FV: 51 PV/YP: 25/38 FL: 4.0 pH: 9.2
Mud properties post wiper trip 2 on 27/07/08 MUD SYSTEM: KCl / Glycol Rm = 0.1116 ohm.m @ 20.2 deg C Rmf = 0.0886 ohm.m @ 19.7 deg C Rmc = 0.1343 ohm.m @ 21.5 deg C	MW: 1.33sg (11.1ppg) FV: 53 PV/YP: 24/39 FL: 3.9 pH: 8.7

HOLE CONDITIONS:

Run 1 was unable to pass 1365m. The tool string was picked up and run in at various speeds, the caliper was opened while logging up attempting to centre the tools and the tools were set down on the obstruction with 1500lbs all without success.

Run 1 was pulled from the hole and a hole finder attached to the bottom of the tool string. Upon running into the hole the tool string again hung up at 1365m. Several attempts were made to pass the obstruction without success. The tool string was pulled from the hole and the wireline rigged down to conduct a wiper trip.

A wiper trip was conducted. Upon running into the hole the string took weight at 1365m. This section of hole was washed and reamed. The string was run into the hole taking weight at 1566m. The hole was washed and lightly reamed to bottom and circulated clean prior to pulling out of hole.

Run 1 was re-attempted with the tool string passing 1365m unobstructed. Good hole conditions were observed while running in until taking weight at 1783m. Several attempts were made to pass the obstruction without success. The tool string was pulled from the hole and the wireline rigged down to conduct a wiper trip.

Wiper trip 2 was conducted with the string run into the hole taking weight at 1783m. The hole was washed and lightly reamed to bottom and circulated clean prior to pulling out of the hole.

Run 1 PEX-HNGS-DSI was re-attempted running into the hole and taking weight at 1792.5m (Top Waarre "A" Fm). The string was worked attempting to pass the obstruction without success. The tool was set down, taking weight and the caliper opened attempting to push past any ledge in the hole. All attempts were unsuccessful. The hole was logged up from 1792.5m.

The tool string was reconfigured with the addition of a centraliser to the bottom of the tool string and a knuckle joint 3m from the bottom of the tool string. Run 1 PEX-HNGS-DSI was re-attempted running into the hole and taking weight at 1791m. The string was worked attempting to pass the obstruction without success. The tools were pulled from the hole and rigged up for pipe conveyed logging.

Wireline tools were rigged up for TCL logging (pipe conveyed logging). The DSI sonic tools being the most fragile were omitted from the PEX-HNGS tool string. The TLC string was run into the hole on drill pipe to the casing shoe. The Schlumberger wireline sheaves were rigged up raked to the forward of the derrick. The logging string was run into the hole to 1730m, the side entry sub was installed and the wireline run into the drill pipe with the aid of the rig pumps. When nearing the latch point the pumps were stopped and the wireline run in at 10-11000'/hr. The wireline wet connect successfully latched and the tools were powered up. The wireline tools were then run into the hole on drill pipe taking 2000-10000lbs weight at 1790.5m. After two attempts to pass the bridged section of hole the string was pulled out of hole and rigged down.

Following the unsuccessful attempt to log with pipe conveyed tools a wiper trip was conducted. The string was run into the hole taking 25Klbs weight at 1790-1795m. The hole was washed and reamed from 1757m to 1870m. The hole was circulated clean and a Hi-Vis pill spotted on bottom. While pulling out of the hole, tight hole was observed (50klbs overpull) with the hole packing off at 1830m. Circulation and rotation were re-established and the drill string run back to bottom. After circulating the hole clean and spotting a Hi-Vis pill the string was pulled out of hole.

REMARKS / RECOMMENDATIONS

1. Run 1 was unable to pass 1365m. The tool string was picked up and run in at various speeds, the caliper was opened while logging up attempting to centre the tools and the tools were sat down on the obstruction with 1500lbs all without success.
2. Run 1 was pulled from the hole and a hole finder attached to the bottom of the tool string. Upon running into the hole the tool string again hung up at 1365m. Several attempts were made to pass the obstruction without success. The tool string was pulled from the hole and the wireline rigged down to conduct a wiper trip.
3. A wiper trip was conducted. Upon running into the hole the string took weight at 1365m. This section of hole was washed and reamed. The string was run into the hole taking weight at 1566m. The hole was washed and lightly reamed to bottom and circulated clean prior to pulling out of hole.
4. Run 1 was re-attempted with the tool string passing 1365m unobstructed. Good hole conditions were observed while running in until taking weight at 1783m. Several attempts were made to pass the obstruction without success. The tool string was pulled from the hole and the wireline rigged down to conduct a wiper trip
5. Wiper trip 2 was conducted with the string run into the hole taking weight at 1783m. The hole was washed and lightly reamed to bottom and circulated clean prior to pulling out of the hole. A small volume of fine sand was observed at the shale shakers upon circulating bottoms up.
6. Run 1 PEX-HNGS-DSI was re-attempted running into the hole and taking weight at 1792.5m (Top Waarre "A" Fm). The string was worked attempting to pass the obstruction without success. The tool was set down, taking weight and the caliper opened attempting to push past any ledge in the hole. All attempts were unsuccessful. The hole was logged up from 1792.5m.
7. 340mm (13 3/8") casing shoe Driller: 642.2m Logger: 643.5m
8. Bottom Hole Temperature Run 1 (attempt 3): 66° C (151° Fht)
9. The tools string was reconfigured with the addition of a centraliser to the bottom of the tool string and a knuckle joint 3m from the bottom of the tool string. Run 1 PEX-HNGS-DSI was re-attempted again running into the hole and taking weight at 1791m. The string was worked attempting to pass the obstruction without success. The tools were pulled from the hole and rigged up for pipe conveyed logging.
10. Wireline tools were rigged up for TCL logging (pipe conveyed logging). The DSI sonic tools being the most fragile were omitted from the PEX-HNGS tool string. The TLC string was run into the hole on drill pipe to the casing shoe. The Schlumberger wireline sheaves were rigged up and racked to the forward of the derrick. The logging string was run into the hole to 1730m, the side entry sub was installed and the wireline run into the drill pipe with the aid of the rig pumps. When nearing the latch point the pumps were stopped and the wireline run in at 10-11000'/hr. The wireline wet connect successfully latched and the tools were powered up. The wireline tools were then run into the hole on drill pipe taking 2000-10000lbs weight at 1790.5m. After two attempts to pass the bridged section of hole the string was pulled out of hole and rigged down. Following the unsuccessful attempt to log with pipe conveyed tools a wiper trip was conducted.
11. Following the wiper trip LWD tools were run into the hole logging from 1741m to 1870m and drilling 5m of new hole to 1875m. Stethoscope pressure surveys were conducted and the LWD tools pulled from the hole. No further wireline logs were conducted. Forward operations were the plugging back of the well for sidetracking. **(Refer to the Netherby 1 LWD Stethoscope Pressure Survey Report and LWD Time Summary for LWD pressure data.)**

WELLSITE LOG QUALITY CONTROL CHECKS

LOG ORDER FORM	Y	MUD SAMPLE RESISTIVITY	Y	TOOL NO. / CODE CHECK	Y
OFFSET WELL DATA	*1	CABLE DATA CARD	Y	LOG SEQUENCE CONFIRM.	*2

LOG TYPE	DSI	GR	HCAL	HALS	RXOZ	RHOZ	TNPH				REMARKS
CASING CHECK	57 us/ft		12.412 "								
SCALE CHECK	40-140 us/ft	0-200	10-20"	0.2- 2000	0-2000	1.95- 2.95	0.45-/- 0.15				
DEPTH Casing Total	Y	Y	*3	Y	Y	Y	Y				
CALIBRATIONS OK	Y	Y	Y	Y	Y	Y	Y				
REPEATABILITY	Y	Y	Y	Y	Y	Y	Y				
LOGGING SPEED	Y	Y	Y	Y	Y	Y	Y				
OFFSET WELL Repeatability	Y	Y	Y	Y							
NOISY / MISSING DATA	Y	Y	Y	Y	Y	Y	Y				
CURVES/LOGS Depth Matched	Y	Y	Y	Y	Y	Y	Y				
Rm MEASUREMENT				*4	Y						
LLS / LLD / CHECK							Y				
PEF / RHOB CHECK						Y	Y				
LOG HEADER / TAIL	Y	Y	Y	Y	Y	Y	Y				
PRINT/FILM QUALITY	*5	Y	Y	Y	Y	Y	Y				

COMMENTS: *1: Offset well: Henry 1. *2: Logging sequence confirmed with Geology Operations and Schlumberger

*3: Casing Shoe Driller: 642.2m Total Depth Driller: 1870m Casing Logger 643.5m. Caliper log indicates the hole to be in reasonable condition. *4 Rmc>Rm>Rmf *5 All logs emailed to geology operations.

ENGINEERS COMMENTS (If this report has not been discussed with the Engineer state reason)

SECTION 3.3 : SUITE 1 – ELECTRIC LOGGING TIME SUMMARY

Geology Operations
ELECTRIC LOGGING TIME SUMMARY

Santos

LOGGING UNIT:	1909
START DATE:	25/07/08
END DATE:	29/07/08
DEPTH DRILLER:	1870m
DEPTH LOGGER:	1792.5m

LEFT BASE:	21/07/08
ARRIVED @ WELLSITE:	21/07/08
INITIAL RIG UP:	25/07/08
FINAL RIG DOWN:	29/07/08
RETURN TO BASE:	01/07/08

WELL NAME:	NETHERBY 1
TRIP NUMBER:	Suite 1
WELLSITE GEOLOGIST:	J.Pitman / D.Adderley
LOGGING ENGINEER:	Y.Zhuang, A.Ives
PAGE / DATE:	Page 1 25/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
00:00											
:30											
01:00											
:30											
02:00											NETHERBY 1
:30											SUITE 1 WIRELINE LOGS
03:00											TOTAL DEPTH DRILLER: 1870m
:30											
04:00											TOTAL DEPTH DRILLER 1870m
:30											REACHED AT 23:00HRS ON 24/07/08
05:00											CIRCULATION STOPPED 01:00HRS ON 25/07/08
:30											
06:00											
:30											
07:00											
:30											
08:00											
:30											
09:00											
:30											
10:00											
:30											
11:00											PULLING OUT OF THE HOLE WITH THE 311mm (12¼") BOTTOM HOLE ASSEMBLY.
:30											
TOTALS											WSG (SIGN) J.PITMAN
TOTAL											ENGINEER(SIGN) Y.ZHUANG

TOOLS RUN:	
TOOLS RUN:	
TOOLS RUN:	

LOGGING UNIT: 1909

WELL NAME NETHERBY 1

PAGE 1A 25/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
12:00											
:30											RMF: 0.0867 @ 21.7C
											RM: 0.1103 @ 21.6C
13:00											RMC: 0.1284 @ 21.6C
:30											
14:00											LAY DOWN LWD TOOLS.
:30											
15:00											
:30	X										15:30HR RIG SCHLUMBERGER
	X										WIRELINE
16:00	X										
	X										SAFETY MEETING WITH CREW
:30	X										16:30HR PICK UP TOOLS RUN 1
	X										PEX-HNGS-DSI
17:00	X										
		X									17:20HR LOAD SOURCES AND RUN IN
:30			X								HOLE WITH RUN 1
			X								
18:00			X								
			X								18:30HR AT CASING SHOE 642m
:30			X								CONTINUE TO RUN IN HOLE AT
			X								6000'/HR LOGGING DOWN
19:00			X								18:55HR TAKE WEIGHT AT 1365m
			X								WORK STRING. RUN DOWN AT
:30			X								VARIUOUS SPEEDS. SIT DOWN
			X								1500 LB. NO GO.
20:00			X								19:50HR INSTRUCTED TO PULL OUT
			X								OF HOLE.
:30			X								
			X								
21:00			X								AT SURFACE
	X										MAKE UP HOLE FINDER ON TOOLS
:30	X										
	X										
22:00	X										
	X										
:30			X								RUN IN HOLE RUN 1, TRIP 2
			X								
23:00			X								
			X								
:30			X								AT CASING SHOE – LOG DOWN
			X								

TOTALS

WSG (SIGN) J.PITMAN
ENGINEER(SIGN) Y.ZHUANG

Total

--	--	--	--	--	--	--	--	--	--	--	--

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--	--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

--	--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

SERVICE QUALITY SUMMARY									
CLIENT WSG					ENGINEER				
1	2	3	4	5	1	2	3	4	5
1: Excellent - 2 - 3: Normal - 4 - 5: Very Poor									

SAFETY
PROMPTNESS
TOOL & SURFACE SYSTEM PERFORMANCE
ATTITUDE & CO-OPERATION
WELLSITE PRODUCTS / LOG QUALITY
COMMUNICATIONS / TX PERFORMANCE
OTHER (PLEASE SPECIFY)

Geology Operations
ELECTRIC LOGGING TIME SUMMARY

Santos

LOGGING UNIT:	1909	LEFT BASE:	21/07/08	WELL NAME:	NETHERBY 1
START DATE:	25/07/08	ARRIVED @ WELLSITE:	21/07/08	TRIP NUMBER:	Suite 1
END DATE:	29/07/08	INITIAL RIG UP:	25/07/08	WELLSITE GEOLOGIST:	J.Pitman / D.Adderley
DEPTH DRILLER:	1870m	FINAL RIG DOWN:	29/07/08	LOGGING ENGINEER:	Y.Zhuang, A.Ives
DEPTH LOGGER:	1792.5m	RETURN TO BASE:	01/07/08	PAGE / DATE:	Page 2 26/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS			
00:00			X								TAKE WEIGHT AT 1365m			
			X								PULL OUT OF HOLE			
:30			X											
			X											
01:00			X								TOOLS AT SURFACE			
	X										RIG DOWN RUN 1, TRIP 2			
:30	X													
	X													
02:00	X													
	X													
:30	X										02:45HR FINISH RIG DOWN WIRELINE			
								X			MAKE UP BIT AND TRIP IN HOLE			
03:00								X			FOR A WIPER TRIP.			
								X						
:30								X						
								X						
04:00								X						
								X						
:30								X						
								X						
05:00								X						
								X						
:30								X						
								X						
06:00								X						
								X						
:30								X						
								X						
07:00								X			TAKE WEIGHT AT 1365m. WASH AND			
								X			WORK THROUGH.			
:30								X			CONTINUE TO RUN IN HOLE.			
								X			TAKE WEIGHT AT 1566m WASH AND			
08:00								X			LIGHT REAM FROM 2566m TO			
								X			TOTAL DEPTH AT 1870m.			
:30								X						
								X						
09:00								X						
								X						
:30								X						
								X						
10:00								X						
								X						
:30								X						
								X						
11:00								X						
								X						
:30								X			CIRCULATE HOLE CLEAN AT TOTAL			
								X			DEPTH.			
TOTALS											WSG (SIGN) J.PITMAN		ENGINEER(SIGN) Y.ZHUANG	

TOTAL

11.25	4.5	0.25	6.5							

TOOLS RUN: RUN 1: PEX-DSI

TOOLS RUN:

TOOLS RUN:

LOGGING UNIT: 1909

WELL NAME NETHERBY 1

PAGE 2A 26/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
12:00								X			
								X			CIRCULATE HOLE CLEAN
:30								X			
								X			
13:00								X			13:00HR PULL OUT OF HOLE.
								X			
:30								X			
								X			
14:00								X			
								X			
:30								X			
								X			
15:00								X			
								X			
:30								X			
								X			
16:00								X			
								X			
:30								X			
								X			
17:00								X			
								X			
:30								X			
								X			
18:00								X			
								X			
:30								X			
								X			
19:00								X			
								X			
:30								X			
								X			
20:00								X			
								X			
:30								X			20:45HR CONDUCT SAFETY MEETING AND RIG UP WIRELINE
	X										
21:00	X										
	X										
:30	X										
	X										
22:00	X										
			X								RUN IN HOLE RUN 1, TRIP 3
:30			X								
			X								AT CASING SHOE, CONTINUE TO RIH
23:00			X								
			X								
:30			X								TAKE WEIGHT AT 1783m
			X								ATTEMPT TO WORK PAST 1783m

TOTALS

WSG (SIGN) J.PITMAN ENGINEER(SIGN) Y.ZHUANG

Total
18.0

								18.0		
--	--	--	--	--	--	--	--	------	--	--

TOOLS RUN: WIPER TRIP 1

--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

SERVICE QUALITY SUMMARY									
CLIENT WSG					ENGINEER				
1	2	3	4	5	1	2	3	4	5
1: Excellent - 2 - 3: Normal - 4 - 5: Very Poor									

SAFETY
PROMPTNESS
TOOL & SURFACE SYSTEM PERFORMANCE
ATTITUDE & CO-OPERATION
WELLSITE PRODUCTS / LOG QUALITY
COMMUNICATIONS / TX PERFORMANCE
OTHER (PLEASE SPECIFY)

Santos

WELL NAME:	NETHERBY 1
TRIP NUMBER:	Suite 1
WELLSITE GEOLOGIST:	J.Pitman / D.Adderley
LOGGING ENGINEER:	Y.Zhuang, A.Ives
PAGE / DATE:	Page 3 27/07/08

<u>WSG (SIGN)</u> J.PITMAN	<u>ENGINEER(SIGN)</u> Y.ZHUANG
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[illegible]

LOGGING UNIT: 1909

WELL NAME NETHERBY 1

PAGE 3A 27/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
12:00								X			
								X			PULLING OUT OF HOLE ON WIPER
:30								X			TRIP 2.
								X			
13:00								X			
								X			
:30								X			
								X			
14:00								X			
								X			
:30								X			
								X			
15:00								X			
								X			
:30								X			
								X			
16:00								X			
								X			
:30								X			16:50HR SAFETY MEETING
	X										17:00HR RIG UP WIRELINE. PICK UP
17:00	X										TOOLS RUN 1 PEX-HNGS-DSI
	X										
:30	X										17:40HRS LOAD SOURCES & RIH
	X										BELOW SEAFLOOR
18:00			X								18:00HR RUN IN HOLE
			X								
:30			X								
			X								
19:00			X								19:10HR AT CASING SHOE. RUN IN
			X								HOLE LOGGING DOWN AT 7000'/HR
:30			X								
			X								19:47HR 1650m. STOP. CHECK
20:00			X								TENSION. TAKE WEIGHT OK. RUN IN
			X								19:53HR 1792.5m TOP WAARRE "A"
:30				X							SAND TAKE WEIGHT. ATTEMPT TO
				X							WORK THROUGH
21:00						X					20:30HR LOG UP FROM 1792.5m
						X					21:00HR COMPUTER CRASHED RUN
:30				X							IN HOLE TO 1792.5m AND LOG UP
				X							1400'/HR
22:00				X							22:00HR LOGGING UP SLOW SPEED
				X							TO 1000'/HR
:30				X							
				X							
23:00				X							
				X							
:30				X							
				X							

TOTALS

WSG (SIGN) J.PITMAN ENGINEER(SIGN) Y.ZHUANG

Total
13.5

								13.5		
--	--	--	--	--	--	--	--	------	--	--

TOOLS RUN: WIPER TRIP 2

--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

--	--	--	--	--	--	--	--	--	--	--

TOOLS RUN:

SERVICE QUALITY SUMMARY									
CLIENT WSG					ENGINEER				
1	2	3	4	5	1	2	3	4	5
1: Excellent - 2 - 3: Normal - 4 - 5: Very Poor									

SAFETY
PROMPTNESS
TOOL & SURFACE SYSTEM PERFORMANCE
ATTITUDE & CO-OPERATION
WELLSITE PRODUCTS / LOG QUALITY
COMMUNICATIONS / TX PERFORMANCE
OTHER (PLEASE SPECIFY)

Geology Operations
ELECTRIC LOGGING TIME SUMMARY

Santos

LOGGING UNIT:	1909
START DATE:	25/07/08
END DATE:	29/07/08
DEPTH DRILLER:	1870m
DEPTH LOGGER:	1792.5m

LEFT BASE:	21/07/08
ARRIVED @ WELLSITE:	21/07/08
INITIAL RIG UP:	25/07/08
FINAL RIG DOWN:	29/07/08
RETURN TO BASE:	01/07/08

WELL NAME:	NETHERBY 1
TRIP NUMBER:	Suite 1
WELLSITE GEOLOGIST:	J.Pitman / D.Adderley
LOGGING ENGINEER:	Y.Zhuang, A.Ives
PAGE / DATE:	Page 4 28/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
00:00				X							
				X							
:30				X							
				X							
01:00				X							AT CASING SHOE, RECORD GR TO SURFACE
				X							
:30				X							TOOLS AT SURFACE
	X										RE-CONFIGURE, ADD CENTRALISER
02:00	X										
	X										
:30	X										
	X										COMPLETE LAYING DOWN TOOLS
03:00	X										
	X										
:30	X										
	X										
04:00	X										
			X								04:15 HR RUN IN HOLE
:30			X								
			X								
05:00			X								05:10 TAKE WEIGHT AT 1791m,
			X								ATTEMPT TO WORK THROUGH
:30			X								05:30 PULL OUT OF HOLE WITH TOOLS
			X								
06:00			X								
			X								
:30			X								06:30 HR TOOLS AT SURFACE
	X										RIGGING DOWN
07:00	X										
	X										
:30	X										
	X										
08:00	X										08:00HR FINISH LAYING DOWN TOOLS
	X										RIG UP FOR PIPE CONVEYED LOGGING
:30	X										
	X										
09:00	X										
	X										
:30	X										09:30HR PICK UP TOOLS PEX-HNGS
	X										
10:00	X										
	X										
:30		X									10:30HR TOOL CHECKS ON SURFACE
		X									
11:00		X									11:00HR LOAD RADIOACTIVE SOURCES
		X									
:30			X								11:30HR RUN IN HOLE ON DRILL
			X								PIPE
TOTALS											WSG (SIGN)
											ENGINEER(SIGN)
											J.PITMAN
											Y.ZHUANG

TOTAL

15.25 5.0 5.0 4.75 0.5

TOOLS RUN: RUN 1/3 PEX-HNGS

TOOLS RUN:

TOOLS RUN:

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
12:00			X								
			X								
:30			X								RUNNING IN HOLE WITH PEX-HNGS
			X								ON DRILL PIPE.
13:00			X								
			X								13:30HRS AT THE CASING SHOE. RIG
:30			X								UP SCHLUMBERGER SHEAVES AND
			X								WIRELINE CABLE. SLING FORWARD
14:00			X								OF THE DERRICK BEFORE RUNNING
			X								IN HOLE.
:30			X								14:30HR CONTINUE TO RUN IN HOLE
			X								WITH PEX-HNGS ON DRILL PIPE.
15:00			X								FILL DRILL PIPE AS REQUIRED WITH
			X								RIG PUMPS.
:30			X								
			X								
16:00			X								
			X								
:30			X								
			X								
17:00			X								
			X								
:30			X								
			X								
18:00			X								
			X								
:30			X								18:45HR 1730m DRILL PIPE DEPTH.
			X								PICK UP SIDE ENTRY SUB
19:00			X								19:00HR RUN IN HOLE WITH THE
			X								WIRELINE
:30			X								19:15HR PUMP DOWN WITH RIG
			X								PUMPS
20:00			X								19:50HR RUN IN WIRELINE 10-11K/HR
			X								LATCH ONTO TOOLS. POWER UP
:30			X								TOOLS - - OK
			X								20:25HR RUN IN HOLE DRILL PIPE &
21:00			X								WIRELINE
			X								20:45HR 1760m TOOL DEPTH, CHANGE
:30			X								TOP DRIVE DYES ON CONNECTION
			X								DEPTH.
22:00			X								TROUBLE SHOOT PROBLEM
			X								BREAKING OUT TDS
:30			X								
			X								
23:00			X								
			X								
:30			X								CONTINUE TO LOG DOWN
			X								TAG UP AT 1790.5m, UNABLE TO PASS
TOTALS										WSG (SIGN) J.PITMAN	ENGINEER(SIGN) Y.ZHUANG

Total

TOOLS RUN:	
TOOLS RUN:	
TOOLS RUN:	

SERVICE QUALITY SUMMARY									
CLIENT WSG					ENGINEER				
1	2	3	4	5	1	2	3	4	5
1: Excellent - 2 - 3: Normal - 4 - 5: Very Poor									

SAFETY
PROMPTNESS
TOOL & SURFACE SYSTEM PERFORMANCE
ATTITUDE & CO-OPERATION
WELLSITE PRODUCTS / LOG QUALITY
COMMUNICATIONS / TX PERFORMANCE
OTHER (PLEASE SPECIFY)

Geology Operations

ELECTRIC LOGGING TIME SUMMARY

LOGGING UNIT:	1909
START DATE:	25/07/08
END DATE:	29/07/08
DEPTH DRILLER:	1870m
DEPTH LOGGER:	1792.5m

LEFT BASE:	21/07/08
ARRIVED @ WELLSITE:	21/07/08
INITIAL RIG UP:	25/07/08
FINAL RIG DOWN:	29/07/08
RETURN TO BASE:	01/07/08

WELL NAME:	NETHERBY 1
TRIP NUMBER:	Suite 1
WELLSITE GEOLOGIST:	J.Pitman / D.Adderley
LOGGING ENGINEER:	Y.Zhuang, A.Ives
PAGE / DATE:	Page 5 29/07/08

DATE / TIME	RIG UP / DOWN	TOOL CHECK	RIH / POOH	LOGGING	DATA TX	LOST TIME	I. O.	WIPER TRIP	LOST TIME OTHERS	OTHERS	COMMENTS / REMARKS
00:00			X								
			X								
:30			X								00:30 DECISION TO PULL OUT OF HOLE
			X								
01:00			X								01:00 TENSION UP AND SHEAR CABLE
			X								RETRIEVE WIRELINE CABLE TO SURF.
:30			X								01:30 WIRELINE AT SURFACE
			X								01:36 BREAK OUT SIDE ENTRY SUB
02:00			X								
			X								PULL OUT OF HOLE
:30			X								
			X								
03:00			X								
			X								
:30			X								
			X								
04:00			X								
			X								
:30			X								
			X								
05:00			X								
	X										
:30	X										
	X										06:00HRS FINISH RIGGING DOWN
06:00								X			SCHLUMBERGER TLC-PEX-HNGS
								X			TOOLS.
:30								X			
								X			CONDUCT A WIPER TRIP
07:00								X			
								X			
:30								X			
								X			
08:00								X			
								X			
:30								X			
								X			
09:00								X			
								X			
:30								X			
								X			
10:00								X			
								X			
:30								X			
								X			
11:00								X			WASH AND REAM FROM 1757m TO
								X			1870m. TIGHT HOLE 1790m TO 1795m
:30								X			
								X			

TOTALS

WSG (SIGN)	ENGINEER(SIGN)
J.PITMAN	Y.ZHUANG

TOTAL

22.0 3.25 1.0 17.75

TOOLS RUN: TLC-PEX-HNGS

TOOLS RUN:

TOOLS RUN:

SECTION 3.4: STETHOSCOPE PRESSURE SURVEY RESULTS

Santos

STETHOSCOPE PRESSURE SURVEY - RECORDED MODE

WELL: Netherby 1

WITNESS: D.Adderley / J.Pitman

RT: 20.8m

Time since last circ :

Gauge Type : Quartz

Probe/Packer Type : Large diameter probe

Page : 1

Date: 31/08/2008

	FORMATION	DEPTH LWD MDRT m	DEPTH SUBSEA TVD m	TEST RESULTS						INTERPRETATION					COMMENTS
				HYDRO BEFORE PSIA	FINAL BUILD UP PSIA	FORM PRESS PSIA	HYDRO AFTER PSIA	TEMP deg C	D/D MOB MD/CP	TYPE D/D	TEST TIME MIN'S	RATE CHANGE PSI/MIN	TYPE BUILD UP	DEPL S/C	FLUID TYPE
1	EUMERALLA	1825.25	-1686.45	3238.54	25.81		3240.32				8				TIGHT
2	WAARRE A	1819.49	-1682.14	3271.21	2507.42	2507.42	3270.02	59.4	75.35	N	6.5		G		GOOD TEST
3	WAARRE A	1816.77	-1679.97	3261.75			3246.63	59.5							NO SEAL
4	WAARRE A	1816.00	-1679.30	3266.26	17.31		3255.70	60.3			6.5				TIGHT - ABORTED
5	WAARRE A	1817.19	-1680.30	3240.60			3226.07	59.9			7				NO TEST
6	WAARRE A	1816.81	-1680.01												NO TEST
7	WAARRE A	1813.90	-1677.56												NO TEST
8	WAARRE A	1814.07	-1677.73												NO TEST
9	WAARRE A	1797.67	-1664.26	3234.67	2504.26	2504.26	3230.43	61.8	130.24	N	6.5		R		GOOD TEST
10	WAARRE A	1801.95	-1667.81												NO TEST
11	WAARRE A	1801.95	-1667.81	3236.21			3229.95	62.0							NO TEST
12	WAARRE A	1801.90	-1667.76	3236.87	2505.29	2505.29	3236.18	62.4	10.51	N	6.3		S		GOOD TEST
13	WAARRE A	1806.25	-1671.37	3243.22				62.7			6				NO TEST
14	WAARRE A	1825.61	-1686.76	3277.50	1028.23		3270.00	62.8			6.6		S		TIGHT
15	WAARRE A	1825.35	-1686.50	3276.70	1843.94		3275.33	63.2			6.3		S		TIGHT
16	WAARRE A	1809.43	-1673.91	3249.89		2506.08	3247.17	62.9	26.69	N	6.5		G		GOOD TEST
17	WAARRE A	1817.15	-1680.26	3260.11	934.23		3260.20	63.0		N	6.5		S		TIGHT

TOTAL TESTS	17
GOOD TESTS	4
TIGHT	5
NO TEST	7
NO SEAL	1

(TEST 1 PUMPS-OFF TEST DATA NOT AVAILABLE REAL TIME)

UNSURE OF PROBE EXTENSION

SECTION 3.5: LWD END OF WELL REPORT (Schlumberger)

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

Schlumberger

Santos

Netherby-1 & Netherby-1DW1

End of Well Report

	Name	Signature	Date
Schlumberger QC	David de Freitas		
Approval			

Contents

- 1. General Information**
- 2. Geomagnetic and Survey Reference Criteria**
- 3. Definitive Survey**
- 4. Drilling Summary**
- 5. BHA Reports**
- 6. Drilling Parameter Sheets**
- 7. Drilling Tool Run Reports**
- 8. Drill Bit Grading**
- 9. Service Quality**
- 10. Drilling Mechanics**

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 Mee Yean Tan Ryan Mulligan	Directional Drilling Coordinator Field Services Manager Drilling Engineer
Company Representatives:	Chris Roots Nathan Peri Peter Devine	Company Representative Company Representative Company Representative

Geomagnetic and Survey Reference Criteria

Geomagnetic Data

Magnetic Model:	BGGM 2007
Magnetic Date:	July 28 th 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°

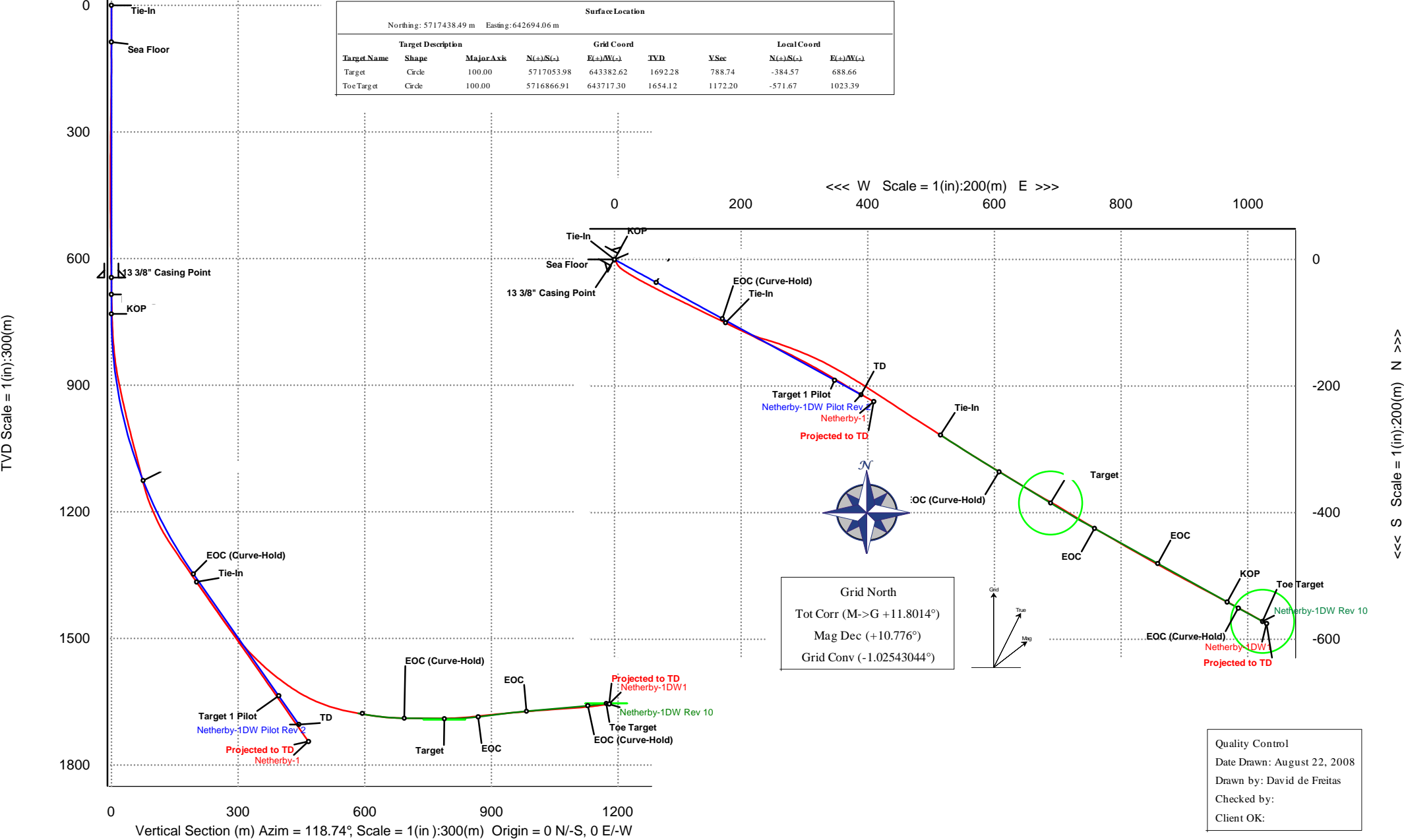
Survey Reference Location

Location Coordinates

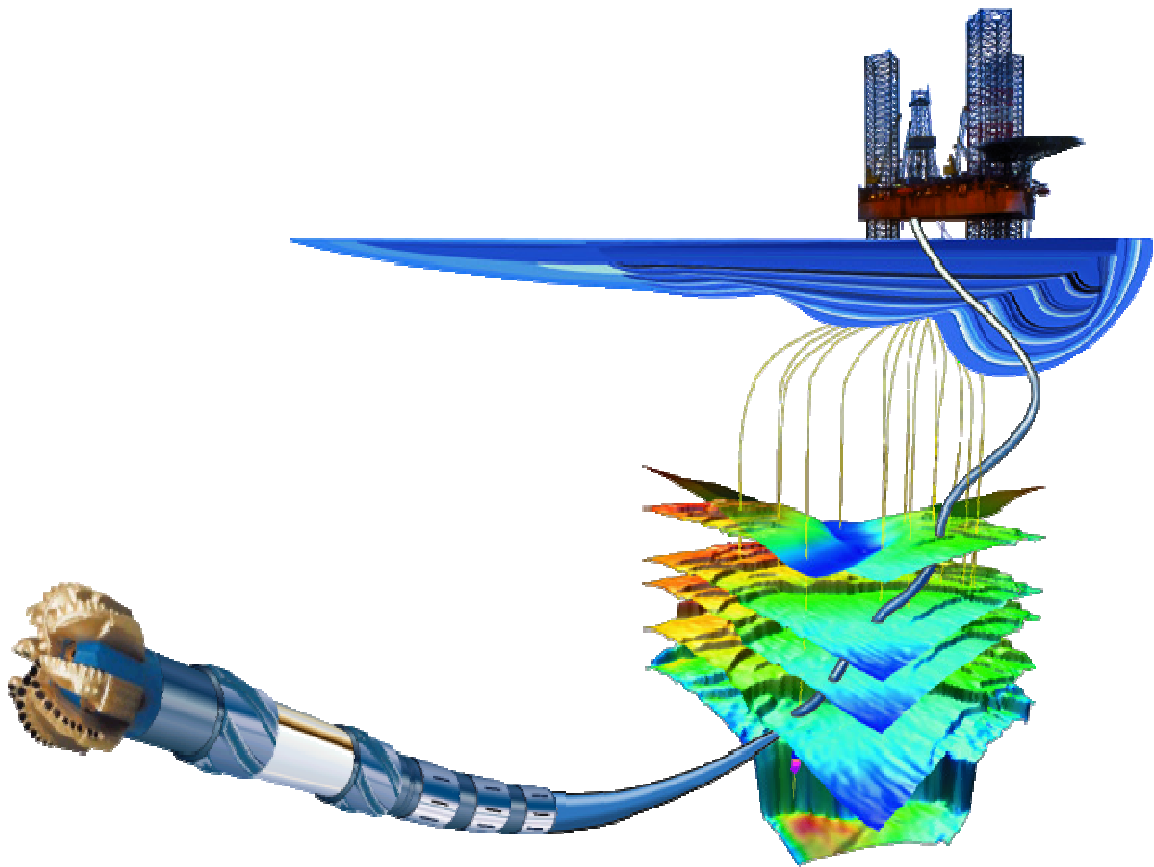
Latitude:	38° 40' 48.578" South
Longitude:	142° 38' 25.745" East
Easting:	642694.060m
Northing:	5717438.490m
Reference System:	

WELL	Netherby-1DW1	FIELD	Netherby	STRUCTURE	Netherby
------	---------------	-------	----------	-----------	----------

Magnetic Parameters Model: BGGM 2007	Dip: -69.864° Mag Dec: +10.776°	Date: July 28, 2008 FS: 60758.9 nT	Surface Location Lat: S38 40 48.578 Lon: E142 38 25.745	GDA94/MGA94 Zone 54 Northing: 5717438.49 m Easting: 642694.06 m	Grid Conv: -1.02543044° Scale Factor: 9998507426	Miscellaneous Slot: 1 Plan: Netherby-1DW1	TVD Ref: RKB (22.00 m above MSL) Srvy Date: August 03, 2008
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3. Definitive Survey



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
1870.00	35.38	119.23	31.41	1744.20	466.93	-224.46	409.44	466.93	118.73	0.22	---

Projected to TD

Survey Type: Definitive Survey

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

Surveying Prog:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>	<u>Borehole -> Survey</u>
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.*

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	642694.78	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
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

Projected to TD

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
87.00	634.46	Act-Stns	SLB_EMS-STD
634.46	1870.00	Act-Stns	SLB_MWD+SAG

Netherby-1 -> Netherby-1
Netherby-1 -> Netherby-1
Netherby-1 -> Netherby-1

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

Netherby-1 EOU Report

Report Date: August 22, 2008

Client: Santos Limited

Field: Netherby

Structure / Slot: Netherby / 1

Well: Netherby-1DW

Borehole: Netherby-1

UWI/API#:

Survey Name / Date: Netherby-1 / July 18, 2008

Tort / AHD / DDI / ERD ratio: 52.054° / 476.04 m / 4.940 / 0.273

Grid Coordinate System: GDA94/MGA94 Zone 54

Location Lat/Long: S 38 40 48.578, E 142 38 25.745

Location Grid N/E Y/X: N 5717438.490 m, E 642694.060 m

Grid Convergence Angle: -1.02543044°

Grid Scale Factor: 0.99985074

Survey / DLS Computation Method: Minimum Curvature / Lubinski

Vertical Section Azimuth: 118.740°

Vertical Section Origin: N 0.000 m, E 0.000 m

TVD Reference Datum: RKB

TVD Reference Elevation: 22.0 m relative to MSL

Sea Bed / Ground Level Elevation: -65.000 m relative to MSL

Magnetic Declination: 10.776°

Total Field Strength: 60758.875 nT

Magnetic Dip: -69.864°

Declination Date: July 28, 2008

Magnetic Declination Model: BGGM 2007

North Reference: Grid North

Total Corr Mag North -> Grid North: +11.801°

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
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

Projected to TD

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.*

Netherby-1DW1 Survey Report

Report Date: August 22, 2008 Client: Santos Limited Field: Netherby Structure / Slot: Netherby / 1 Well: Netherby-1DW Borehole: Netherby-1DW1 UWI/API#: Survey Name / Date: Netherby-1DW1 / August 3, 2008 Tort / AHD / DDI / ERD ratio: 130.946° / 1190.59 m / 5.882 / 0.705 Grid Coordinate System: GDA94/MGA94 Zone 54 Location Lat/Long: S 38 40 48.578, E 142 38 25.745 Location Grid N/E Y/X: N 5717438.490 m, E 642694.060 m Grid Convergence Angle: -1.02543044° Grid Scale Factor: 0.99985074	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 118.740° Vertical Section Origin: N 0.000 m, E 0.000 m TVD Reference Datum: RKB TVD Reference Elevation: 22.0 m relative to MSL Sea Bed / Ground Level Elevation: -65.000 m relative to MSL Magnetic Declination: 10.776° Total Field Strength: 60758.875 nT Magnetic Dip: -69.864° Declination Date: July 28, 2008 Magnetic Declination Model: BGGM 2007 North Reference: Grid North Total Corr Mag North -> Grid North: +11.801° Local Coordinates Referenced To: Well Head
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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
	1946.54	80.97	122.53	26.99	1682.13	611.29	-291.54	537.29	611.29	118.49	1.35	3.46L
To MD	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:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>	<u>Borehole -> Survey</u>
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 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	642694.78	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

Tie-In	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
	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
To MD	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
	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:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>	<u>Borehole -> Survey</u>
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 EOU Report

Report Date: August 22, 2008

Client: Santos Limited

Field: Netherby

Structure / Slot: Netherby / 1

Well: Netherby-1DW

Borehole: Netherby-1DW1

UWI/API#:

Survey Name / Date: Netherby-1DW1 / August 3, 2008

Tort / AHD / DDI / ERD ratio: 130.946° / 1190.59 m / 5.882 / 0.705

Grid Coordinate System: GDA94/MGA94 Zone 54

Location Lat/Long: S 38 40 48.578, E 142 38 25.745

Location Grid N/E Y/X: N 5717438.490 m, E 642694.060 m

Grid Convergence Angle: -1.02543044°

Grid Scale Factor: 0.99985074

Survey / DLS Computation Method: Minimum Curvature / Lubinski

Vertical Section Azimuth: 118.740°

Vertical Section Origin: N 0.000 m, E 0.000 m

TVD Reference Datum: RKB

TVD Reference Elevation: 22.0 m relative to MSL

Sea Bed / Ground Level Elevation: -65.000 m relative to MSL

Magnetic Declination: 10.776°

Total Field Strength: 60758.875 nT

Magnetic Dip: -69.864°

Declination Date: July 28, 2008

Magnetic Declination Model: BGGM 2007

North Reference: Grid North

Total Corr Mag North -> Grid North: +11.801°

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

Tie-In	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
	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
To MD	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
	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

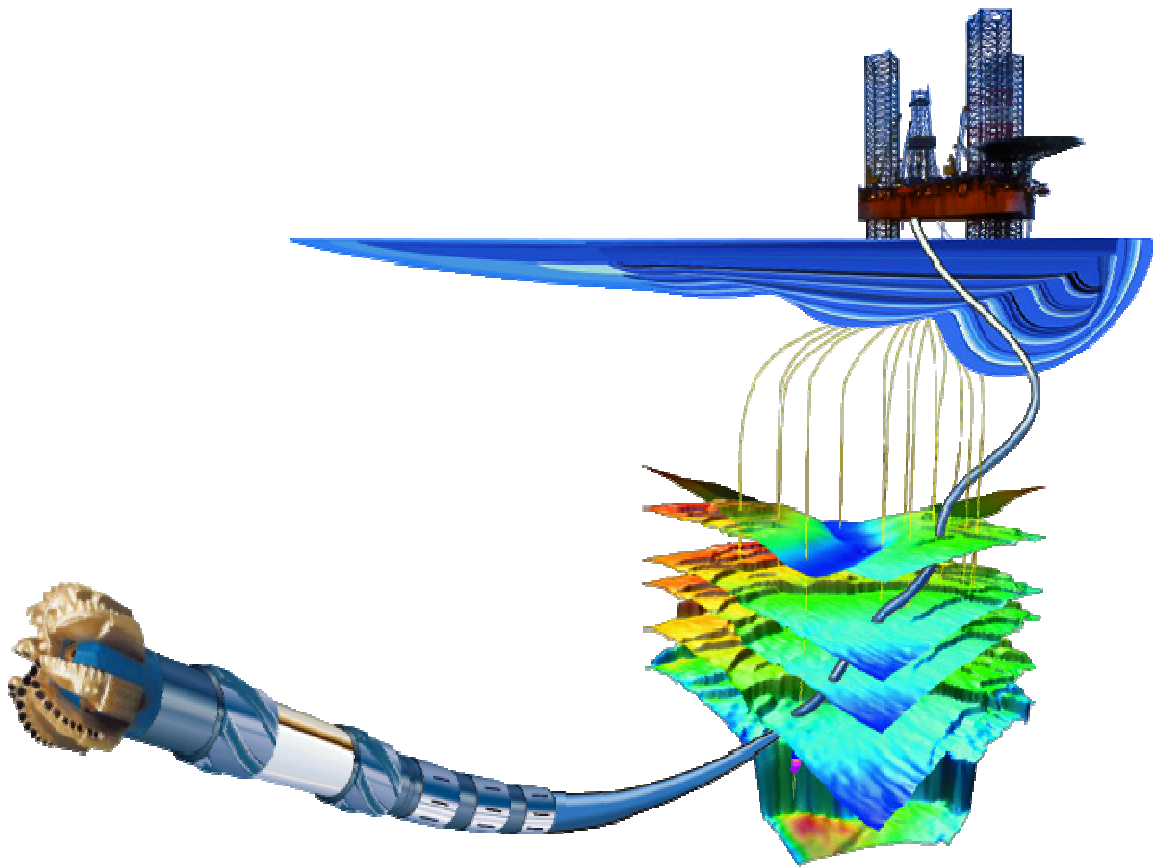
Survey Error Model: SLB ISCWSA version 24 *** 3-D 95.00% Confidence 2.7955 sigma

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.*

4. Drilling Summary



Santos Ltd**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	38° 40' 48.62" S	5717437 m Northing
Longitude	142° 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 1/4" 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 from 1500-1530 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 1/4" 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 Collar (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 1/4" 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 1/4" 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 downlied 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 from 1480m, 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 and 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.

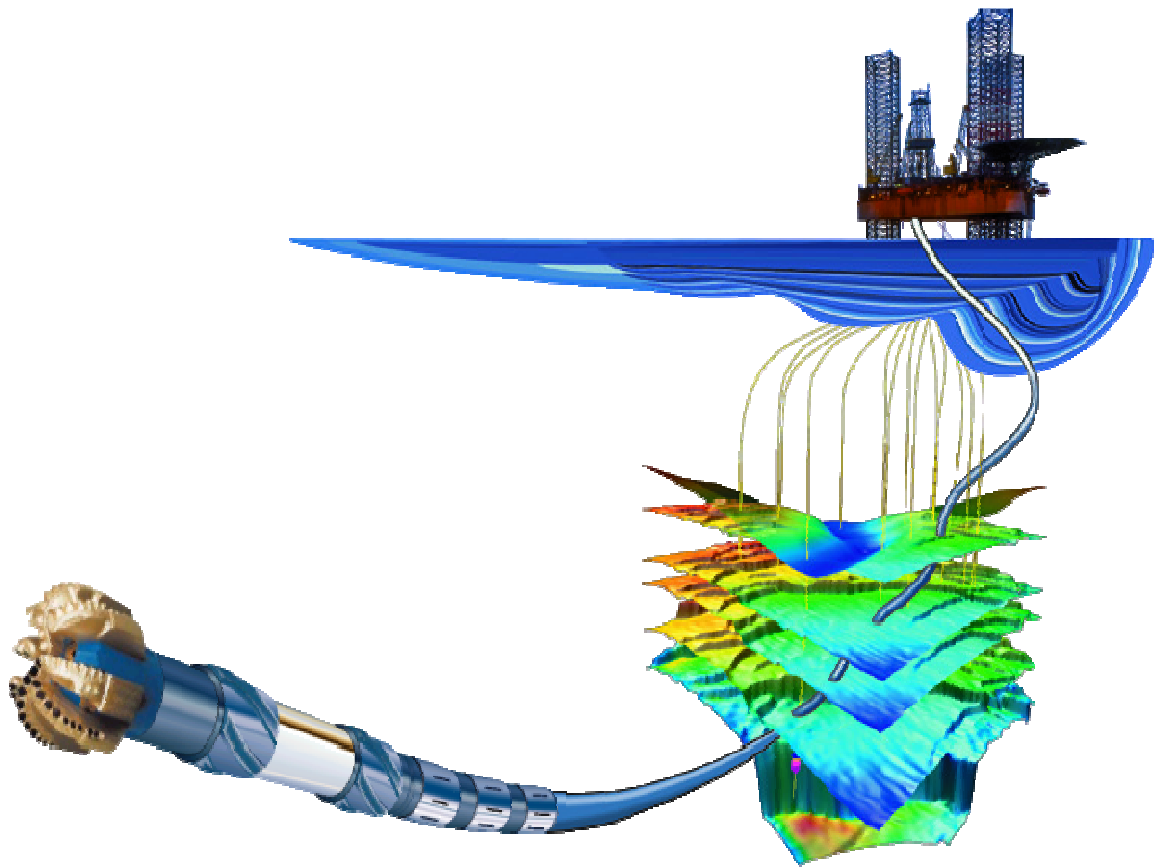
As we were high on the plan by 1meter the plan was altered by the Geologist to hold 96° inc for this tangent section which put us back on plan. 96° inclination was held to 2293m. From this point the directionally control was done on instructions from the geologist. The inclination was reduced to 95° 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.

5. BHA Reports



BHA Data Sheet

Santos Limited - Netherby-1 DW

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

[illegible]












BHA Comments:

Stabilizer	
Blade Length (m)	Mid-Pt. To Bit (m)
0.34	0.73
0.34	4.19
	Bend To Bottom
Bent Housing Angle (deg)	Connection (m)

[illegible]

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

Quality Control	
Created By:	AStroud
Checked By:	

	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

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 Surface	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

	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

Cum. Len. (m)				
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" HMDC (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 Sur	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:

Santos Limited - Netherby-1 DW

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

[illegible][illegible]

		Santos		Santos Limited Netherby-1DW Netherby Netherby Netherby-1 DW 12 1/4" Sonic Stethoscope BHA 7																																																																																							
	5" 19.50 DPS, 10% Wear DP t	Cum. Len. (m)	214.25	<div>BHA DESCRIPTION</div> <table><thead><tr><th>ELEMENT</th><th>LENGTH (m)</th><th>OD (mm)</th><th>ID (mm)</th><th>Max OD (mm)</th></tr></thead><tbody><tr><td>12 1/4 " Bit</td><td>0.33</td><td>12.3</td><td>3.3</td><td>12.3</td></tr><tr><td>Bit Sub</td><td>0.90</td><td>8.0</td><td>2.5</td><td>8.0</td></tr><tr><td>StethoScope</td><td>10.40</td><td>8.4</td><td>2.8</td><td>11.9</td></tr><tr><td>Telescope 825 HF</td><td>8.48</td><td>8.3</td><td>5.1</td><td>8.4</td></tr><tr><td>ARC-8</td><td>5.87</td><td>8.3</td><td>2.8</td><td>9.1</td></tr><tr><td>sonicVISION 825</td><td>8.08</td><td>8.4</td><td>4.3</td><td>11.5</td></tr><tr><td>ADN-8 w/ 12" Stab</td><td>8.87</td><td>8.1</td><td>3.3</td><td>12.0</td></tr><tr><td>8" Drill Collar</td><td>9.44</td><td>8.0</td><td>2.5</td><td>8.0</td></tr><tr><td>Hydraulic Jar</td><td>9.94</td><td>8.3</td><td>3.0</td><td>8.3</td></tr><tr><td>8" Drill Collar</td><td>9.45</td><td>8.0</td><td>2.5</td><td>8.0</td></tr><tr><td>Crossover</td><td>1.09</td><td>8.0</td><td>2.6</td><td>8.0</td></tr><tr><td>5" HWDP (15 joints)</td><td>140.40</td><td>5.0</td><td>3.0</td><td>6.5</td></tr><tr><td>5" 19.50 DPS, 10% Wear</td><td>1.00</td><td>4.9</td><td>4.3</td><td>6.6</td></tr></tbody></table> <div>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</div> <div>Insert Logo</div> <div>DRILLING OVERVIEW<p>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.</p><table><tr><td>Depth in:</td><td>1870.00 m</td><td>Depth out:</td><td>1870.00 m</td></tr><tr><td>Inclination in:</td><td>35.38°</td><td>To:</td><td>35.38°</td></tr><tr><td>Direction in:</td><td>119.23°</td><td>To:</td><td>119.23°</td></tr><tr><td>Total Drilled</td><td>0.00 m</td><td>Dogleg:</td><td></td></tr></table></div>		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 HF	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	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:	
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12 1/4 " Bit		0.33																																																																																									

Schlumberger

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

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

[illegible]

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

BHA Comments:


Stabilizer		Sensor		Bit Hozzles	
Blade Length (m)	Mid-Pt. To Bit (m)	Type	Distance To Bit (m)	Count	Size (W32 in)
0.34	0.68	D&I	3.26	6	15.00
0.34	4.14	Resistivity	11.00		
		Gamma Ra	11.08		
		D&I	18.33		
	Bend To Bottom			TFA (in2)	1.03
Bent Housing Angle (deg)	Connection (m)			Quality Control	
				Created By:	Apartono
				Checked By:	

	Cum. Len. (m)	<div>Santos</div> <div>Santos Limited</div> <div>Netherby-1DW</div> <div>Netherby</div> <div>Netherby</div> <div>Netherby-1DW HZ</div> <div>12 1/4" Xceed_LWD BHA 8</div>																																																											
	5" 19.50 Drill Pipe to Surface	184.86	<div>BHA DESCRIPTION</div> <table><thead><tr><th>ELEMENT</th><th>LENGTH (m)</th><th>OD (in)</th><th>ID (in)</th><th>MAX OD (in)</th></tr></thead><tbody><tr><td>12 1/4 " Bit</td><td>0.29</td><td>12.25</td><td>3.75</td><td>12.25</td></tr><tr><td>Xceed 900</td><td>8.60</td><td>9.00</td><td>5.25</td><td>12.13</td></tr><tr><td>ARC-8</td><td>5.87</td><td>8.38</td><td>2.81</td><td>9.10</td></tr><tr><td>PowerPulse HF</td><td>8.49</td><td>8.31</td><td>4.31</td><td>8.41</td></tr><tr><td>2 x 8" NMDC (2 joints)</td><td>18.60</td><td>8.00</td><td>2.81</td><td>8.00</td></tr><tr><td>Crossover</td><td>1.09</td><td>8.00</td><td>2.81</td><td>8.00</td></tr><tr><td>9 x 5" HWDP (9 joints)</td><td>84.26</td><td>5.00</td><td>3.00</td><td>6.50</td></tr><tr><td>Hydraulic Jar</td><td>10.06</td><td>6.50</td><td>2.75</td><td>6.63</td></tr><tr><td>5 X 5" HWDP (5 joints)</td><td>46.60</td><td>5.00</td><td>3.00</td><td>6.50</td></tr><tr><td>5" 19.50 Drill Pipe to Surface</td><td>1.00</td><td>4.93</td><td>4.28</td><td>6.63</td></tr></tbody></table> <div>Bit to MWD D & I Sensor = 18.33 m</div> <div>Bit to Gamma Ray Sensor = 11.08 m</div> <div>Bit to Resistivity Sensor = 11.00 m</div> <div>Bit to Xceed D & I Sensor = 3.26 m</div> <div>Insert Logo</div>				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 Surface	1.00	4.93	4.28	6.63
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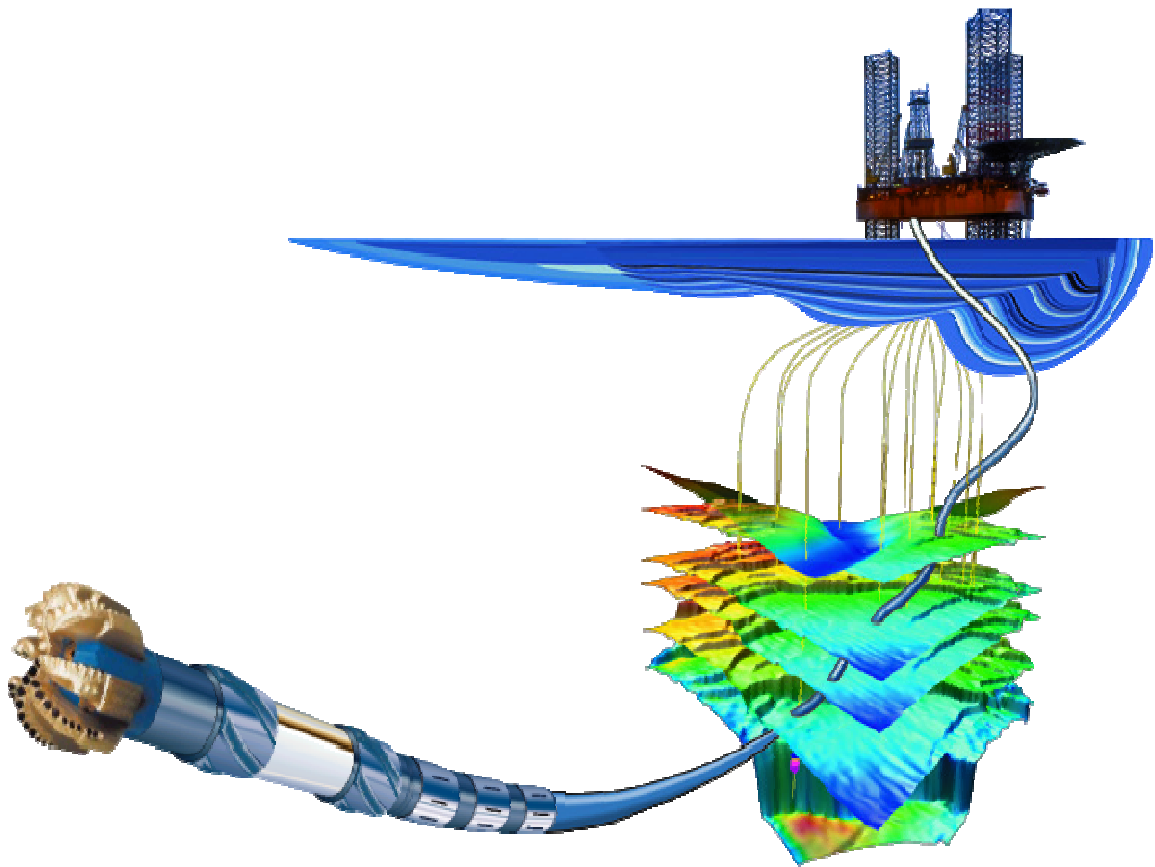
<div>DRILLING OVERVIEW</div> <div>This is a sidetrack BHA. Initial sidetrack operation was using time drilling 1/m/hr method. But since there was no cement support, it was difficult operation. Decided to chase the weight on bit in order to be able to sidetrack. With 7-8 klbs WOB finally the sidetrack was done successfully, and continued drilling to land the well in Waarre A formation at 80 deg.</div>			
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:

		Santos		Santos Limited	
				Netherby-1DW	
				Netherby	
				Netherby	
				Netherby-1DW HZ	
				8 1/2" Xceed_Ecoscope_BHA #9	
	5" DP to surface	Cum. Len. (m)	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		
BHA DESCRIPTION					
				ELEMENT	LENGTH (m)
				OD (mm)	ID (mm)
				Max OD (mm)	
				8 1/2 " PDC Bit	0.24
				Xceed 675	7.66
				EcoScope w/ 8 1/4 Stabi	8.04
				8_3/8" ILS Stabilizer	1.08
				Telescope 675 HF	7.53
				XO Saver sub	0.50
				6 3/4" NMDC	9.09
				6 3/4" NMDC	9.48
				5" HWDP (10 joints)	93.42
				Hydraulic Jar	9.32
				5" HWDP (4 joints)	37.44
				5" DP to surface	1.00
				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	
				<div>Insert Logo</div>	
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		<div>Quality Control</div> <div>Created by: AStroud Date: 9/08/2008</div> <div>Checked by: Date:</div>			

5. Drilling Parameter Sheets





Slide Sheet

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

Client: Santos Limited			Well: Netherby-1DW			Directional Driller: Agus Partono		
Field: Netherby			Borehole: Netherby-1 DW			Directional Driller: Andrew Stroud		
Structure: Netherby			UWI/API#:			Job #: 08ASQ0003		
Depth In: 648		Depth Out: 1421	Tot Distance: 773		Total Time: 20.9		Total ROP: 35.8	
Inclination In: 0.52		Inclination Out: 35.05	STRAIGHT: 80	% STRAI 10.3	STRAIGHT Time: 2.0		STRAIGHT ROP: 39.3	
Azimuth In: 130.06		Azimuth Out: 116.5	STEERING: 693	% STEER 89.7	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	1421	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					



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 idl 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



Slide Sheet

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

Client: Santos Limited			Well: Netherby-1DW			Directional Driller: Agus Parbano			
Field: Netherby			Borehole: Netherby-1 DW			Directional Driller: Andrew Stroud			
Structure: Netherby			UWI/API#:			Job #: 08ASQ0003			
Depth In: 1421		Depth Out: 1870		Tot Distance: 449		Total Time: 20.5		Total ROP: 21.9	
Inclination In: 35.05		Inclination Out: 35.18		ROTATE: 0 % ROTAT 0		Time: 0.0			
Azimuth In: 116.5		Azimuth Out: 119.41		STEERING: 449 % STEER 100		Time: 20.5		STEERING ROP: 21.9	
Comments: This run was to maintain the inclination angle at 35 deg and azimuth 118 deg III 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% threshold, 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



Slide Sheet

BHA: 12 1/4" Xceed LWD BHA 8

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: 1421	Depth Out: 1944	Tot Distance: 523		Total Time: 57.6	Total ROP: 9.1
Inclination In: 34.97	Inclination Out: 79.76	ROTATE: 0	% ROTAT 0	Time: 0.0	
Azimuth In: 116.54	Azimuth Out: 122.5	STEERING: 523	% STEER 100	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 1505	35.17 35.5	112.27 109.55	1.26 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					



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

**BHA: 8 1/2" Xceed_Ecoscope_BHA #9**

Client: Santos Limited
Field: Netherby
Structure: Netherby

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

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

Depth In: 1935
Inclination In: 80.97
Azimuth In: 122.53

Depth Out: 2517
Inclination Out: 98.42
Azimuth Out: 119.26

Tot Distance: 582
STRAIGHT: 80
STEERING: 502

% STRAI 13.7
% STEER 86.3

Total Time: 36.2
STRAIGHT Time: 5.1
STEERING Time: 31.1

Total ROP: 16.1
STRAIGHT ROP: 15.8
STEERING ROP: 16.1

Comments:

Statistics:

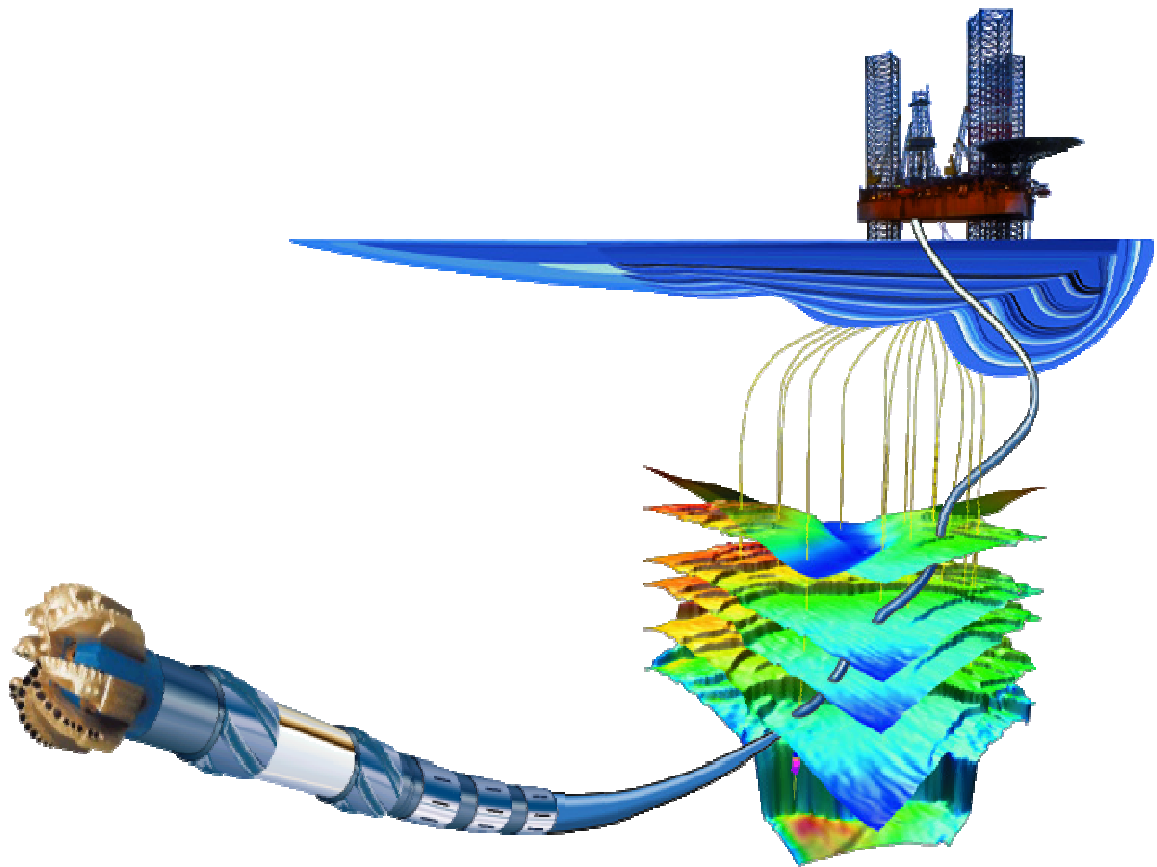
Min	Max	Sum	None	Min	Max	Sum	None	Avg	Max	Avg	Avg	Avg	Avg	Avg	Max	Avg	Avg	None
12/8/08 1:30		36.167		1935	2517	582	0	31.3	G	619	2049	18.3	135	24.3	2494.27	92.33	119.99	

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	Increasaed RPM to mitgate 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				D/L to SM=0, D/L to 0 TF, 40% SR
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 20% SR. Work on backed off's top drive saver sub.
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				
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	



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	
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	Increased Incl to 96.5 deg start from 2450 m as per Geo instruction
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

7. Drilling Tool Run Reports



Job Number: 08ASQ0003 Company: SANTOS LIMITED
Company Rep: C. Roots, N. Peri Location: MEA-APG-ASQ
Run Number: 1

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Run Information

Date In		Date Out		Drilling Distance:		Drilling Hours:	
16-Jul-2008	4:00PM	18-Jul-2008	12:00AM	Rotary Drilling Distance:	516.60 m	Rotary Drilling Hrs:	11.20 hrs
Depth (MD):	130.9 m	to	647.5 m	Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Depth (TVD):	130.9 m	to	647.5 m	Reaming Distance:	0.00 m	Reaming Hours:	0.00 hrs
Inclination:	0.00 deg	to	0.94 deg			Hrs Below Rotary:	32.00 hrs
Azimuth:	0.00 deg	to	124.68 deg			Total Pumping Hrs:	18.40 hrs
Hole Size:	17.50 in					Min DLS:	0.00 deg/30 m
Last Casing Size:	30.000 in			North Ref Used:	Grid North	Max DLS:	0.00 deg/30 m
Last Casing Depth:	130.9 m	(MD)		Magnetic Dec:	10.777 deg	Max DLS Depth:	0.0 m
Tool Face Arc:				Grid Correction:	-1.025 deg	Surface Screen:	No
Total Face Angle:		deg		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

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

	<u>Min</u>	<u>Max</u>	<u>Avg</u>	Total DH Shocks (k):	k
BH Temperature:				Max Shock Level:	
Surface RPM:	rpm	rpm	rpm	Max Shock Duration:	sec
ROP:	15.37 m/hr	28.52 m/hr	46.13 m/hr		
Surface Torque:				Checkshot Type:	
Flow Rate:				Checkshot Depth:	m
WOB Sliding:				Checkshot Incl:	deg
				Checkshot Azim:	deg
Average Pump Pressure:	psi			H2S In Well:	No
Turbine RPM @ Min Flow Rate:	rpm	Min Flow Rate:		SPP Off Bottom:	psi
Turbine RPM @ Max Flow Rate:	rpm	Max Flow Rate:		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:

If not, why?:

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.



Job Number:

08ASQ0003

Company Rep:

C. Roots, N. Peri

Run Number:

1

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

Equipment on the Run

Equipment	Pump Hours		Software Version	Tool Size
	Start	Cumulative		
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

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

Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 1

Company: SANTOS LIMITED
Location: MEA-APG-ASQ
BHA Type: Rotary

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m		OD	Size	Type	Size	
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
Vertical	0°
Left	10°
Right	20°

Hookload Out:

Wt Below Jars:

Pickup Out:

Wt Above Jars:

Slack Weight:

Total Air Wt:

[illegible]



Job Number: 08ASQ0003

Company Rep: C. Roots, N. Peri

Run No: 1

Company: SANTOS LIMITED

Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot

Well Name: Netherby-1

From	Depth in m				IADC Activity	Description
	To	Elapsed	From	To		
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.

Job Number: 08ASQ0003 Company: SANTOS LIMITED
Company Rep: C. Roots, N. Peri Location: MEA-APG-ASQ
Run Number: 2

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Run Information

Date In		Date Out		Drilling Distance:		Drilling Hours:	
21-Jul-2008	1:00AM	23-Jul-2008	9:15AM	Rotary Drilling Distance:	773.50 m	Rotary Drilling Hrs:	19.10 hrs
Depth (MD):	647.5 m	to	1421.0 m	Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Depth (TVD):	647.5 m	to	1376.9 m	Reaming Distance:	510.00 m	Reaming Hours:	3.50 hrs
Inclination:	0.94 deg	to	34.59 deg			Hrs Below Rotary:	56.25 hrs
Azimuth:	124.68 deg	to	115.60 deg			Total Pumping Hrs:	35.10 hrs
Hole Size:	12.25 in					Min DLS:	0.09 deg/30 m
Last Casing Size:	13.375 in			North Ref Used:	Grid North	Max DLS:	4.98 deg/30 m
Last Casing Depth:	642.2 m	(MD)		Magnetic Dec:	10.777 deg	Max DLS Depth:	1,294.3 m
Tool Face Arc:	.0 cm			Grid Correction:	-1.025 deg	Surface Screen:	No
Total Face Angle:	0.00 deg			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

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.

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:		

D&M Crew List:

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

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

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

	<u>Min</u>	<u>Max</u>	<u>Avg</u>		
BH Temperature:	25.00 degC	52.00 degC	36.00 degC	Total DH Shocks (k):	0 k
Surface RPM:	90.00 rpm	150.00 rpm	130.00 rpm	Max Shock Level:	0
ROP:	1.00 m/hr	42.27 m/hr	40.50 m/hr	Max Shock Duration:	0 sec
Surface Torque:	4.00 kft.lbf	12.00 kft.lbf	7.50 kft.lbf	Checkshot Type:	
Flow Rate:	750.00 galUS/min	1,020.00 galUS/min	916.25 galUS/min	Checkshot Depth:	m
WOB Sliding:				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 Clean:	Yes	pH:	9.00
Mud Company:	Rheochem	LCM Type:		Chlorides:	47,000.00 ppm
Mud Brand:	KCl Glycol	LCM Size:		Sand Content:	1.20 %
Funnel Viscosity:	51.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	3.52 %
Plastic Viscosity:	16.00 cp	Weighting Material:	Barite	Percent Oil:	0.00 %
Yield Point:	29.00 lbm/100ft2	Mud Weight:	9.30 lbm/galUS		
Mud Resistivity:	0.10 ohm-m				

IADC Bit Grading

Manufacturer:	Hughes Christanson	Total Revs:	122.00	IADC Code:	1-1-7
Model:	MXL-1X	Stick/Slip:		Jets (/ 32 in ^{1/2}	1X14 3X20
Type:	Milltooth	Reason Pulled:	Penetration Rate	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	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: Penetration Rate

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

Brief Run Summary:

If not, why?:

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.

Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 2

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Equipment on the Run

Equipment	Pump Hours		Software Version	Tool Size
	Start	Cumulative		
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			Recorded Mode			CAF
			Hours	Failed	Depth	Hours	Failed	Depth	
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			



Job Number:

08ASQ0003

Company Rep:

C. Roots, N. Peri

Run Number:

2

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

BHA Type:

Rotary Steerable

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m	OD	Size	Type	Size	Type	
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:

Wt Below Jars:

Pickup Out:

Wt Above Jars:

Slack Weight:

Total Air Wt:

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

Bit to Read Out Port			Bit to Measurement Port		
RSS-PowerDrive Xceed	3.70	m	arcVISION-Resistivity	11.80	m
LWD-arcVISION	12.90	m	arcVISION-APWD	11.09	m
MWD-PowerPulse	16.60	m	arcVISION-Gamma Ray	11.85	m
			PowerPulse-D&I	18.96	m

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				

Time	Depth in m		From	To		IADC Activity	Description
	To	Elapsed					
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	

Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 2

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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 Geograph
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	mwstat = 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 magnetometers 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.



Job Number: 08ASQ0003
Company Rep: C. Roots, N. Peri
Run Number: 2

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

	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 %

Job Number: 08ASQ0003 Company: SANTOS LIMITED
Company Rep: C. Roots, N. Peri Location: MEA-APG-ASQ
Run Number: 3

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Run Information

Date In		Date Out		Drilling Distance:		Drilling Hours:	
23-Jul-2008 10:00AM		25-Jul-2008 1:30PM		449.00 m		20.50 hrs	
Depth (MD):		1421.0 m to 1870.0 m		Rotary Drilling Distance:		20.50 hrs	
Depth (TVD):		1376.9 m to 1744.2 m		Sliding Distance:		0.00 hrs	
Inclination:		34.59 deg to 35.38 deg		Reaming Distance:		4.10 hrs	
Azimuth:		115.60 deg to 119.23 deg				Hrs Below Rotary:	
						51.50 hrs	
Hole Size:		12.25 in				Total Pumping Hrs:	
						30.60 hrs	
Last Casing Size:		13.375 in		North Ref Used:		Min DLS:	
Last Casing Depth:		642.2 m (MD)		Grid North		0.04 deg/30 m	
				Magnetic Dec:		Max DLS:	
				10.777 deg		0.75 deg/30 m	
				Grid Correction:		Max DLS Depth:	
				-1.025 deg		1,695.8 m	
				Total Correction:		Surface Screen:	
				11.802 deg		No	
Tool Face Arc:		.0 cm		Est. Mag. Int:		DFS Used:	
Total Face Angle:		0.00 deg		0.20 deg		No	
						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.

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:		

D&M Crew List:

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

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



Job Number: 08ASQ0003 **Company:** SANTOS LIMITED
Company Rep: C. Roots, N. Peri **Location:** MEA-APG-ASQ
Run Number: 3

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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.

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

Equipment on the Run

Equipment	Pump Hours		Software Version	Tool Size
	Start	Cumulative		
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			Recorded Mode			CAF
			Hours	Failed	Depth	Hours	Failed	Depth	
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			

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	Pump Hour @ Fail:	12.00 hrs
Severity:	Near	Drill Hours @ Fail:	5.00 hrs
CAF:	NO	Hours BRT @ Fail:	17.00 hrs
Lost Rig Time:	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.

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: 2

Fail Date: 25-Jul-2008
Severity: Near
CAF: NO
Lost Rig Time: hrs

Pump Hour @ Fail: 5.00 hrs
Drill Hours @ Fail: 4.00 hrs
Hours BRT @ Fail: 15.00 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.

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: 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.



Job Number:

08ASQ0003

Company Rep:

C. Roots, N. Peri

Run Number:

3

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

BHA Type:

Rotary Steerable

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m	OD	Size	Type	Size	Type	
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			Gauge			Bit to Read Out Port			Bit to Measurement Port		
		Type	Len	Width	Len	In	Out						
								RSS-PowerDrive Xceed	3.70	m	arcVISION-Resistivity	11.80	m
								LWD-arcVISION	12.90	m	arcVISION-APWD	11.09	m
								MWD-PowerPulse	16.60	m	arcVISION-Gamma Ray	11.85	m
											PowerPulse-D&I	18.96	m



Job Number: 08ASQ0003

Company Rep: C. Roots, N. Peri

Run No: 3

Company: SANTOS LIMITED

Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot

Well Name: Netherby-1

Time	Depth in m				IADC Activity	Description
	To	Elapsed	From	To		
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.

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

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 sticknsip. 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 sticknsip.
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.



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 %

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	Drilling Distance:	5.00 m	Drilling Hours:	1.10 hrs
30-Jul-2008 12:00PM	31-Jul-2008 11:00PM	Rotary Drilling Distance:	5.00 m	Rotary Drilling Hrs:	1.10 hrs
Depth (MD):	1870.0 m to 1875.0 m	Sliding Distance:	0.00 m	Sliding Hours:	0.00 hrs
Depth (TVD):	1744.2 m to 1766.0 m	Reaming Distance:	158.00 m	Reaming Hours:	33.90 hrs
Inclination:	35.38 deg to 35.38 deg			Hrs Below Rotary:	35.00 hrs
Azimuth:	119.23 deg to 119.23 deg			Total Pumping Hrs:	18.60 hrs
Hole Size:	12.25 in			Min DLS:	0.00 deg/30 m
Last Casing Size:	17.500 in	North Ref Used:	Grid North	Max DLS:	0.00 deg/30 m
Last Casing Depth:	160.0 m (MD)	Magnetic Dec:	10.770 deg	Max DLS Depth:	0.0 m
Tool Face Arc:		Grid Correction:	-1.025 deg	Surface Screen:	No
Total Face Angle:	deg	Total Correction:	11.802 deg	DFS Used:	No
		Est. Mag. Int:	0.10 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 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

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

	<u>Min</u>	<u>Max</u>	<u>Avg</u>		
BH Temperature:	60.00 degC	60.00 degC	60.00 degC	Total DH Shocks (k):	0 k
Surface RPM:	110.00 rpm	110.00 rpm	110.00 rpm	Max Shock Level:	0
ROP:	5.00 m/hr	5.00 m/hr	4.55 m/hr	Max Shock Duration:	0 sec
Surface Torque:	1.00 kft.lbf	1.00 kft.lbf	1.00 kft.lbf	Checkshot Type:	
Flow Rate:	1,000.00 galUS/min	1,000.00 galUS/min	1,000.00 galUS/min	Checkshot Depth:	m
WOB Sliding:				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 ¹	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:

If not, why?:

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.

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

Equipment on the Run

Equipment	Pump Hours		Software Version	Tool Size	
	Start	Cumulative			
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			Recorded Mode			CAF
			Hours	Failed	Depth	Hours	Failed	Depth	
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	



Job Number: 08ASQ0003
Company Rep: Nathan Peri, Peter Devine
Run Number: 4
Company: SANTOS LIMITED
Location: MEA-APG-ASQ
BHA Type: Other

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m	OD	Size	Type	Size	Type	
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			Gauge		
		Type	Len	Width	Len	In	Out

Bit to Read Out Port			Bit to Measurement Port		
LWD-StethoScope	12.90	m	PowerPulse-D&I	15.55	m
MWD-PowerPulse	16.60	m	StethoScope-Formation Pres	5.55	m
LWD-arcVISION			arcVISION-Resistivity	22.58	m
LWD-SonicVISION			arcVISION-Gamma Ray	22.63	m
LWD-sadnVISION			SonicVISION-Compressional	31.12	m
			sadnVISION-Caliper	36.55	m
			sadnVISION-Density	37.03	m
			sadnVISION-Neutron	38.85	m

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

Date/Time	Depth	Description
30-Jul-2008 8:00AM	0.0 m	Begin making up BHA, pick up StethoScope 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	Geologist 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



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 %



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	Depth in m				IADC Activity	Description
	To	Elapsed	From	To		
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



Equipment Run Summary Report

5-Aug-2008
7:44PM

Job Number: 08ASQ0003
Company Rep: Peter Devine, Rowan
Run Number: 5

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Run Information

Date In		Date Out		Drilling Distance:		Drilling Hours:	
1-Aug-2008 10:30PM		6-Aug-2008 5:00AM		523.50 m		31.00 hrs	
Depth (MD):		1421.0 m to 1944.5 m		Rotary Drilling Distance:		39.08 hrs	
Depth (TVD):		1376.8 m to 1681.8 m		Sliding Distance:		0.00 hrs	
Inclination:		35.05 deg to 80.90 deg		Reaming Distance:		26.18 hrs	
Azimuth:		116.50 deg to 122.70 deg				Hrs Below Rotary:	
						102.50 hrs	
Hole Size:		12.25 in				Total Pumping Hrs:	
						79.20 hrs	
Last Casing Size:		13.385 in		North Ref Used: Grid North		Min DLS:	
Last Casing Depth:		648.0 m (MD)		Magnetic Dec: 10.780 deg		Max DLS:	
				Grid Correction: -1.025 deg		Max DLS Depth:	
Tool Face Arc:		.0 cm		Total Correction: 11.902 deg		Surface Screen:	
Total Face Angle:		0.00 deg		Est. Mag. Int: 0.20 deg		DFS Used:	
						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

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

	<u>Min</u>	<u>Max</u>	<u>Avg</u>		
BH Temperature:	64.00 degC	79.00 degC	70.33 degC	Total DH Shocks (k):	0 k
Surface RPM:	150.00 rpm	157.00 rpm	152.33 rpm	Max Shock Level:	0
ROP:	0.86 m/hr	26.53 m/hr	16.89 m/hr	Max Shock Duration:	0 sec
Surface Torque:	10.00 kft.lbf	15.00 kft.lbf	12.67 kft.lbf	Checkshot Type:	
Flow Rate:	850.00 galUS/min	920.00 galUS/min	873.33 galUS/min	Checkshot Depth:	m
WOB Sliding:				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 Clean:	Yes	pH:	10.00
Mud Company:	Baker Hughes	LCM Type:		Chlorides:	48,000.00 ppm
Mud Brand:	KCl Glycol	LCM Size:		Sand Content:	0.20 %
Funnel Viscosity:	61.00 s/qt	LCM Concentration:	lbs/bbl	Solids:	10.96 %
Plastic Viscosity:	30.00 cp	Weighting Material:	Barite	Percent Oil:	%
Yield Point:	41.00 lbf/100ft2	Mud Weight:	11.00 lbf/galUS		
Mud Resistivity:	0.12 ohm-m				

IADC Bit Grading

Manufacturer:	Hycalog	Total Revs:	12,000.00	IADC Code:	
Model:		Stick/Slip:	Yes plenty	Jets (/ 32 in'')	6X15
Type:	PDC	Reason Pulled:	Total Depth/Casing Depth	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	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:

If not, why?:

Some difficulties were encountered 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.

Job Number:08ASQ0003

Company Rep:Peter Devine, Rowan

Run Number:5

Company:SANTOS LIMITED

Location:MEA-APG-ASQ

Rig Name:Ocean_Patriot

Well Name:Netherby-1

Equipment on the Run

Equipment	Pump Hours		Software Version	Tool Size	
	Start	Cumulative			
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			Recorded Mode			CAF
			Hours	Failed	Depth	Hours	Failed	Depth	
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			



Job Number:

08ASQ0003

Company Rep:

Peter Devine, Rowan

Run Number:

5

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

BHA Type:

Rotary Steerable

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m	OD	Size	Type	Size	Type	
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:

Wt Below Jars:

Pickup Out:

Wt Above Jars:

Slack Weight:

Total Air Wt:

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

Bit to Read Out Port			Bit to Measurement Port		
LWD-arcVISION	3.60	m	PowerPulse-D&I	18.87	m
MWD-PowerPulse	16.50	m	PowerDrive Xceed-Cont D&I	5.38	m
RSS-PowerDrive Xceed	2.30	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

Job Number: 08ASQ0003
Company Rep: Peter Devine, Rowan
Run Number: 5

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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	Picked 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 lbirt 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.



Job Number:

08ASQ0003

Company Rep:

Peter Devine, Rowan

Run Number:

5

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

	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 %

Job Number: 08ASQ0003
Company Rep: Peter Devine, Rowan
Run No: 5

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Time	Depth in m		From	To	IADC Activity	Description
	To	Elapsed				
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

Job Number: 08ASQ0003 Company: SANTOS LIMITED
Company Rep: Rohan Location: MEA-APG-ASQ
Run Number: 6

Rig Name: Ocean_Patriot
Well Name: Netherby-1

Run Information

Date In		Date Out		Drilling Distance:		Drilling Hours:	
9-Aug-2008 12:50AM		12-Aug-2008 8:00PM		572.50 m		36.20 hrs	
Depth (MD):		1944.5 m to 2517.0 m		Rotary Drilling Distance:		36.20 hrs	
Depth (TVD):		1681.8 m to 1655.3 m		Sliding Distance:		0.00 hrs	
Inclination:		80.90 deg to 98.30 deg		Reaming Distance:		0.93 hrs	
Azimuth:		122.70 deg to 119.30 deg				Hrs Below Rotary:	
						Total Pumping Hrs:	
Hole Size:		8.50 in				Min DLS:	
				North Ref Used: Grid North		Max DLS:	
Last Casing Size:		9.625 in		Magnetic Dec: 10.777 deg		Max DLS Depth:	
Last Casing Depth:		1944.5 m (MD)		Grid Correction: -1.025 deg		Surface Screen:	
				Total Correction: 11.802 deg		DFS Used:	
Tool Face Arc:				Est. Mag. Int: 0.10 deg		Inline Filter:	
Total Face Angle:		deg					

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 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

Job Number: 08ASQ0003

Company: SANTOS LIMITED

Rig Name: Ocean_Patriot

Company Rep: Rohan

Location: MEA-APG-ASQ

Well Name: Netherby-1

Run Number: 6

	<u>Min</u>	<u>Max</u>	<u>Avg</u>		
BH Temperature:	54.00 degC	66.00 degC	59.60 degC	Total DH Shocks (k):	0 k
Surface RPM:	120.00 rpm	160.00 rpm	129.00 rpm	Max Shock Level:	0
ROP:	7.14 m/hr	33.50 m/hr	15.81 m/hr	Max Shock Duration:	0 sec
Surface Torque:	23.00 kft.lbf	26.00 kft.lbf	24.90 kft.lbf	Checkshot Type:	
Flow Rate:	620.00 galUS/min	650.00 galUS/min	626.00 galUS/min	Checkshot Depth:	m
WOB Sliding:	0.00 klbm	0.00 klbm	0.00 klbm	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 ^{1/2}	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:

If not, why?:

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

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		Software Version	Tool Size
	Start	Cumulative		
CRSC-AA-266	0.00 hrs	65.20 hrs		6.75 in
DV6MT-AB-979	0.00 hrs	65.20 hrs	KarIV2.2	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			Recorded Mode			CAF
			Hours	Failed	Depth	Hours	Failed	Depth	
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	



Job Number:

08ASQ0003

Company Rep:

Rohan

Run Number:

6

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

BHA Type:

Rotary Steerable

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

Item	Description	Vendor	Tool Name	Serial Number	Length	OD	ID	Fishing Neck		Stab	Bottom Connection		Top Connection		Cumul Len
								OD	Len, m	OD	Size	Type	Size	Type	
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			Gauge		
		Type	Len	Width	Len	In	Out
	16.42 m	ILS	13.80	3.00	8.00	8.00	

Bit to Read Out Port			Bit to Measurement Port		
LWD-EcoScope	10.00	m	PowerDrive Xceed-Cont D&I	4.12	m
RSS-PowerDrive Xceed	3.10	m	PowerDrive Xceed-D&I	4.12	m
MWD-TeleScope	18.30	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



Time Description Report

13-Aug-2008
4:14AM

Job Number: 08ASQ0003

Company Rep: Rohan

Run Number: 6

Company: SANTOS LIMITED

Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot

Well Name: Netherby-1

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



Job Number: 08ASQ0003
Company Rep: Rohan
Run Number: 6

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

	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 %

Job Number:

08ASQ0003

Company Rep:

Rohan

Run No:

6

Company:

SANTOS LIMITED

Location:

MEA-APG-ASQ

Rig Name:

Ocean_Patriot

Well Name:

Netherby-1

From	Depth in m		From	To	IADC Activity	Description
	To	Elapsed				
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



13-Aug-2008
4:14AM

Job Number: 08ASQ0003
Company Rep: Rohan
Run No: 6

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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

Schlumberger

PowerDrive Xceed Summary

PowerDrive
The new direction in rotary drilling

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

JOB NUMBER 08ASQ0003	COMPANY REP. Chris Roots / Nathan	DATE IN 21-Jul-08	DATE OUT 23-Jul-08	PowerDrive Run # 1	MWD Run # 2	Rig Bit Run # 3	PD Engineer AP / AS
CLIENT Santos		Hole Depth - FROM 648 m	TO 1421 m	CRSC BA 058	CRSSA-BA 016	CRSEM-BA 060	
RIG NAME Ocean Patriot		Inclination - FROM 0.52 deg	TO 35.10 deg	CRSDA AA 181	CRSPA BA 9-015		
WELL NAME Netherby-1		Azimuth - FROM 130.06 deg	TO 115.42 deg	Bit Mfg HC	Bit Type M XL-1X	Bit SN 6066569	
LOCATION Otway Basin		Hole Size 12.25 inches	Bit to D&I 18.96 m	Bit to PD D&I 4.80 m	Dull Grade - IADC Cutting Structure 1-3-CT-1/2-E-2-ER-PR		
Map file name Fast Downlink	Mag Dec / Grid Cor / Total Corr. 10.777 -1.0254 11.802	Resolver Offset 860	Downlink response ? Good	On Bottom Hours 19.10	Last Casing size/wt / depth 13 3/8" @ 648 m		
Bit-Midpoint Lower Ssr 0.73 m	Bit-Midpoint Upper Stab 4.18	Flex Lgth 0m	WOB MIN / MAX 5 45	Ave. RPM 150	Ave. WOB 30	Off Bottom Circulating Hours 16.00	ft / M Drilled this run 773.0m
PD MIN/MAX 600 1200	Battery Voltage 3.3	Date Due 8/8/8	RPM MIN / MAX 75 160	MWD Min/Max Flow Rating 600 1200	Below Rotary Table Hours 56.25	PD ft/M Drilled (Operating) 773.0m	
Fast Downlink 18 sec	Pulse height 60 sec	Used 20%	Actual Flow MIN / MAX 800 1000	Pump Output / Type 4.28 GPS Triplex	PowerDrive Operating Hours 35.10	On Btm ROP 37.9	Ave ROP 37.9
Tool Response				Run Objective			
Max DLS 4.9	Max BUR 4.89	Max Turn Rt -15.71	Stab gauge before/after run 12.125 12.125	Directional drill as directed.			
SOFTWARE VERSION Acq 9.1A-70 (3) CPU 37b05 Comm 6.1A45 (00) MWD V80C04 IDEAL 13.0c_08				Reason for POOH PR			
Bit Hydraulics Calculations		PowerDrive Serial No.		PUMP HOURS		Motor Run Information	
Enter data in blue areas		PART PFIX SN		START	CUM	Motor type	Serial number
Pump Flow 1000	Bit Nozzle Size and TFA Nozzle 14 / 32 TFA	Electronics	CRSEM-BA 060	0.00	35.10	N/A	N/A
Mud Weight 9.4	1 14 0.150	Steering Section	CRSSA-BA 016	0.00	35.10	Bend type	Bend Angle
Bit Diameter 12.25	2 20 0.307	Collar	CRSC BA 058	0.00	35.10	N/A	N/A
Bit Flow 1000	3 20 0.307	Power Generation	CRSDA AA 181	0.00	35.10	Stab type	Stab Gauge
Bit Pressure Drop 755	4 20 0.307	Sub	CRSPA BA 9-015	0.00	35.10	N/A	N/A
Hydraulic HP 441	5					Off Bottom pressure	On Bottom pressure
HSI 3.7	6					N/A	N/A
Impact Press. 1365	7					Backreaming Hours	Total Reaming Hours
	8					N/A	N/A
	9					Bearing Play after run (mm)	N/A
	10						
	Bit TFA = 1.071	Motor	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
						Yield Point	29
						Maximum DH Temp. deg C	56 degC
						Sand %	0.25 %
						Solid %	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.

PowerDrive Xceed Summary

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	Chris Roots / Nathan / Peter	23-Jul-08	25-Jul-08	2	3	4	AP / AS				
CIENT		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 Sqr	Bit-Midpoint Upper Stab	Flex Lgth	WOB MIN / MAX	Ave. RPM	Ave. WOB	Off Bottom Circulating Hours	t / 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				Run Objective							
Stab gauge before/after run				Directional drill as directed.							
Max DLS	Max BUR	Max Turn Rt	12.125	12.125	Reason for POOH						
4.9	4.89	-15.71			TD						
SOFTWARE VERSION				Reason for POOH							
Aco	CPU	Comm	MWD	IDEAL	TD						
9.1A-70 (3)	37b05	6.1A45 (00)	V80C04	13_0c_08							
Bit Hydraulics Calculations				PowerDrive Serial No.		PUMP HOURS		Motor Run Information			
Enter data in blue areas				PART	PFX	SN	START	CUM	Motor type	Serial number	
Pump Flow	1000	Nozzle	/ 32	TFA	Electronics	CRSEM-BA	060	35.10	65.70	N/A	N/A
Mud Weight	11	1	16	0.196	Steering Section	CRSSA-BA	016	35.10	65.70	Bend type	Bend Angle
Bit Diameter	12.25	2	16	0.196	Collar	CRSC BA	058	35.10	65.70	N/A	N/A
Bit Flow	1000	3	16	0.196	Power Generation	CRSDA AA	181	35.10	65.70	Stab type	Stab Gauge
Bit Pressure Drop	730	4	16	0.196	Sub	CRSPA BA	9-015	35.10	65.70	N/A	N/A
Hydraulic HP	426	5	16	0.196						Off Bottom pressure	On Bottom pressure
HSI	3.6	6	16	0.196						N/A	N/A
Impact Press.	1320	7	16	0.196						Backreaming Hours	Total Reaming Hours
		8								N/A	N/A
		9								Bearing Play after run (mm)	N/A
		10			Motor	N/A				Mud properties	
		Bit TFA =	1.178						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	
									Yield Point	37	
									Maximum DH Temp. deg C	77 degC	
									Sand %	0.50 %	
									Solid %	10.75 %	

Run Summary

The Xceed was run for the second time after bit change. The second 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.

PowerDrive

The new direction in rotary drilling

JOB NUMBER 08ASQ0003		COMPANY REP. Peter Devine		DATE IN 1-Aug-08		DATE OUT 6-Aug-08		PowerDrive Run # 1		MWD Run # 5		Rig Bit Run # 8		PD Engineer AP / AS	
CLIENT Santos				Hole Depth - FROM 1421 m		TO 1944.5 m		CRSC BA 002		CRSSA-BA 003		CRSEM-BA 014			
RIG NAME Ocean Patriot				Inclination - FROM 35.05 deg		TO 80.90 deg		CRSDA AA 151		CRSPA BA 003					
WELL NAME Netherby-1DW1				Azimuth - FROM 116.50 deg		TO 119.41 deg		Reed Hycalog Reed Hycalog		Bit Type RSX 6 16 M A 16		Bit SN 218712			
LOCATION Otway Basin				Hole Size 12.25 inches		Bit to D&I 18.96 m		Bit to PD D&I 4.80 m		Dull Grade - IADC Cutting Structure 1-1-CT-S-X-I-NO-TD					
Map file name Fast Downlink		Mag Dec / Grid Cor / Total Corr. 10.777 -1.0254 11.802		Resolver Offset 969		Downlink response ? Good		On Bottom Hours 31.00		Last Casing size/wt / depth 13 3/8" @ 648 m					
Bit-Midpoint Lower Ssr 0.73 m		Bit-Midpoint Upper Stab 4.18		Flex Lgth 0m		WOB MIN / MAX 5 28		Ave. RPM 160		Ave. WOB 10		Off Bottom Circulating Hours 48.20		ft / M Drilled this run 523.5m	
PD MIN/MAX 600 1200		Battery Voltage Date Due 3.3 8/8		RPM MIN / MAX 145 200		MWD Min/Max Flow Rating 600 1200		Below Rotary Table Hours 102.50		PD ft/M Drilled (Operating) 523.5m					
Fast Downlink 18 sec		Pulse height 20%		Used 18 sec		Actual Flow MIN / MAX 800 950		Pump Output / Type 4.28 GPS Triplex		PowerDrive Operating Hours 79.20		On Btm ROP 21.9		Ave ROP 21.9	
Tool Response Max DLS 4.9 Max BUR 4.89 Max Turn Rt -15.71				Stab gauge before/after run 12.125 12.125				Run Objective Directional drill as directed.							
SOFTWARE VERSION Acq 9.1A-70 (3) MTC 70 (CPU 37b05 Comm 6.1A45 (00)				MWD V80C04 IDEAL 13.0c 08				Reason for POOH TD							
Bit Hydraulics Calculations				PowerDrive Serial No.				PUMP HOURS		Motor Run Information					
Enter data in blue areas		Bit Nozzle Size and TFA		PART PFIX SN		START CUM		Motor type		Serial number					
Pump Flow	930	Nozzle	/ 32	TFA	Electronics	CRSEM-BA	014	0.00 79.20	N/A	N/A					
Mud Weight	11	1	16	0.196	Steering Section	CRSSA-BA	003	0.00 79.20	Bend type	Bend Angle					
Bit Diameter	12.25	2	16	0.196	Collar	CRSC BA	002	0.00 79.20	N/A	N/A					
Bit Flow	1000	3	16	0.196	Power Generation	CRSDA AA	151	0.00 79.20	Stab type	Stab Gauge					
Bit Pressure Drop	730	4	16	0.196	Sub	CRSPA BA	003	0.00 79.20	N/A	N/A					
Hydraulic HP	426	5	16	0.196					Off Bottom pressure	On Bottom pressure					
HSI	3.6	6	16	0.196					N/A	N/A					
Impact Press.	1320	7							Backreaming HSA	Total Reaming Hours					
		8							N/A	N/A					
		9							Bearing Play after run (mm)	N/A					
		10			Motor		N/A		Mud properties						
		Bit TFA =	1.178						Mud Company	Rheochem					
									Mud Type	WBM					
									MW at start of run	11.0 ppg					
									MW at end of run	11.0 ppg					
									Funnel Viscosity	49 sec					
									Plastic Viscosity	23					
									Yield Point	30					
									Maximum DH Temp. deg C	75 degC					
									Sand %	0.20 %					
									Solid %	10.82 %					

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 quite 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 period downlink.

PowerDrive Xceed Summary

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

JOB NUMBER 08ASQ0003	COMPANY REP. Peter Devine	DATE IN 9-Aug-08	DATE OUT 12-Aug-08	PowerDrive Run # 1	MWD Run # 6	Rig Bit Run # 9	PD Engineer AP/AS
CLIENT Santos		Hole Depth - FROM 1944.5 m	TO 2517.0 m	CRSC BA 266	CRSSA-AB 238	CRSEM-AB 244	
RIG NAME Ocean Patriot		Inclination - FROM 80.90 deg	TO 98.30 deg	CRSDA AA 360	CRSPA AA 236		
WELL NAME Netherby-1DW1		Azimuth - FROM 119.41 deg	TO 119.30 deg	Bit Mfg Reed Hycalog	Bit Type RSX519M-A4	Bit SN 119583	
LOCATION Otway Basin		Hole Size 8.50 inches	Bit to D&I 20.68 m	Bit to PD D&I 4.14 m	Dull Grade - IADC Cutting Structure 1-3-BT-G-X-I-WT-TD		
Map file name Fast Downlink	Mag Dec / Grid Cor / Total Corr. 10.777 1.0254 11.802	Resolver Offset 498	Downlink response? Good	On Bottom Hours 36.20	Last Casing size/wt / depth 9 5/8 @ 1936md		
Bit-Midpoint Lower Ssr 0.57	Bit-Midpoint Upper Stab 3.62	Flex Lgth 0m	WOB MIN / MAX 5 30	Ave. RPM 120	Ave. WOB 15	Off Bottom Circulating Hours 29.10	ft / M Drilled this run 572.5m
PD MIN/MAX 475 800	Battery Voltage 3.3	Date Due 1/9/08	RPM MIN / MAX 120 160	MWD Min/Max Flow Rating 400 800	Below Rotary Table Hours 91.20	PD ft/M Drilled (Operating) 572.5m	
Fast Downlink 18 sec	60 sec	Pulse height 20%	Used 18 sec	Actual Flow MIN / MAX 500 620	Pump Output / Type 4.28 GPS Triplex	PowerDrive Operating Hours 65.30	On Btm ROP 16.1
Tool Response				Run Objective			
Max DLS 3.59	Max BUR 3.42	Max Turn Rt 1.51	Stab gauge before/after run 8.375 8.375	Directional drill as directed.			
SOFTWARE VERSION				Reason for POOH			
Acq 9.1A-70 (3) MTC 70 (CPU 37b05 Comm 6.1A45 (00))				MWD V80C04 IDEAL 13.0c.08			
TD				TD			
Bit Hydraulics Calculations				PowerDrive Serial No.		PUMP HOURS	
Enter data in blue areas				PART	PFX	SN	START
Pump Flow 620	Bit Nozzle Size and TFA	NOZZLE	TFA	Electronics	CRSEM-AB	244	0.00
Mud Weight 9.7	1 13	0.130	0.130	Steering Section	CRSSA-AB	238	0.00
Bit Diameter 8.5	2 13	0.130	0.130	Collar	CRSC BA	266	0.00
Bit Flow 1000	3 13	0.130	0.130	Power Generation	CRSDA AA	360	0.00
Bit Pressure Drop 2127	4 13	0.130	0.130	Sub	CRSPA AA	236	0.00
Hydraulic HP 1241	5 13	0.130					
HSI 21.9	6						
Impact Press. 3845	7						
	8						
	9						
	10						
	Bit TFA =	0.648		Motor		N/A	
				Motor Run Information			
				Motor type		Serial 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		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	
				Yield Point		36	
				Maximum DH Temp. deg C		64 degC	
				Sand %		0.20 %	
				Solid %		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 620 gpm. The build was continued to 89.3° inc at 2029 md RT. The Xceed was downlinked to HIA for the tangent section to 2148 md 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 1 meter 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 2293 md RT. From this point directionally controlled with instruction from geologist. Inc was reduced to 95° to 2328 md RT. Then reduced to 94° to 2450 md 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 2517 md RT.

PowerDrive Xceed Summary

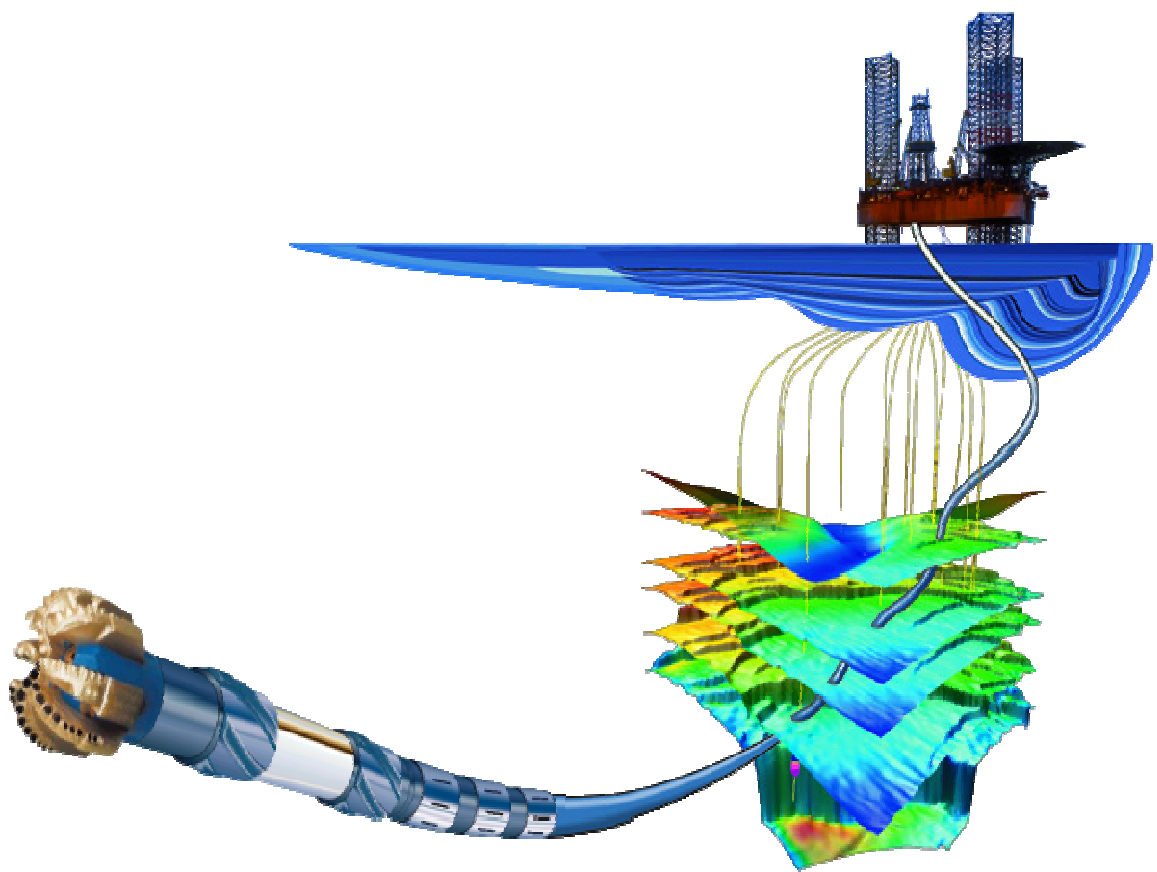
Xceed Rev 1: Please do not make any changes to this form !!!

JOB NUMBER 08ASQ0003	COMPANY REP. Peter Devine	DATE IN 9-Aug-08	DATE OUT 12-Aug-08	PowerDrive Run # 1	MWD Run # 6	Rig Bit Run # 9	PD Engineer AP/AS
CLIENT Santos		Hole Depth - FROM 1944.5 m	TO 2517.0 m	CRSC BA 266	CRSSA-AB 238	CRSEM-AB 244	
RIG NAME Ocean Patriot		Inclination - FROM 80.90 deg	TO 98.30 deg	CRSDA AA 360	CRSPA AA 236		
WELL NAME Netherby-1DW1		Azimuth - FROM 119.41 deg	TO 119.30 deg	Bit Mfg Reed Hycalog	Bit Type RSX519M-A4	Bit SN 119583	
LOCATION Otway Basin		Hole Size 8.50 inches	Bit to D&I 20.68 m	Bit to PD D&I 4.14 m	Dull Grade - IADC Cutting Structure 1-3-BT-G-X-I-WT-TD		
Map file name Fast Downlink	Mag Dec / Grid Cor / Total Corr. 10.777 1.0254 11.802	Resolver Offset 498	Downlink response? Good	On Bottom Hours 36.20	Last Casing size/wt / depth 9 5/8 @ 1936md		
Bit-Midpoint Lower Szr 0.57	Bit-Midpoint Upper Stab 3.62	Flex Lgth 0m	WOB MIN / MAX 5 30	Ave. RPM 120	Ave. WOB 15	Off Bottom Circulating Hours 29.10	ft / M Drilled this run 572.5m
PD MIN/MAX 475 800	Battery Voltage 3.3	Date Due 1/9/08	RPM MIN / MAX 120 160	MWD Min/Max Flow Rating 400 800	Below Rotary Table Hours 91.20	PD ft/M Drilled (Operating) 572.5m	
Fast Downlink 18 sec	60 sec	Pulse height 20%	Used 18 sec	Actual Flow MIN / MAX 500 620	Pump Output / Type 4.28 GPS Triplex	PowerDrive Operating Hours 65.30	On Btm ROP 16.1
Tool Response				Run Objective			
Max DLS 3.59	Max BUR 3.42	Max Turn Rt 1.51	Stab gauge before/after run 8.375 8.375	Directional drill as directed.			
SOFTWARE VERSION				Reason for POOH			
Acq 9.1A-70 (3) MTC 70 (CPU 37b05 Comm 6.1A45 (00))				MWD V80C04 IDEAL 13_0c_08			
TD				TD			
Bit Hydraulics Calculations				PowerDrive Serial No.		PUMP HOURS	
Enter data in blue areas				PART	PFIX	SN	START
Pump Flow 620	Bit Nozzle Size and TFA	NOZZLE / 32	TFA	Electronics	CRSEM-AB	244	0.00
Mud Weight 9.7	1 13	0.130	0.130	Steering Section	CRSSA-AB	238	0.00
Bit Diameter 8.5	2 13	0.130	0.130	Collar	CRSC BA	266	0.00
Bit Flow 1000	3 13	0.130	0.130	Power Generation	CRSDA AA	360	0.00
Bit Pressure Drop 2127	4 13	0.130	0.130	Sub	CRSPA AA	236	0.00
Hydraulic HP 1241	5 13	0.130	0.130				
HSI 21.9	6						
Impact Press. 3845	7						
	8						
	9						
	10						
	Bit TFA =		0.648	Motor		N/A	
				Motor Run Information			
				Motor type		Serial 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		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	
				Yield Point		36	
				Maximum DH Temp. deg C		64 degC	
				Sand %		0.20 %	
				Solid %		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 620 gpm. The build was continued to 89.3° inc at 2029 md RT. The Xceed was downlinked to HIA for the tangent section to 2148 md 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 1 meter 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 2293 md RT. From this point directionally controlled with instruction from geologist. Inc was reduced to 95° to 2328 md RT. Then reduced to 94° to 2450 md 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 2517 md RT.

8. Drill Bit Grading





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

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



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



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

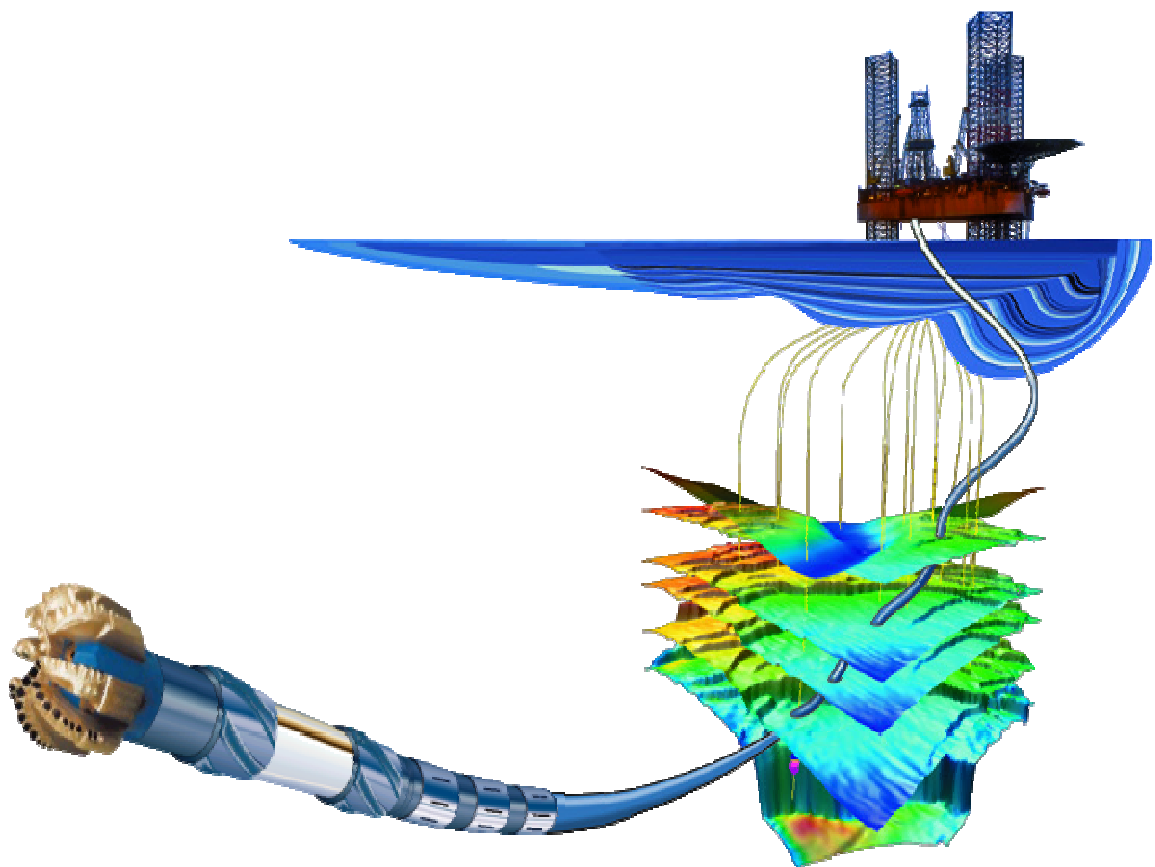
Formation name	Skull Creek
Majority Formation:	Sand
Other Formation:	Sand
% Formation:	100%
Mud Type:	KCL
Mud Weight:	9.7
PV:	22
YP:	36
% Solids:	10.68
PH (meter):	10.0

COMMENTS:

BIT GRADING (THIS BIT RUN)

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

9. Service Quality



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

Severity: Near

CAF: NO

Lost Rig Time: hrs

Pump Hour @ Fail: 18.60 hrs

Drill Hours @ Fail: 1.10 hrs

Hours BRT @ Fail: 20.00 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 encountered 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.

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

Failure Number: 2

Fail Date: 31-Jul-2008
Severity: Near
CAF: NO
Lost Rig Time: hrs

Pump Hour @ Fail: 0.00 hrs
Drill Hours @ Fail: 0.00 hrs
Hours BRT @ Fail: 0.00 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 ltbtrt (LTB resets) was seen in the frames.

Job Number: 08ASQ0003
Company Rep: Peter Devine, Rowan
Run Number: 5

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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 stickslip (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.

Job Number: 08ASQ0003
Company Rep: Peter Devine, Rowan
Run Number: 5

Company: SANTOS LIMITED
Location: MEA-APG-ASQ

Rig Name: Ocean_Patriot
Well Name: Netherby-1

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 fluctuating 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 possibility 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

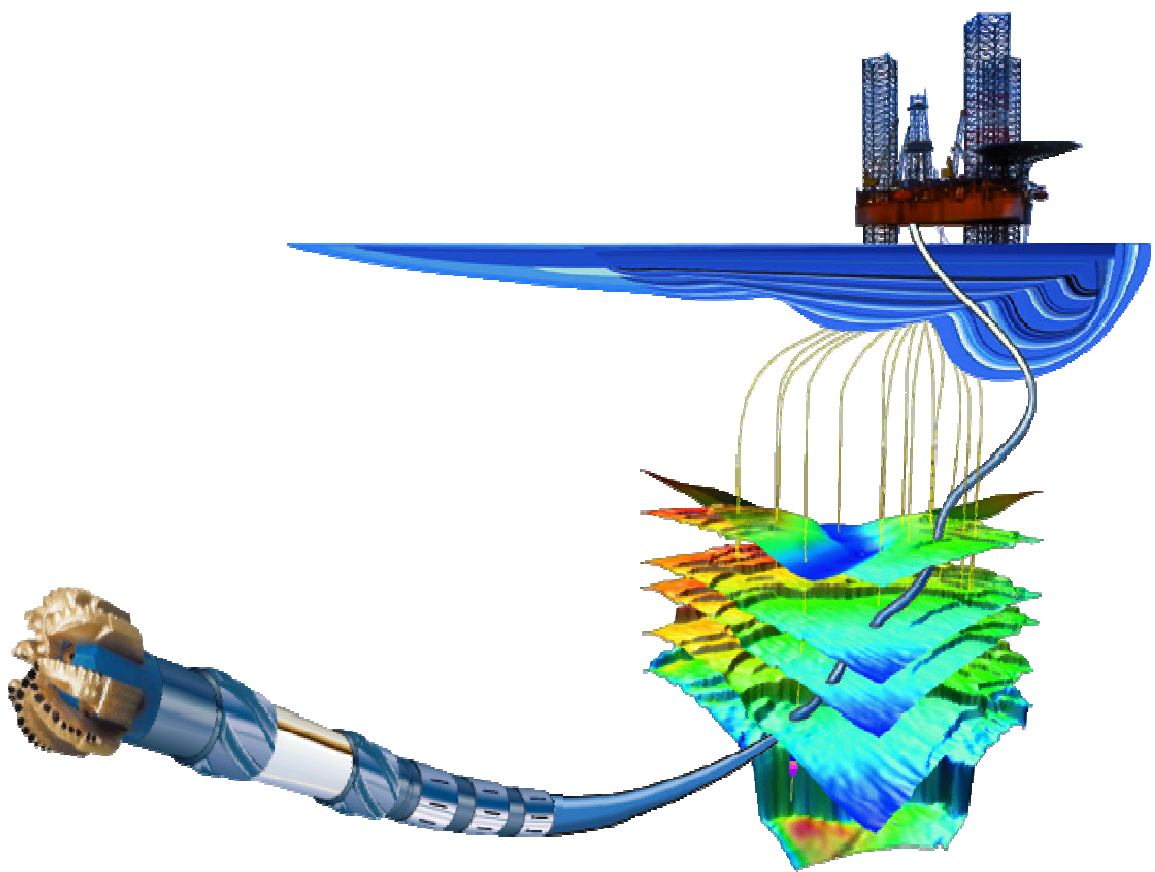
Recycled pumps to with no change.

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.

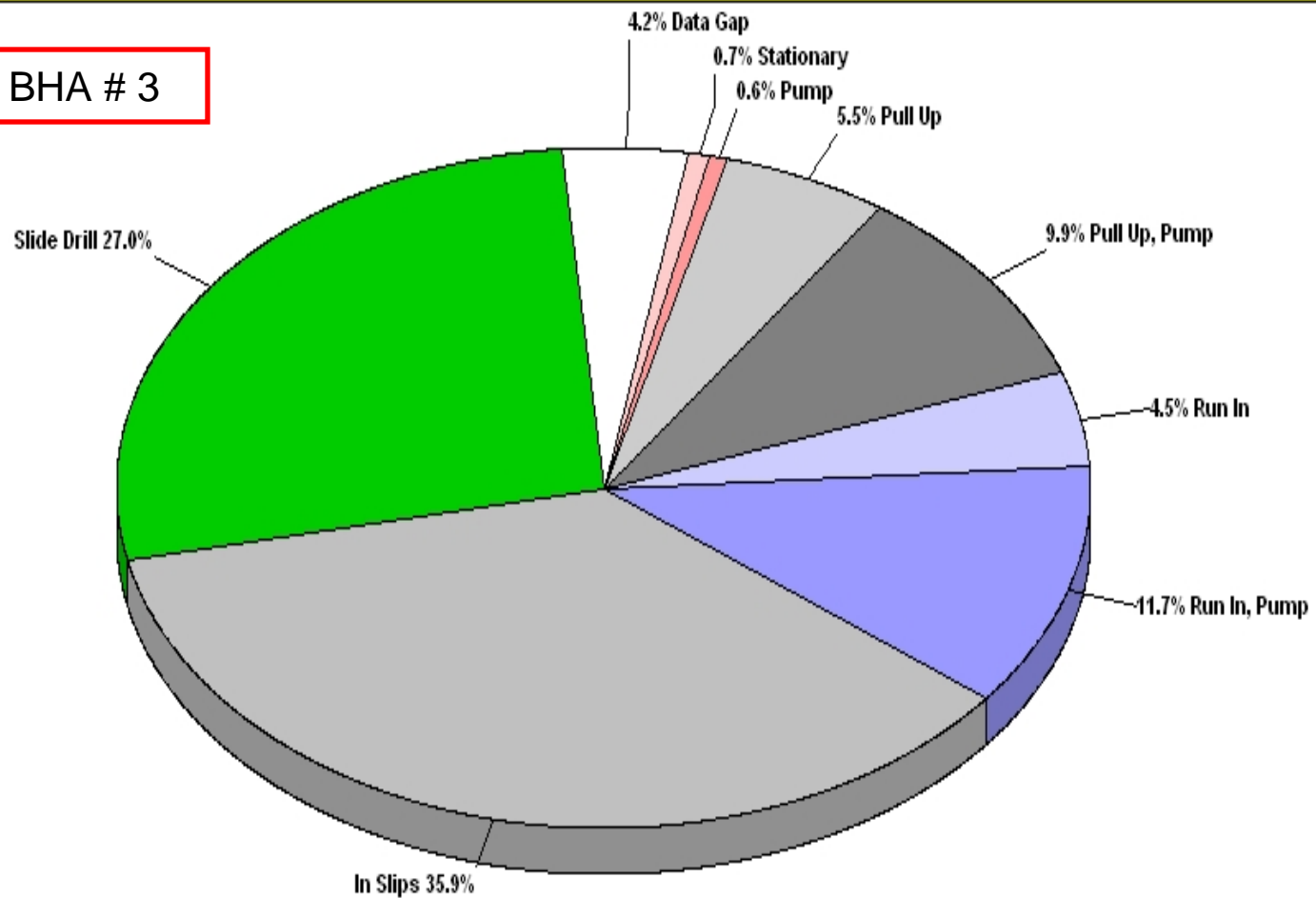
10. Drilling Mechanics



Netherby-1 - 12.25

Section

12 ¼" BHA # 3



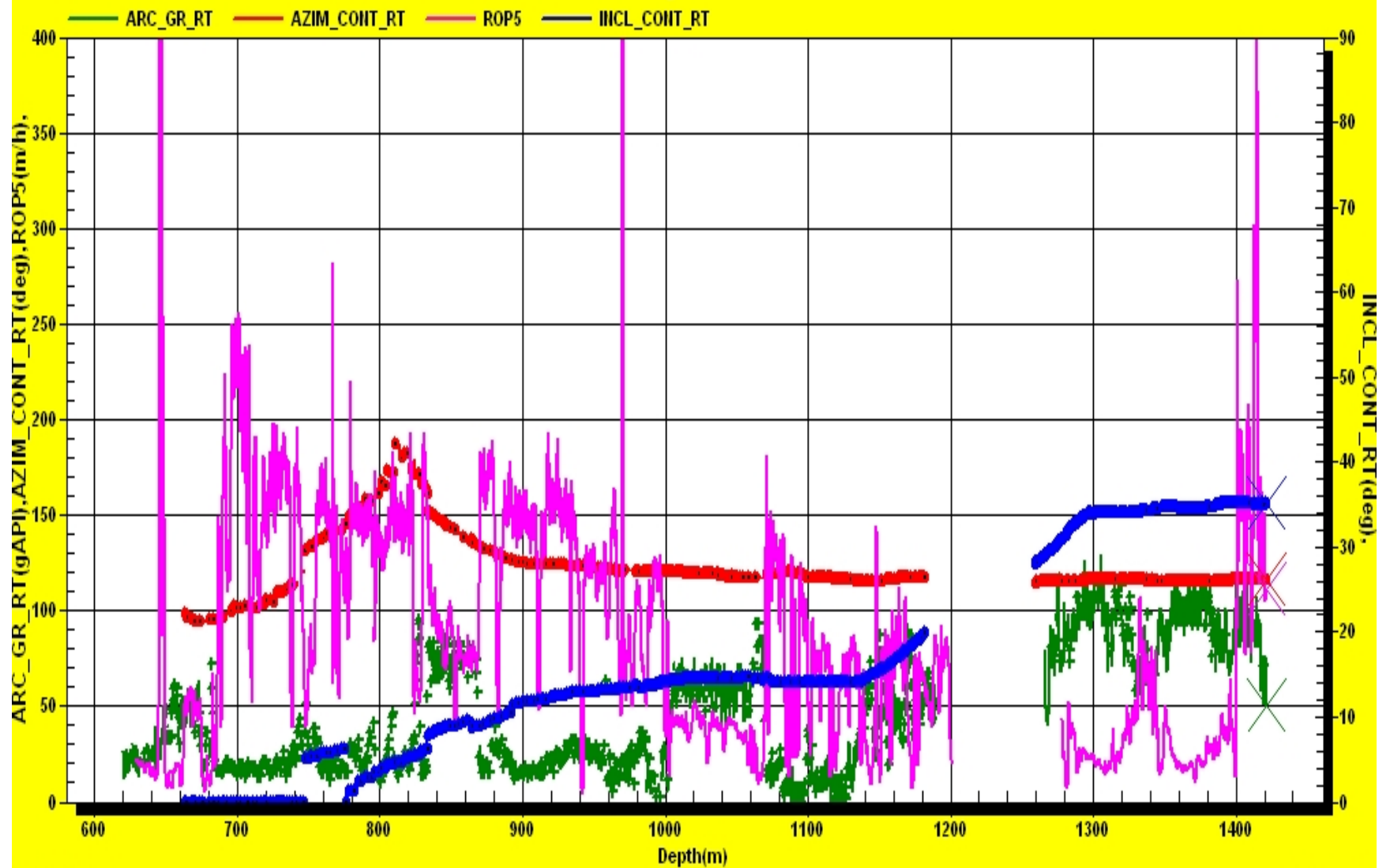
* Zero Data, Rotary Drill, Ream, Run In, Rotate, Back Ream, Pull Up, Rotate, Rotate, Pump, Rotate, Unknown, Absent

From: 01 Aug 08 23:33:11

To: 06 Aug 08 19:45:01

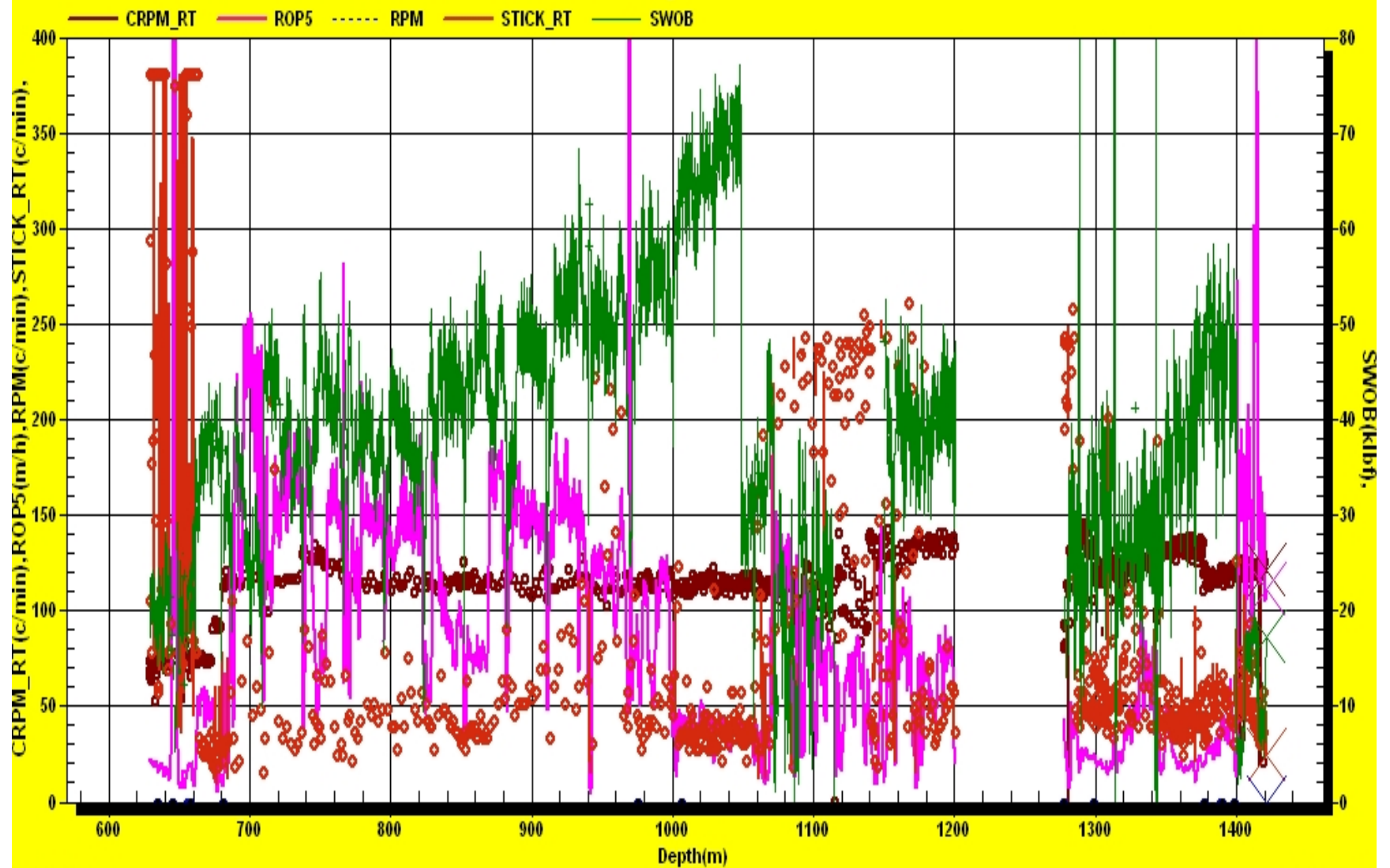
Netherby-1 - 12.25

Drilling Parameters



Netherby-1 - 12.25

Drilling Parameters

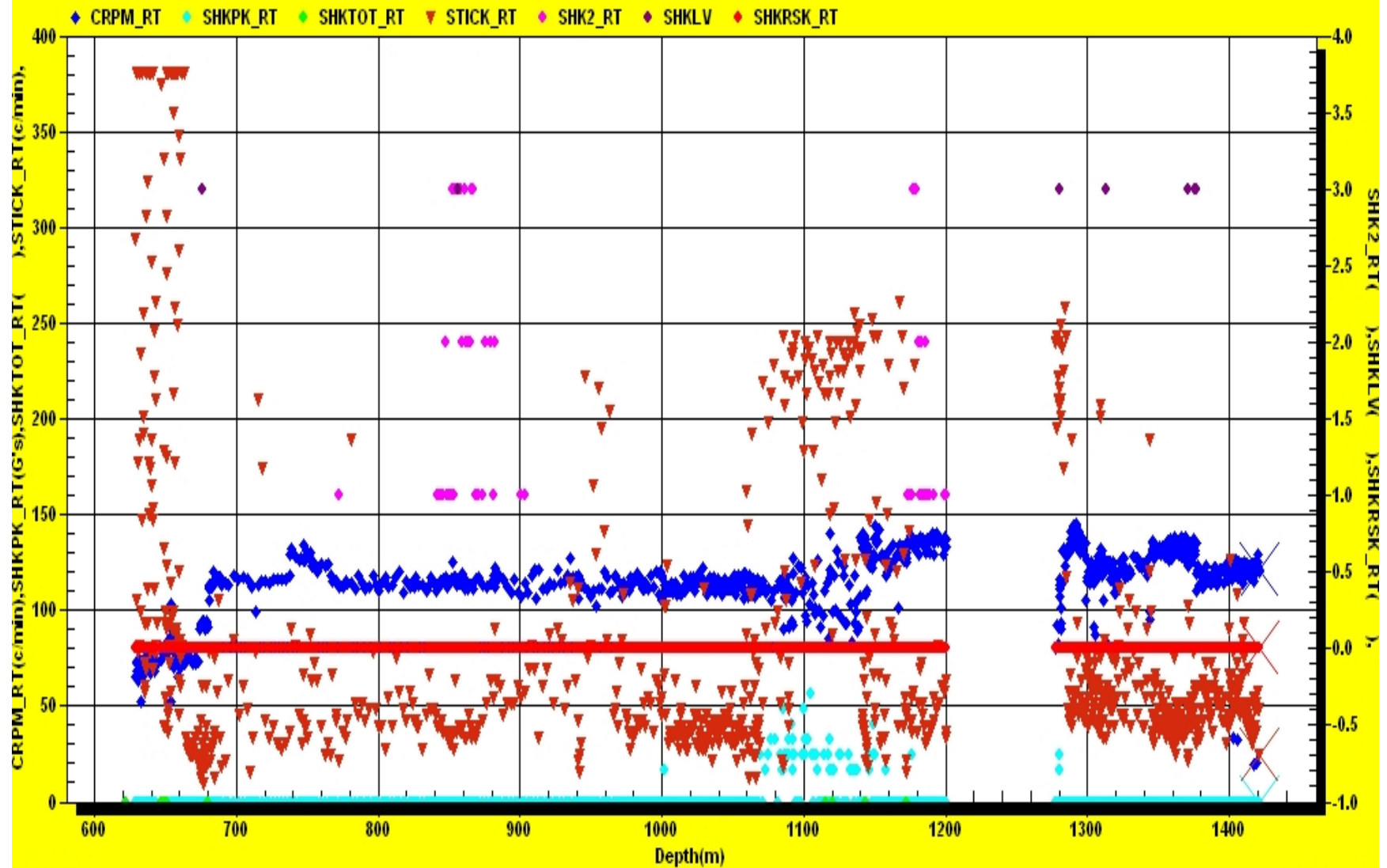


From: 610.36 m

To: 1420.98 m

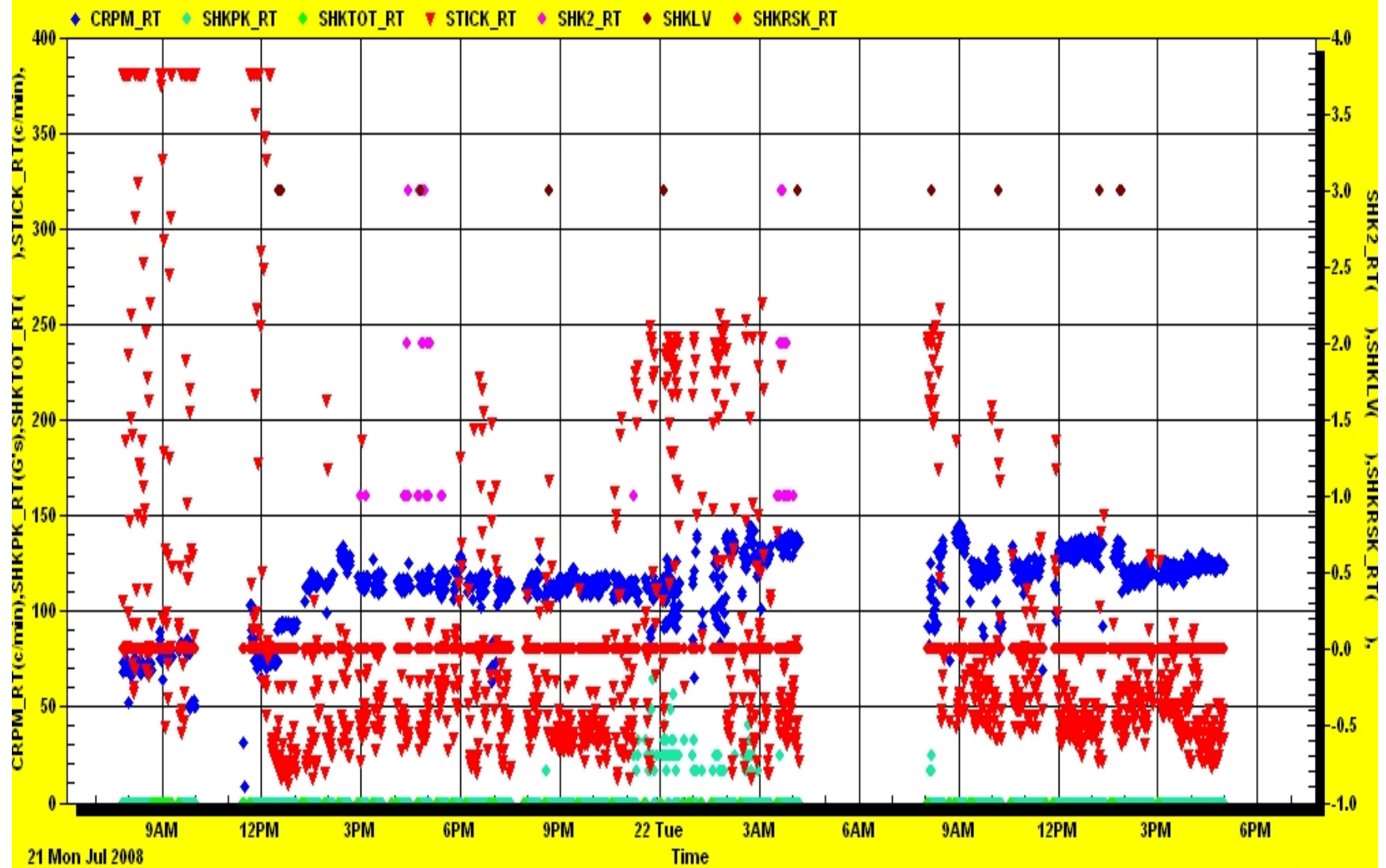
Netherby-1 - 12.25

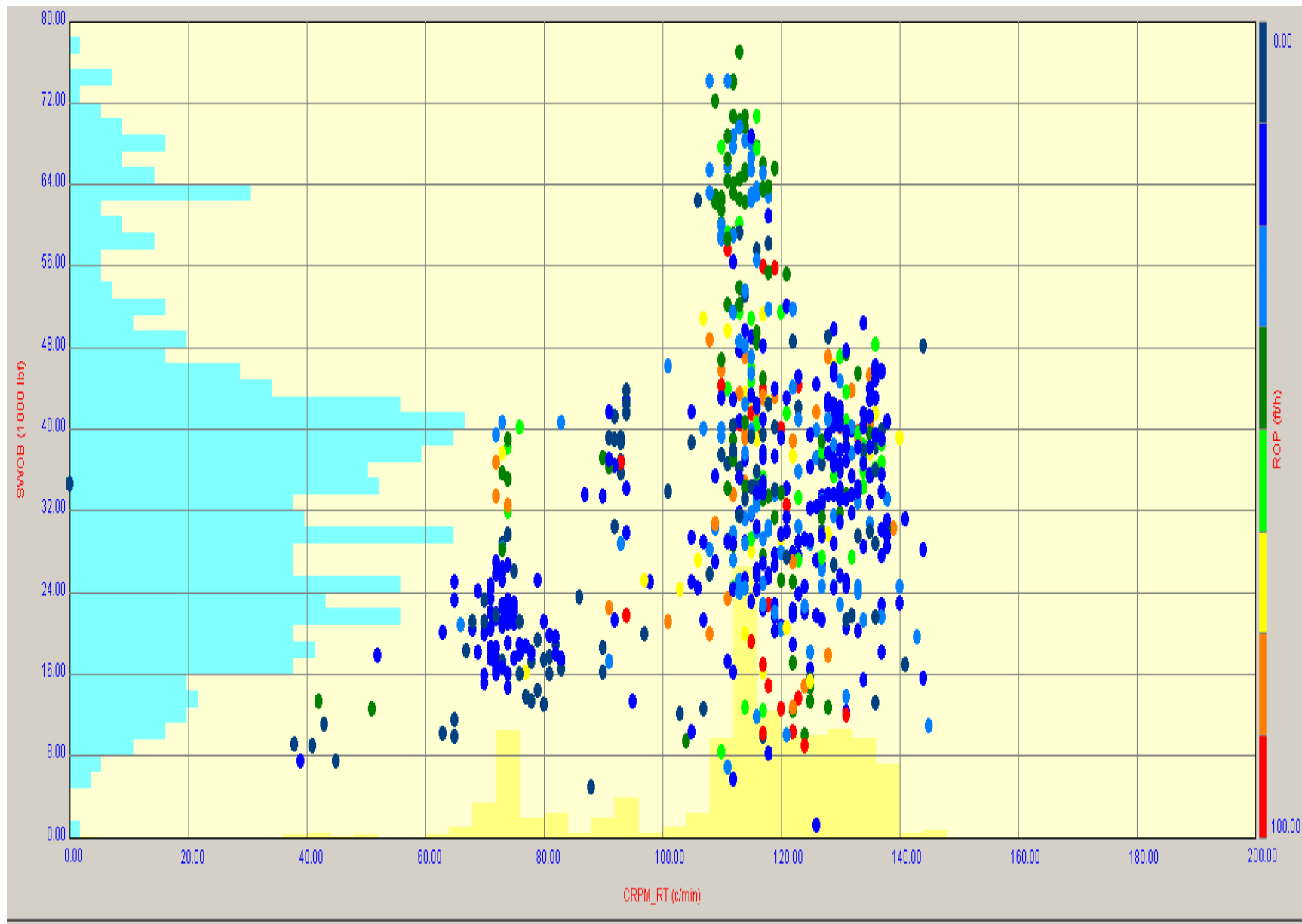
Shocks Stick/Slip



Netherby-1 - 12.25

Shocks Stick/Slip

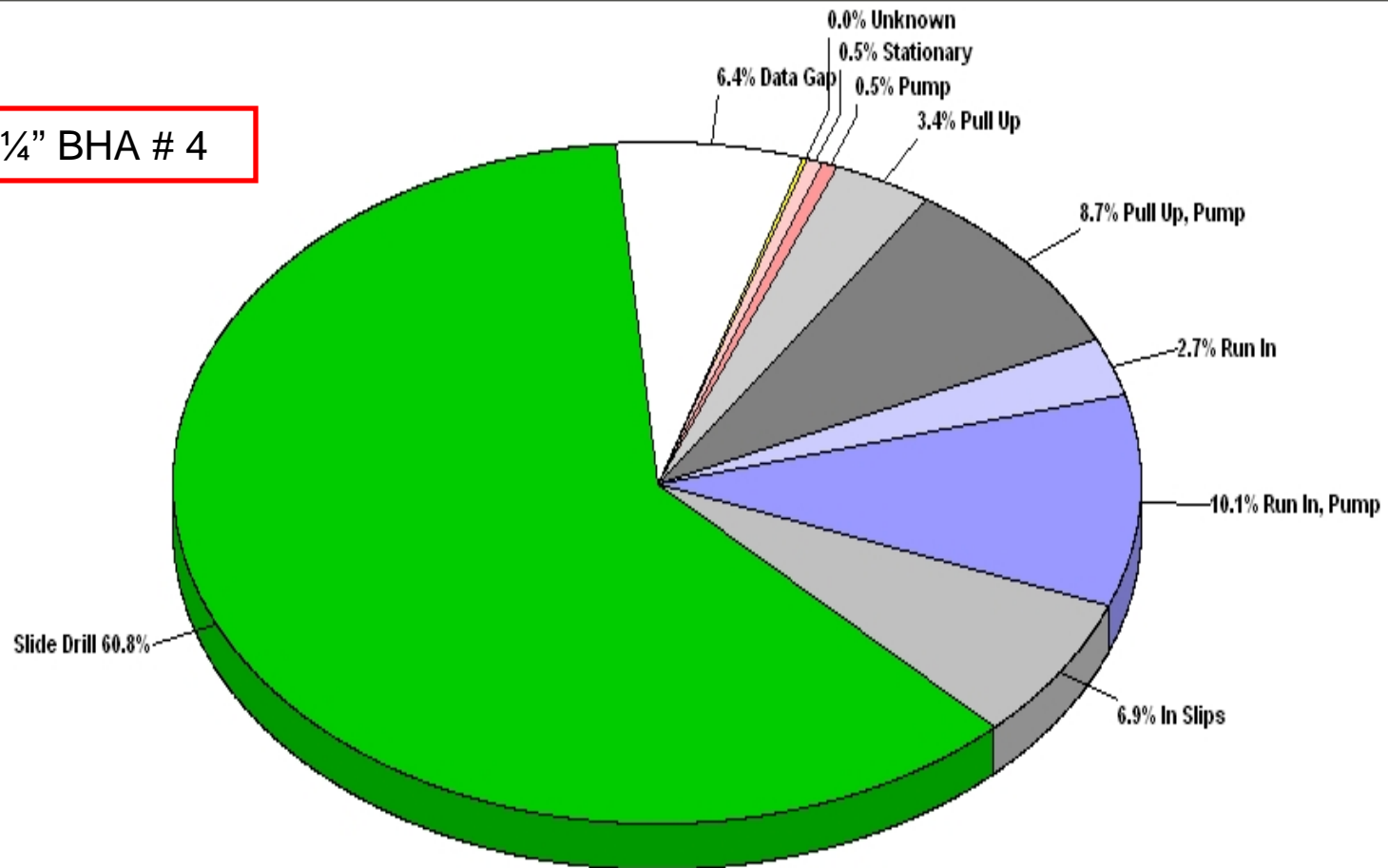




Netherby-1 - 12.25

Section

12 1/4" BHA # 4



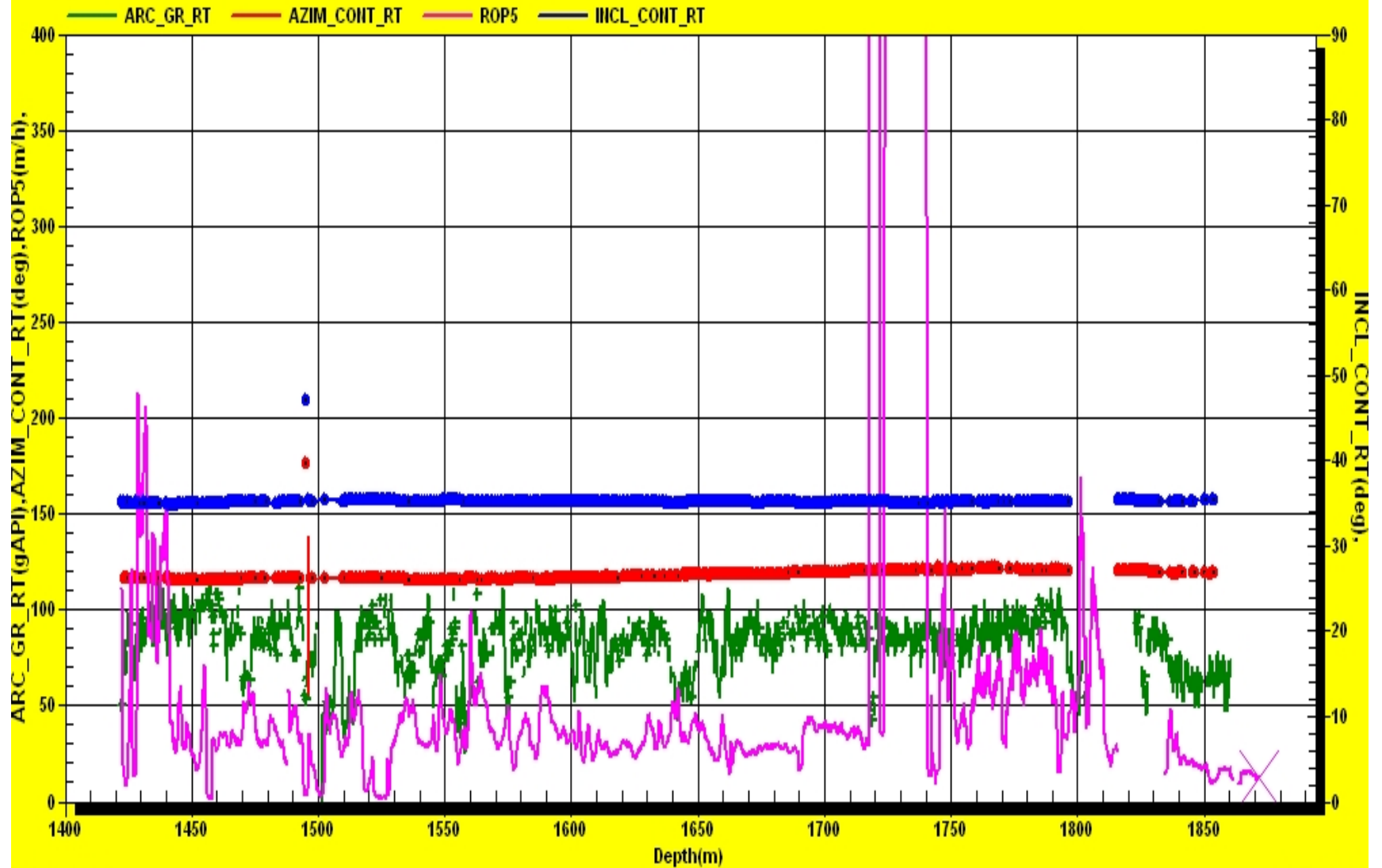
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From: 23 Jul 08 20:29:31

To: 25 Jul 08 02:00:00

Netherby-1 - 12.25

Drilling Parameters

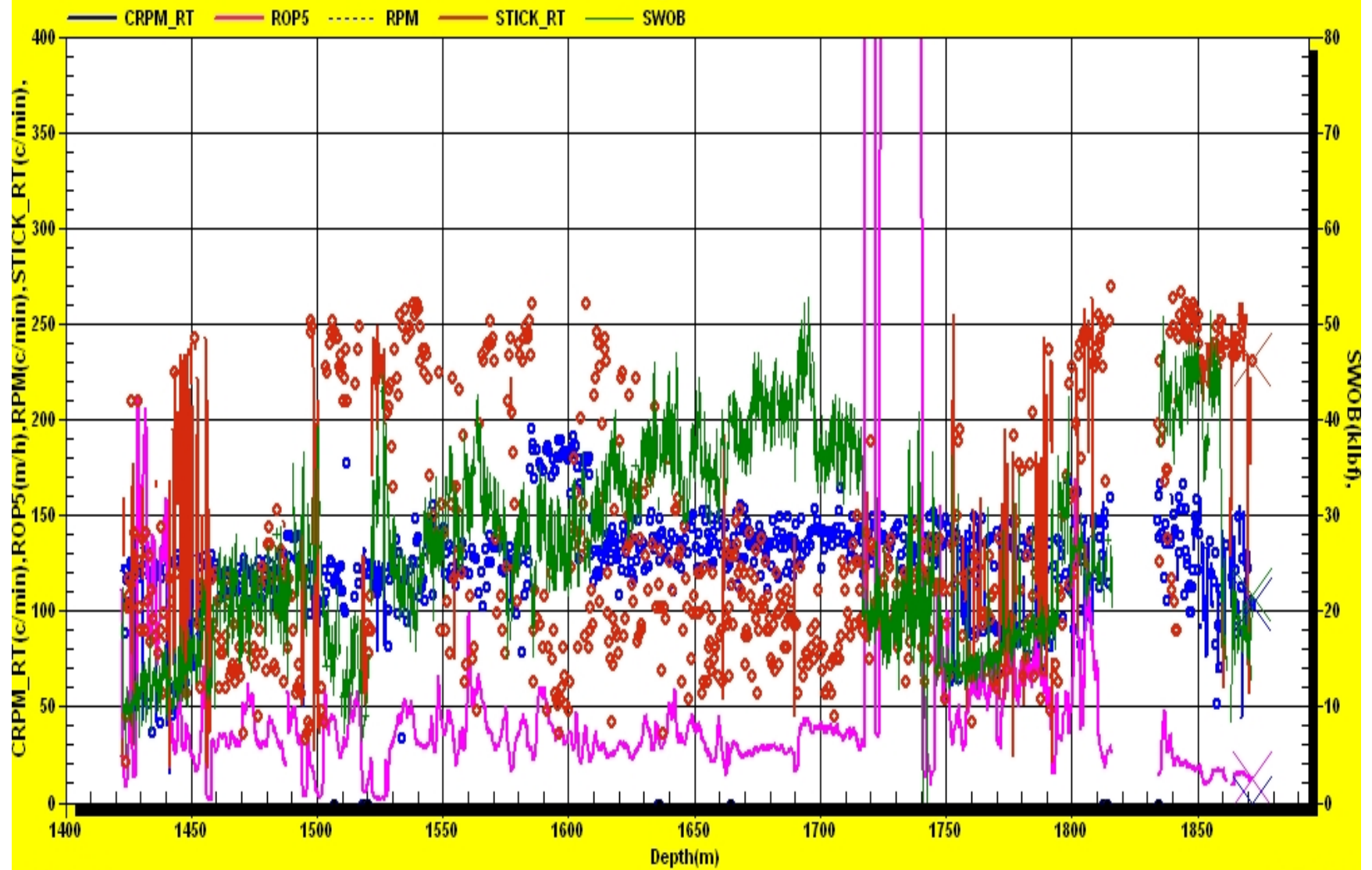


From: 1420.98 m

To: 1869.95 m

Netherby-1 - 12.25

Drilling Parameters

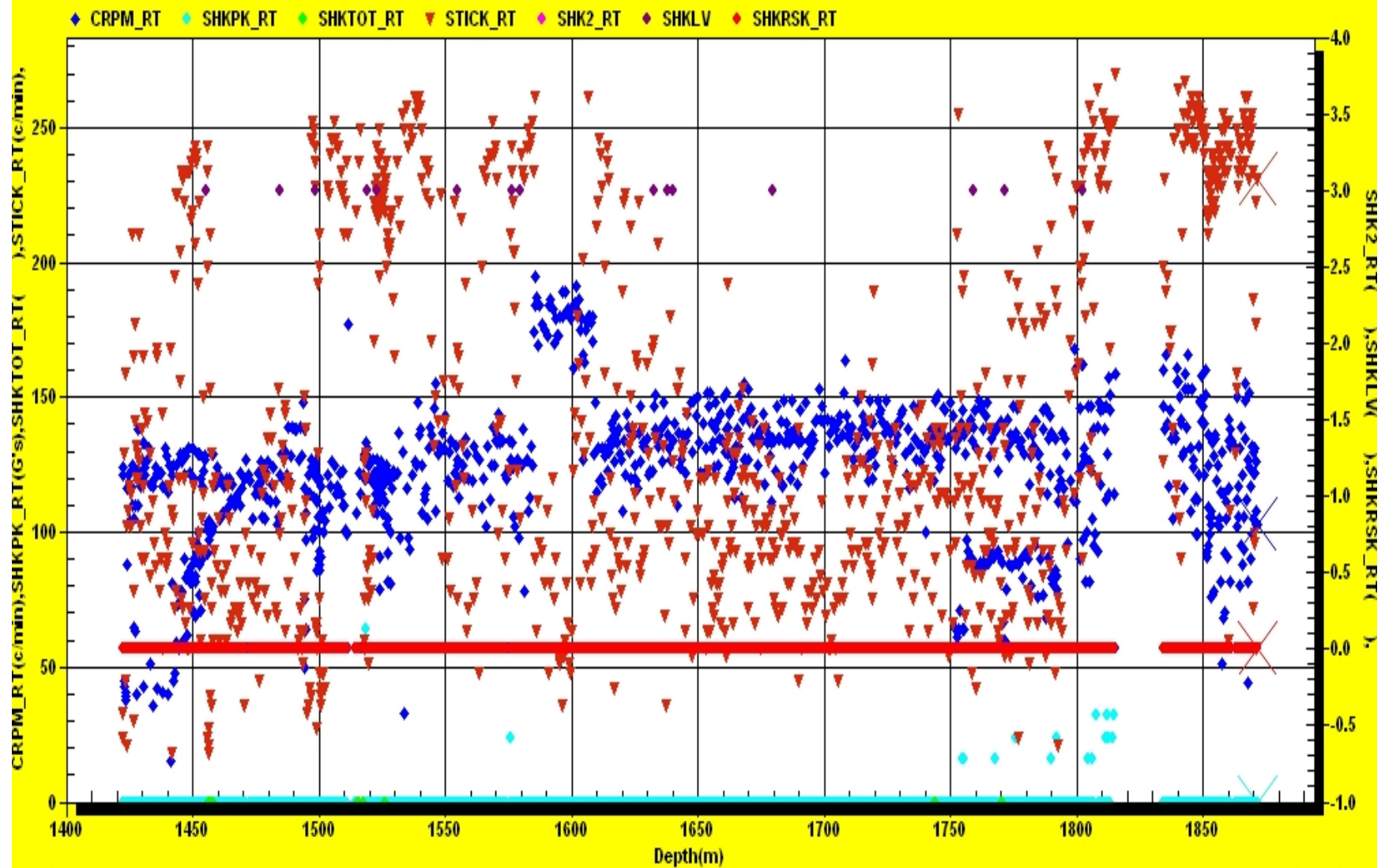


From: 1420.98 m

To: 1869.95 m

Netherby-1 - 12.25

Shocks Stick/Slip

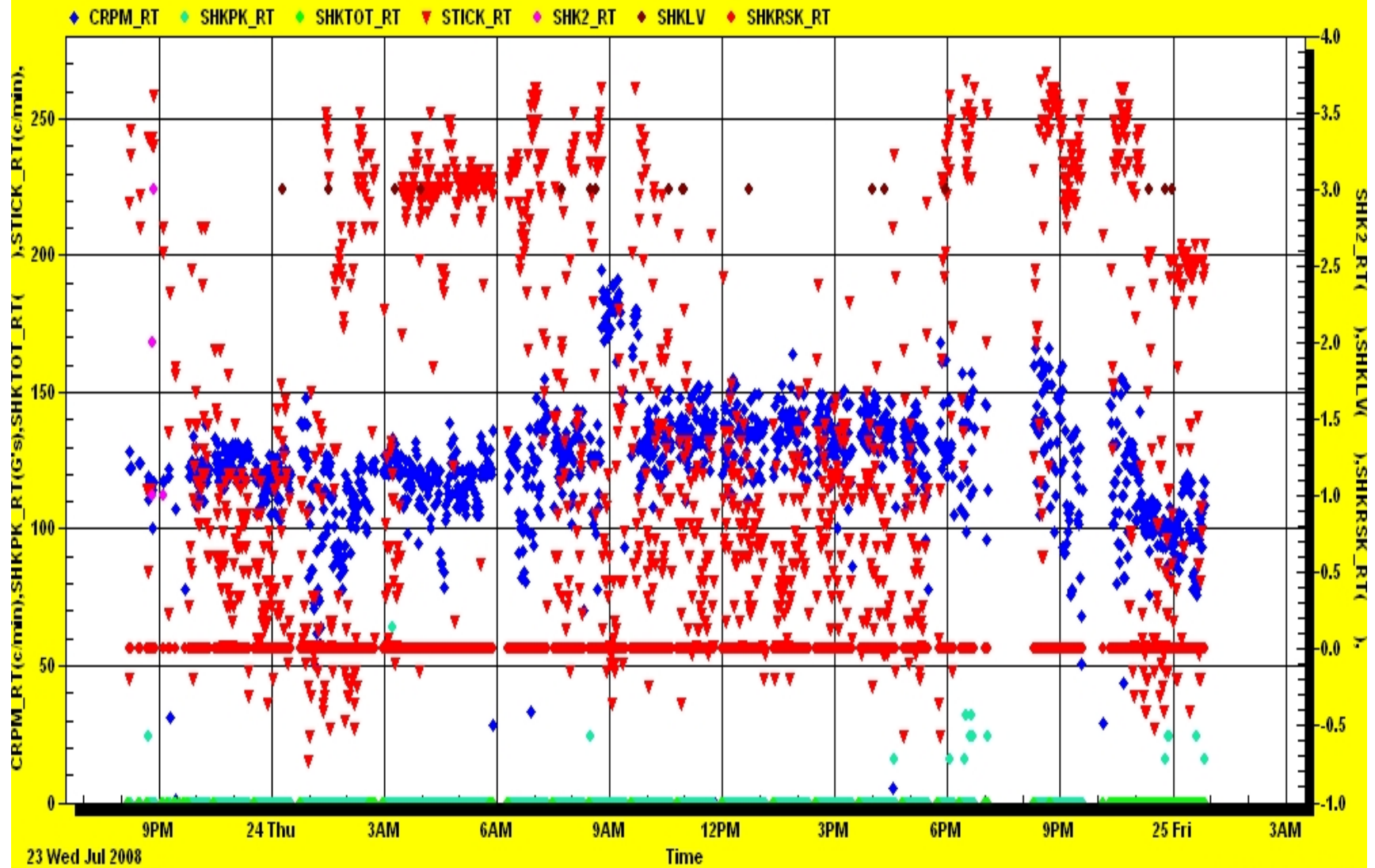


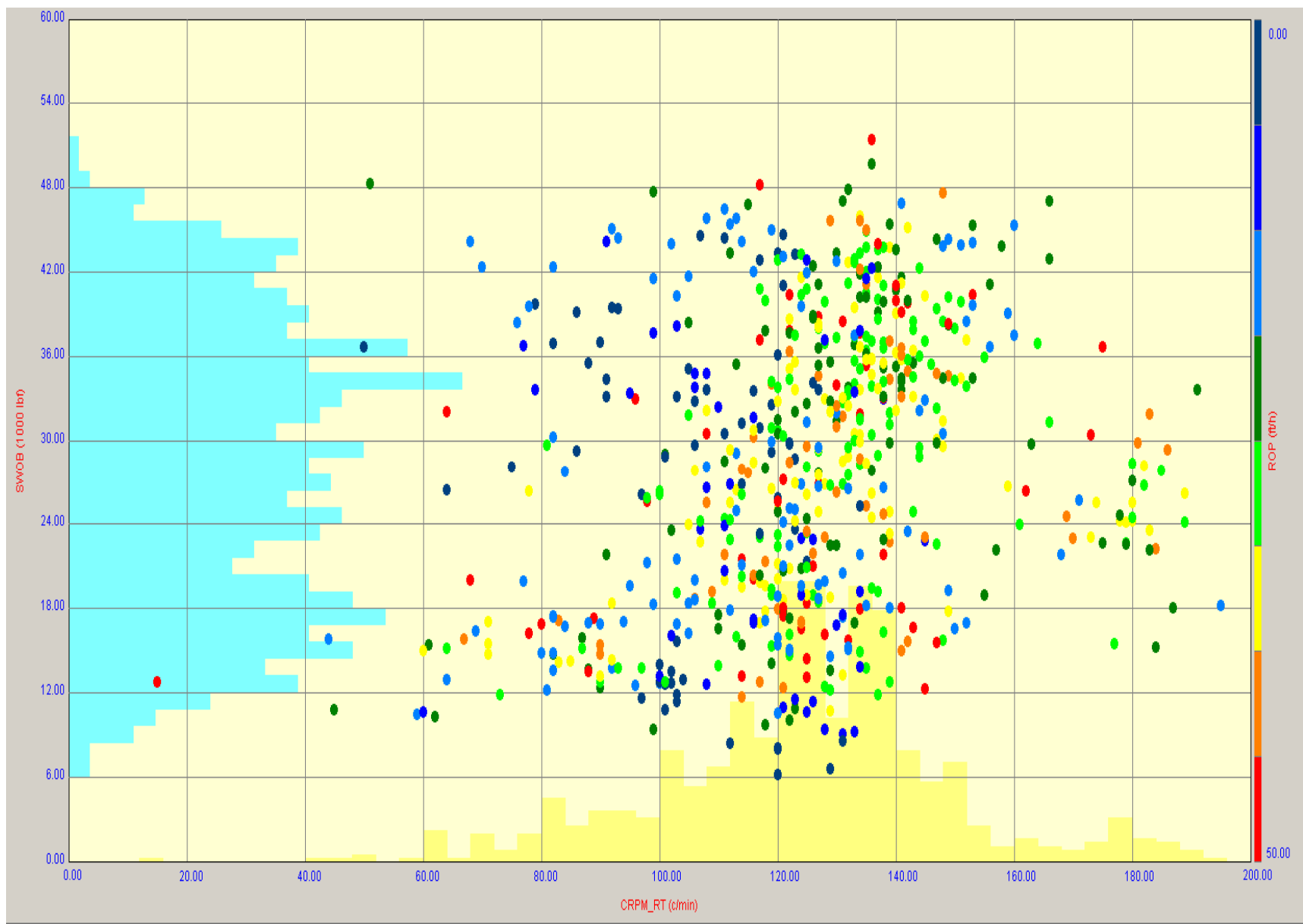
From: 1420.98 m

To: 1869.95 m

Netherby-1 - 12.25

Shocks Stick/Slip

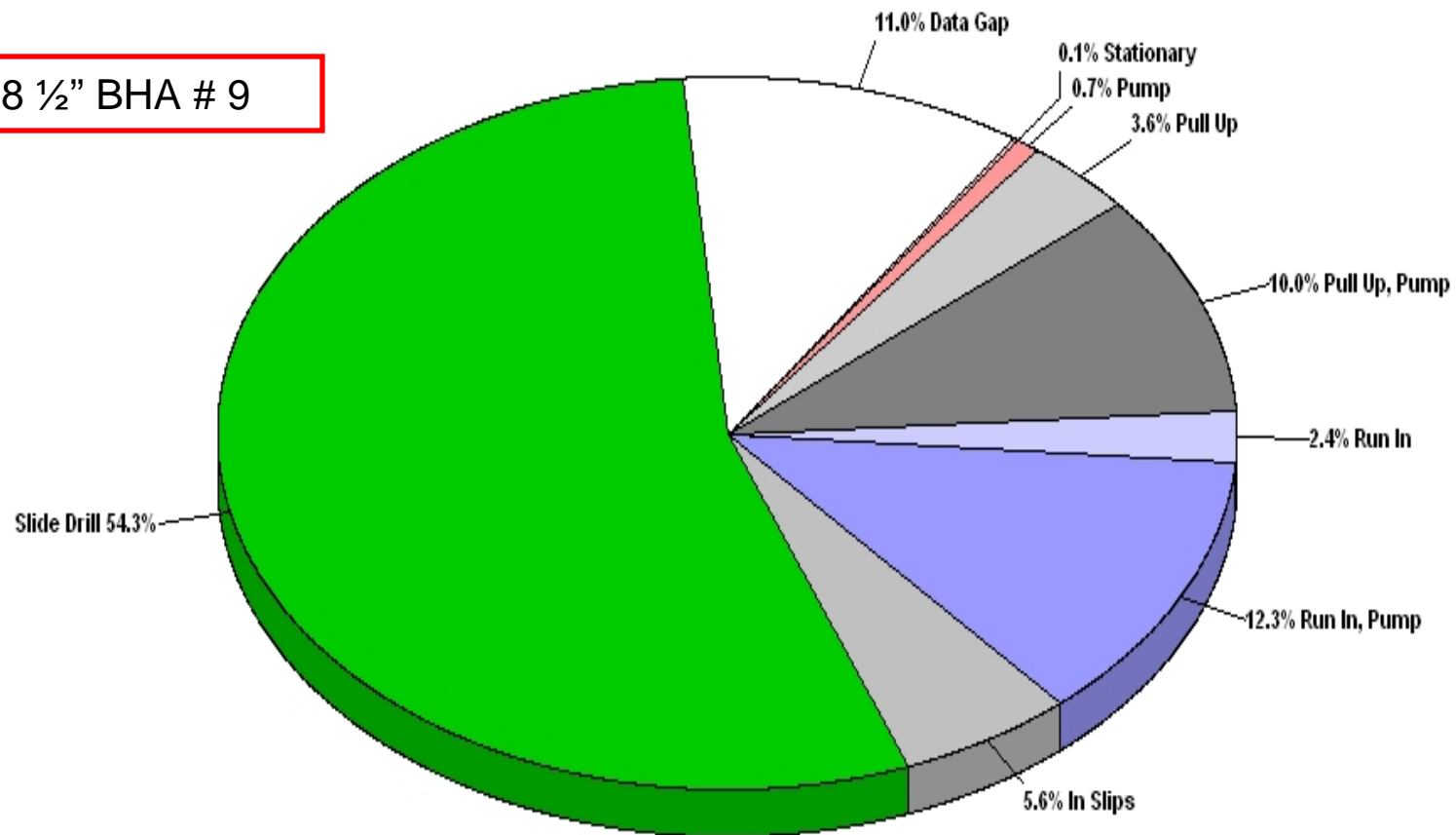




Netherby-1 - 8.5" Section

Section

8 ½" BHA # 9



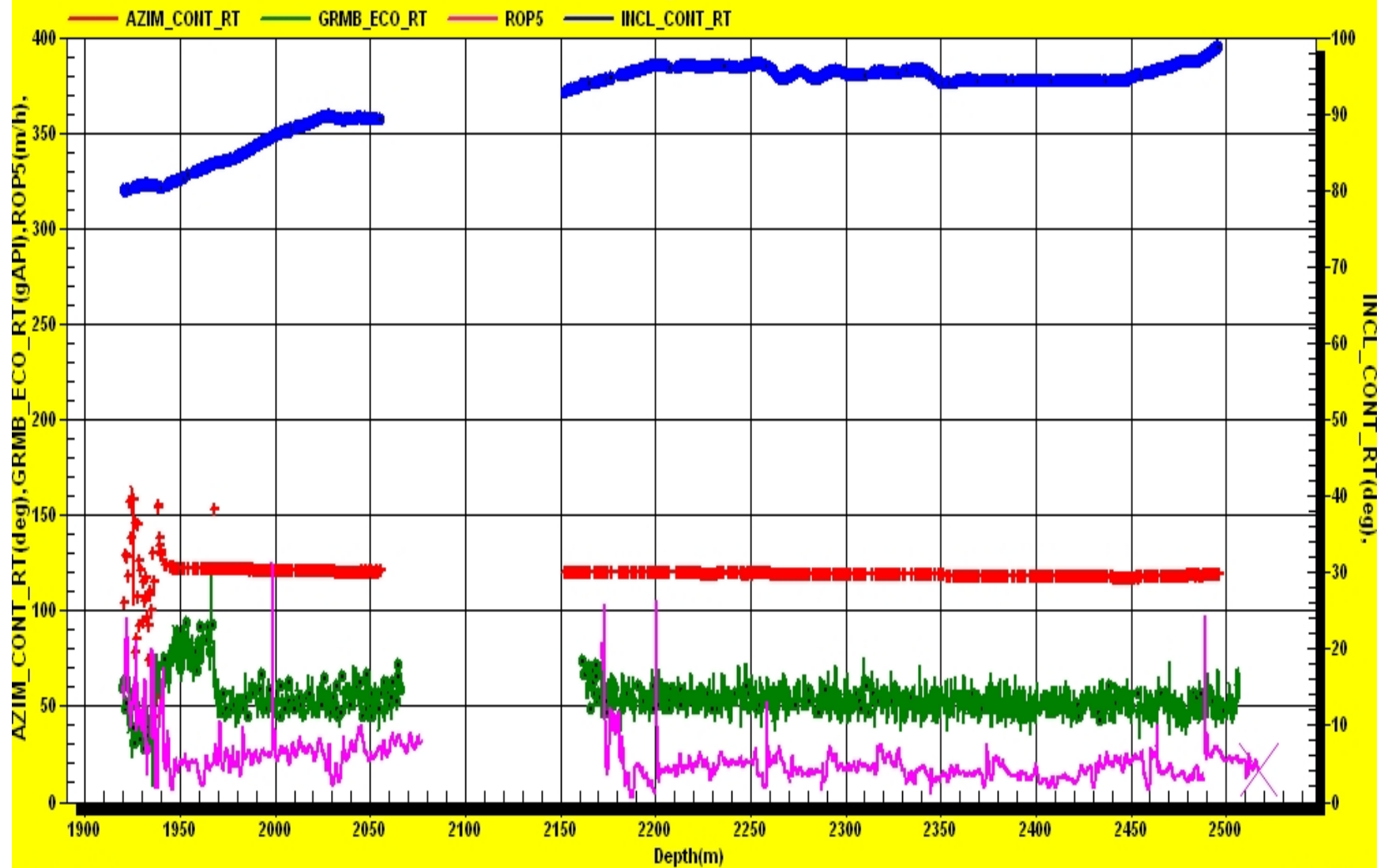
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From: 10 Aug 08 12:41:09

To: 12 Aug 08 05:58:32

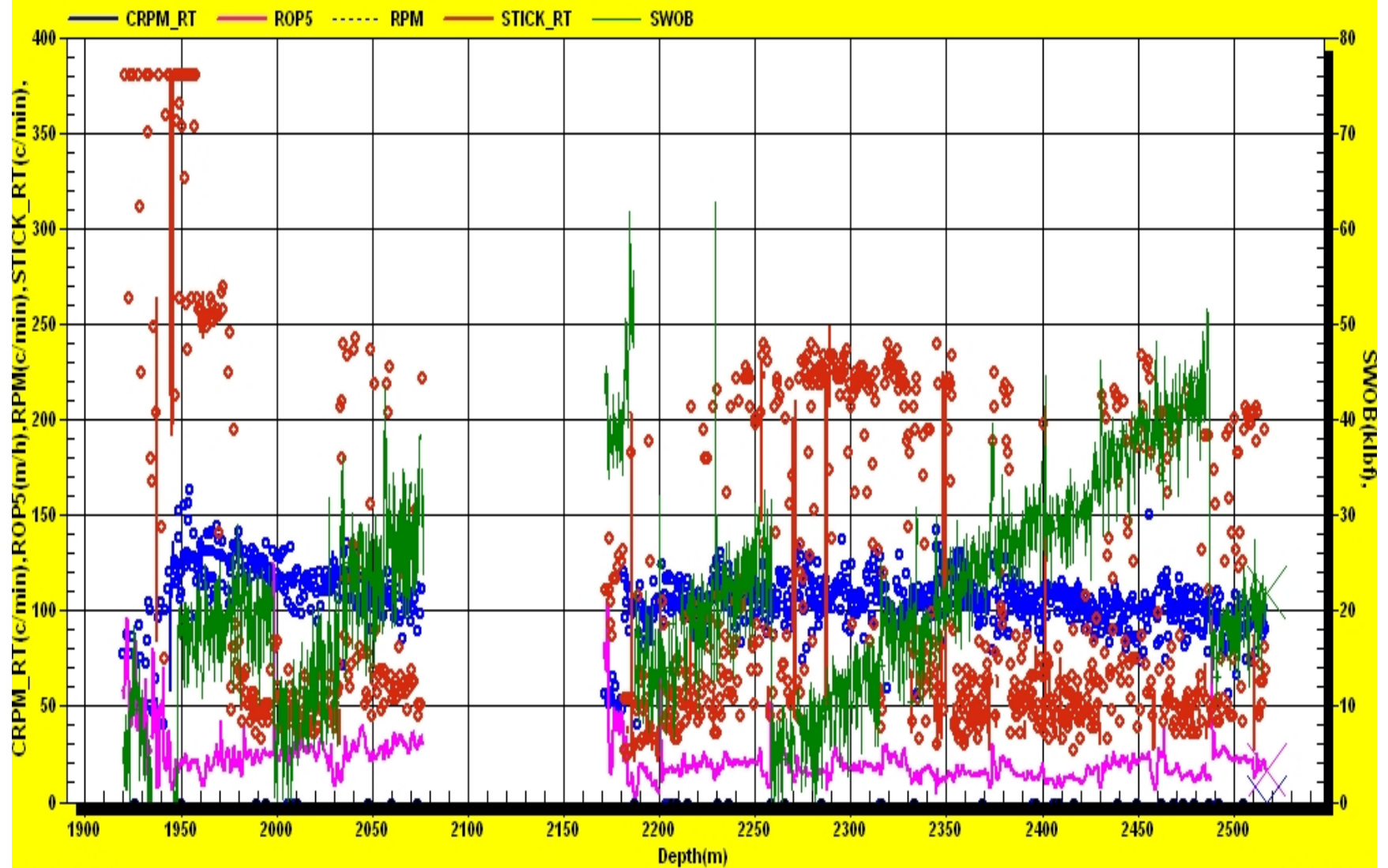
Netherby-1 - 8.5" Section

Drilling Parameters



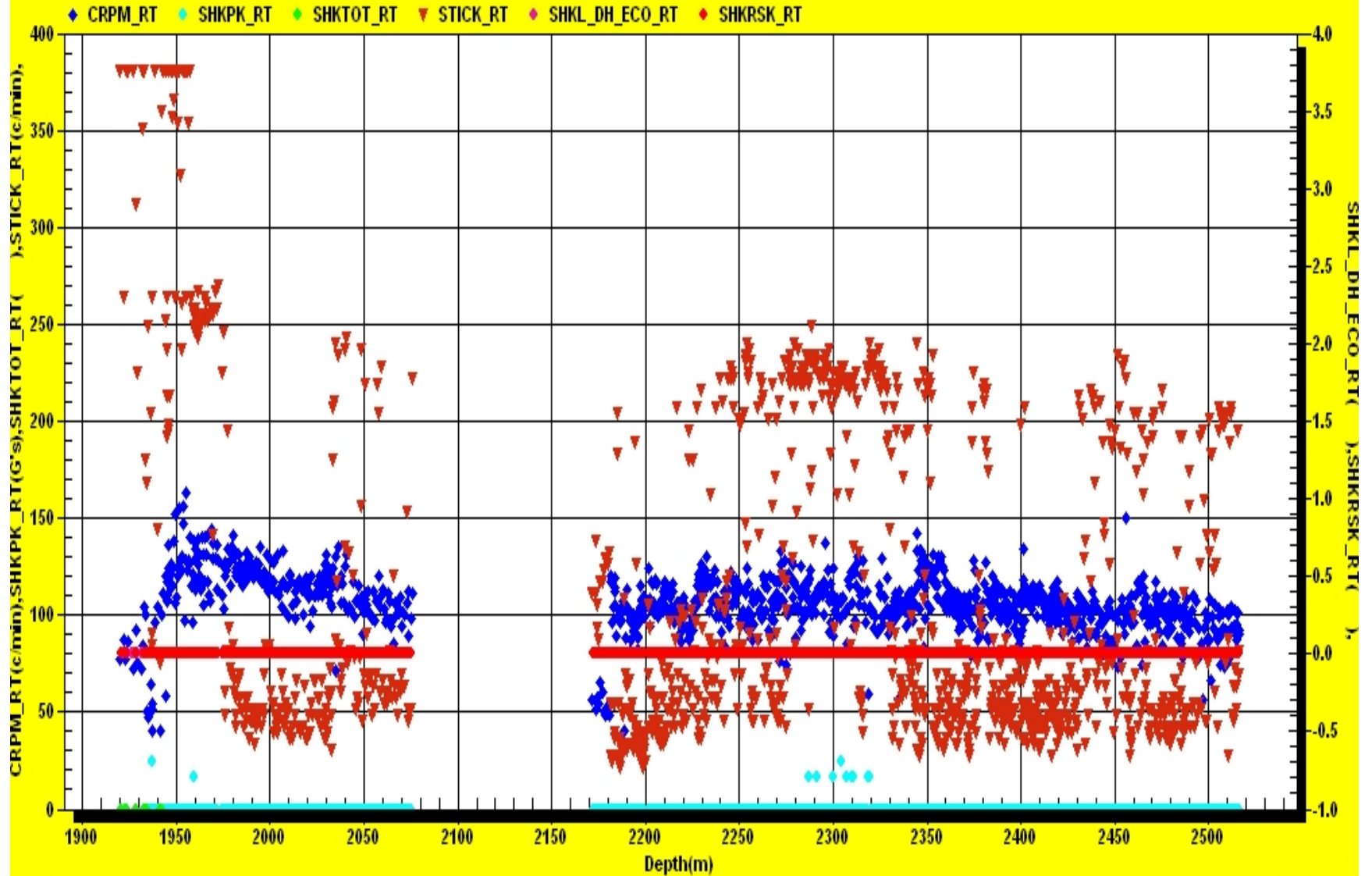
Netherby-1 - 8.5" Section

Drilling Parameters



Netherby-1 - 8.5" Section

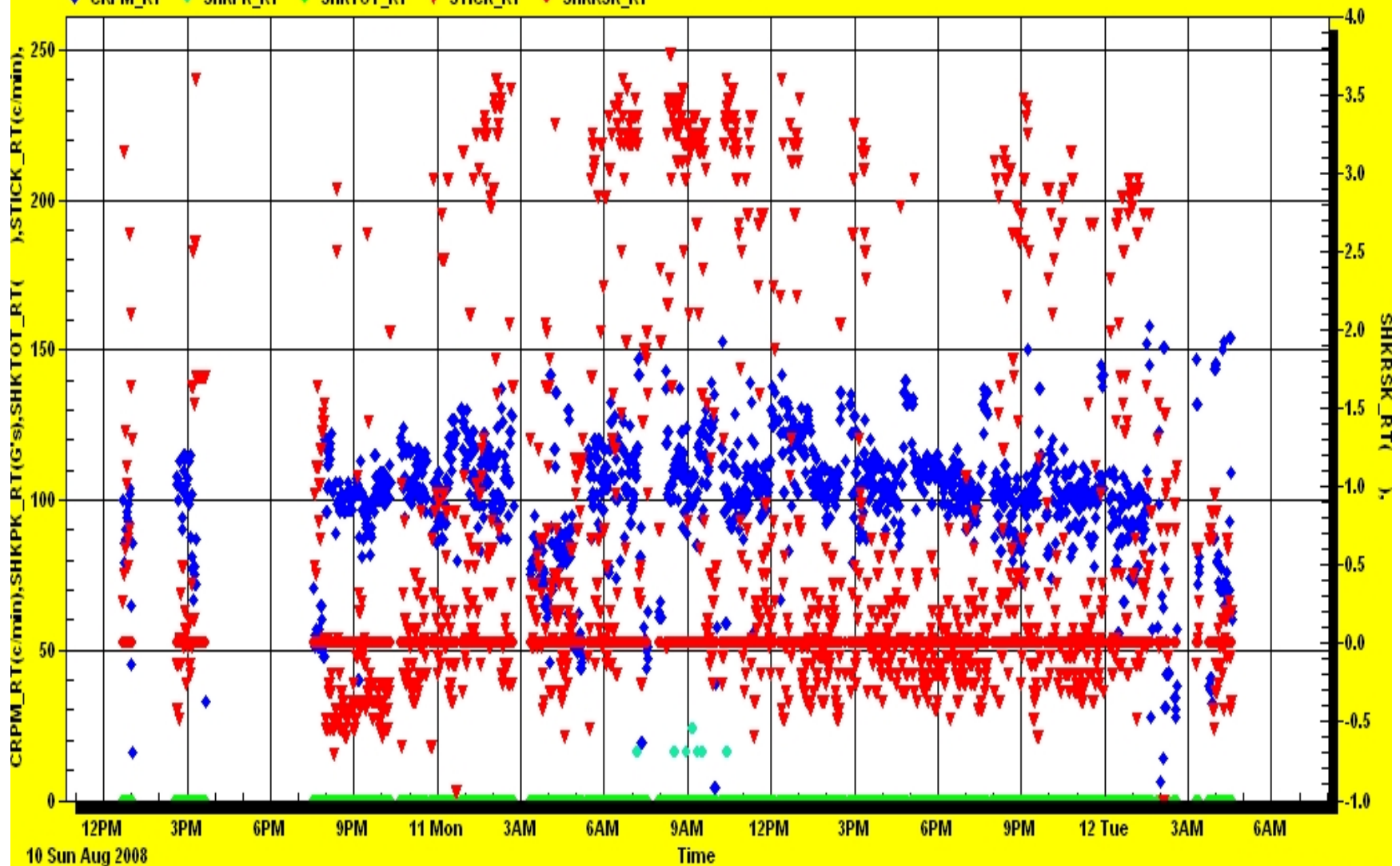
Shocks Stick/Slip



Netherby-1 - 8.5" Section

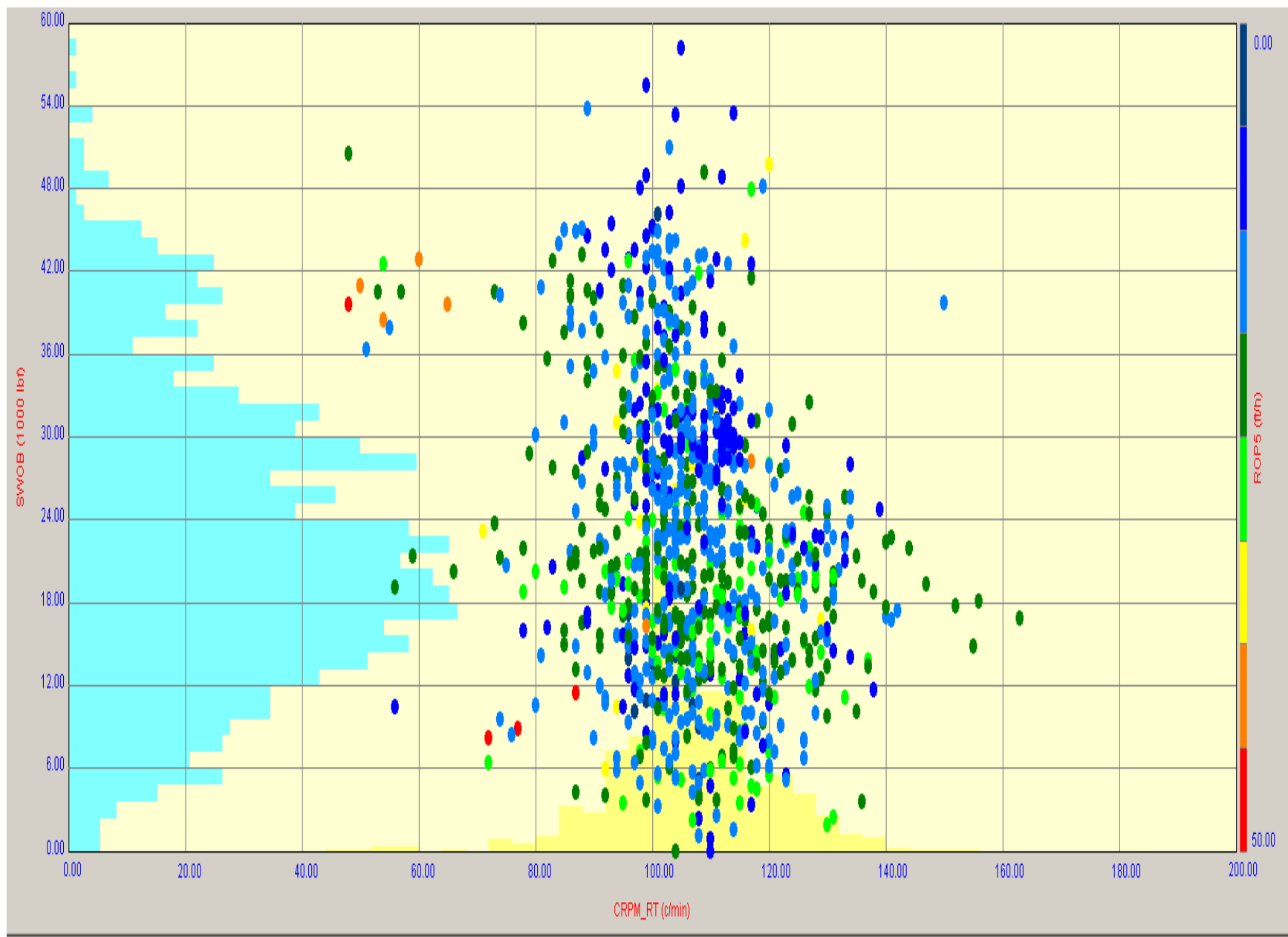
Shocks Stick/Slip

◆ CRPM_RT ◆ SHKPK_RT ◆ SHKTOT_RT ▼ STICK_RT ◆ SHKRSK_RT



From: 10 Aug 08 12:41:09

To: 12 Aug 08 05:58:32



SECTION 4 : DAILY GEOLOGICAL REPORTS

DAILY GEOLOGICAL REPORT

DGR 01

Date:	16 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	01	RT - SEAFLOOR:	86.9m
Current Hole Size:	914mm (36")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	130.9m MDRT	PTD:	1822m MDRT
	-110.1m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	44.0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Preparing to perform 762mm (30") casing cement job.		

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		
	445mm (17.5")		340mm (13.375mm)	101 kg/m (68 lb/ft)			
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	PHG Sweeps								

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	1	Reed	Mill	Y11	660mm (26") / 914mm (36") H/O	3.8	44.0	0-0-NO-A-0-I-NO-TD
Previous								

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Make up the 914mm (36") Bottom Hole Assembly and run in hole. **Spud Netherby 1 at 07:30 hrs on 15th July 2008.** Drill 914mm (36") hole from 86.9m to 130.9m. Sweep and displace hole with PHG mud. Pull out of hole. Run 762mm (30") casing.

Anticipated Operations:

Cement 762mm (30") casing. Retrieve running tool. Make up 445mm (17 ½") Bottom Hole Assembly.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
	Returns to seafloor.	

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 02

Date:	17 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	02	RT - SEAFLOOR:	86.9m
Current Hole Size:	445mm (17 ½")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	319m MDRT	PTD:	1822m MDRT
	-298.2m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	188.1m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Drilling ahead 445mm (17 ½") surface hole.		

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")		340mm (13.375mm)	101 kg/m (68 lb/ft)			
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	PHG Sweeps								

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Hughes	Mill	MXL-1V	445mm (17 ½")	2.0	188.1	In Hole
Previous	1	Reed	Mill	Y11	660mm (26") / 914mm (36") H/O	3.8	44.0	0-0-NO-A-0-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Perform 762mm (30") casing cement job. **762mm (30") casing shoe set at 130.9m.** Retrieve running tool. Make up 445mm (17 ½") Bottom Hole Assembly. Run in hole and tag top of cement at 128m. Drill ahead 445mm (17 ½") hole from 130.9m to 319m; pumping PHG sweeps mid-stand and on connections.

Anticipated Operations:

Drill ahead 445mm (17 ½") hole to section TD. Rig up and run 340mm (13 3/8") casing.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
	Returns to seafloor.	

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 03

Date:	18 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	03	RT - SEAFLOOR:	86.9m
Current Hole Size:	445mm (17 ½")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	647.5m MDRT	PTD:	1822m MDRT
	-626.7m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	328.5m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Running 340mm (13 3/8") casing.		

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 (13.375mm)	101 kg/m (68 lb/ft)	L80	TBA	
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	PHG Sweeps								

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	2	Hughes	Mill	MXL-1V	445mm (17 ½")	11.2	516.6	0-0-WT-A-E-I-NO-TD
Previous	1	Reed	Mill	Y11	660mm (26") / 914mm (36") H/O	3.8	44.0	0-0-NO-A-0-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	EMS	617	0.8	123.2	617	1.5	9.4
	EMS	634	0.9	124.7	634	1.4	19.6

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 445mm (17 ½") hole from 319m to 647.5m; pumping PHG sweeps mid-stand and on connections. Sweep and displace hole with PHG mud. Pull out of hole. Run 340mm (13 3/8") casing.

Anticipated Operations:

Continue running 340mm (13 3/8") casing. Perform casing cement job. Rig up and run Xmas tree.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
	Returns to seafloor.	

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 04

Date:	19 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	04	RT - SEAFLOOR:	86.9m
Current Hole Size:	445mm (17 ½")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	647.5m MDRT	PTD:	1822m MDRT
	-626.7m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Retrieving Xmas tree running tool.		

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 (13.375mm)	101 kg/m (68 lb/ft)	L80	642.2m	
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	SWPH	8.8	180	-	9.8	-	1k	6/67	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	2	Hughes	Mill	MXL-1V	445mm (17 1/2")	11.2	516.6	0-0-WT-A-E-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	EMS	617	0.8	123.2	617	1.5	9.4
	EMS	634	0.9	124.7	634	1.4	19.6

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Continue running 43 joints of 340mm (13 3/8") casing on drill pipe and land out. Rig up surface lines. Circulate and cement casing. **340mm (13 3/8") casing set at 642.2m.** Rig down casing handling equipment. Rig up and run Xmas tree. Perform VX gasket test. Retrieve running tool.

Anticipated Operations:

Rig up and run the Blow Out Preventer on marine riser. Pressure test Blow Out Preventer. Lay out the 445mm (17 ½") BHA.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

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

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 05

Date:	20 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	05	RT - SEAFLOOR:	86.9m
Current Hole Size:	445mm (17 ½")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	647.5m MDRT	PTD:	1822m MDRT
	-626.7m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Preparing to pressure test the 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 (13.375mm)	101 kg/m (68 lb/ft)	L80	642.2m	
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	9.5	44	6.4	9.0	10.0	23k	23/44	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	2	Hughes	Mill	MXL-1V	445mm (17 1/2")	11.2	516.6	0-0-WT-A-E-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Retrieve Xmas tree running tool. Rig up and run the Blow Out Preventer on marine riser. Rig up and make up the slip joint. Land and latch the Blow Out Preventer. Install the diverter. Run wellhead wear bushing. Prepare to pressure test the Blow Out Preventer.

Anticipated Operations:

Pressure test the Blow Out Preventer. Lay out the 445mm (17 ½") BHA. Make up 311mm (12¼") directional Bottom Hole Assembly.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

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

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 06

Date:	21 st July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	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:	647.5m MDRT	PTD:	1822m MDRT
	-626.7m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Preparing to drill out cement, shoe track and 3m of new hole.		

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 (13.375mm)	101 kg/m (68 lb/ft)	L80	642.2m	
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	9.5	82	6.2	9.0	9.2	54k	16/30	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	3	Hughes	TCI	MXL-1X	311mm (12¼")	-	-	In Hole
Previous	2	Hughes	Mill	MXL-1V	445mm (17 ½")	11.2	516.6	0-0-WT-A-E-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pressure test the Blow Out Preventer. Service Top Drive System. Make up 311mm (12¼") directional Bottom Hole Assembly and perform LWD shallow test. Run in hole and tag the top of cement at 611m.

Anticipated Operations:

Drill out cement, shoe track and 3m of new hole. Perform Leak-Off Test (LOT). Drill ahead 311mm (12¼") hole to +/- 1337m. Pull out of hole for a bit trip.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

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

REMARKS:

LWD Sensor Offsets :

GR: 11.85m
Res: 11.80m
D&I: 18.96m

DAILY GEOLOGICAL REPORT

DGR 07

Date:	22 nd July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	07	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1240m MDRT	PTD:	1822m MDRT
	-1207.1m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	592.5m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Drilling ahead 311mm (12¼") hole at 30m/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 (13.375mm)	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	9.2	62	6.2	9.0	8.3	52k	15/30	0.084Ωm @ 21.1°C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	3	Hughes	Mill	MXL-1X	311mm (12¼")	8.2	592.5	In Hole
Previous	2	Hughes	Mill	MXL-1V	445mm (17 ½")	11.2	516.6	0-0-WT-A-E-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	1182.0	19.9	118	1171.9	88.2	124
	MWD	1210.1	23.6	118	1198.0	98.6	124

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill cement, the casing shoe track and 4m of new hole to 651m. Conduct a Leak-Off Test (LOT), Equivalent Mud Weight (EMW) = 2.12sg (17.7 ppg). Drill ahead 311mm (12¼") hole from 651m to 968m. Displace hole to 9.1ppg KCl mud system. Drill ahead from 968m to 1240m.

Anticipated Operations:

Drill ahead 311mm (12¼") hole to +/- 1337m. Pull out of hole for a bit trip if required.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas				
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
647 – 674m 20 – 95 m/hr Av: 63 m/hr	<p>INTERBEDDED CLAYSTONE AND SILTSTONE</p> <p><u>CALCAREOUS CLAYSTONE</u>: pale to very pale brown, brown grey in part, common to abundant fossil fragments, corals, forams, minor quartz grains and lithics, very soft to dispersive, amorphous, minor sub-blocky.</p> <p><u>SILTSTONE</u>: medium to dark brown, argillaceous in part, calcareous, common fossil fragments, rare pyrite nodules, moderately hard to hard, blocky to sub-blocky.</p>	trace 100/-
674 – 778m 18 – 218 m/hr Av: 117 m/hr	<p>MASSIVE SANDSTONE</p> <p><u>SANDSTONE</u>: pale to medium orange, orange brown, off white in part, very fine to coarse, occasionally very coarse, sub-round to dominantly sub-angular, weak siliceous cement, minor off white argillaceous matrix, occasional lithics, common Fe staining, minor calcareous inclusions, loose grains, fair to occasionally good inferred porosity, no fluorescence.</p>	trace 100/-
778 – 830m 42 – 244 m/hr Av: 123 m/hr	<p>SANDSTONE WITH INTERBEDDED SILTSTONE.</p> <p><u>SANDSTONE</u>: translucent, clear, occasionally light grey, common yellow Fe staining, sub angular to sub rounded, fine to very coarse predominately medium grained, poor sorting, weak siliceous cement, rare light brown argillaceous / silty matrix, trace lithics, trace nodular pyrite, predominately bit dis-aggregated quartz grains, friable to occasionally moderately hard aggregates, poor to fair inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium reddish brown, medium to dark grey, common yellow – orange Fe staining, very finely arenaceous, soft, blocky to sub blocky.</p>	trace 100/-
830 – 990m 8 – 209 m/hr Av: 112 m/hr	<p>SILTSTONE WITH INTERBEDDED SANDSTONE.</p> <p><u>SILTSTONE</u>: medium to dark brownish grey, medium to dark brown, argillaceous grading to CLAYSTONE, trace very fine lithics, soft to firm, rare moderately hard, blocky to sub blocky, dispersive in part.</p> <p><u>SANDSTONE</u>: translucent, clear, trace light grey, predominately sub rounded, fine to very coarse, poor sorting, trace weak siliceous cement in fine grained aggregates, common medium brown argillaceous / silty matrix, trace fine grained lithics, friable to occasionally moderately hard fine grained aggregates, predominately loose, poor to fair inferred porosity, no fluorescence.</p>	trace 100/-

990 – 1004.5m 33 – 209 m/hr Av: 87 m/hr	INTERBEDDED SILTSTONE AND SANDSTONE. SANDSTONE: translucent, clear, medium brown, fine to medium grained, sub angular to sub rounded, abundant medium brown silty matrix, trace very fine lithics, trace carbonaceous specks, friable, very poor visual porosity, no fluorescence. SILTSTONE: medium brown, medium to dark brownish grey, very finely arenaceous grading to and interbedded with silty SANDSTONE, argillaceous with CLAYSTONE component washing from samples, trace very fine lithics, soft to firm, dispersive in part, blocky.	trace 100/-
1004.5 – 1069m 18 – 159 m/hr Av: 45 m/hr	SILTSTONE: medium to dark brownish grey, medium to dark grey, minor light grey, argillaceous grading to CLAYSTONE, trace lithics, slightly arenaceous in part, firm, occasionally moderately hard, blocky to sub blocky.	trace 100/-
1069 – 1139m 20 – 168 m/hr Av: 79 m/hr	SANDSTONE WITH MINOR INTERBEDDED SILTSTONE. SANDSTONE: clear to translucent, frosted, off white, medium to very coarse, poorly sorted, sub-angular to dominantly sub-round, weak siliceous cement, rare pale grey argillaceous matrix, occasional mica flecks, occasional lithics, generally loose grains, friable, poor visual porosity, poor visual porosity, fair to good inferred porosity, no fluorescence. SILTSTONE: medium to dark brown, brown grey in part, common argillaceous, occasional carbonaceous specks, very soft to dispersive, occasionally firm, amorphous.	trace 100/-
1139 – 1155m 18 – 148 m/hr Av: 69 m/hr	INTERBEDDED SILTSTONE AND SANDSTONE. SANDSTONE: clear to translucent, off white, generally fine, occasionally very fine to medium, 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, argillaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous.	trace 100/-
1155 – 1240m 20 – 217 m/hr Av: 70 m/hr	INTERBEDDED SILTSTONE AND 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 and lithics, loose grains, poor to fair inferred porosity, no fluorescence. SILTSTONE: pale to medium brown, grey brown in part, argillaceous, occasionally locally arenaceous, common micro mica, minor carbonaceous specks, dispersive, very soft in part, amorphous.	1 – 2 U 100/-

REMARKS:

LWD Sensor Offsets :

GR: 11.85m
 Res: 11.80m
 D&I: 18.96m

DAILY GEOLOGICAL REPORT

DGR 08

Date:	23 rd July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	08	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1421m MDRT	PTD:	1822m MDRT
	-1363.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	181m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Pulling out of hole for a bit change.		

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 (13.375mm)	101 kg/m (68 lb/ft)	L80	642.2m	2.12sg (17.7ppg)
	311mm (12.25")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	9.3	51	5.6	9.0	8.3	47k	16/29	0.095Ωm @ 20°C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	3	Hughes	Mill	MXL-1X	311mm (12¼")	13.0	773.5	In Hole
Previous	2	Hughes	Mill	MXL-1V	445mm (17 ½")	11.2	516.6	0-0-WT-A-E-I-NO-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	1350.1	35	115	1318.5	169	120
	MWD	1379.9	35	116	1343.1	186	120

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 311mm (12¼") hole from 1240m to 1421m. Circulate hole clean. Pull out of hole to 1026m, excessive pressure cavings observed at the shakers. Run in hole to bottom to weight up mud system. Weight up mud from 9.3ppg to 9.8ppg. Pull out of hole for a bit change, working tight hole as required.

Anticipated Operations:

Change bit and run in hole. Drill ahead 311mm (12¼") hole to +/- 1822m.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Wiper Trip Gas	1420m	32 U	10 U	92/4/2/1/1
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1240 – 1346m 10 – 159 m/hr Av: 45 m/hr	SILTSTONE WITH INTERBEDDED SANDSTONE. <u>SANDSTONE</u> : clear to translucent, occasionally off white, fine to coarse, poor sorted, sub-angular to sub-round, weak siliceous cement, occasionally off white argillaceous matrix, occasional glauconite and pyrite nodules, generally loose clean grains, fair inferred porosity, no fluorescence. <u>SILTSTONE</u> : medium to dark brown, green grey in part, argillaceous, occasional pyrite nodules, dispersive, soft to very soft, amorphous, sub-blocky.	2 U 100/-
1346 – 1420m 4 – 88 m/hr Av: 32 m/hr	SILTSTONE WITH MINOR INTERBEDDED SANDSTONE. <u>SANDSTONE</u> : 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. <u>SILTSTONE</u> : medium to dark grey, medium greenish grey, medium to dark grey brown, minor fine carbonaceous specks, rare fine grained glauconite, soft to firm, dispersive in part, blocky to sub blocky.	3-10 U 95/3/2

REMARKS:

LWD Sensor Offsets :

GR: 11.85m
 Res: 11.80m
 D&I: 18.96m

DAILY GEOLOGICAL REPORT

DGR 09

Date:	24 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	09	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1524m MDRT	PTD:	1822m MDRT
	-1445.7m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	103m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Drilling ahead 311mm (12¼") hole at 3m/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")						

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	10.4	56	4.0	9.0	8.3	47k	20/27	0.093Ωm @ 21.5°C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	4	Reed	PDC	RSX616	311mm (12¼")	4.7	103	In Hole
Previous	3	Hughes	Mill	MXL-1X	311mm (12¼")	13.0	773.5	1-3-CT-S-E-3-ER-PR

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	1465.6	35	116	1413.3	234	119
	MWD	1494.3	35	116	1436.8	251	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pull out of hole for a bit change, working tight hole as required. Change bit to a PDC and run in hole. Attempt to work bit through the 340mm (13 3/8") / 20" casing swedge at 93m, unable to pass. Pull out of hole and inspect bit. Run in hole to bottom circulating past 93m. Drill ahead 311mm (12¼") hole from 1421m to 1524m.

Anticipated Operations:

Drill ahead 311mm (12¼") hole to +/- 1822m. Pull out of hole for wireline logging operations.

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HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	1421m	6.4 U	3 U	95/3/1/1
Connection Gas				

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1420 – 1505m 3 – 68 m/hr Av: 20 m/hr	<p>SILTSTONE WITH INTERBEDDED SANDSTONE.</p> <p><u>SANDSTONE</u>: translucent, clear, light grey, fine to coarse grained, poor sorting, sub angular to predominately sub rounded, weak siliceous cement, common light grey argillaceous and silty matrix in fine to medium grained aggregates, medium to coarse grains predominately loose, rare nodular pyrite, trace red lithics, rare glauconite, poor visual and inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: medium grey, light to medium brownish grey, very finely arenaceous, rare glauconite, trace forams, trace shell fragments, firm, blocky, soft to dispersive in part.</p>	5-20 U 96/2/1/1/-
1505 – 1520m 3 – 71 m/hr Av: 8 m/hr	<p><u>SANDSTONE</u>: clear to translucent, pale grey, fine to very fine, rare medium to coarse, sub-angular to sub-round, weak siliceous cement, occasional pale grey argillaceous matrix, minor glauconite grains, occasional lithics, loose, minor friable, poor visual and inferred porosity, no fluorescence.</p> <p><u>SILTSTONE</u>: pale grey, pale to medium brown, argillaceous, locally common quartz grains, occasional pyrite nodules, hard to very hard, soft in part, fissile to sub-blocky, amorphous in part.</p>	3-10 U 97/2/1/-

REMARKS:

LWD Sensor Offsets :

GR: 11.11m
Res: 11.03m
D&I: 18.33m

DAILY GEOLOGICAL REPORT

DGR 10

Date:	25 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	10	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	346m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Pulling out of the hole to conduct wireline logs at 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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	53	4.0	9.0	8.6	48k	26/41	0.087Ωm @ 21.7°C

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	In Hole
Previous	3	Hughes	Mill	MXL-1X	311mm (12¼")	13.0	773.5	1-3-CT-S-E-3-ER-PR

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	1838.6	35	119	1718.6	449	119
Projection	MWD	1870.0	35	119	1744.2	467	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 311mm (12¼") hole from 1524m to 1870m, total depth. **Total Depth reached at 23:00 hrs on 24/07/08.** Circulate the hole clean. Pull out of hole back reaming as required.

Anticipated Operations:

Conduct Suite 1 wireline logs.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS
1792.5–1820m	<u>SANDSTONE</u> : very light brownish grey, translucent, clear, off white, very fine to medium grained, trace coarse, fair sorting, sub rounded, abundant off white argillaceous matrix, rare to common fine grained glauconite, rare to common carbonaceous fragments, trace nodular pyrite, soft to friable aggregates, very poor to poor visual porosity, poor to fair inferred porosity, no fluorescence.	10 U 96/3/1/- Peak: 1806m 759U Chrom. data lost

GAS	MD (m)	Peak	Background	Chromatograph

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1520 – 1560m 3 – 93 m/hr Av: 43 m/hr	INTERBEDDED SANDSTONE AND SILTSTONE <u>SANDSTONE</u> : 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. <u>SILTSTONE</u> : pale to medium grey, medium grey brown, argillaceous to occasionally arenaceous, occasional glauconite grains, minor carbonaceous specks, very soft to dispersive, occasionally firm, amorphous, sub-blocky.	4-11 U 98/2/trace
1560 – 1783m 11– 95 m/hr Av: 39 m/hr	SILTSTONE WITH MINOR INTERBEDDED SANDSTONE <u>SANDSTONE</u> : translucent, clear, light grey, light brown, very fine to fine grained, sub rounded, well sorted, minor calcareous cement, minor light grey silty matrix, trace very fine glauconite, trace carbonaceous specks, trace fine grained lithics, friable to moderately hard aggregates, very poor visual porosity, no fluorescence. <u>SILTSTONE</u> : medium brownish grey, medium brown, medium grey, argillaceous, commonly very finely arenaceous grading to and interbedded with very fine SANDSTONE, trace fine carbonaceous specks, trace very fine glauconite, firm, sub blocky to blocky.	5-11 U 96/3/1/-
1783 – 1792.5m 8 – 78 m/hr Av: 38 m/hr	<u>SILTSTONE</u> : medium brownish grey, medium dark grey, greenish grey, very finely arenaceous, abundant fine grained glauconite, common carbonaceous fragments, trace very fine lithics, firm to occasionally moderately hard, blocky to sub fissile.	12 U 97/2/1/trace/trace

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1792.5 – 1815m 11 – 90 m/hr Av: 49 m/hr	<p>SANDSTONE WITH MINOR INTERBEDDED SILTSTONE.</p> <p><u>SILTSTONE</u>: medium brownish grey, medium dark grey in part, greenish grey, very finely arenaceous, rare to common fine grained glauconite, common carbonaceous fragments, trace very fine lithics, firm to occasionally moderately hard, blocky to sub fissile.</p> <p><u>SANDSTONE</u>: very light brownish grey, translucent, clear, off white, very fine to medium grained, trace coarse, fair sorting, sub rounded, abundant off white argillaceous matrix, rare to common fine grained glauconite, rare to common carbonaceous fragments, trace nodular pyrite, soft to friable aggregates, very poor to poor visual porosity, poor to fair inferred porosity, no fluorescence.</p> <p>Note: Rock flour present in cuttings.</p>	10 U 96/3/1/- Peak: 1806m 759U Chrom. data lost
1815 – 1820m 33 – 76 m/hr Av: 52 m/hr	<p>INTERBEDDED SANDSTONE AND SILTSTONE.</p> <p><u>SILTSTONE</u>: medium brownish grey, very finely arenaceous, trace fine grained glauconite, rare carbonaceous fragments, firm to friable, blocky to sub fissile.</p> <p><u>SANDSTONE</u>: translucent, clear, very light brownish grey, off white, very fine to medium grained, moderately well sorted, sub angular to sub rounded, minor to common off white argillaceous matrix, trace lithics, trace nodular pyrite, trace carbonaceous flecks, friable aggregates, fair inferred porosity, no fluorescence.</p>	10 U 96/3/1/- Peak: 1816m 567U Chrom. data lost
1820 – 1870m 2 – 81 m/hr Av: 26 m/hr	<p>INTERBEDDED SILTSTONE AND SILTSTONE.</p> <p><u>SILTSTONE</u>: 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.</p> <p><u>SANDSTONE</u>: light greenish grey, translucent, clear, very fine to medium grained, predominately fine grained, fair sorting, sub angular to sub rounded, weak siliceous cement, minor off white argillaceous matrix, trace carbonaceous specks, rare lithics, trace biotite, friable to occasionally moderately hard aggregates, common bit dis-aggregated quartz grains, poor inferred porosity, no fluorescence.</p>	4-6 U 97/2/1

REMARKS:

LWD Sensor Offsets :

GR: 11.11m
Res: 11.03m
D&I: 18.33m

DAILY GEOLOGICAL REPORT

DGR 11

Date:	26 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	11	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Running in hole for a wiper trip.		

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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.2	56	3.8	9.0	8.6	48k	22/42	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	3-4-CT-A-X-1-ER-TD
Previous	3	Hughes	Mill	MXL-1X	311mm (12¼")	13.0	773.5	1-3-CT-S-E-3-ER-PR

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	1838.6	35	119	1718.6	449	119
Projection	MWD	1870.0	35	119	1744.2	467	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pull out of hole at total depth, back reaming as required. Rig up Schlumberger wireline. Wireline logging operations Suite 1, Run 1: PEX-DSI-HNGS, unable to pass 1365m. Pull out of hole and add hole finder to tool string. Run in hole, unable to pass 1365m. Pull out of hole and rig down Schlumberger wireline. Pick up 311mm (12¼") Bottom Hole Assembly and run hole for a wiper trip.

Anticipated Operations:

Perform wiper trip to total depth. Conduct Suite 1 wireline logs.

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:

DAILY GEOLOGICAL REPORT

DGR 12

Date:	27 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	12	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Running in hole for a wiper trip.		

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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.2	51	4.0	9.2	8.3	48k	25/38	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	3-4-CT-A-X-1-ER-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Run in hole for a wiper trip. Wash and work tight spot at 1365m. Continue to run in hole. Take weight at 1566m. Wash and light ream from 1566m to total depth at 1870m. Circulate hole clean. Pull out of hole. Rig and run Schlumberger wireline Run 1: PEX-HNGS-DSI, unable to pass 1783m. Pull out of hole and rig down Schlumberger wireline. Pick up 311mm (12¼") Bottom Hole Assembly and run in hole for a wiper trip.

Anticipated Operations:

Perform wiper trip to total depth. Conduct Suite 1 wireline logs.

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	1870m	35 U	8 U	96/3/1/trace

GEOLOGICAL SUMMARY

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

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 13

Date:	28 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	13	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Pulling out of hole with wireline tools.		

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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.1	59	3.9	8.7	8.3	48k	24/39	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	3-4-CT-A-X-1-ER-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Run in hole for a wiper trip. Wash and work tight spot at 1783m. Continue to run in hole to total depth at 1870m. Circulate hole clean. Pull out of hole. Rig and run Schlumberger wireline Run 1: PEX-HNGS-DSI, unable to pass 1792.5m. Log up from 1792.5m to surface. Change tool configuration, adding centralisers to tools. Run in hole wireline Run 1: PEX-HNGS-DSI, unable to pass 1791m. Pull out of hole.

Anticipated Operations:

Pull out of hole. Rig up and run logs on drill pipe (pipe conveyed logging).

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	1870m	35 U	5 U	96/3/1/trace

GEOLOGICAL SUMMARY

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

REMARKS:

DAILY GEOLOGICAL REPORT

DGR 14

Date:	29 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	14	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Rigging down logging tools, prior to performing wiper trip.		

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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	64	3.9	8.7	8.3	48k	22/33	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	3-4-CT-A-X-1-ER-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pull out of hole with wireline Run 1: PEX-HNGS-DSI. Make up tools for pipe conveyed logging, Run 1: PEX-HNGS. Run in hole to 1730m. Run and connect wireline to logging tools. Continue running in hole, unable to pass obstruction at 1790.5m. Pull back to 1720m. Shear out and retrieve wireline cable. Pull out of hole with logging tools on drill pipe. Rig down logging tools.

Anticipated Operations:

Pull out of hole. Perform wiper trip. Wireline Suite 1, Run 1: PEX-HNGS-DSI.

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:

DAILY GEOLOGICAL REPORT

DGR 15

Date:	30 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	15	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1870m MDRT	PTD:	1822m MDRT
	-1723.4m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Picking up and racking back drill pipe stands while waiting on personnel who are out of hours (expect to start picking up Bottom Hole Assembly 07:00hrs).		

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")	1870m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.1	54	3.8	8.7	8.7	48k	23/32	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	4	Reed	PDC	RSX616	311mm (12¼")	15.8	449	3-4-CT-A-X-1-ER-TD

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Rig down logging tools after pipe conveyed logging run. Pick up 311mm (12¼") Bottom Hole Assembly. Run in hole for a wiper trip. Wash and ream from 1757m to 1870m, taking 25klbs weight at 1790m. Circulate hole clean and spot Hi-Vis on bottom. Attempt to pull out of hole, pull tight (50klbs overpull) and packed off at 1830m. Regain circulation and rotation and pull up to 1640m. Run in hole to 1870m washing and reaming as required. Circulate hole clean and spot Hi-Vis on bottom. Pull out of hole. Pick up and rack back drill pipe stands while waiting on LWD tools to be calibrated. Continue picking up and racking back drill pipe stands while waiting on personnel who are out of hours.

Anticipated Operations:

Make up 311mm (12¼") Bottom Hole Assembly with LWD tools. Run in hole to 1750m and acquire LWD data to Total Depth. Pull back to 1798m and conduct Stethoscope pressure survey.

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:

DAILY GEOLOGICAL REPORT

DGR 16

Date:	31 th July 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	16	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1875m MDRT	PTD:	1822m MDRT
	-1727.5m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	5m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Conducting LWD stethoscope pressure tests.		

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")	1875m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	59	3.8	8.5	8.3	45k	22/34	-

Bit Data	No.	Make	Type	Size	Hours	Meters	Condition
Current							
Previous							

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Pick up drill pipe, make up and rack back stands while waiting on personnel due to maximised work hours. Make up the 311mm (12¼") Bottom Hole Assembly with LWD tools. Run in hole to 1741m. Wash and rotate acquiring LWD data from 1741m to 1870m. Drill ahead from 1870m to 1875m. **Total depth reached at 22:30 hours on 30/07/07.** Circulate the hole clean. Downlink and correlate LWD tools. Conduct LWD Stethoscope pressure survey.

Anticipated Operations:

Conduct LWD Stethoscope pressure survey.

Santos	NETHERBY 1	Page 2 of 2
	DAILY GEOLOGICAL REPORT	DGR 16

HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

GAS	MD (m)	Peak	Background	Chromatograph
Trip Gas	1870m	32 U	3 U	99/1/trace/trace

GEOLOGICAL SUMMARY

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
1870 – 1875m 1.8 – 4 m/hr Av: 2.8 m/hr	<p>SILTSTONE WITH TRACE INTERBEDDED SANDSTONE.</p> <p><u>SILTSTONE</u>: medium dark grey, greenish grey, minor fine grained glauconite, trace fine carbonaceous specks, trace very fine lithics, moderately hard, blocky to sub blocky.</p> <p><u>SANDSTONE</u>: trace medium to coarse loose quartz grains.</p>	<p>4 U</p> <p>84/16/trace/trace</p>

REMARKS:

LWD Sensor Offsets:

Probe: 3.55m
 D&I: 15.75m
 GR: 22.63m
 Res: 22.58m
 PWD: 21.87m
 Sonic: 31.12m
 He Far: 39.01m
 He Near: 38.85m
 Den Long: 37.03m
 Den Short: 37.11m

DAILY GEOLOGICAL REPORT

DGR 17

Date:	1 st August 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	17	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1875m MDRT	PTD:	1822m MDRT
	-1727.5m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Running in hole with cementing muleshoe prior to plugging back Netherby 1.		

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")	1875m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.0	47	4.0	8.5	8.3	45k	21/38	-

Bit Data	No.	Make	Type		Size	Hours	Meters	Condition
Current								
Previous	5RR	Hughes	Mill	MXL-1X	311mm (12¼")	1.1	5.0	1-1-NO-A-E-1-NO-LOG

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
Projection	MWD	1875.0	35	119	1748.3	470	119

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Continue LWD Stethoscope pressure survey, trouble shooting tool problems as required. Total 17 tests attempted, 4 good tests, 5 tight, 1 no seal, 7 no test (unsure of probe extension). Condition hole, work tight spot at 1831m. Wash, rotate to bottom. Circulate hole clean and pull out of hole laying down LWD tools. Make up cementing muleshoe and run in hole. Slip and cut drill line at the casing shoe. Continue running in hole.

Anticipated Operations:

Plug back Netherby 1. Pick up 311mm (12¼") directional assembly and sidetrack to Netherby 1DW1.

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:

DAILY GEOLOGICAL REPORT

DGR 18

Date:	2 nd August 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	18	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1875m MDRT	PTD:	1822m MDRT
	-1727.5m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Preparing to drill cement kickoff plug and sidetrack.		

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")	1875m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.1	56	4.0	9.5	8.3	45k	22/35	-

Bit Data	No.	Make	Type	Size	Hours	Meters	Condition
Current							
Previous							

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Run in hole with the cementing mule shoe. Pump and displace abandonment plugs, Plug 1: 1870m – 1720m; Plug 2: 1720m – 1570m; Plug 3: 1570m - 1421m (kick off plug). Pull out of hole. Make up the 311mm (12¼") kick off assembly and run in hole. Tag top of cement at 1421m. Prepare to drill cement and sidetrack.

Anticipated Operations:

Drill cement kickoff plug and sidetrack the well as Netherby 1DW1.

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:

DAILY GEOLOGICAL REPORT

DGR 19

Date:	3 rd August 2008 – 06:00 EST	Licence / State:	VIC/P44
Report Period:	06:00 – 06:00 Hours EST	Rig:	OCEAN PATRIOT
Days From Spud:	19	RT - SEAFLOOR:	86.9m
Current Hole Size:	311mm (12 ¼")	WATER DEPTH	66.1m MSL
		RT:	20.8m MSL
Depth @ 06:00 Hrs EST:	1875m MDRT	PTD:	1822m MDRT
	-1727.5m SS MSL	Spud Date:	07:30 hrs on 15 th July,08
24 Hr Progress:	0m		
06:00 – 06:00 EST			
<u>Current Operation:</u>	Well sidetracked as Netherby 1DW1.		

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")	1875m					

Mud Data	Type:	Wt:	Visc:	WL:	PH:	KCl:	Cl -:	PV/YP:	Rmf:
	KCl/GLY	11.1	56	4.0	9.5	8.3	45k	22/35	-

Bit Data	No.	Make	Type	Size	Hours	Meters	Condition
Current							
Previous							

Surveys	Type	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)

OPERATIONS SUMMARY

Previous 24 hrs Operations Summary at 06:00 hrs EST

Tag top of cement at 1421m. Drill, wash and ream through soft cement from 1421m to 1455m. Time drill attempting to sidetrack the well from 1455m to 1505m. **Netherby 1DW1 sidetracked from the Netherby 1 wellbore from 1505m at 21:00 hours on 2nd August 2008.**

Anticipated Operations:

Well sidetracked as Netherby 1DW1.

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	DAILY GEOLOGICAL REPORT	DGR 19

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
1455 – 1505m 0.5 – 20 m/hr	Cement returns with 0-100% formation while attempting to sidetrack the well. SILTSTONE WITH OCCASIONAL INTERBEDDED FINE GRAINED SANDSTONE. <u>SILTSTONE</u> : 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. <u>SANDSTONE</u> : 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.	trace – 3U 100/-

REMARKS:

SECTION 5 : DAILY DRILLING REPORTS

From : Chris Roots / Nathan Peri OIM : Dennis Gore					
Well Data					
Country	Australia	Measured Depth	0.0m	Current Hole Size	0mm
Field		TVD	0.0m	Casing OD	0mm
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	
Rig	Ocean Patriot	Days from spud		Shoe TVD	
Water Depth (LAT)	0.0m	Days on well	0.48	F.I.T. / L.O.T.	/
RT-SL(LAT)	21.5m	Current Op @ 0600	Continued TIH 660 x 914mm (26" x 36") BHA.		
RT-ML	21.5m	Planned Op	Tag sea bed. Hold pre-spud meeting. Drill 914mm (36") hole to casing point. Displace to PHG. POH and run 762mm (30") casing. Cement casing and POH. MU 445mm (17-1/2") BHA.		
Rig Heading				Planned TD	2503.0m

Summary of Period 0000 to 2400 Hrs

Towed the rig to Netherby-1 location. Ran anchors.
Mixed PHG mud and continued making up BHA.

Operations For Period 0000 Hrs to 2400 Hrs on 14 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
RM	P	RM	1230	1245	0.25	0.0m	Start of Netherby-1 / DW1 (1nm from location). Ocean Patriot on tight tow with the Nor Captain. Position: 38° 40' 23" S , 142° 39' 35" E 644382.0 mE 5718193.0 mN. STATEMENT OF FACTS: Ocean Patriot: Fuel - 449 m³ Drill Water - 547 m³ Pot Water - 340 m³ Barite - 117 mt G Cement - 70 mt Gel - 80 mt Far Grip: Fuel - 477 m³ Drill Water - 406 m³ Pot Water - 455 m³ Barite - 40 mt G Cement - 85 mt Gel - 42 mt Nor Captain: Fuel - 450.0 m³ Drill Water - 289.0 m³ Pot Water - 371.0 m³
RM	P	AH	1245	1800	5.25	0.0m	12:44 - Far Grip paying out on #5 13:01 - #5 anchor on bottom. 13:51 - #5 PCC passed back to the rig 14:10 - #1 PCC passed to Far Grip 14:39 - #1 anchor on bottom 15:06 - #1 PCC passed back to the rig 15:19 - #4 PCC passed to the Far Grip 15:52 - #4 anchor on bottom 14:22 - #4 PCC passed back to the rig 16:37 - #8 PCC passed to the Far Grip 17:08 - #8 anchor on bottom 17:26 - Cross tensioned primary anchors, begin filling Pit #5 for PHG mixing. 17:48 - #8 PCC passed back to the rig.
RM	P	AH	1800	2300	5.00	0.0m	18:04 - #7 PCC passed to the Far Grip 18:18 - Nor Captain disconnected from the Tow Bridle. 18:44 - #3 PCC passed to the Nor Captain 18:47 - #7 anchor on bottom 19:13 - #7 PCC passed back to the rig 19:27 - #6 PCC passed to the Far Grip 19:28 - #3 anchor on bottom 20:00 - #6 anchor on bottom 20:06 - #3 PCC passed back to the rig 20:17 - #2 PCC passed to the Nor Captain 20:26 - #6 PCC passed back to the Far Grip 20:38 - trouble orientating #2 anchor 21:03 - #2 anchor corrected 21:21 - #2 anchor on bottom

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CH	P	HBHA	2300	2400	1.00	0.0m	22:09 - PCC passed back to the rig. Cross tensioned anchors. 22:49 - Centered over location. Position: Rig Heading 214.35° 642694.41 mE, 5717437.008 mN LAT 38° 40' 48.6256" , Long 142° 38' 25.7602" Concurrent Ops: Made up 30" CART, EDPHOT, cement stand and 9-5/8" BOP test tool for stump test. Filled pits and started mixing PHG and Kill mud volume. Picked up 15 x HWDP and continued mixing PHG and Kill mud.

Operations For Period 0000 Hrs to 0600 Hrs on 15 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CH	P	HBHA	0000	0230	2.50	0.0m	Continued mixing PHG. Picked up 15 x 127mm (5") HWDP.
CH	P	HBHA	0230	0600	3.50	0.0m	Mixed up 30.5 m³ x 1.20 sg (192 bbls x 10.0ppg) Kill mud. Proceeded to make up the 914mm (36") BHA. Continued mixing PHG mud, total vol mixed = 276 m³ (1734 bbls). ROV conducted sea bed survey.

WBM Data

Mud Type:	PHG	API FL:	KCl:	Solids:	Viscosity:	
Sample-From:		Filter-Cake:	Hard/Ca:	H2O:	PV:	
Time:		HTHP-FL:	MBT:	Oil:	YP:	
Weight:		HTHP-Cake:	PM:	Sand:	Gels 10s:	
Temp:			PF:	pH:	Gels 10m:	
				PHPA:	Fann 003:	
					Fann 006:	
					Fann 100:	
					Fann 200:	
					Fann 300:	
					Fann 600:	
Comment Make up water analysis from the supply boats (Nor Captain/Far Grip) is as follows: pH=7.5, Chlorides=950mg/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						

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	0	0	115.0
Gel	MT	0	0	0	74.0
Cement	MT	0	0	0	70.0
Fuel	M3	0	2	0	447.0
Potable Water	M3	3	0	0	343.0
Drill Water	M3	0	103	0	444.0
KCl Brine	M3	0	0	0	0.0

Personnel On Board

Company	Pax
Santos	5
DOGC	49
ESS	8
BHI	4
Dowell	2
Rheochem	2
TMT	6
Cameron	3
DOGC Service	7
Fugro - Surveyor	3
RPS	1
DOGC Service	5
Santos	2
Total	97

HSE Summary				
Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	13 Jul 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	13 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill		13 Jul 2008	1 Day	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.
First Aid	1	12 Jul 2008	2 Days	IP will be sent to town on Monday (14th July) flight to have his tooth checked out.
JHA	29	14 Jul 2008	0 Days	Deck Crew - 12 Drill crew - 8 Welder - 3 Subsea - 3 Mech - 3
Lost Time Incident	1	30 May 2008	45 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	0	13 May 2008	62 Days	No MTI since start of campaign
Pre-Tour Meeting	4	14 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	10	14 Jul 2008	0 Days	4 x cold work permits 6 x hot work permits
Rig Inspection	1	02 Jul 2008	12 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	13 Jul 2008	1 Day	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..
Santos Induction	0	14 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	77	14 Jul 2008	0 Days	50 - Safe 27 - Corrective Actions
STOP Tour	2	14 Jul 2008	0 Days	Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place.

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	102.4m³	Losses	0.0m³	Equip.	Descr.	Mesh Size	Hours
Active	71.9m³	Downhole					
Mixing		Surf+ Equip	0.0m³				
Hole		Dumped					
Slug		De-Sander					
Reserve		De-Silter					
Kill	30.5m³	Centrifuge					
Comment	Mixed PHG in active pits. Mixed 10ppg, 192bbbls Kill mud.						

Marine											
Weather check on 14 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	22km/h	60.0deg	1012.00bar	15.0C°	0.5m	60.0deg	3sec	1		108.86	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2		111.13	
0.3deg	0.3deg	0.40m	2.0m	225.0deg	11sec	Calm seas and good weather conditions.		3		112.04	
Rig Dir.	Ris. Tension	VDL	Comments					4		108.86	
	0.00mt	934.40mt	On location at 12:30hrs.					5		106.14	
								6		103.87	
								7		113.85	
								8		117.03	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	14:55 hrs 11.07.08		On location Ocean Patriot. Note: 97m3 of 10.95ppg mud and 32m3 of 8.9ppg mud onboard.	Item	Unit	Quantity
Nor Captain	01:00 hrs 11/07/08		On location Ocean Patriot.	Item	Unit	Quantity
Helicopter Movement						
Flight #	Time	Destination	Comment	Pax		
GYJ	11:01	Ocean Patriot		7		
GYJ	11:14	Essendon		8		

From : Chris Roots / Nathan Peri OIM : Dennis Gore						
Well Data						
Country	Australia	Measured Depth	130.9m	Current Hole Size	914mm	
Field		TVD	130.9m	Casing OD	762mm	
Drill Contractor	DOGC	Progress	44.0m	Shoe MD	130.9m	
Rig	Ocean Patriot	Days from spud	0.71	Shoe TVD	130.9m	
Water Depth (LAT)	65.4m	Days on well	1.48	F.I.T. / L.O.T.	/	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Ran the 762mm (30") conductor to bottom at 130.0 mRT. Made up cement lines and pressure tested same.			
RT-ML	86.9m	Planned Op	Conduct cementing operations and WOC. POH and make up 444mm (17-1/2") BHA.			
Rig Heading	215.0deg		RIH and drill the 444mm (17-1/2") section.			

Summary of Period 0000 to 2400 Hrs

Continued picking up BHA while RIH.
 Tagged the seabed at 86.9 mRT, drilled the 912mm (36") hole section to TD at 130.9 mRT, POH.
 Rigged up and ran the 762mm (30") conductor.
 Moved the rig over hole center.

Operations For Period 0000 Hrs to 2400 Hrs on 15 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CH	P	HBHA	0000	0230	2.50	0.0m	Continued mixing PHG. Picked up 15 x 127mm (5") HWDP. Mixed up 30.5 m³ x 1.20 sg (192 bbls x 10.0ppg) Kill mud.
CH	P	HBHA	0230	0600	3.50	0.0m	Proceeded to make up the 914mm (36") BHA. Continued mixing PHG mud, total vol mixed = 276 m³ (1734 bbls). ROV conducted sea bed survey.
CH	P	HBHA	0600	0715	1.25	86.9m	Continued making up 914mm (36") BHA and RIH. Tagged seabed at 86.90 mRT with 4.4 mt (10klbs). Observed the tag with ROV assistance. Took Anderdrift survey = 0°.
CH	P	SM	0715	0730	0.25	130.9m	Held pre-spud meeting prior to spudding.
CH	P	DA	0730	1230	5.00	130.9m	Drilled 914 mm (36") hole to section TD at 130.9 mRT. Pumped 7.9 m3 (50 bbl) sweeps mid stand and 15.9 m3 (100 bbl) sweep at connection, Anderdrift surveyed @ 116m = 0.5°. Drilling parameters: 0-2.2 mt (0-5 klbs) WOB, 80 RPM, 2475 l/min - 3016 l/min (500 - 800 GPM)
CH	P	CHC	1230	1330	1.00	130.9m	Anderdrift surveyed on bottom = 1°. Pumped 31.8 m3 (200 bbl) high viscosity sweep and displaced well with 31.8 m3 (200 bbls) PHG.
CH	P	WT	1330	1400	0.50	130.9m	Made a Wiper trip from 130.9m to 90m, no drag or fill on bottom.
CH	P	TO	1400	1500	1.00	130.9m	POOH BHA from 130.9 m to surface racking back BHA.
SH	P	CRN	1500	1600	1.00	130.9m	Held JSA. Rigged up 762 mm (30") casing running equipment.
CH	P	CRN	1600	2200	6.00	130.9m	Picked up and ran 508 x 762mm (20" x 30") Shoe joint, 2 x 762 mm (30") Intermediate Jts and 1 x 762 mm (30") Housing. Made up the R/tool to the Housing and landed the Housing into the PGB in the moonpool. Backed out the R/tool and pulled back to surface, picked up 3 joints of drill pipe stinger to the R/tool and relatched into the Housing.
CH	P	WH	2200	2330	1.50	130.9m	Installed R/tool ball valve and circulated until returns at surface. Closed ball valve and picked up PGB/Conductor off the moonpool skate. Run 762mm (30") conductor on drill pipe to the sea bed.
CH	P	TI	2330	2400	0.50	130.9m	Moved the rig to position the conductor over the hole center.

Operations For Period 0000 Hrs to 0600 Hrs on 16 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CH	P	TI	0000	0130	1.50	130.9m	Continued moving the rig over hole center using sonar. Unable to stab conductor. Repositioned ROV to observe conductor over hole center.
CH	P	TI	0130	0230	1.00	130.9m	ROV observed the conductor entering the hole. Run the conductor down to 100m (13m into hole), ROV rechecked bullseye 0.75° and PGB heading of 217°. Continued running the conductorto bottom on drill pipe.Washed the last 10m to bottom at 130.9 mRT, tagged bottom with 2.2 mt (5 klbs). Circulated 24 m³ (150 bbls) of sea water.
CH	P	TI	0230	0530	3.00	130.9m	Rechecked PGB heading 200° with a bullseye reading of 1.0° @ 100°. Rotated the PGB to a heading of 215°. Reciprocated the conductor and rechecked the bullseye reading, no change.
CH	P	CMC	0530	0600	0.50	130.9m	Held a cementing JSA. Made up the cement lines and circulated 4.7 m³ (30bbls) of sea water. Pressure tested the surface lines to 6.8 MPa (1000psi). Pumped 3.1 m³ (20bbls) fluorescence dye spacer.

WBM Data									
Mud Type:	PHG	API FL:		KCl:		Solids:	3.13	Viscosity:	0sec/L
Sample-From:		Filter-Cake:		Hard/Ca:	100	H2O:	97%	PV:	0.013Pa/s
Time:	22:00	HTHP-FL:		MBT:		Oil:		YP:	0.311MPa
Weight:	1.05sg	HTHP-Cake:		PM:	0.4	Sand:		Gels 10s:	0.216
Temp:				PF:	0.36	pH:	9.5	Gels 10m:	0.263
						PHPA:		Fann 003:	42
								Fann 006:	53
								Fann 100:	69
								Fann 200:	75
								Fann 300:	78
								Fann 600:	91
Comment 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									

Bit # 1				Wear	I	O1	D	L	B	G	O2	R
					0	0	NO	A	0	I	NO	TD
Size:	660mm	IADC#	111	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	REED	WOB(avg)	4.99mt	No.	Size	Progress		44.0m	Cum. Progress		44.0m	
Type:	Rock	RPM(avg)	62	1	16/32nd"	On Bottom Hrs		3.80h	Cum. On Btm Hrs		3.80h	
Serial No.:	M26690	F.Rate	2468lpm	3	24/32nd"	IADC Drill Hrs		5.50h	Cum IADC Drill Hrs		5.50h	
Bit Model	Y11	SPP	2482kPa			Total Revs		13200	Cum Total Revs		13200	
Depth In	86.9m	TFA	1.522			ROP(avg)		11.58 m/hr	ROP(avg)		11.58 m/hr	
Depth Out	130.9m											
Bitwear Comment		Rerun Bit from Pecten East-1										

BHA # 1							
Weight(Wet)	86.18mt	Length	210.0m	Torque(max)	11696.0Nm	D.C. (1) Ann Velocity	8.32mpm
Wt Below Jar(Wet)	0.00mt	String	86.18mt	Torque(Off.Btm)	0.0Nm	D.C. (2) Ann Velocity	8.01mpm
		Pick-Up	81.65mt	Torque(On.Btm)	5984.0Nm	H.W.D.P. Ann Velocity	7.48mpm
		Slack-Off	86.18mt			D.P. Ann Velocity	7.48mpm
Equipment		Length	OD	ID	Serial #	Comment	
Bit		0.65m	660mm	99mm	M26690	Ported Float Installed	
Hole Opener		2.11m	914mm				
Float Sub		0.91m	229mm	76mm			
Anderdrift		3.00m	245mm	76mm	ADB995		
17.5in String Stabiliser		2.43m	438mm	76mm			
NMDC		8.93m	241mm	76mm	6613	Totco Ring	
17.5in String Stabiliser		2.43m	438mm	76mm	XM774		
Drill Collar		18.61m	241mm	76mm			
X/O		1.09m	241mm	76mm	GUD1231-5		
Drill Collar		28.29m	210mm	73mm			
X/O		1.09m	203mm	65mm	GUD1231-6		
HWDP		140.42m	175mm	78mm			

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	11	0	104.0	Santos	4
Gel	MT	26	20	0	80.0	DOGC	47
Cement	MT	76	0	0	146.0	ESS	8
Fuel	M3	0	9.7	0	437.3	BHI	4
Potable Water	M3	30	24	0	349.0	Dowell	2
Drill Water	M3	572	301	0	715.0	Rheochem	2
KCl Brine	M3	0	0	0	0.0	TMT	6
						Cameron	3
						DOGC Service	7
						Fugro - Surveyor	2
						RPS	1
						DOGC Service	5
						Santos	2
						Premium Casing Services	1
						Total	94

HSE Summary					
Events	Num Events	Date of Last	Days Since	Remarks	
Abandon Drill	1	13 Jul 2008	2 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.	
BOP Drill	1	01 Jul 2008	14 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing	
Fire Drill	1	13 Jul 2008	2 Days	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.	
First Aid	1	23 Jun 2008	22 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.	
First Aid	1	15 Jul 2008	0 Days	IP complained of a sore tooth, sent to town on normal chopper to have it checked by a dentist. Found to have an abcess behind the tooth, was sent home to have it seen too.	
JHA	34	15 Jul 2008	0 Days	Deck Crew - 12 Drill crew - 14 Welder - 5 Subsea - 3	
Lost Time Incident	1	30 May 2008	46 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	0	13 May 2008	63 Days	No MTI since start of campaign	
Pre-Tour Meeting	4	15 Jul 2008	0 Days	Discussed upcoming operations and associated hazards	
PTW Issued	15	15 Jul 2008	0 Days	8 x cold work permits 7 x hot work permits	
Rig Inspection	1	02 Jul 2008	13 Days	Conducted hazard hunt checking for flamable liquids in containers secured properly and in correct place with signage.	
Safety Meeting	3	13 Jul 2008	2 Days	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..	
Santos Induction	4	15 Jul 2008	0 Days	Completed Santos induction with new personnel to site.	
Stop Observations	64	15 Jul 2008	0 Days	36 - Safe 28 - Corrective Actions	
STOP Tour	2	14 Jul 2008	1 Day	Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place.	

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	129.4m³	Losses	151.4m³	Equip.	Descr.	Mesh Size	Hours
Active	67.1m³	Downhole					
Mixing		Surf+ Equip	151.4m³				
Hole	28.9m³	Dumped					
Slug		De-Sander					
Reserve		De-Silter					
Kill	33.4m³	Centrifuge					
Comment				Mixed PHG in active pits. Mixed 10ppg, 210bbls Kill mud.			

Marine												
Weather check on 15 Jul 2008 at 24:00								Rig Support				
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)		
18.5km	22km/h	158.0deg	1021.00bar	17.0C°	0.5m	158.0deg	3sec	1	1382.9	103.87		
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Calm seas and good weather conditions.		2	1382.9	107.96		
0.3deg	0.3deg	0.30m	1.0m	225.0deg	11sec			3	1399.9	111.13		
								4	1372.8	112.04		
Rig Dir.	Ris. Tension	VDL			Comments			5	1410.9	107.96		
								6	1421.0	106.14		
215.0deg	0.00mt	983.39mt							7	1410.9	112.04	
									8	1414.0	115.21	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		19:20 15 Jul 08	Transit to Portland. Note: 97m3 of 10.95ppg mud and 32m3 of 8.9ppg mud onboard.	Item	Unit	Quantity
				Fuel	m3	460
				Potable Water	m3	198
				Drill Water	m3	84
				Cement	mt	0
				Barite	mt	40
				Gel	mt	17
				KCl Brine	m3	213
				Mud	m3	97
				Mud	m3	32
Nor Captain	01:00 hrs 11/07/08		On location Ocean Patriot.	Item	Unit	Quantity
				Fuel	m3	440
				Potable Water	m3	363
				Drill Water	m3	289
				Cement	mt	
				Barite	mt	
				Gel	mt	
				KCl Brine	m3	
				Mud	m3	140

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:32	Ocean Patriot		13	
GYJ	11:44	Essendon		14	

From : Chris Roots / Nathan Peri OIM : Dennis Gore						
Well Data						
Country	Australia	Measured Depth	177.0m	Current Hole Size	445mm	
Field		TVD	177.0m	Casing OD	762mm	
Drill Contractor	DOGC	Progress	46.0m	Shoe MD	130.9m	
Rig	Ocean Patriot	Days from spud	1.71	Shoe TVD	130.9m	
Water Depth (LAT)	65.4m	Days on well	2.48	F.I.T. / L.O.T.	/	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Drilled ahead 445mm (17-1/2") hole from 319.6 mRT .			
RT-ML	86.9m	Planned Op	Continue drilling to 445mm (17-1/2") section TD. POH. Rig up and run 340mm (13-3/8") casing to bottom and cement. Run the Subsea Tree.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Mixed and pumped 30.8 m³ (194bbl), class G, 1.89 sg (15.8ppg) cement slurry and displaced with 5.7 m³ (36bbls) of sea water. WOC to set. POH running tool. Made up 445mm (17-1/2") BHA. RIH and stabbed into wellhead, tagged cement at 128 mRT. Drilled from 128m to 177 mRT, POH to 123m, racked back 2 x HWDP stands, picked up remaining drill collars. TIH.

Operations For Period 0000 Hrs to 2400 Hrs on 16 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
CH	P	TI	0000	0130	1.50	130.9m	Continued moving the rig over hole center using sonar. Unable to stab conductor. Repositioned ROV to observe conductor over hole center.
CH	P	TI	0130	0230	1.00	130.9m	ROV observed the conductor entering the hole. Run the conductor down to 100m (13m into hole), ROV rechecked bullseye 0.75° and PGB heading of 217°. Continued running the conductor to bottom on drill pipe. Washed the last 10m to bottom at 130.9 mRT, tagged bottom with 2.2 mt (5 klbs). Circulated 24 m³ (150 bbls) of sea water.
CH	P	TI	0230	0530	3.00	130.9m	Rechecked PGB heading 200° with a bullseye reading of 1.0° @ 100°. Rotated the PGB to a heading of 215°. Reciprocated the conductor and rechecked the bullseye reading, no change.
CH	P	CMC	0530	0600	0.50	130.9m	Held a cementing JSA. Made up the cement lines and circulated 4.7 m³ (30bbls) of sea water. Pressure tested the surface lines to 6.8 MPa (1000psi). Pumped 3.1 m³ (20bbls) fluorescene dye spacer.
CH	P	CMC	0600	0700	1.00	130.9m	Mixed and pumped 30.8 m³ (194 bbls) of 1.9 SG (15.8 ppg) class G cement slurry, 39 mT (913 sks). Displaced cement with 5.7 m³ (36 bbls) sea water. Bled back 0.08 m³ (0.5 bbls), floats holding. ROV noted slight fluorescene colouration during cementing. Confirmed cement to surface with pH reading of 11.9 at the end of the displacement.
CH	P	WOC	0700	1130	4.50	130.9m	Waited on cement. ROV reported PGB heading of 204° (magnetic), bullseye reading 1.0° at 100°. Ran and installed guide wires.
CH	P	TO	1130	1330	2.00	130.9m	Backed out 762mm (30") running tool from housing. Repositioned the rig over hole center, POH. Laid out running tool and racked back the drill pipe stinger.
CH	P	HT	1330	1430	1.00	130.9m	Picked up and made up a drill pipe single and 1.5m pup to the bottom of the 18-3/4" running tool, made up a 3m pup on top.
CH	P	HBHA	1430	1530	1.00	130.9m	Laid out 660mm (26") Bit, 914mm (36") hole opener and float sub.
SH	P	HBHA	1530	1730	2.00	130.9m	Picked up 445mm (17-1/2") Bit and bit sub, attached guide ropes, TIH 445mm (17-1/2") BHA.
SH	P	HBHA	1730	1800	0.50	130.9m	Stabbed BHA into wellhead with assistance from ROV, broke off guide ropes as BHA was run in.
SH	P	RS	1800	1830	0.50	130.9m	Serviced Top Drive and blocks.
SH	P	SM	1830	1845	0.25	130.9m	Held shallow gas meeting on the drill floor.
SH	P	DFS	1845	2030	1.75	130.9m	Washed down to tag TOC at 128 m. Drilled out cement and float shoe to 130.9 mRT.
SH	P	DA	2030	2230	2.00	177.0m	Drilled ahead 445mm (17-1/2") hole from 130.9m to 177 mRT. Reamed connections and surveyed every second stand with Anderdrift. Pumped 12 m³ (75bbl) sweep on connections and 7.9m³ (50bbl) midstand. Parameters: 75rpm, 3028 L/min (800gpm), 0-2.2 kdaN (0-5 klbs).
SH	P	HBHA	2230	2400	1.50	177.0m	Pulled out and racked back 2 x HWDP stands, picked up the remaining 203mm (8") drill collars and jar. TIH.
							Concurrent Ops: Moved the rig over hole center while monitoring drill stem in the wellhead (0.5m to Stbd/Fwd) Reconnected guide wire #1.

Operations For Period 0000 Hrs to 0600 Hrs on 17 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SH	P	DA	0000	0600	6.00	319.0m	Drilled ahead 445mm (17-1/2") hole from 177.0m to 319 mRT. Reamed connections and surveyed every second stand with Anderdrift. Pumped 12

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							m ³ (75bbl) sweep on connections and 7.9m ³ (50bbl) midstand. Parameters: 120rpm, 4542 L/min (1200gpm), WOB 2.2 - 6.6 kdaN (5-15 klbs), torq 6.7 - 10.8 kNm (5-8 kft/lbs).

WBM Data

Mud Type:	PHG	API FL:	KCl:	Solids:	3.13	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	Hard/Ca:	H ₂ O:	97%	PV:	0.006Pa/s
Time:	22:00	HTHP-FL:	MBT:	Oil:		YP:	0.273MPa
Weight:	1.05sg	HTHP-Cake:	PM:	Sand:		Gels 10s:	0.153
Temp:			PF:	pH:	9.5	Gels 10m:	0.182
				PHPA:		Fann 003:	31
						Fann 006:	43
						Fann 100:	57
						Fann 200:	62
						Fann 300:	64
						Fann 600:	70

Comment 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.

Bit # 2

Bit # 2				Wear	I	O1	D	L	B	G	O2	R
Size:	445mm	IADC#	111	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)		No.	Size	Progress		46.0m	Cum. Progress		46.0m	
Type:	Rock	RPM(avg)	60	4	18/32nd"	On Bottom Hrs		2.00h	Cum. On Btm Hrs		2.00h	
Serial No.:	6062681	F.Rate	3070lpm			IADC Drill Hrs		3.00h	Cum IADC Drill Hrs		3.00h	
Bit Model	MXL-1V	SPP	7674kPa			Total Revs		7700	Cum Total Revs		7700	
Depth In	130.9m	TFA	0.994			ROP(avg)		23.00 m/hr	ROP(avg)		23.00 m/hr	
Depth Out												
Daily Comment		Rerun bit from Pecten East-1										

BHA # 2

Weight(Wet)		Length	294.4m	Torque(max)	11696.0Nm	D.C. (1) Ann Velocity	25.23mpm
Wt Below Jar(Wet)	29.48mt	String	90.72mt	Torque(Off.Btm)	0.0Nm	D.C. (2) Ann Velocity	28.05mpm
		Pick-Up	90.72mt	Torque(On.Btm)	5984.0Nm	H.W.D.P. Ann Velocity	21.54mpm
		Slack-Off	90.72mt			D.P. Ann Velocity	21.54mpm
BHA Run Description		Packed assembly.					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.41m	445mm		6062681	
17.5in Near Bit Stabiliser	2.55m	438mm	76mm	XM771	
Anderdrift	3.00m	245mm	76mm	ADB995	
17.5in String Stabiliser	2.43m	438mm	76mm	XM773	
NMDC	8.93m	241mm	76mm	6613	
17.5in String Stabiliser	2.43m	438mm	76mm	XM775	
Drill Collar	18.61m	241mm	76mm		
X/O	1.09m	241mm	76mm	GUD1231-5	
Drill Collar	84.48m	210mm	73mm		
8in Hydraulic Jars	10.11m	210mm	76mm	71809E	
Drill Collar	18.91m	210mm	73mm		
X/O	1.09m	203mm	65mm	GUD1231-6	
HWDP	140.40m	175mm	78mm		

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
193.00	0.0		193.00					Anderdrift

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	104.0	Santos	4
Gel	MT	0	9	0	71.0	DOGC	47
Cement	MT	0	38	0	108.0	ESS	8
Fuel	M3	200	15.7	0	621.6	BHI	4
Potable Water	M3	31	31	0	349.0	Dowell	2
Drill Water	M3	381	152	0	944.0	Rheochem	2
KCl Brine	M3	0	0	0	0.0	TMT	6
						Cameron	5
						DOGC Service	7
						Fugro - Surveyor	1
						RPS	1
						DOGC Service	5
						Santos	2
						Premium Casing Services	5
						Anadrill	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.

HSE Summary				
Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	13 Jul 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	15 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill	1	13 Jul 2008	3 Days	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.
First Aid	1	23 Jun 2008	23 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	29	16 Jul 2008	0 Days	Deck Crew - 13 Drill crew - 11 Welder - 3 Subsea - 2
Lost Time Incident	1	30 May 2008	47 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	0	13 May 2008	64 Days	No MTI since start of campaign
Pre-Tour Meeting	4	16 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	15	16 Jul 2008	0 Days	8 x cold work permits 6 x hot work permits
Rig Inspection	1	02 Jul 2008	14 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	13 Jul 2008	3 Days	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..
Santos Induction	0	16 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	57	16 Jul 2008	0 Days	41 - Safe 16 - Corrective Actions
STOP Tour	0	14 Jul 2008	2 Days	Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place.

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	321.6m³	Losses	37.4m³	Equip.	Descr.	Mesh Size	Hours
Active	61.2m³	Downhole					
Mixing		Surf+ Equip	37.4m³				
Hole	0.0m³	Dumped					
Slug		De-Sander					
Reserve	227.0m³	De-Silter					
Kill	33.4m³	Centrifuge					
Comment Mixed PHG in active pits. Mixed 10ppg x 210bbls Kill mud. Pumped 75bbl sweep at connection and 50bbl midstand.							

Marine										
Weather check on 16 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
18.5km	33km/h	0.0deg	1017.00bar	18.0C°	0.5m	0.0deg	3sec	1	1382.9	106.14
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Calm seas and good weather conditions.		2	1382.9	106.14
0.3deg	0.2deg	0.30m	1.0m	225.0deg	11sec			3	1399.9	108.86
Rig Dir.	Ris. Tension	VDL	Comments					4	1372.8	111.13
215.0deg	0.00mt	992.01mt						5	1410.9	108.86
								6	1421.0	107.05
								7	1410.9	112.94
								8	1414.0	116.12

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		19:20 15 Jul 08	Transit to Ocean Patriot. Note: 97m3 of 10.95ppg mud and 32m3 of 8.9ppg mud onboard.	Item	Unit	Quantity
				Fuel	m3	453
				Potable Water	m3	190
				Drill Water	m3	550
				Cement	mt	0
				Barite	mt	124
				Gel	mt	59
				KCl Brine	m3	213
				Mud	m3	97
				Mud	m3	32
Nor Captain	01:00 hrs 11/07/08		On location Ocean Patriot.	Item	Unit	Quantity
				Fuel	m3	227
				Potable Water	m3	158
				Drill Water	m3	100
				Cement	mt	
				Barite	mt	
				Gel	mt	
				KCl Brine	m3	
				Mud	m3	140

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	11:31	Ocean Patriot		8
GYJ	11:44	Essendon		2

From : Chris Roots / Nathan Peri						
OIM : Dennis Gore						
Well Data						
Country	Australia	Measured Depth	647.5m	Current Hole Size	445mm	
Field		TVD	647.5m	Casing OD	762mm	
Drill Contractor	DOGC	Progress	470.0m	Shoe MD	130.9m	
Rig	Ocean Patriot	Days from spud	2.71	Shoe TVD	130.9m	
Water Depth (LAT)	65.4m	Days on well	3.48	F.I.T. / L.O.T.	/	
				Planned TD	2503.0m	
RT-SL(LAT)	21.5m	Current Op @ 0600	Continued running 340mm x 101kg/m (13-3/8" x 68ppf) L80 BTC casing.			
RT-ML	86.9m	Planned Op	Run and cement the casing. Pressure test the casing and POH.			
Rig Heading	215.0deg		Run and test the subsea xmas tree.			

Summary of Period 0000 to 2400 Hrs

Drilled 444mm (17-1/2") hole from 177m to casing depth of 647.5 mRT. Circulated hole clean and displaced to PHG mud. POH. Racked back drill collars, laid out stabilizer, anderdrift, NB stab and Bit.
Held casing JSA, rigged up casing running equipment.

Operations For Period 0000 Hrs to 2400 Hrs on 17 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SH	P	DA	0000	0600	6.00	319.0m	Drilled ahead 445mm (17-1/2") hole from 177.0m to 319 mRT. Reamed connections and surveyed every second stand with Anderdrift. Pumped 12 m³ (75bbl) sweep on connections and 7.9m³ (50bbl) midstand. Parameters: 120rpm, 4542 L/min (1200gpm), WOB 2.2 - 6.6 kdaN (5-15 klbs), torq 6.7 - 10.8 kNm (5-8 kft/lbs).
SH	P	DA	0600	1200	6.00	497.0m	Drilled ahead 445mm (17-1/2") hole from 319.0m to 497.0 mRT. Reamed connections and surveyed every second stand with Anderdrift. Pumped 12 m³ (75bbl) sweep on connections and 7.9m³ (50bbl) midstand. Parameters: 110-140 rpm, 4542 L/min (1200gpm), WOB 9.0 - 18.0 kdaN (20-40 klbs), torq 6.7 - 13.5 kNm (5-10 kft/lbs).
SH	P	DA	1200	1630	4.50	647.5m	Drilled ahead 445mm (17-1/2") hole from 497.0m to casing point 647.5 mRT. Reamed connections and surveyed every second stand with Anderdrift. Pumped 12 m³ (75bbl) sweep on connections and 7.9m³ (50bbl) midstand. Last survey on bottom = 0.0°.
SH	P	CHC	1630	1900	2.50	647.5m	Parameters: 110-140 rpm, 4542 L/min (1200gpm), WOB 20.0 - 22.0 kdaN (45-50 klbs), torq 6.7 - 20.0 kNm (5-15 kft/lbs). Pumped 26 m³ (165bbl) sweep and circulated out. Displaced the hole to 111 m³ (700bbls) PHG mud. Spotted 11 m³ (70bbls) KCl pill on bottom. Dropped EMS survey.
SH	P	TO	1900	2130	2.50	647.5m	TOH, wiped tight hole from 370-360m and 304-303m, continued TOH.
SH	P	HBHA	2130	2400	2.50	647.5m	Racked back drill collars. Pulled the EMS survey barrel. Laid out XO subs, Anderdrift tool, stabilizers and bit. Note: EMS survey at 634m = 0.94°

Operations For Period 0000 Hrs to 0600 Hrs on 18 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SH	P	HBHA	0000	0030	0.50	647.5m	Cleared the rig floor of BHA and equipment.
SC	P	RRC	0030	0300	2.50	647.5m	Prepared to run 340mm x 101 kg/m L80 BTC (13-3/8" x 68ppf) casing. Held casing rig up safety meeting.
SC	P	SM	0300	0315	0.25	647.5m	Installed FMS and hoses, land Casing Shoe in FMS (function tested float). Installed Fill Up tool onto TDS. Hung off casing tongs and hoses. Picked up 500T Elevators and casing bails. Function tested equipment.
SC	P	CRN	0315	0430	1.25	647.5m	Held Casing running JSA with all parties. Ran Intermediate Jt, made up guide ropes to guide lines. Picked up float collar, function tested float valves (baker locked shoe track).
SC	P	CRN	0430	0600	1.50	647.5m	Continued running casing, observed casing entering the wellhead, parted guide ropes, continued running casing. Casing depth 122 m.

WBM Data									
Mud Type:	PHG	API FL:		KCl:		Solids:	3.13	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:		Hard/Ca:	80	H2O:	97%	PV:	0.003Pa/s
Time:	15:30	HTHP-FL:		MBT:		Oil:		YP:	0.383MPa
Weight:	1.05sg	HTHP-Cake:		PM:	0.3	Sand:		Gels 10s:	0.225
Temp:				PF:	0.3	pH:	9.5	Gels 10m:	0.240
						PHPA:		Fann 003:	53
								Fann 006:	59
								Fann 100:	78
								Fann 200:	81
								Fann 300:	83
								Fann 600:	86
Comment 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 1mT.									

Bit # 2			Wear	I	O1	D	L	B	G	O2	R
				0	0	WT	A	E	I	NO	TD
Size:	445mm	IADC#	111	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run		
Mfr:	HUGHES	WOB(avg)	12.25mt	No.	Size	Progress		470.0m	Cum. Progress		516.0m
Type:	Rock	RPM(avg)	103	4	18/32nd"	On Bottom Hrs		9.20h	Cum. On Btm Hrs		11.20h
Serial No.:	6062681	F.Rate	3880lpm			IADC Drill Hrs		16.50h	Cum IADC Drill Hrs		19.50h
Bit Model	MXL-1V	SPP	16292kPa			Total Revs		48800	Cum Total Revs		56500
Depth In	130.9m	TFA	0.994			ROP(avg)		51.09 m/hr	ROP(avg)		46.07 m/hr
Depth Out	647.5m										

BHA # 2									
Weight(Wet)	49.90mt	Length	294.4m	Torque(max)	18768.0Nm	D.C. (1) Ann Velocity	31.89mpm		
Wt Below Jar(Wet)	29.48mt	String	104.33mt	Torque(Off.Btm)	1360.0Nm	D.C. (2) Ann Velocity	35.45mpm		
		Pick-Up	99.79mt	Torque(On.Btm)	11968.0Nm	H.W.D.P. Ann Velocity	27.23mpm		
		Slack-Off	104.33mt			D.P. Ann Velocity	27.23mpm		

BHA Run Description		Packed assembly.							
Equipment		Length	OD	ID	Serial #	Comment			
Bit		0.41m	445mm		6062681	Non-ported float.			
17.5in Near Bit Stabiliser		2.55m	438mm	76mm	XM771				
Anderdrift		3.00m	245mm	76mm	ADB995	Totco ring installed.			
17.5in String Stabiliser		2.43m	438mm	76mm	XM773				
NMDC		8.93m	241mm	76mm	6613				
17.5in String Stabiliser		2.43m	438mm	76mm	XM775				
Drill Collar		18.61m	241mm	76mm					
X/O		1.09m	241mm	76mm	GUD1231-5				
Drill Collar		84.48m	210mm	73mm					
8in Hydraulic Jars		10.11m	210mm	76mm	71809E				
Drill Collar		18.91m	210mm	73mm					
X/O		1.09m	203mm	65mm	GUD1231-6				
HWD		140.40m	175mm	78mm					

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	
110.29	0.3	228.9						EMS	
139.31	0.5	70.4						EMS	
168.50	0.6	302.0						EMS	
280.80	0.7	298.7						EMS	
482.49	0.6	96.4						EMS	
634.46	0.9	124.7						EMS	

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	1	0	103.0	Santos	4
Gel	MT	0	18	0	53.0	DOGC	47
Cement	MT	0	0	0	108.0	ESS	8
Fuel	M3	0	12.2	0	609.4	BHI	4
Potable Water	M3	33	26	0	356.0	Dowell	2
Drill Water	M3	0	253	0	691.0	Rheochem	2
KCl Brine	M3	0	0	0	0.0	TMT	6
						Cameron	5
						DOGC Service	7
						DOGC Service	5
						Santos	2
						Premium Casing Services	5
						Anadrill	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.

HSE Summary				
Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	13 Jul 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	16 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill	1	13 Jul 2008	4 Days	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.
First Aid	1	23 Jun 2008	24 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	33	17 Jul 2008	0 Days	Drill crew - 13 Deck Crew - 11 Mech - 2 Welder - 3 Subsea - 2 Elect - 2
Lost Time Incident	1	30 May 2008	48 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	0	13 May 2008	65 Days	No MTI since start of campaign
Pre-Tour Meeting	4	17 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	16	17 Jul 2008	0 Days	11 x hot work permits 5 x cold work permits
Rig Inspection	1	02 Jul 2008	15 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	13 Jul 2008	4 Days	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..
Santos Induction	4	17 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	51	17 Jul 2008	0 Days	33 - Safe 18 - Corrective Actions
STOP Tour	0	14 Jul 2008	3 Days	Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place.

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	204.6m³	Losses	362.6m³	Equip.	Descr.	Mesh Size	Hours
Active	107.0m³	Downhole					
Mixing		Surf+ Equip	362.6m³				
Hole	97.6m³	Dumped					
Slug		De-Sander					
Reserve	0.0m³	De-Silter					
Kill		Centrifuge					
Comment Utilised the kill mud volume as part of the displacement volume.							

Marine											
Weather check on 17 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	33km/h	300.0deg	1006.00bar	10.0C°	0.5m	300.0deg	3sec	1	1382.9	104.78	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	107.05	
0.3deg	0.3deg	0.30m	1.0m	250.0deg	10sec			3	1399.9	110.22	
Rig Dir.	Ris. Tension	VDL	Comments					4	1372.8	108.86	
215.0deg	0.00mt	950.73mt						5	1410.9	110.22	
								6	1421.0	106.14	
								7	1410.9	113.85	
								8	1414.0	117.03	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location. Note: 97m3 of 10.95ppg mud and 32m3 of 8.9ppg mud onboard.	Item	Unit	Quantity
				Fuel	m3	441
				Potable Water	m3	182
				Drill Water	m3	550
				Cement	mt	0
				Barite	mt	124
				Gel	mt	59
				KCl Brine	m3	213
				Mud	m3	97
				Mud	m3	32
Nor Captain		01:30hrs 17 Jul 2008	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	444
				Potable Water	m3	153
				Drill Water	m3	289
				Cement	mt	
				Barite	mt	42
				Gel	mt	
				Mud	m3	140
				KCl Brine	m3	

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	12:03	Ocean Patriot		14
GYJ	12:24	Essendon		16

From : Chris Roots / Nathan Peri
OIM : Dennis Gore
Well Data

Country	Australia	Measured Depth	647.5m	Current Hole Size	315mm	
Field		TVD	647.5m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	3.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	4.48	F.I.T. / L.O.T.	/	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Xmas tree landed and set. Xmas tree running on surface, rigging down running tool from the moonpool. Preparing to rig up to run the BOPs.			
RT-ML	86.9m	Planned Op	Run and land the BOPs. Make up the 311mm (12.25') BHA.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Run and landed 340mm 101kg/m (13-3/8" 68ppf) L-80 BTC casing. Made up cement head and cemented the casing, displaced with sea water and bumped the plug. Pressure tested the casing to 20.6 MPa (3000psi).

Backed out CART from wellhead and POH.

Rigged up to run the xmas tree . Made up drill pipe to the xmas tree , picked up xmas tree off moonpool skate and installed guide wires.

Run the xmas tree below water line.

Operations For Period 0000 Hrs to 2400 Hrs on 18 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SH	P	HBHA	0000	0030	0.50	647.5m	Cleared the rig floor of BHA and equipment. Prepared to run 340mm x 101 kg/m L80 BTC (13-3/8" x 68ppf) casing.
SC	P	RRC	0030	0300	2.50	647.5m	Held casing rig up safety meeting. Installed FMS and hoses, land Casing Shoe in FMS (function tested float). Installed Fill Up tool onto TDS. Hung off casing tongs and hoses. Picked up 500T Elevators and casing bails. Function tested equipment.
SC	P	SM	0300	0315	0.25	647.5m	Held Casing running JSA will all parties.
SC	P	CRN	0315	0430	1.25	647.5m	Ran Intermediate Jt, made up guide ropes to guide lines. Picked up float collar, functioned float (baker locked shoe track).
SC	P	CRN	0430	0600	1.50	647.5m	Continued running casing, observed casing entering the wellhead, parted guide ropes, continued running casing. Casing depth 122 m.
SC	P	CRN	0600	0900	3.00	647.5m	Continued running casing, filling pipe each joint. Run a total of 41 x 340mm (13 3/8") Jts plus 3 x Shoe track.
SC	P	CRN	0900	1000	1.00	647.5m	Rigged down 500T elevators and fill up tool. Rigged up 350T SDE.
SC	P	CRN	1000	1130	1.50	647.5m	Picked up 508mm x 340mm (13-3/8" x 20") connection XO joint. Picked up and tailed in the 476mm (18-3/4") Housing & Running Tool. Made up the DSE cement plug basket. Stabbed Housing into the casing string.
SC	P	CRN	1130	1300	1.50	647.5m	Rigged down 350t SDE, rigged up DP Elevators. Ran the casing on 127mm (5") drill pipe. Picked up the Deepsea Express cement head.
SC	P	CRN	1300	1400	1.00	647.5m	Washed the last 10m down at 1800 L/min(470gpm). No hole problems observed. Landing the casing. Required a down force of 27t kdaNm (60 klbs) to compress the petals and latch the wellhead. Confirmed the latch with 73t (160 klbs) overpull. Aft bullseye reading 1.0°
SC	P	CRN	1400	1430	0.50	647.5m	Completed casing volume circulation of 59 m³ (370bbbls). Held a cementing JSA while circulating.
SC	P	CRN	1430	1500	0.50	647.5m	Rigged up cement lines. Pumped 0.8 m³ (5bbl) sea water. Pressure tested surface lines to 27.5 MPa (4000psi). Dropped bottom DSE dart, chased with 4.8 m³ (30bbbls) fluorescent dyed sea water. DSE dart landed after 0.9 m³ (5.9bbbls) and sheared at 8.2 MPa (1200psi).
SC	P	CMC	1500	1600	1.00	647.5m	Mixed Lead slurry: 41.3 m³ (260 bbls) at 1.5 sg (12.5 ppg) class G with pumping rate of 1113 l/min (7 bpm). Total sx used 640. Mixed Tail slurry: 17.1 m³ (108 bbls) of 1.9 sg (15.8 ppg) class G with a pumping rate of 953 l/min (6 bpm). Total sx used 530.
SC	P	CMC	1600	1730	1.50	647.5m	Released top DSE dart from cement head and chased with 0.9 m³ (5.9 bbls) of sea water, top plug sheared at 13.1 m³ (1900psi). Pumped a further 1.6 m³ (10bbbls) of sea water. Changed over to rig pumps. Continued to displace casing with 38.1 m³ (240 bbls) of sea water at 37.8 L/min (10 bpm). Bumped plug to 12.4 MPa (1800psi). Swapped to the cement unit and continued to pressure the casing to 20.7 MPa (3000psi). Pressure tested the casing for 10 minutes. Bled off pressure, 0.71 m³ (4.5 bbl) returned, floats holding.
SC	P	CMC	1730	2000	2.50	647.5m	Backed out the 476mm (18-3/4") CART from the wellhead. POH, laid out the DSE cement head, CART and cement basket.
SC	P	CRF	2000	2030	0.50	647.5m	Rigged down casing equipment off the floor.Moved the rig off location18m to port. Prepared floor for running the xmas tree.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	P	RS	2030	2100	0.50	647.5m	Rig serviced TDS and Block.
SC	P	SM	2100	2115	0.25	647.5m	Held xmas tree running safety meeting.
SC	P	XT	2115	2400	2.75	647.5m	Made up xmas tree drill pipe adapter to a stand of drill pipe. Moved the xmas tree across to the hole center in the moonpool. Made up the drill pipe x/over to the xmas tree. Attached the IWOC sheave in the moonpool. Unchained the xmas tree from the moonpool skate and picked up the xmas tree, moved the skate to starboard. Attached the guide wires to the xmas tree. Lowered the xmas tree through the splash zone.

Operations For Period 0000 Hrs to 0600 Hrs on 19 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	P	XT	0000	0100	1.00	647.5m	Continued running the xmas tree on drill pipe to 69m (15m above wellhead). Moved the rig back over location, tensioned the guide wires. rotated the xmas tree to the left to straighten guide wires. ROV removed the debri cap and inspected both the wellhead and xmas tree. VX gasket in place.
SC	P	XT	0100	0130	0.50	647.5m	Lowered the xmas tree to above the guide posts. ROV observed the returns from the AXT line vent. Weight indicator 90t (200 klbs). Landed and locked the xmas tree, conducted a 89.0 kdaNm (50 klbs) overpull.
SC	P	XT	0130	0430	3.00	647.5m	Pressure tested the xmas tree connection to 34.4 MPa (5000psi) for 10min.
SC	P	XT	0430	0600	1.50	647.5m	Released the xmas tree R/tool from the xmas tree. Pulled the running tool to surface. ROV installed the debri cap on the xmas tree. Rig moved off location 18m to port. Continued rigging down running tool and IWOC umbilical.

WBM Data

Mud Type:	KCl/GLY	API FL:	6cm³/30m	KCl:	10%	Solids:	3.78	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	120	H2O:	96%	PV:	0.011Pa/s
Time:	21:00	HTHP-FL:		MBT:	2.5	Oil:		YP:	0.081MPa
Weight:	1.14sg	HTHP-Cake:		PM:	0.3	Sand:	0.1	Gels 10s:	0.201
Temp:				PF:	0.35	pH:	9.8	Gels 10m:	0.235
						PHPA:		Fann 003:	42
								Fann 006:	49
								Fann 100:	59
								Fann 200:	64
								Fann 300:	76
								Fann 600:	85
Comment 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.									

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	0	0	103.0
Gel	MT	0	0	0	53.0
Cement	MT	0	50	0	58.0
Fuel	M3	0	14	0	595.4
Potable Water	M3	31	27	0	360.0
Drill Water	M3	0	36	0	655.0
KCl Brine	M3	0	0	0	0.0

Personnel On Board

Company	Pax
Santos	4
Santos	1
DOGC	46
ESS	8
BHI	4
Dowell	3
Rheochem	2
TMT	6
Cameron	5
DOGC Service	4
Santos	2
Premium Casing Services	6
Anadrill	2
Anadrill	1
Total	94

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	/	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	13 Jul 2008	5 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	17 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill	1	13 Jul 2008	5 Days	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.
First Aid	1	23 Jun 2008	25 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	28	18 Jul 2008	0 Days	Drill crew - 5 Deck Crew - 14 Mech - 4 Welder - 2 Subsea - 1 Elect - 2
Lost Time Incident	1	30 May 2008	49 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	0	13 May 2008	66 Days	No MTI since start of campaign
Pre-Tour Meeting	4	18 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	13	18 Jul 2008	0 Days	6 x hot work permits 7 x cold work permits
Rig Inspection	1	02 Jul 2008	16 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	13 Jul 2008	5 Days	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..
Santos Induction	0	18 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	52	18 Jul 2008	0 Days	33 - Safe 19 - Corrective Actions
STOP Tour	0	14 Jul 2008	4 Days	Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place.

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	145.8m³	Losses	56.3m³	Equip.	Descr.	Mesh Size	Hours
Active	145.8m³	Downhole					
Mixing		Surf+ Equip	56.3m³				
Hole	0.0m³	Dumped					
Slug		De-Sander					
Reserve	0.0m³	De-Silter					
Kill		Centrifuge					
Comment				Preparing KCl/Gly mud for the next section (ex Pecten mud).			

Marine											
Weather check on 18 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	52km/h	310.0deg	1010.00bar	10.0C°	1.0m	310.0deg	3sec	1	1382.9	102.06	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments					
0.3deg	0.3deg	0.30m	2.0m	290.0deg	12sec						
Rig Dir.	Ris. Tension	VDL		Comments							
215.0deg	0.00mt	950.73mt									
								8	1414.0	122.02	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	430
				Potable Water	m3	174
				Drill Water	m3	550
				Cement	mt	0
				Barite	mt	124
				Gel	mt	59
				KCl Brine	m3	202
				Mud	m3	0
				Mud	m3	0
Nor Captain		01:30hrs 17 Jul 2008	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	616
				Potable Water	m3	349
				Drill Water	m3	289
				Cement	mt	41
				Barite	mt	42
				Gel	mt	42
				KCl Brine	m3	
				Mud	m3	140

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:24	Ocean Patriot		9	
GYJ	11:42	Essendon		13	

From : Chris Roots / Nathan Peri
OIM : Dennis Gore
Well Data

Country	Australia	Measured Depth	647.5m	Current Hole Size	315mm	
Field		TVD	647.5m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	4.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	5.48	F.I.T. / L.O.T.	/	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Pull out of hole to inspect the Wear Bushing tool.			
RT-ML	86.9m	Planned Op	Set Wear bushing and run the BOP test tool.			
Rig Heading	215.0deg		Pressure test the BOP and retrieve the test tool.			
			Make up the 311mm (12-1/4") BHA, RIH and displace the hole to SW/Pac-R mud.			
			Drill out shoe track and 3m new formation, conduct LOT.			

Summary of Period 0000 to 2400 Hrs

Run and landed the xmas tree on drill pipe. Completed connection test. Disconnected from the xmas tree and POH. Rigged up to run the BOPs. Picked up 50ft,40ft and 25ft Riser joints. Moved the BOP over hole center, connected Riser and run the BOPs. Made up slip joint and landed the BOPs, ROV observed the bullseye reading 0.0°. Pressure tested the connection/shear rams and casing to 1.7 - 34 MPa (200-5000psi). Scoped out the slip joint. Laid out the landing joint.

Operations For Period 0000 Hrs to 2400 Hrs on 19 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	P	XT	0000	0100	1.00	647.5m	Continued running the xmas tree on drill pipe to 69m (15m above wellhead). Moved the rig back over location, tensioned the guide wires. Rotated the xmas tree to the left to straighten guide wires. ROV removed the debri cap and inspected both the wellhead and xmas tree. VX gasket in place.
SC	P	XT	0100	0130	0.50	647.5m	Lowered the xmas tree to above the guide posts. ROV observed the returns from the AXT line vent. Weight indicator 90t (200 klbs). Landed and locked the xmas tree, conducted a 23t (50 klbs) overpull.
SC	P	XT	0130	0430	3.00	647.5m	Pressure tested the xmas tree connection to 34.4 MPa (5000psi) for 10min.
SC	P	XT	0430	0600	1.50	647.5m	Released the xmas tree R/tool from the xmas tree. Pulled the running tool to surface. ROV installed the debri cap on the xmas tree. Rig moved off location 18m to port. Continued rigging down running tool and IWOC umbilical.
SC	P	RR1	0600	0800	2.00	647.5m	Held prejob safety meeting for rigging up Riser equipment. Rigged up Riser running equipment.
SC	P	RR1	0800	1030	2.50	647.5m	Picked up and ran 1 x 50ft c/w Termination spool, 1 x 40ft & 1 x 25ft Riser joints.
SC	P	RR1	1030	1430	4.00	647.5m	Moved the BOPs over to hole center. Made up the Riser joints to the BOP. Tied off pod hoses to the pod lines, connected guide lines to funnels of BOP. Picked up the BOP, moved the normar carrier back starboard.Run the BOP through the splash zone. Pressure tested the C&K lines to 1.7 - 34 MPa (200-5000psi) for 5/10minutes.
SC	P	RR1	1430	2000	5.50	647.5m	Made up the slip joint and landing joint. Lowered BOP and connected the C&K, booster line goose necks. Connected the SDL ring and attached the MRT's. Tied off pod hoses and made up the storm saddles. Moved the rig back over location. ROV assisted untangling the guide wires while they were tensioned.
SC	P	RR1	2000	2030	0.50	647.5m	Pressure tested the C&K line goose necks to 1.7 - 34 MPa (200-5000psi) for 5/10minutes. ROV observed the bullseye readings: BOP 0.0°, LMRP 0.0° & Flex Jt 0.0°
SC	P	BOP	2030	2100	0.50	647.5m	Landed and latched the BOPs. confirmed the latch with 23t (50 klbs) overpull on the blue pod. ROV rechecked the bullseye readings on landing: BOP 0.0°, LMRP 0.25° @ 170° & Flex Jt 0.0° .
SC	P	BOP	2100	2200	1.00	647.5m	Cement unit pumped 1.6 m³ (10bbls) through the lower kill line. Closed the shear rams and pressure tested the connector/shear rams and casing to 1.7-20.7 MPa (200-3000psi) for 5-10 minutes (0.79 m³, 5 bbls). Rechecked connection latch on the yellow pod with 23t (50 klbs) overpull and pressure tested connection to 3.4 MPa (500psi) for 5 min.
SC	P	BOP	2200	2400	2.00	647.5m	Scoped out slip joint, removed and laid out the landing joint.

Operations For Period 0000 Hrs to 0600 Hrs on 20 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	P	BOP	0000	0100	1.00	647.5m	Installed diverter and overpulled to confirm latched with 4.4 kdaNm (10 klbs). Installed control lines and energised seals.
SC	P	BOP	0100	0230	1.50	647.5m	Rigged down riser running equipment. Prepared the floor for running pipe. Repositioned the 241mm (9-1/2") drill collars in the derrick.
SC	P	WH	0230	0430	2.00	0.0m	Made up jetting sub to 3 x 203mm (8") stands beneath the Wear Bushing running tool.
SC	TP	WH	0430	0530	1.00	647.5m	J-Latched the 330mm (13") Wear Bushing to the WB tool. Attempted to run the Wear

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	(VE) TP (RE)	WH	0530	0600	0.50	647.5m	bushing tools through the master bushings. The bottom of the wear bushing caught and sheared a J-bolt head off and the bolt fell down hole (25mm OD x 19mm length). Pulled back out of the hole. Attempted to rack back the first stand of drill pipe but the drill pipe was prematurely released and fell across the derrick. Held a safety meeting. Retrieved the stand and placed back into the derrick.

WBM Data

Mud Type:	Poly	API FL:	0cm ³ /30m	KCl:	0%	Solids:	0	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:	2400	H ₂ O:	100%	PV:	0.023Pa/s
Time:	19:00	HTHP-FL:		MBT:	0	Oil:		YP:	0.211MPa
Weight:	1.02sg	HTHP-Cake:		PM:	0	Sand:	0	Gels 10s:	0.019
Temp:				PF:	0.02	pH:	8.5	Gels 10m:	0.024
						PHPA:		Fann 003:	4
								Fann 006:	7
								Fann 100:	39
								Fann 200:	55
								Fann 300:	67
								Fann 600:	90

Comment 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 6rpm>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.

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	0	0	103.0
Gel	MT	0	0	0	53.0
Cement	MT	0	0	0	58.0
Fuel	M3	0	0	0	595.4
Potable Water	M3	0	0	0	360.0
Drill Water	M3	0	0	0	655.0
KCl Brine	M3	0	0	0	0.0

Personnel On Board

Company	Pax
Santos	4
Santos	1
DOGC	46
ESS	8
BHI	4
Dowell	3
Rheochem	2
TMT	6
Cameron	5
DOGC Service	4
Santos	2
Premium Casing Services	6
Anadrill	2
Anadrill	1
Total	94

Casing

OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	/	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	13 Jul 2008	6 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	18 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill	1	13 Jul 2008	6 Days	Simulated a fire in the cement unit room. Muster complete within 10 minutes and incident under control after 14 minutes.
First Aid	1	23 Jun 2008	26 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	25	19 Jul 2008	0 Days	Drill crew - 3 Deck Crew - 13 Mech - 3 Welder - 2 Subsea - 4
Lost Time Incident	1	30 May 2008	50 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	0	13 May 2008	67 Days	No MTI since start of campaign
Pre-Tour Meeting	4	19 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	11	19 Jul 2008	0 Days	7 x hot work permits 4 x cold work permits
Rig Inspection	1	02 Jul 2008	17 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	13 Jul 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card to Peter Olm. Safety topic: Fire Extinguishers. Reviewed incident with Drill Press. Also discussed Craft Locks wrt LTT procedures..
Santos Induction	2	19 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	70	19 Jul 2008	0 Days	51 - Safe 19 - Corrective Actions
STOP Tour	3	19 Jul 2008	0 Days	3 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	322.7m³	Losses	50.9m³	Equip.	Descr.	Mesh Size	Hours
Active	104.9m³	Downhole					
Mixing	144.7m³	Surf+ Equip	50.9m³				
Hole	0.0m³	Dumped					
Slug		De-Sander					
Reserve	0.0m³	De-Silter					
Kill		Centrifuge					
Brine	73.1m³						
Comment				Note: Mixing pit above is KCl/Gly.			

Marine										
Weather check on 19 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
3.7km	41km/h	55.0deg	1006.00bar	11.0C°	1.0m	55.0deg	3sec	1	1382.9	102.06
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	104.78
0.6deg	0.5deg	0.60m	1.5m	200.0deg	12sec			3	1399.9	110.22
Rig Dir.	Ris. Tension	VDL	Comments					4	1376.8	107.96
215.0deg	0.00mt	992.01mt	Moved the rig off location while preparing to run the BOPs. Moved the rig back prior to landing.					5	1410.9	112.04
								6	1421.0	108.86
								7	1410.9	120.20
								8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	418
				Potable Water	m3	166
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	0
				Gel	mt	59
				KCl Brine	m3	167
				Mud	m3	0
				Mud	m3	0
Nor Captain		18:30hrs 19 Jul 2008	On location.	Item	Unit	Quantity
				Fuel	m3	609.5
				Potable Water	m3	344
				Drill Water	m3	289
				Cement	mt	41
				Barite	mt	42
				Gel	mt	42
				KCl Brine	m3	
				Mud	m3	140

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ			No Helicopters	0

From : Chris Roots / Nathan Peri
OIM : Dennis Gore

Well Data

Country	Australia	Measured Depth	647.5m	Current Hole Size	315mm	
Field		TVD	647.5m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	5.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	6.48	F.I.T. / L.O.T.	/	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Tagged TOC at 614 mRT. Continued drilling shoe track.			
RT-ML	86.9m	Planned Op	Drill out the shoe track and 3m new formation. Displace to SW/Par-R mud. Conduct LOT. Drill ahead 311mm (12-1/4") hole to section TD.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Installed the diverter and confirmed latched with an overpull.
Rigged down riser running equipment and prepared to run wellhead tools.
Picked up and ran the 330mm (13") wear bushing to 60m, POH to inspect J-Latch bolts. On TOH a stand of drill pipe was dropped across derrick.
Recovered stand of pipe. Run and set the wear bushing. Run and set the test tool and completed the pressure test of the BOPs/ C&K manifold and TDS.
Picked up Powerdrive BHA.

Operations For Period 0000 Hrs to 2400 Hrs on 20 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
SC	P	BOP	0000	0100	1.00	647.5m	Installed diverter and overpulled to confirm latched with 4.5t (10 klbs). Installed control lines and energised seals.
SC	P	BOP	0100	0230	1.50	647.5m	Rigged down riser running equipment. Prepared the floor for running pipe. Repositioned the 241mm (9-1/2") drill collars in the derrick.
SC	P	WH	0230	0430	2.00	0.0m	Made up jetting sub to 3 x 203mm (8") stands beneath the Wear Bushing running tool.
SC	TP (VE)	WH	0430	0530	1.00	647.5m	J-Latched the 330mm (13") Wear Bushing to the WB tool. Attempted to run the Wear bushing tools through the master bushings. The bottom of the wear bushing caught and sheared a J-bolt head off and the bolt fell down hole (25mm OD x 19mm length).
SC	TP (RE)	WH	0530	0600	0.50	647.5m	Pulled back out of the hole. Attempted to rack back the first stand of drill pipe but the drill pipe was prematurely released and fell across the derrick.
SC	P	WH	0600	0800	2.00	647.5m	Held a safety meeting. Retrieved the stand and placed back into the derrick.
SC	P	WH	0800	1000	2.00	647.5m	Inspected the Wear bushing and running tool. Rechecked the torque on the J-latch bolts. Latched the wear bushing to the running tool and rerun in the hole.
SC	P	WH	0800	1000	2.00	647.5m	Landed the wear bushing, measured and marked the index line. Unjayed to the right to release. POH.
SC	P	WH	0800	1000	2.00	647.5m	Laid out the running tool. Picked up the Weight Set test tool and ran with 3 x 203mm (8") stands of drill collars below. Landed down with 16t (35 klbs) on the test tool, indexed for correct depth.
SC	P	PT	1000	1400	4.00	647.5m	Conducted BOP testing: BOP preventors and choke & kill manifold tested to 1.7-20.7 MPa (250-3000psi) for 5/10 minutes.
SC	P	WH	1400	1630	2.50	647.5m	Pulled the test tool and racked back the drill collars.
SC	P	RS	1630	1700	0.50	647.5m	Rig service.
SC	P	PT	1700	2000	3.00	647.5m	Removed the TDS pipe handler for service (changed out break out piston and dies).
SC	P	PT	1700	2000	3.00	647.5m	Laid out the 500T bails. Made up the test line and pressure tested the TDS IBOPs and Kelly hose to 1.7-34.4 MPa (250-5000psi) for 5/10 minutes. Installed the 350T bails.
SC	P	PT	2000	2130	1.50	647.5m	Pressure tested the FOBV and Grey valve to 1.7-34.4 MPa (250-5000psi). Concurrently installed the pipe handler.
SC	P	CMC	2130	2230	1.00	647.5m	Picked up and broke out the Deepsea express cement head.
PH	P	HBHA	2230	2400	1.50	647.5m	Made up 311mm (12-1/4") bit and FEWD.

Operations For Period 0000 Hrs to 0600 Hrs on 21 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	HBHA	0000	0300	3.00	647.5m	Continued picking up the 311mm (12-1/4") BHA to 51m. Laid out 2 x 203mm (8") drill collars. Shallow pulse tested MWD tools, good test.
PH	P	HBHA	0300	0315	0.25	647.5m	Closed the diverter packer and flushed through the diverter lines to port and starboard.
PH	P	HBHA	0315	0500	1.75	647.5m	Compensated BHA through the wellhead, no obstructions observed. Continued running BHA.
PH	P	TI	0500	0530	0.50	647.5m	Continued TIH on 127mm (5") drill pipe.
PH	P	DFS	0530	0600	0.50	647.5m	Washed down and tagged TOC at 614 mRT. Prepared to drill out shoe track with sea water.

WBM Data									
Mud Type:	Poly	API FL:	20cm³/30m	KCl:	0%	Solids:	0	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	0mm	Hard/Ca:		H2O:	100%	PV:	0.022Pa/s
Time:	08:00	HTHP-FL:		MBT:	0	Oil:		YP:	0.196MPa
Weight:	1.02sg	HTHP-Cake:		PM:	0	Sand:	0	Gels 10s:	0.019
Temp:				PF:		pH:	8.3	Gels 10m:	0.024
						PHPA:		Fann 003:	4
								Fann 006:	7
								Fann 100:	37
								Fann 200:	52
								Fann 300:	63
								Fann 600:	85
Comment 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.									

Bit # 3			Wear	I	O1	D	L	B	G	O2	R
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run		
Mfr:	HUGHES	WOB(avg)		No.	Size	Progress			Cum. Progress		
Type:	Rock	RPM(avg)		1	14/32nd"	On Bottom Hrs			Cum. On Btm Hrs		
Serial No.:	6066569	F.Rate		3	20/32nd"	IADC Drill Hrs			Cum IADC Drill Hrs		
Bit Model	MXL-1X	SPP				Total Revs			Cum Total Revs		
Depth In	647.5m	TFA	1.071			ROP(avg)			ROP(avg)		
Depth Out						N/A			0.00 m/hr		

BHA # 3							
Weight(Wet)	90.72mt	Length		Torque(max)		D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	18.14mt	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		0.34m	311mm		6066569	Xceed directional survey = 3.33m from the bit.	
Powerdrive 900		8.18m	311mm	127mm	CR5058		
Saver Sub		0.46m	229mm	127mm	CR59-015	Resistivity & Gama = 11.1m from the bit.	
Saver Sub		0.36m	210mm	108mm	ASQ8058		
ARC-8		5.48m	213mm	76mm	1106		
Saver Sub		0.34m	210mm	111mm	ASQ8012	Powerpulse directional survey = 18.40m from the bit.	
Power Pulse		7.69m	229mm	76mm	E0005		
Saver Sub		0.48m	210mm	111mm	ASQ8065		
NMDC		9.30m	213mm	83mm	SBD5552		
NMDC		9.30m	213mm	83mm	SBD5553		
Drill Collar		65.65m	203mm	73mm			
8in Jar		10.11m	210mm	76mm	718096		
Drill Collar		18.91m	203mm	73mm			
X/O		1.09m	203mm	67mm	GUD1231-6		
HWDP		140.40m	175mm	76mm			

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	103.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	1
Cement	MT	42	0	0	100.0	DOGC	46
Fuel	M3	0	6.4	0	589.0	ESS	8
Potable Water	M3	30	27	0	363.0	BHI	4
Drill Water	M3	0	30	0	625.0	Dowell	2
						Rheochem	2
						TMT	6
						Cameron	5
						DOGC Service	5
						Santos	1
						Anadrill	2
						Anadrill	2
						Total	88

Casing			
OD	L.O.T. / F.I.T.	Casing Shoe (MD/TVD)	Cementing
762mm	/	130.90/130.90	As per cement data.
340mm	/	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	20 Jul 2008	0 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
BOP Drill	1	01 Jul 2008	19 Days	Performed a choke manifold drill with all drill crew prior to drill out 340 mm (13 3/8") casing
Fire Drill	1	20 Jul 2008	0 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	27 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	21	20 Jul 2008	0 Days	Drill crew - 7 Deck Crew - 12 Welder - 2
Lost Time Incident	1	30 May 2008	51 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	0	13 May 2008	68 Days	No MTI since start of campaign
Pre-Tour Meeting	4	20 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	9	20 Jul 2008	0 Days	5 x hot work permits 4 x cold work permits
Rig Inspection	1	02 Jul 2008	18 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	0 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	0	20 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	52	20 Jul 2008	0 Days	31 - Safe 18 - Corrective Actions
STOP Tour	1	20 Jul 2008	0 Days	1 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	324.3m³	Losses	0.0m³	Equip.	Descr.	Mesh Size	Hours
Active	55.6m³	Downhole	0.0m³	Centrifuge 1	MI Swaco		
Mixing	0.0m³	Surf+ Equip		Centrifuge 2	MI Swaco		
Hole	0.0m³	Dumped		Shaker 1	Bem 650 - MI Swaco	20/20/84/84/84/84	
Slug		De-Sander		Shaker 2	Bem 650 - MI Swaco	20/20/84/84/84/84	
Reserve	50.9m³	De-Silter		Shaker 3	Bem 650 - MI Swaco	20/20/84/84/84/84	
Kill		Centrifuge		Shaker 4	Bem 650 - MI Swaco	20/20/84/84/84/84	
KCl/Gly	217.8m³						

Marine										
Weather check on 20 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
18.5km	35km/h	240.0deg	1001.00bar	10.0C°	1.0m	240.0deg	3sec	1	1382.9	102.06
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	104.78
0.6deg	0.5deg	0.60m	1.5m	250.0deg	12sec			3	1399.9	110.22
Rig Dir.	Ris. Tension	VDL	Comments		4			1376.8	107.96	
215.0deg	136.08mt	992.46mt			5			1410.9	112.04	
								6	1421.0	108.86
								7	1410.9	120.20
								8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	409
				Potable Water	m3	158
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	0
				Gel	mt	59
				KCl Brine	m3	168
				Mud	m3	0
				Mud	m3	0
Nor Captain		17:30hrs 20 Jul 2008	Transit to Portland	Item	Unit	Quantity
				Fuel	m3	595.5
				Potable Water	m3	339
				Drill Water	m3	289
				Cement	mt	0
				Barite	mt	42
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:27	Ocean Patriot		2	
GYJ	11:39	Essendon		8	

From : Chris Roots / Nathan Peri OIM : Dennis Gore						
Well Data						
Country	Australia	Measured Depth	1084.0m	Current Hole Size	315mm	
Field		TVD	1077.0m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	432.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	6.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	7.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continued drilling ahead 311mm (12-1/4") hole from 1240mRT (1225 mTVD).			
RT-ML	86.9m	Planned Op	Drill to ~1350m, POH to change the bit. TIH and drill to section TD.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Picked up 311mm (12-1/4") BHA and TIH. Tagged TOC at 614m, drilled out Shoe track and 3.5m of new formation to 651m. Conducted LOT to EMW 2.12 sg (17.7ppg).
 Drilled 311mm (12-1/4") hole from 651m to 1084 mRT.

Operations For Period 0000 Hrs to 2400 Hrs on 21 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	HBHA	0000	0300	3.00	647.5m	Continued picking up the 311mm (12-1/4") BHA to 51m. Laid out 2 x 203mm (8") drill collars. Shallow pulse tested MWD tools, good test.
PH	P	HBHA	0300	0315	0.25	647.5m	Closed the diverter packer and flushed through the diverter lines to port and starboard.
PH	P	HBHA	0315	0500	1.75	647.5m	Compensated BHA through the wellhead, no obstructions observed. Continued running BHA.
PH	P	TI	0500	0530	0.50	647.5m	Continued TIH on 127mm (5") drill pipe.
PH	P	DFS	0530	0600	0.50	647.5m	Washed down and tagged TOC at 614 mRT. Prepared to drill out shoe track with sea water.
PH	P	DFS	0600	0930	3.50	651.0m	Drilled out shoe track from 614m to 642m. Displaced the hole from sea water to SW/Pac-R mud while drilling out the float shoe. Drilled 3.5m of new formation from 647.5 to 651m RT.
PH	P	CS	0930	1000	0.50	651.0m	Pulled the bit inside the shoe while circulating bottoms up. Geologist confirmed new formation over the shakers.
PH	P	LOT	1000	1130	1.50	651.0m	Flushed through lines with cement unit, closed the upper pipe rams and conducted a LOT: Shoe 642m TVDRT, pump pressure 6.89 MPa (1000psi), mud weight 1.036 sg (8.65ppg) = EMW 2.12 sg (17.7 ppg).
PH	P	DA	1130	1200	0.50	659.0m	Conducted SCR's and CLF's, drilled ahead 311mm (12-1/4") hole from 651m to 659 mRT.
PH	P	DA	1200	1900	7.00	968.0m	Continued to drill ahead from 659m to 968 mRT (309m). Reamed and surveyed on connections. Parameters: WOB 6.6-13.3 kdaNm (15-30 klbs), 130-150rpm, 3028 L/min (800gpm), torq 5.4 - 8.1 kNm (4-6 kft/lbs).
PH	P	CMD	1900	2000	1.00	968.0m	Displaced the hole to 1.10 sg (9.2ppg) KCL/Glycol mud dumping the SW/Pac-R mud. Conducted SCR's and CLF's.
PH	P	DA	2000	2330	3.50	1079.0m	Continued drilling ahead from 968m to 1079 mRT (111m).
PH	P	FC	2330	2345	0.25	1079.0m	Flow checked the well. Static
PH	P	DA	2345	2400	0.25	1084.0m	Drilled ahead from 1079m to 1084 mRT (1077 mTVD).

Operations For Period 0000 Hrs to 0600 Hrs on 22 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0100	1.00	1084.0m	Continued to drill ahead from 1084m to 1119 mRT. Reamed and surveyed on connections.
PH	P	FC	0100	0115	0.25	1119.0m	Flow checked the well. Static.
PH	P	DA	0115	0600	4.75	1240.0m	Continued to drill ahead from 1119m to 1240 mRT (1225 mTVD). Reamed and surveyed on connections. Parameters: WOB 6.6-13.3 kdaNm (15-30 klbs), 130-150rpm, 3785 L/min (1000gpm), torq 5.4 - 8.1 kNm (4-6 kft/lbs). Last survey: 1210.1mMD, 1197.95mTVD, 23.56° Incl, 117.6° Azi.

WBM Data									
Mud Type:	KGLY	API FL:	6cm ³ /30m	KCl:	8%	Solids:	2.9	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	240	H ₂ O:	97%	PV:	0.015Pa/s
Time:	23:00	HTHP-FL:		MBT:	1.5	Oil:		YP:	0.144MPa
Weight:	1.10sg	HTHP-Cake:		PM:	0.1	Sand:	1.0	Gels 10s:	0.043
Temp:	27.0C°			PF:	0.1	pH:	9	Gels 10m:	0.057
						PHPA:	1ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	29
								Fann 200:	38
								Fann 300:	45
								Fann 600:	60
Comment 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 = 330mm (13"). Good encapsulation 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.									

Bit # 3			Wear	I	O1	D	L	B	G	O2	R
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs		Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	14.06mt	No.	Size	Progress	432.0m	Cum. Progress	432.0m		
Type:	Rock	RPM(avg)	141	1	14/32nd"	On Bottom Hrs	8.40h	Cum. On Btm Hrs	8.40h		
Serial No.:	6066569	F.Rate	3278lpm	3	20/32nd"	IADC Drill Hrs	11.50h	Cum IADC Drill Hrs	11.50h		
Bit Model	MXL-1X	SPP	11032kPa			Total Revs	45700	Cum Total Revs	45700		
Depth In	647.5m	TFA	1.071			ROP(avg)	51.43 m/hr	ROP(avg)	51.43 m/hr		
Depth Out											

BHA # 3							
Weight(Wet)	34.02mt	Length	278.1m	Torque(max)	27200.0Nm	D.C. (1) Ann Velocity	75.17mpm
Wt Below Jar(Wet)	18.14mt	String	111.13mt	Torque(Off.Btm)	13600.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	5440.0Nm	H.W.D.P. Ann Velocity	62.98mpm
		Slack-Off	113.40mt			D.P. Ann Velocity	51.73mpm

BHA Run Description		Directional / FEWD					
Equipment		Length	OD	ID	Serial #	Comment	
Bit		0.34m	311mm		6066569		
Powerdrive 900		8.18m	311mm	127mm	CR5058	Xceed directional survey = 3.33m from the bit.	
Saver Sub		0.46m	229mm	127mm	CR59-015		
Saver Sub		0.36m	210mm	108mm	ASQ8058		
ARC-8		5.48m	213mm	76mm	1106	Resistivity & Gama = 11.1m from the bit.	
Saver Sub		0.34m	210mm	111mm	ASQ8012		
Power Pulse		7.69m	229mm	76mm	E0005	Powerpulse directional survey = 18.40m from the bit.	
Saver Sub		0.48m	210mm	111mm	ASQ8065		
NMDC		9.30m	213mm	83mm	SBD5552		
NMDC		9.30m	213mm	83mm	SBD5553		
Drill Collar		65.65m	203mm	73mm			
8in Jar		10.11m	210mm	76mm	718096		
Drill Collar		18.91m	203mm	73mm			
X/O		1.09m	203mm	67mm	GUD1231-6		
HWDP		140.40m	175mm	76mm			

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
919.19	12.2	123.9	917.38	-19.15	3.83	-19.15	15.80	MWD
948.90	12.9	122.1	946.38	-22.67	2.96	-22.67	21.21	MWD
979.41	13.4	120.9	976.08	-26.30	1.91	-26.30	27.15	MWD
1007.51	14.2	120.5	1003.37	-29.71	2.59	-29.71	32.91	MWD
1036.14	14.6	118.5	1031.11	-33.21	2.14	-33.21	39.09	MWD
1065.20	14.6	118.2	1059.23	-36.68	0.31	-36.68	45.52	MWD

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	103.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	100.0	DOGC	46
Fuel	M3	0	15.3	0	573.7	ESS	8
Potable Water	M3	31	28	0	366.0	BHI	6
Drill Water	M3	0	12	0	613.0	Dowell	2
						Rheochem	3
						TMT	3
						Cameron	5
						DOGC Service	5
						Santos	1
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	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	20 Jul 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	1 Day	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	28 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	14	21 Jul 2008	0 Days	Drill crew - 4 Deck Crew - 5 Welder - 2
Lost Time Incident	1	30 May 2008	52 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	0	13 May 2008	69 Days	No MTI since start of campaign
Pre-Tour Meeting	4	21 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	13	21 Jul 2008	0 Days	7 x hot work permits 6 x cold work permits
Rig Inspection	1	02 Jul 2008	19 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	21 Jul 2008	0 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	6	21 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	70	21 Jul 2008	0 Days	41 - Safe 29 - Corrective Actions
STOP Tour	1	21 Jul 2008	0 Days	1 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	176.7m³	Losses	273.6m³	Equip.	Descr.	Mesh Size	Hours
Active	69.8m³	Downhole		Centrifuge 1	MI Swaco		
Mixing	0.0m³	Surf+ Equip	122.7m³	Centrifuge 1	MI Swaco		6
Hole	86.2m³	Dumped	150.9m³	Centrifuge 2	MI Swaco		
Slug				Centrifuge 2	MI Swaco		0
Reserve	20.7m³	De-Sander		Shaker 1	Bem 650 - MI Swaco	20/20/84/84/84/84	
Kill		De-Silter		Shaker 1	Bem 650 - MI Swaco	20/20/84/84/84/84	18
Brine		Centrifuge		Shaker 2	Bem 650 - MI Swaco	20/20/84/84/84/84	
				Shaker 2	Bem 650 - MI Swaco	20/20/84/84/84/84	18
				Shaker 3	Bem 650 - MI Swaco	20/20/84/84/84/84	
				Shaker 3	Bem 650 - MI Swaco	20/20/84/84/84/84	18
				Shaker 4	Bem 650 - MI Swaco	20/20/84/84/84/84	
				Shaker 4	Bem 650 - MI Swaco	20/20/84/84/84/84	18
Comment Circulated and dumped all SW/Pac-R mud. Building whole mud until sea state calms and the boat can come in with brine. Repairs required on 1 x centrifuge (inhouse)							

Marine											
Weather check on 21 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period				Anchors
14.8km	44km/h	200.0deg	1022.00bar	10.0C°	2.0m	200.0deg	4sec	1	1382.9	99.79	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments					
1.0deg	0.7deg	1.50m	4.0m	230.0deg	12sec						
Rig Dir.	Ris. Tension	VDL		Comments							
215.0deg	136.08mt	955.27mt									
								2	1382.9	106.14	
								3	1399.9	112.04	
								4	1376.8	107.96	
								5	1410.9	110.22	
								6	1421.0	104.78	
								7	1410.9	117.93	
								8	1414.0	123.83	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	399
				Potable Water	m3	150
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	0
				Gel	mt	59
				KCl Brine	m3	168
				Mud	m3	0
				Mud	m3	0
Nor Captain		17:30hrs 20 Jul 2008	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	586
				Potable Water	m3	334
				Drill Water	m3	289
				Cement	mt	0
				Barite	mt	42
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	14:20	Ocean Patriot		15
GYJ	14:30	Essendon		4

From : Chris Roots / Nathan Peri
OIM : Dennis Gore

Well Data

Country	Australia	Measured Depth	1421.0m	Current Hole Size	315mm	
Field		TVD	1376.0m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	342.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	7.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	8.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Pulled into the Shoe at 642 mRT. Circulated bottoms up.			
RT-ML	86.9m	Planned Op	POH and change the bit. Memory dump FEWD tools.			
Rig Heading	215.0deg		TIH and drill to section TD ~1823m.			

Summary of Period 0000 to 2400 Hrs

Drilled 311mm (12-1/4") hole from 1240m to 1421 mRT.
Circulated bottoms up, pulled out on elevators (7 stands) from 1421m to 1220m.
Made up TDS and back reamed with pumps to 1028 mRT. Circulated bottoms up, cavings observed at the shakers. TIH to bottom, increased the mud weight from 1.11 sg (9.3ppg) to 1.17 sg (9.8ppg).

Operations For Period 0000 Hrs to 2400 Hrs on 22 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0100	1.00	1084.0m	Continued to drill ahead from 1084m to 1119 mRT. Reamed and surveyed on connections.
PH	P	FC	0100	0115	0.25	1119.0m	Flow checked the well. Static.
PH	P	DA	0115	0600	4.75	1240.0m	Continued to drill ahead from 1119m to 1240 mRT (1225 mTVD). Reamed and surveyed on connections. Parameters: WOB 6.8-13.6 t (15-30 klbs), 130-150rpm, 3785 L/min (1000gpm), torq 5.4 - 8.1 kNm (4-6 kft/lbs). Last survey: 1210.1mMD, 1197.95mTVD, 23.56° Incl, 117.6° Azi.
PH	P	DA	0600	1200	6.00	1240.0m	Continued drilling ahead from 1240m to 1344 mRT (1313 mTVD)
PH	P	DA	1200	1600	4.00	1421.0m	Continued to drill ahead from 1344m to 1421 mRT (1376 mTVD). Reamed and surveyed on connections. Parameters: WOB 18.1 t (40 klbs), 130-150rpm, 3785 L/min (1000gpm), 17.9 MPa (2600psi) , torq 5.4 - 8.1 kNm (4-6 kft/lbs). Last survey: 1379.95 mMD, 1343.08 mTVD, Incl 34.59°, Azi 115.6°.
PH	P	CMD	1600	1715	1.25	1421.0m	Circulated bottoms up and shakers clean. Take SCR's on bottom.
PH	P	FC	1715	1730	0.25	1421.0m	Flow check on bottom - Static.
PH	P	TOT	1730	1830	1.00	1421.0m	Pulled the first 7 stands on elevators from 1420m to 1258m with 22.7 t (50klbs) drag. Wiped stands, good hole.
PH	P	TOT	1830	2000	1.50	1421.0m	Made up TDS, circulated and back reamed from 1258m to 1084m. Parameters: 100rpm, 3785 L/min (1000gpm), torq 13.5 - 37.9 kNm (10-28 kft/lbs). TDS stalling out, worked pipe through, overpulled from 9.1 - 13.6 t (20-30 klbs).
PH	P	TO	2000	2015	0.25	1421.0m	Pulled two stands on elevators from 1084m to 1028m, good hole.
PH	P	CMD	2015	2130	1.25	1421.0m	Circulated bottoms up, shakers loaded with cuttings. Observed cavings coming over the shakers.
PH	TP (HC)	TI	2130	2230	1.00	1421.0m	Tripped back to bottom at 1420m (no fill). Slick hole to bottom.
PH	TP (HC)	DA	2230	2400	1.50	1421.0m	Circulated and increased the mud from 1.11 sg (9.3ppg) to 1.17 sg (9.8ppg). Observed the cutting & cavings reduced.

Operations For Period 0000 Hrs to 0600 Hrs on 23 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP (HC)	CMD	0000	0145	1.75	1421.0m	Continued circulating and raising the mud weight from 1.11 sg (9.3ppg) to 1.17 sg (9.8ppg).
PH	TP (HC)	FC	0145	0200	0.25	1421.0m	Flow checked - Static.
PH	TP (HC)	WTH	0200	0600	4.00	1421.0m	Back reamed from 1410m to 1276m (5 x stds). Pulled the next seven stands on elevators to 1028m. Overpulled 18.1 - 27.2 t (40-60 klbs) on elevators, made up TDS and backreamed with 100rpm, 3406 L/min (900gpm), 17.9 MPa (2600psi). Back reamed from 1028m to the shoe at 642m.

WBM Data									
Mud Type:	KGLY	API FL:	6cm ³ /30m	KCl:	8%	Solids:	3.52	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	800	H ₂ O:	96%	PV:	0.016Pa/s
Time:	17:00	HTHP-FL:		MBT:	2.5	Oil:		YP:	0.139MPa
Weight:	1.11sg	HTHP-Cake:		PM:	0.1	Sand:	1.2	Gels 10s:	0.043
Temp:	49.0C°			PF:	0.1	pH:	9	Gels 10m:	0.072
						PHPA:	1ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	28
								Fann 200:	38
								Fann 300:	45
								Fann 600:	61
Comment Low 6 rpm noted, attempted to increase same with the addition of Hi Vis Premix to the active, & also with 1050 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.									

Bit # 3				Wear	I	O1	D	L	B	G	O2	R
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	13.61mt	No.	Size	Progress			Cum. Progress			
Type:	Rock	RPM(avg)	160	1	14/32nd"	On Bottom Hrs			Cum. On Btm Hrs			
Serial No.:	6066569	F.Rate	3623lpm	3	20/32nd"	IADC Drill Hrs			Cum IADC Drill Hrs			
Bit Model	MXL-1X	SPP	15630kPa			Total Revs			Cum Total Revs			
Depth In	647.5m	TFA	1.071			ROP(avg)			ROP(avg)			
Depth Out												

BHA # 3							
Weight(Wet)	34.02mt	Length	278.1m	Torque(max)	38080.0Nm	D.C. (1) Ann Velocity	83.07mpm
Wt Below Jar(Wet)	18.14mt	String	111.13mt	Torque(Off.Btm)	14960.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	1360.0Nm	H.W.D.P. Ann Velocity	69.59mpm
		Slack-Off	113.40mt			D.P. Ann Velocity	57.17mpm

BHA Run Description		Directional / FEWD			
Equipment	Length	OD	ID	Serial #	Comment
Bit	0.34m	311mm		6066569	Xceed directional survey = 3.33m from the bit.
Powerdrive 900	8.18m	311mm	127mm	CR5058	
Saver Sub	0.46m	229mm	127mm	CR59-015	
Saver Sub	0.36m	210mm	108mm	ASQ8058	Resistivity & Gama = 11.1m from the bit.
ARC-8	5.48m	213mm	76mm	1106	
Saver Sub	0.34m	210mm	111mm	ASQ8012	
Power Pulse	7.69m	229mm	76mm	E0005	Powerpulse directional survey = 18.40m from the bit.
Saver Sub	0.48m	210mm	111mm	ASQ8065	
NMDC	9.30m	213mm	83mm	SBD5552	
NMDC	9.30m	213mm	83mm	SBD5553	
Drill Collar	65.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

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
1239.36	25.8	114.8	1224.55	-61.07	8.52	-61.07	92.98	MWD
1267.39	29.4	115.6	1249.40	-66.60	12.92	-66.60	104.71	MWD
1294.27	33.7	116.1	1272.30	-72.74	16.32	-72.74	117.36	MWD
1322.42	34.0	116.5	1295.67	-79.69	1.10	-79.69	131.42	MWD
1350.13	34.7	115.4	1318.56	-86.52	3.39	-86.52	145.47	MWD
1379.95	34.6	115.6	1343.09	-93.82	0.48	-93.82	160.77	MWD

Bulk Stocks						Personnel On Board		
Name	Unit	In	Used	Adjust	Balance	Company	Pax	
Barite	MT	0	2	0	101.0	Santos	4	
Gel	MT	0	0	0	53.0	Santos	2	
Cement	MT	0	0	0	100.0	DOGC	46	
Fuel	M3	0	16.3	-16	541.4	ESS	7	
Potable Water	M3	35	25	0	376.0	BHI	6	
Drill Water	M3	0	138	313	788.0	Dowell	2	
						Rheochem	3	
						TMT	3	
						Cameron	5	
						DOGC Service	5	
						Santos	1	
						Anadrill	2	
						Anadrill	2	
						Schlumberger Wireline	9	
						MI Swaco	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).

HSE Summary				
Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	20 Jul 2008	2 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	2 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	29 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	23	22 Jul 2008	0 Days	Drill crew - 6 Deck Crew - 11 Welder - 2 Mech - 2
Lost Time Incident	1	30 May 2008	53 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	0	13 May 2008	70 Days	No MTI since start of campaign
Pre-Tour Meeting	4	22 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	11	22 Jul 2008	0 Days	7 x hot work permits 4 x cold work permits
Rig Inspection	1	02 Jul 2008	20 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	2 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	0	22 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	87	22 Jul 2008	0 Days	45 - Safe 42 - Corrective Actions
STOP Tour	4	22 Jul 2008	0 Days	4 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).

Shakers, Volumes and Losses Data				Engineer : Kellie Jericho / Wojciech Czarny			
Available	318.8m³	Losses	67.6m³	Equip.	Descr.	Mesh Size	Hours
Active	77.3m³	Downhole	31.8m³	Centrifuge 1	MI Swaco		6
Mixing	0.0m³	Surf+ Equip	35.0m³	Centrifuge 1	MI Swaco		8
Hole	110.7m³	Dumped		Centrifuge 2	MI Swaco		0
Slug		De-Sander		Centrifuge 2	MI Swaco		0
Reserve	91.1m³	De-Silter		Shaker 1	Bem 650 - MI Swaco	20/20/84/84/84/84	18
Kill		Centrifuge	0.8m³	Shaker 1	Bem 650 - MI Swaco	20/20/165/165/200/200	6
Brine	39.7m³			Shaker 2	Bem 650 - MI Swaco	20/20/84/84/84/84	18
				Shaker 2	Bem 650 - MI Swaco	20/20/165/165/200/200	10
				Shaker 3	Bem 650 - MI Swaco	20/20/84/84/84/84	18
				Shaker 3	Bem 650 - MI Swaco	20/20/165/165/200/200	10
				Shaker 4	Bem 650 - MI Swaco	20/20/84/84/84/84	18
				Shaker 4	Bem 650 - MI Swaco	20/20/165/165/200/200	6
Comment #2 Centrifuge needs repair done (awaiting spare parts).							

Marine											
Weather check on 22 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	28km/h	20.0deg	1027.00bar	10.0C°	2.0m	220.0deg	3sec	1	1382.9	102.06	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments					
1.0deg	0.7deg	1.50m	5.0m	220.0deg	3sec						
Rig Dir.	Ris. Tension	VDL		Comments							
215.0deg	136.08mt	936.67mt									
								8	1414.0	122.02	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	01:30 16 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	390
				Potable Water	m3	142
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	0
				Gel	mt	59
				KCl Brine	m3	96
				Mud	m3	0
				Mud	m3	0
Nor Captain		17:30hrs 20 Jul 2008	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	584
				Potable Water	m3	329
				Drill Water	m3	289
				Cement	mt	42
				Barite	mt	84
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:07	Ocean Patriot		6	
GYJ	11:17	Essendon		7	

From : Chris Roots / Nathan Peri
OIM : Dennis Gore

Well Data

Country	Australia	Measured Depth	1474.0m	Current Hole Size	315mm	
Field		TVD	1420.0m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	53.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	8.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	9.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600 Drilled to 1527m (1463 mTVD). Continued drilling ahead.				
RT-ML	86.9m	Planned Op Drill to TD ~1823 mRT.				
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Backreamed out of the hole from 1421m to the casing shoe. Circulated 2 x bottoms up. Pulled out of hole and downloaded the LWD. Changed out the bit and ran in hole. Unable to pass through the wellhead x 340mm (13-3/8") cross over at 92m. POH and inspected the PDC bit for damage. Laidout 1 x drill collar and reran the PDC to the wellhead, made up the TDS and circulated the bit past the cross over. Continued running down to 1057m. Reamed from 1057m to bottom at 1421m. Drilled ahead 1474m.

Operations For Period 0000 Hrs to 2400 Hrs on 23 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP (HC)	CMD	0000	0145	1.75	1421.0m	Continued circulating and raising the mud weight from 1.11 sg (9.3ppg) to 1.17 sg (9.8ppg).
PH	TP (HC)	FC	0145	0200	0.25	1421.0m	Flow checked - Static.
PH	TP (HC)	WTH	0200	0600	4.00	1421.0m	Back reamed from 1410m to 1276m (5 x stds). Pulled the next seven stands on elevators to 1028m. Overpulled 17.7 - 26.6 t (40-60 klbs) on elevators, made up TDS and backreamed with 100rpm, 3406 L/min (900gpm), 17.9 MPa (2600psi). Back reamed from 1028m to the shoe at 642m.
PH	TP (HC)	CS	0600	0700	1.00	1421.0m	Circulated 2 x bottoms up volumes to clear the shakers.
PH	P	TO	0700	0900	2.00	1421.0m	POH to BHA at 280m.
PH	P	HBHA	0900	1130	2.50	1421.0m	Pulled BHA, downloaded the LWD. Broke out bit and installed a new 311mm (12-1/4") PDC bit. TIH new PDC and BHA to 92m.
PH	TP (CWR)	WTH	1130	1700	5.50	1421.0m	Unable to pass through the 508mm x 340mm (20" x 13-3/8") XO at 92m. Made several attempts to pass through on elevators. Pulled the bit to surface to check the condition of the bit, OK. Reran BHA, laid out a 203mm (8") drill collar and picked up a 127mm (5") drill pipe single. Made up the TDS and circulated the bit past the obstruction at 92m. No tag observed while running past.
PH	P (CWR)	WTH	1700	1830	1.50	1421.0m	Continued TIH to 1057m, unable to work past on elevators.
PH	P (HC)	WTH	1830	2200	3.50	1421.0m	Made up TDS, reamed to bottom with 100rpm, 3028 L/min (800gpm), torq 13.5-37.8 kNm (10-28 kft/lbs). Weighed up mud from 1.17 sg to 1.24 sg (9.8ppg to 10.4ppg).
PH	P	DA	2200	2230	0.50	1421.0m	Washed to bottom (no fill). Patterned in new 311mm (12-1/4") PDC bit.
PH	P	DA	2230	2400	1.50	1474.0m	Drilled ahead from 1421m to 1474 mRT (1420 mTVD). Reamed and surveyed on connections. Parameters: WOB 2.2-8.9 t (5-20 klbs), 130-150rpm, 3785 L/min (1000gpm), torq 6.7 - 20.3 kNm (4-15 kft/lbs), 19.3 MPa (2800psi).

Operations For Period 0000 Hrs to 0600 Hrs on 24 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0430	4.50	1523.0m	Continued to drill ahead from 1474m to 1522 mRT (1460 mTVD). Reamed and surveyed on connections. Parameters: WOB 4.4-17.8 t (10-40 klbs), 130-150rpm, 3785 L/min (1000gpm), 19.3 MPa (2800psi), torq 5.4 - 8.1 kNm (4-6 kft/lbs). Mud weight 1.32 sg (11.0 ppg) from 1515 mRT.
PH	P	DA	0430	0600	1.50	1524.0m	Continued to drill ahead from 1522m to 1524mRT (1463 mTVD). Varied parameters for max ROP. Last survey: 1494mMD, 1436 mTVD, Incl 35.09°, Azi 116.37°.

WBM Data									
Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	8%	Solids:	7.82	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	800	H ₂ O:	92%	PV:	0.020Pa/s
Time:	22:45	HTHP-FL:		MBT:	5	Oil:		YP:	0.129MPa
Weight:	1.25sg	HTHP-Cake:		PM:	0.1	Sand:	00.5	Gels 10s:	0.043
Temp:	49.0C°			PF:	0.1	pH:	9	Gels 10m:	0.072
						PHPA:	1ppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	32
								Fann 200:	44
								Fann 300:	53
								Fann 600:	73
Comment 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..									

Bit # 3				Wear	I	O1	D	L	B	G	O2	R
					1	3	CT	N1	E	3	ER	PR
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)		No.	Size	Progress		0.0m	Cum. Progress		774.0m	
Type:	Rock	RPM(avg)		1	14/32nd"	On Bottom Hrs		0.00h	Cum. On Btm Hrs		13.00h	
Serial No.:	6066569	F.Rate		3	20/32nd"	IADC Drill Hrs		0.00h	Cum IADC Drill Hrs		27.50h	
Bit Model	MXL-1X	SPP				Total Revs		0	Cum Total Revs		121700	
Depth In	647.5m	TFA	1.071			ROP(avg)		N/A	ROP(avg)		59.54 m/hr	
Depth Out	1421.0m											
Daily Comment		Back reaming was required from 1421m to the shoe at 642m (779m). The bit was 3/16" under gauge with chipped teeth on cones 1 & 2.										
Run Comment		Back reamed out of the hole to the shoe.										
Bitwear Comment		Chipped teeth on cones 1 & 2 only. Cone 3 is in good shape. Back reaming was require from 1421m to the shoe at 642m (779m).										

Bit # 4				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		53.0m	Cum. Progress		53.0m	
Type:	Rock	RPM(avg)	160	6	16/32nd"	On Bottom Hrs		1.60h	Cum. On Btm Hrs		1.60h	
Serial No.:	215850	F.Rate	3808lpm			IADC Drill Hrs		2.00h	Cum IADC Drill Hrs		2.00h	
Bit Model	RSX616-A16	SPP	20340kPa			Total Revs		15000	Cum Total Revs		15000	
Depth In	1421.0m	TFA	1.178			ROP(avg)		33.13 m/hr	ROP(avg)		33.13 m/hr	
Depth Out												
Daily Comment		Reamed back into the hole from 1,056m to bottom at 1,421m.										

BHA # 3							
Weight(Wet)	36.29mt	Length	278.1m	Torque(max)	38080.0Nm	D.C. (1) Ann Velocity	0mpm
Wt Below Jar(Wet)	18.14mt	String	111.13mt	Torque(Off.Btm)	14960.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	1360.0Nm	H.W.D.P. Ann Velocity	0mpm
		Slack-Off	113.40mt			D.P. Ann Velocity	0mpm
BHA Run Description		Directional / FEWD					
BHA Run Comment		Pulled the BHA to change the bit and rerun the same BHA.					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.34m	311mm		6066569	
Powerdrive 900	8.18m	311mm	127mm	CR5058	Xceed directional survey = 3.33m from the bit.
Saver Sub	0.46m	229mm	127mm	CR59-015	
Saver Sub	0.36m	210mm	108mm	ASQ8058	
ARC-8	5.48m	213mm	76mm	1106	Resistivity & Gama = 11.1m from the bit.
Saver Sub	0.34m	210mm	111mm	ASQ8012	
Power Pulse	7.69m	229mm	76mm	E0005	Powerpulse directional survey = 18.40m from the bit.
Saver Sub	0.48m	210mm	111mm	ASQ8065	
NMDC	9.30m	213mm	83mm	SBD5552	
NMDC	9.30m	213mm	83mm	SBD5553	
Drill Collar	65.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

BHA # 4

Weight(Wet)	36.29mt	Length	278.1m	Torque(max)	25840.0Nm	D.C. (1) Ann Velocity	87.33mpm
Wt Below Jar(Wet)	20.41mt	String	111.13mt	Torque(Off.Btm)	12240.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	5440.0Nm	H.W.D.P. Ann Velocity	73.16mpm
		Slack-Off	113.40mt			D.P. Ann Velocity	60.09mpm

BHA Run Description

Directional / FEWD

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.27m	311mm		2158520	6 x 16 nozzles
Powerdrive 900	8.18m	311mm	127mm	CR5058	Xceed directional survey = 3.33m from the bit.
Saver Sub	0.46m	229mm	127mm	CR59-015	
Saver Sub	0.36m	210mm	108mm	ASQ8058	
ARC-8	5.48m	213mm	76mm	1106	Resistivity & Gama = 11.1m from the bit.
Saver Sub	0.34m	210mm	111mm	ASQ8012	
Power Pulse	7.69m	229mm	76mm	E0005	Powerpulse directional survey = 18.40m from the bit.
Saver Sub	0.48m	210mm	111mm	ASQ8065	
NMDC	9.30m	213mm	83mm	SBD5552	
NMDC	9.30m	213mm	83mm	SBD5553	
Drill Collar	65.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

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
1408.27	35.1	116.5	1366.34	-100.93	2.44	-100.93	175.30	MWD
1436.16	34.9	116.2	1389.20	-108.01	0.94	-108.01	189.62	MWD
1465.63	35.2	116.1	1413.33	-115.46	0.96	-115.46	204.81	MWD

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	28	0	73.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	100.0	DOGC	46
Fuel	M3	0	10.8	0	530.6	ESS	7
Potable Water	M3	33	26	0	383.0	BHI	6
Drill Water	M3	0	60	0	728.0	Dowell	2
						Rheochem	2
						TMT	3
						Cameron	3
						DOGC Service	5
						Santos	1
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						Total	95

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	20 Jul 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	3 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	30 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	25	23 Jul 2008	0 Days	Drill crew - 10 Deck Crew - 11 Welder - 2 Mech - 2
Lost Time Incident	1	30 May 2008	54 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	0	13 May 2008	71 Days	No MTI since start of campaign
Medical Treatment Incident	1	23 Jul 2008	0 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.
Pre-Tour Meeting	4	23 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	12	23 Jul 2008	0 Days	6 x hot work permits 6 x cold work permits
Rig Inspection	1	02 Jul 2008	21 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	3 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	0	23 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	74	23 Jul 2008	0 Days	40 - Safe 34 - Corrective Actions
STOP Tour	0	23 Jul 2008	0 Days	0 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).
Trip/Pit Drill	1	23 Jul 2008	0 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	401.2m³	Losses	9.4m³	Equip.	Descr.	Mesh Size	Hours
Active	89.5m³	Downhole	9.4m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip		Centrifuge 2	MI Swaco		0
Hole	114.5m³	Dumped		Shaker 3	Bem 650 - MI Swaco	20/20/165/165/200/200	14
Slug		De-Sander		Shaker 4	Bem 650 - MI Swaco	20/20/165/165/200/200	14
Reserve	127.2m³	De-Silter		Shaker 5	Bem 650 - MI Swaco	20/20/165/165/200/200	14
Kill		Centrifuge		Shaker 6	Bem 650 - MI Swaco	20/20/165/165/200/200	14
Brine	70.0m³						
Comment	#2 Centrifuge needs repair done (awaiting spare parts).						

Marine											
Weather check on 23 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	22km/h	235.0deg	1033.00bar	14.0C°	0.5m	235.0deg	3sec	1	1382.9	99.79	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments					
1.0deg	0.7deg	1.50m	2.0m	200.0deg	12sec						
Rig Dir.	Ris. Tension	VDL		Comments							
215.0deg	120.20mt	949.37mt									
								2	1382.9	103.87	
								3	1399.9	112.04	
								4	1376.8	103.87	
								5	1410.9	112.04	
								6	1421.0	103.87	
								7	1410.9	117.93	
								8	1414.0	120.20	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:15 23 Jul 08	Transit to Portland	Item	Unit	Quantity
				Fuel	m3	380
				Potable Water	m3	142
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	0
				Gel	mt	59
				KCl Brine	m3	37.5
				Mud	m3	0
				Mud	m3	0
Nor Captain	21:40 23 Jul 2008		On location.	Item	Unit	Quantity
				Fuel	m3	581
				Potable Water	m3	324
				Drill Water	m3	289
				Cement	mt	42
				Barite	mt	84
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:01	Ocean Patriot		5	
GYJ	11:17	Essendon		8	

From : Chris Roots / Nathan Peri							
OIM : Dennis Gore							
Well Data							
Country	Australia	Measured Depth	1870.0m	Current Hole Size	311mm		
Field		TVD	1744.2m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	396.0m	Shoe MD	642.2m		
Rig	Ocean Patriot	Days from spud	9.71	Shoe TVD	642.2m		
Water Depth (LAT)	65.4m	Days on well	10.48	F.I.T. / L.O.T.	/ 2.12sg		
		Planned TD	2503.0m				
RT-SL(LAT)	21.5m	Current Op @ 0600	Pulled out of hole to 1287mRT.				
RT-ML	86.9m	Planned Op	Continue POH, lay out FEWD tools and 311mm (12-1/4") bit.				
Rig Heading	215.0deg	Rig up Schlumberger and log the well.					

Summary of Period 0000 to 2400 Hrs

Drilled 311mm (12-1/4") hole from 1474m to total depth 1870m RT (1744.6 mTVD).
Circulated until shakers clear.

Operations For Period 0000 Hrs to 2400 Hrs on 24 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	DA	0000	0430	4.50	1523.0m	Continued to drill ahead from 1474m to 1522 mRT (1460 mTVD). Reamed and surveyed on connections. Parameters: WOB 4.4-17.8 t (10-40 klbs), 130-150rpm, 3785 L/min (1000gpm), 19.3 MPa (2800psi) , torq 5.4 - 8.1 kNm (4-6 kft/lbs). Mud weight 1.32 sg (11.0 ppg) from 1515 mRT.
PH	P	DA	0430	0600	1.50	1524.0m	Continued to drill ahead from 1522m to 1524mRT (1463 mTVD). Varied parameters for max ROP. Last survey: 1494mMD, 1436 mTVD, Incl 35.09°, Azi 116.37°.
PH	P	DA	0600	1200	6.00	1661.0m	Continued to drill 311mm (12-1/4") hole from 1524 m to 1661m (1558mTVD). Reamed and surveyed connections.
PH	P	DA	1200	1800	6.00	1803.0m	Continued to drill 311mm (12-1/4") hole from 1661 m to 1803 m (1718mTVD). Reamed and surveyed connections.
PH	P	FC	1800	1815	0.25	1803.0m	Flow checked drilling break at 1803m - Static.
PH	P	DA	1815	2300	4.75	1870.0m	Continued to drill 311mm (12-1/4") hole from 1803 m to 1870 m (1744.2mTVD). Maximum background gas 15%. Geologist called total depth at 1870 mRT. Projected Survey: 1870mRT, 1744.2 mTVD, Inc 35.38°, Azi 119.23°
PH	P	CHC	2300	2400	1.00	1870.0m	Reciprocated and circulated until shakers were clear at 3785 L/min (1000gpm) and 120 rpm.

Operations For Period 0000 Hrs to 0600 Hrs on 25 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	CHC	0000	0100	1.00	1870.0m	Continued circulating until shakers cleared. Circulated 3 x bottoms up volumes at 3785 L/min (1000gpm), 120rpm.
PH	P	FC	0100	0115	0.25	1870.0m	Flow checked the well - Static. Prepared the floor for tripping.
EP	P	TO	0115	0300	1.75	1870.0m	POH from 1870m to 1575m. Worked pipe to 26.7 kdaNm (60klbs), the pipe started swabbing in.
EP	P	CHC	0300	0400	1.00	1870.0m	Made up TDS, circulated and worked the stand from 1575m to 1546m at 3785 L/min, 120 rpm, torq 13 - 38 kNm (10-28 kft/lbs). Cutting returns observed over the shakers, circulated 2 x bottoms up volumes until the shakers cleared.
EP	P	WTH	0400	0600	2.00	1870.0m	Attempted to pull the next stand on elevators, overpull observed. Made up TDS and back reamed out from 1546m to 1287m.

WBM Data									
Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	9%	Solids:	10.75	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	800	H ₂ O:	89%	PV:	0.026Pa/s
Time:	23:30	HTHP-FL:		MBT:	5	Oil:		YP:	0.196MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.1	Sand:	00.6	Gels 10s:	0.053
Temp:	60.0C°			PF:	0.1	pH:	9	Gels 10m:	0.110
						PHPA:	Oppb	Fann 003:	11
								Fann 006:	14
								Fann 100:	40
								Fann 200:	55
								Fann 300:	67
								Fann 600:	93
Comment 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.									

Bit # 4				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)	13.61mt	No.	Size	Progress		396.0m	Cum. Progress		449.0m		
Type:	Rock	RPM(avg)	160	6	16/32nd"	On Bottom Hrs		15.80h	Cum. On Btm Hrs		17.40h		
Serial No.:	215850	F.Rate	3623lpm			IADC Drill Hrs		23.00h	Cum IADC Drill Hrs		25.00h		
Bit Model	RSX616-A16	SPP	19995kPa			Total Revs		159700	Cum Total Revs		174700		
Depth In	1421.0m	TFA	1.178			ROP(avg)		25.06 m/hr	ROP(avg)		25.80 m/hr		
Depth Out	1870.0m												
Daily Comment		Total depth 1870m (1744.6mTVD) reached at 23:00hrs 24th July 08.											

BHA # 4							
Weight(Wet)	36.29mt	Length	278.1m	Torque(max)	38080.0Nm	D.C. (1) Ann Velocity	83.07mpm
Wt Below Jar(Wet)	20.41mt	String	117.93mt	Torque(Off.Btm)	14960.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	122.47mt	Torque(On.Btm)	5440.0Nm	H.W.D.P. Ann Velocity	69.59mpm
		Slack-Off	122.47mt			D.P. Ann Velocity	57.17mpm

BHA Run Description		Directional / FEWD					
Equipment		Length	OD	ID	Serial #	Comment	
Bit		0.27m	311mm		2158520	6 x 16 nozzles	
Powerdrive 900		8.18m	311mm	127mm	CR5058		
Saver Sub		0.46m	229mm	127mm	CR59-015	Resistivity & Gama = 11.1m from the bit.	
Saver Sub		0.36m	210mm	108mm	ASQ8058		
ARC-8		5.48m	213mm	76mm	1106		
Saver Sub		0.34m	210mm	111mm	ASQ8012		
Power Pulse		7.69m	229mm	76mm	E0005	Powerpulse directional survey = 18.40m from the bit.	
Saver Sub		0.48m	210mm	111mm	ASQ8065		
NMDC		9.30m	213mm	83mm	SBD5552		
NMDC		9.30m	213mm	83mm	SBD5553		
Drill Collar		65.65m	203mm	73mm			
8in Jar		10.11m	210mm	76mm	718096		
Drill Collar		18.91m	203mm	73mm			
X/O		1.09m	203mm	67mm	GUD1231-6		
HWDP		140.40m	175mm	76mm			

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
1725.28	34.9	120.3	1625.83	-183.69	1.81	-183.69	337.45	MWD
1753.73	35.0	120.9	1649.15	-191.99	1.21	-191.99	351.47	MWD
1781.62	35.1	120.7	1671.99	-200.18	0.55	-200.18	365.22	MWD
1811.05	35.2	120.2	1696.06	-208.76	1.03	-208.76	379.83	MWD
1838.59	35.2	119.4	1718.56	-216.65	1.68	-216.65	393.60	MWD
1870.00	35.4	119.2	1744.21	-225.54	0.72	-225.54	409.42	MWD

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	73.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	40	0	0	140.0	DOGC	46
Fuel	M3	0	21.6	0	509.0	ESS	7
Potable Water	M3	37	25	0	395.0	BHI	6
Drill Water	M3	324	5	0	1,047.0	Dowell	2
						Rheochem	2
						TMT	3
						Cameron	3
						Santos	1
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						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	20 Jul 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	4 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	31 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	20	24 Jul 2008	0 Days	Drill crew - 3 Deck Crew - 12 Welder - 2 Mech - 3
Lost Time Incident	1	30 May 2008	55 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	0	13 May 2008	72 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	0 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	24 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	14	24 Jul 2008	0 Days	6 x hot work permits 8 x cold work permits
Rig Inspection	1	02 Jul 2008	22 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	4 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	0	24 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	48	24 Jul 2008	0 Days	26 - Safe 22 - Corrective Actions
STOP Tour	1	24 Jul 2008	0 Days	1 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).
Trip/Pit Drill	1	24 Jul 2008	0 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	433.4m³	Losses	51.8m³	Equip.	Descr.	Mesh Size	Hours
Active	104.6m³	Downhole		Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	51.8m³	Centrifuge 1	MI Swaco		0
Hole	143.2m³	Dumped		Centrifuge 2	MI Swaco		0
Slug		De-Sander		Centrifuge 2	MI Swaco		0
Reserve	115.6m³	De-Silter		Shaker 3	Bem 650 - MI Swac20/20/165/165/200/200		14
Kill		Centrifuge		Shaker 3	Bem 650 - MI Swac20/20/165/165/200/200		24
Brine	70.0m³			Shaker 4	Bem 650 - MI Swac20/20/165/165/200/200		14
				Shaker 4	Bem 650 - MI Swac20/20/165/165/200/200		24
				Shaker 5	Bem 650 - MI Swac20/20/165/165/200/200		14
				Shaker 5	Bem 650 - MI Swac20/20/165/165/200/200		24
				Shaker 6	Bem 650 - MI Swac20/20/165/165/200/200		14
				Shaker 6	Bem 650 - MI Swac20/20/165/165/200/200		24
Comment				#2 Centrifuge needs repair done (awaiting spare parts).			

Marine										
Weather check on 24 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
18.5km	31km/h	45.0deg	1026.00bar	12.0C°	0.3m	0.0deg	3sec	1	1382.9	99.79
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	103.87
1.0deg	0.7deg	1.50m	1.5m	235.0deg	12sec			3	1399.9	112.04
Rig Dir.	Ris. Tension	VDL	Comments		4			1376.8	103.87	
215.0deg	120.20mt	955.72mt			5			1410.9	112.04	
								6	1421.0	103.87
								7	1410.9	117.93
								8	1414.0	120.20

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:15 23 Jul 08	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	375
				Potable Water	m3	134
				Drill Water	m3	166
				Cement	mt	0
				Barite	mt	42
				Gel	mt	59
				KCl Brine	m3	141
				Mud	m3	0
				Mud	m3	0
Nor Captain	21:40 23 Jul 2008		On location.	Item	Unit	Quantity
				Fuel	m3	581
				Potable Water	m3	324
				Drill Water	m3	289
				Cement	mt	42
				Barite	mt	84
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:09	Ocean Patriot		3	
GYJ	11:21	Essendon		8	

From : Peter Devine / Nathan Peri
OIM : Dennis Gore

Well Data

Country	Australia	Measured Depth	1870.0m	Current Hole Size	315mm	
Field		TVD	1744.6m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	10.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	11.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Continued running wiper trip down to 642 mRT			
RT-ML	86.9m	Planned Op	Run a wiper trip to 1365m, reciprocate and work tight hole. Run to bottom and circulate bottoms up. POH. Run logging tools as per programme.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Circulated 3 x bottoms up volumes until the shakers were clean. POH to tight hole at 1575m. Back reamed to the shoe at 642m.
Circulated until shakers clean. POH and laid out FEWD.
Rigged up wireline. Run logging tool run #1 down to 1365m. Unable to pass this depth. POH and change bottom configuration of tools. Rerun the log down to 990m.

Operations For Period 0000 Hrs to 2400 Hrs on 25 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	P	CHC	0000	0100	1.00	1870.0m	Continued circulating until shakers cleared. Circulated 3 x bottoms up volumes at 3785 L/min (1000gpm), 120rpm.
EP	P	FC	0100	0115	0.25	1870.0m	Flow checked the well. Prepared the floor for tripping.
EP	P	TO	0115	0300	1.75	1870.0m	POH from 1870m to 1575m. Worked pipe to 26.7 kdaNm (60klbs), the pipe started swabbing in.
EP	P	CHC	0300	0400	1.00	1870.0m	Made up TDS, circulated and worked the stand from 1575m to 1546m at 3785 L/min, 120 rpm, torq 13 - 38 kNm (10-28 kft/lbs). Cutting returns observed over the shakers, circulated 2 x bottoms up volumes until the shakers cleared.
EP	P	WTH	0400	0600	2.00	1870.0m	Attempted to pull the next stand on elevators, overpull observed. Made up TDS and back reamed out from 1546m to 1287m.
EP	P	WTH	0600	1030	4.50	1870.0m	Continued back reaming from 1287m to the casing shoe at 642m. Parameters: 120rpm, 3785 L/min (1000gpm), torq 13 - 38 kNm (10-28 kft/lbs)
EP	P	CHC	1030	1100	0.50	1870.0m	Circulated at the shoe until shakers clear (2 x BU).
EP	P	FC	1100	1115	0.25	1870.0m	Flow checked the well, pumped 1.6 m³ (10bbl), 1.5 sg (13ppg) slug.
EP	P	TO	1115	1230	1.25	1870.0m	POH to the BHA at 270m
EP	P	HBHA	1230	1500	2.50	1870.0m	Pulled and racked back the BHA. Unable to break out the ARC-8 from the Powerpulse (galled). Laid out both pieces as one.
EP	P	LOG	1500	1530	0.50	1870.0m	Held Wireline JSA. Rigged up to run wireline logging tools.
EP	P	LOG	1530	1800	2.50	1870.0m	Made up logging run #1 tools: PEX-HRLA-MSIP.
EP	P	LOG	1800	2100	3.00	1870.0m	Run logging tool #1, unable to pass through at 1365 mRT. Attempted to pass tight spot varying speeds.
EP	P (HC)	LOG	2100	2300	2.00	1870.0m	Pulled out to change the tool configuration. Tools at surface. Laid out tools and nuclear source. Changed out the bottom bull nose sub for an extended tapered nose sub. Picked up the tools and rerun.
EP	TP (HC)	LOG	2300	2400	1.00	1870.0m	Continued to run new bottom configuration logging tool #1.

Operations For Period 0000 Hrs to 0600 Hrs on 26 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0200	2.00	1870.0m	Continued running logging tool run #1: PEX-HRLA-MSIP. Tagged up again at 1365m, unable to pass this depth after several attempts. POH.
EP	TP (HC)	LOG	0200	0300	1.00	1870.0m	Rigged down wireline. Static mud losses of 0.25 m³/hr (1.5 bbl/hr).
EP	TP (HC)	HBHA	0300	0500	2.00	1870.0m	Picked up new 311mm (12-1/4") bit and BHA to 230 mRT. Note: Tagged casing swedge at 92m, slow rotation and the bit passed through.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	TI	0500	0600	1.00	1870.0m	Continued 311mm (12-1/4") wiper trip to 642 mRT.

WBM Data

Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	9%	Solids:	11.81	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	800	H2O:	88%	PV:	0.022Pa/s
Time:	18:00	HTHP-FL:		MBT:	5	Oil:		YP:	0.201MPa
Weight:	1.34sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.048
Temp:				PF:	0.07	pH:	9	Gels 10m:	0.110
						PHPA:	Oppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	38
								Fann 200:	51
								Fann 300:	64
								Fann 600:	86

Comment 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 observed due to LGS invasion while reaming. Losses during logging 10 bbl. Charge off remaining Barite from yesterday's usage.

Bit # 4				Wear	I	O1	D	L	B	G	O2	R
					3	4	CT	A	X	1	ER	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			449.0m
Type:	Rock	RPM(avg)	160	6	16/32nd"	On Bottom Hrs		0.00h	Cum. On Btm Hrs			17.40h
Serial No.:	215850	F.Rate	3623lpm			IADC Drill Hrs		0.00h	Cum IADC Drill Hrs			25.00h
Bit Model	RSX616-A16	SPP	19995kPa			Total Revs		0	Cum Total Revs			174700
Depth In	1421.0m	TFA	1.178			ROP(avg)		N/A	ROP(avg)			25.80 m/hr
Depth Out	1870.0m											

Daily Comment Back reamed from 1575m to the casing shoe at 642m.

Bitwear Comment Several chipped teeth on the bit in all areas. Some erosion inside the bit by the nozzle fluid entrance.

BHA # 4

Weight(Wet)	36.29mt	Length	278.1m	Torque(max)	38080.0Nm	D.C. (1) Ann Velocity	83.07mpm
Wt Below Jar(Wet)	20.41mt	String	117.93mt	Torque(Off.Btm)	14960.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	122.47mt	Torque(On.Btm)	5440.0Nm	H.W.D.P. Ann Velocity	69.59mpm
		Slack-Off	122.47mt			D.P. Ann Velocity	57.17mpm

BHA Run Description Directional / FEWD

BHA Run Comment ACR-8 and Powerdrive tools galled when trying to breakout and lay out. Laid out the pieces as one.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.27m	311mm		2158520	6 x 16 nozzles
Powerdrive 900	8.18m	311mm	127mm	CR5058	
Saver Sub	0.46m	229mm	127mm	CR59-015	Xceed directional survey = 3.33m from the bit.
Saver Sub	0.36m	210mm	108mm	ASQ8058	
ARC-8	5.48m	213mm	76mm	1106	
Saver Sub	0.34m	210mm	111mm	ASQ8012	Resistivity & Gama = 11.1m from the bit.
Power Pulse	7.69m	229mm	76mm	E0005	
Saver Sub	0.48m	210mm	111mm	ASQ8065	Powerpulse directional survey = 18.40m from the bit.
NMDC	9.30m	213mm	83mm	SBD5552	
NMDC	9.30m	213mm	83mm	SBD5553	
Drill Collar	65.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	65	0	8.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	48
Fuel	M3	0	16.2	0	492.8	ESS	8
Potable Water	M3	19	23	0	391.0	BHI	6
Drill Water	M3	0	42	0	1,005.0	Dowell	2
						Rheochem	2
						TMT	3
						Cameron	3
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	1
						Total	93

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	20 Jul 2008	5 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	5 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	32 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
JHA	22	25 Jul 2008	0 Days	Drill crew - 6 Deck Crew - 13 Welder - 0 Mech - 3
Lost Time Incident	1	30 May 2008	56 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	0	13 May 2008	73 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	1 Day	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	25 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	13	25 Jul 2008	0 Days	7 x hot work permits 6 x cold work permits
Rig Inspection	1	02 Jul 2008	23 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	5 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	4	25 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	67	25 Jul 2008	0 Days	43 - Safe 24 - Corrective Actions
STOP Tour	1	24 Jul 2008	1 Day	1 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).
Trip/Pit Drill	1	24 Jul 2008	1 Day	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	415.4m³	Losses	15.3m³	Equip.	Descr.	Mesh Size	Hours
Active	91.4m³	Downhole	1.6m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	13.7m³	Centrifuge 1	MI Swaco		0
Hole	143.2m³	Dumped		Centrifuge 2	MI Swaco		0
Slug		De-Sander		Centrifuge 2	MI Swaco		0
Reserve	110.8m³	De-Silter		Shaker 3	Bem 650 - MI Swac	20/20/165/165/200/200	24
Kill		Centrifuge		Shaker 3	Bem 650 - MI Swac	0/20/230/230/230/230	12
Brine	70.0m³			Shaker 4	Bem 650 - MI Swac	20/20/165/165/200/200	24
				Shaker 4	Bem 650 - MI Swac	0/20/230/230/230/230	12
				Shaker 5	Bem 650 - MI Swac	20/20/165/165/200/200	24
				Shaker 5	Bem 650 - MI Swac	0/20/230/230/230/230	12
				Shaker 6	Bem 650 - MI Swac	20/20/165/165/200/200	24
				Shaker 6	Bem 650 - MI Swac	0/20/230/230/230/230	12
Comment #2 Centrifuge needs repair done (awaiting spare parts).							

Marine											
Weather check on 25 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	33km/h	0.0deg	1019.00bar	14.0C°	0.5m	0.0deg	3sec	1	1382.9	99.79	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	103.87	
1.0deg	0.7deg	1.50m	2.5m	235.0deg	12sec			3	1399.9	112.04	
								4	1376.8	103.87	
Rig Dir.	Ris. Tension	VDL		Comments				5	1410.9	112.04	
215.0deg	120.20mt	945.29mt						6	1421.0	103.87	
								7	1410.9	117.93	
								8	1414.0	120.20	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:15 23 Jul 08	Transit to Portland	Item	Unit	Quantity
				Fuel	m3	698
				Potable Water	m3	190
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	0
Nor Captain	21:40 23 Jul 2008		On location.	Item	Unit	Quantity
				Fuel	m3	581
				Potable Water	m3	324
				Drill Water	m3	289
				Cement	mt	42
				Barite	mt	84
				Gel	mt	42
				Mud	m3	140
				KCl Brine	m3	0

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	11:29	Ocean Patriot		13
GYJ	11:46	Essendon		10

From : Chris Roots / Nathan Peri
OIM : Dennis Gore
Well Data

Country	Australia	Measured Depth	1870.0m	Current Hole Size	315mm	
Field		TVD	1744.6m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	11.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	12.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Tripped into 893m with wiper BHA.			
RT-ML	86.9m	Planned Op	Make a wiper trip through the tight hole at 1763m. Wash and ream the section and run to bottom, circulate bottoms up, POH.			
Rig Heading	215.0deg		Rerun logging tools.			

Summary of Period 0000 to 2400 Hrs

POH logging tools run #1, unable to pass 1365m.
Picked up Wiper BHA and RIH. Tagged at 1365m, washed and reamed across 1237m to 1400m section until slick. Continued running wiper to bottom on elevators to 1556m. Washed and reamed down to TD at 1870m.
Circulated bottoms up. POH pumping out of the hole only to the Shoe.
RU wireline and run log #1 to 1763m.

Operations For Period 0000 Hrs to 2400 Hrs on 26 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0200	2.00	1870.0m	Continued running logging tool run #1: PEX-HRLA-MSIP. Tagged up again at 1365m, unable to pass this depth after several attempts. POH.
EP	TP (HC)	LOG	0200	0300	1.00	1870.0m	Rigged down wireline. Static mud losses of 0.25 m³/hr (1.5 bbl/hr).
EP	TP (HC)	HBHA	0300	0500	2.00	1870.0m	Picked up new 311mm (12-1/4") bit and BHA to 230 mRT. Note: Tagged casing swedge at 92m, slow rotation and the bit passed through.
EP	TP (HC)	TI	0500	0600	1.00	1870.0m	Continued 311mm (12-1/4") wiper trip to 642 mRT.
EP	TP (HC)	TI	0600	0700	1.00	1870.0m	Continued RIH, observed 4.4 - 6.7 kdaNm (10-15 klbs) drag down to 1250m.
EP	TP (HC)	WTH	0700	0830	1.50	1870.0m	Made up TDS and washed and reamed down from 1250m to 1400m. Tagged at 1365m with 13.3 kdaNm (30 klbs), reamed through and wiped clear to 1400m. Parameters:150 rpm, 3785 L/min (1000gpm).
EP	TP (HC)	TI	0830	0900	0.50	1870.0m	Continued RIH on elevators to 1566m, noted 4.4 - 6.7 kdaNm (10-15 klbs) drag.
EP	TP (HC)	WTH	0900	1100	2.00	1870.0m	Drag increased, made up TDS and washed and reamed down from 1566m to 1870m. 150 rpm, 3785 L/min (1000gpm).
EP	TP (HC)	CHC	1100	1300	2.00	1870.0m	Circulated the hole clean.
EP	TP (HC)	TO	1300	1330	0.50	1870.0m	POH from 1870m to 1760m on elevators, noted 22-26.7 kdaNm (50-60 klbs) drag.
EP	TP (HC)	TOT	1330	1630	3.00	1870.0m	Made up TDS and circulated (no rotation required) out of hole from 1760m to 1100m.
EP	TP (HC)	TO	1630	1800	1.50	1870.0m	Continued pulling out on the elevators from 1100m to the casing shoe at 642m.
EP	TP (HC)	CHC	1800	1830	0.50	1870.0m	Circulated bottoms up.
EP	TP (HC)	FC	1830	1845	0.25	1870.0m	Flow checked the well, static. Pumped a slug.
EP	TP (HC)	TO	1845	1930	0.75	1870.0m	POH from 642m to 230m.
EP	TP (HC)	HBHA	1930	2030	1.00	1870.0m	Pulled and racked back BHA.
EP	TP (HC)	LOG	2030	2100	0.50	1870.0m	Held JSA, rigged up wireline.
EP	TP (HC)	LOG	2100	2400	3.00	0.0m	Picked up logging tools for run #1: PEX-DSI-HNGS Ran logging tools down to 1783m, unable to pass any deeper. Attempted several

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
							passing runs without success. Static mud losses of 0.25 m³/hr (1.5 bbl/hr).

Operations For Period 0000 Hrs to 0600 Hrs on 27 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0030	0.50	1870.0m	Continued to run the logging tools #1 past an obstruction at 1763 mRT. Unable to make progress.
EP	TP (HC)	LOG	0030	0230	2.00	1870.0m	POH logging tools. Static mud losses of 0.25 m³/hr (1.5 bbl/hr).
EP	TP (HC)	LOG	0230	0300	0.50	1870.0m	Rigged down wireline.
EP	TP (HC)	HBHA	0300	0430	1.50	1870.0m	Picked up Wiper BHA and ran in hole to 230m. Note: Tagged the 340mm (13-3/8") casing swedge at 92m, rotated BHA through.
EP	TP (HC)	TI	0430	0600	1.50	1870.0m	(IN PROGRESS) Continued RIH Wiper BHA on drill pipe to 1700m. Maximum dragged observed was 8.9 kdaNm (20 klbs).

WBM Data									
Mud Type:	KGLY	API FL:	4cm³/30m	KCl:	8%	Solids:	11.81	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	880	H2O:	88%	PV:	0.025Pa/s
Time:	13:00	HTHP-FL:		MBT:	6.3	Oil:		YP:	0.182MPa
Weight:	1.34sg	HTHP-Cake:		PM:	0.1	Sand:	0.4	Gels 10s:	0.048
Temp:	55.0C°			PF:	0.06	pH:	9.2	Gels 10m:	0.101
						PHPA:	Oppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	38
								Fann 200:	52
								Fann 300:	63
								Fann 600:	88
Comment		Treat active system to maintain mud parameters. Intermittent heavy Losses at shakers observed due to cuttings/filter caker returns and high pump rate 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 East1) from Nor Captain. Total losses while logging 3 bbl (1bbl/hr). Losses while tripping 6 bbl reported as OTHER.							

Bit # 5				Wear	I	O1	D	L	B	G	O2	R
					0	0	NO	A	X	I	NO	LOG
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	0.00mt	No. Size		Progress 0.0m			Cum. Progress 0.0m			
Type:	Rock	RPM(avg)	158	1	14/32nd"	On Bottom Hrs 0.00h			Cum. On Btm Hrs 0.00h			
Serial No.:	5119202	F.Rate	3623lpm	3	20/32nd"	IADC Drill Hrs 0.00h			Cum IADC Drill Hrs 0.00h			
Bit Model	MXL-1X	SPP	13500kPa			Total Revs 0			Cum Total Revs 0			
Depth In	1870.0m	TFA	1.071			ROP(avg) N/A			ROP(avg) 0.00 m/hr			
Depth Out	1870.0m											
Daily Comment		Washed and reamed only as a wiper trip due to logging tools being unable to reach bottom.										
Bitwear Comment		Green bit, good for rerun.										

BHA # 5							
Weight(Wet)	24.49mt	Length	230.0m	Torque(max)	34000.0Nm	D.C. (1) Ann Velocity	83.07mpm
Wt Below Jar(Wet)	13.61mt	String	104.33mt	Torque(Off.Btm)	13600.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	104.33mt	Torque(On.Btm)	2720.0Nm	H.W.D.P. Ann Velocity	69.59mpm
		Slack-Off	104.33mt			D.P. Ann Velocity	57.17mpm
BHA Run Description		Wiper Trip					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.33m	311mm		5119202	3x20, 1x14 nozzles
12.25in Near Bit Stabiliser	1.25m	311mm	127mm	50204	
8in DC	9.08m	203mm	73mm	186-008	
8in DC	9.46m	203mm	73mm	186-0059	
12.125in String Stab	1.68m	308mm	73mm	XM778	
Drill Collar	37.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	8.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	48
Fuel	M3	0	16.2	0	476.6	ESS	8
Potable Water	M3	0	25	0	366.0	BHI	6
Drill Water	M3	0	36	0	969.0	Dowell	2
						Rheochem	2
						TMT	3
						Cameron	3
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	1
						Total	93

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	20 Jul 2008	6 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 2 and 3 in 6 minutes.
Fire Drill	1	20 Jul 2008	6 Days	Simulated a fire in the paint locker room. Muster complete within 8 minutes and incident under control in 7 minutes.
First Aid	1	23 Jun 2008	33 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
First Aid	1	27 Jul 2008	-1 Days	An IP on the supply vessel complained of chest pains and dizziness. He was assisted off the boat to the rig and checked over by the medic. All clear given by medic with consultation with doctor. IP returned to the boat, boat headed for its scheduled trip to Portland.
JHA	22	26 Jul 2008	0 Days0. Drill crew - 7 Deck Crew - 12 Welder - 3
Lost Time Incident	1	30 May 2008	57 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	0	13 May 2008	74 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	2 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	26 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	7	26 Jul 2008	0 Days	4 x hot work permits 3 x cold work permits
Rig Inspection	1	02 Jul 2008	24 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	20 Jul 2008	6 Days	Reviewed stop cards for the week and awarded Santos best stop card to Brendon Hayward. Discussed fire and abandonment drill and muster times. Played the Dodi Induction video.
Santos Induction	4	26 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	65	26 Jul 2008	0 Days	50 - Safe 15 - Corrective Actions
STOP Tour	1	24 Jul 2008	2 Days	1 x Dodi audits last 24hrs. Santos conducted a STOP audit of the welding room. All PPE worn during cutting/welding operations. Good ventilation. Hot work permit in place (14 Jul).
Trip/Pit Drill	1	24 Jul 2008	2 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	383.0m³	Losses	44.2m³	Equip.	Descr.	Mesh Size	Hours
Active	85.7m³	Downhole	3.3m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	31.7m³	Centrifuge 2	MI Swaco		8
Hole	154.2m³	Dumped		Shaker 3	Bem 650 - MI Swaco	0/20/230/230/230/230	20
Slug		De-Sander		Shaker 4	Bem 650 - MI Swaco	0/20/230/230/230/230	20
Reserve	73.1m³	De-Silter		Shaker 5	Bem 650 - MI Swaco	0/20/230/230/230/230	20
Kill		Centrifuge	9.2m³	Shaker 6	Bem 650 - MI Swaco	0/20/230/230/230/230	20
Brine	70.0m³						
Comment #2 Centrifuge needs repair done (awaiting spare parts).							

Marine									
Weather check on 26 Jul 2008 at 24:00								Rig Support	
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)
18.5km	28km/h	230.0deg	1014.00bar	15.0C°	0.5m	230.0deg	3sec		Tension (mt)
1								1	1382.9
2								2	1382.9
3								3	1399.9
4								4	1376.8
5								5	1410.9
6								6	1421.0
7								7	1410.9
8								8	1414.0

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	22:30 26 Jul 08		On Location Note: Mud volume is for the 8-1/2" section.	Item
				Unit
				Quantity
				Fuel
				Potable Water
				Drill Water
				Cement
				Barite
				Gel
				KCl Brine
Nor Captain	21:40 23 Jul 2008		On location.	NaCl Brine
				Mud
				Item
				Unit
				Quantity
				Fuel
				Potable Water
				Drill Water
				Cement
				Barite
				Gel
				KCl Brine
				Mud

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ			No Helicopters	0

<div>From : Peter Devine / Nathan Peri</div> <div>OIM : Dennis Gore</div>							
Well Data							
Country	Australia	Measured Depth	1870.0m	Current Hole Size	315mm		
Field		TVD	1744.6m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m		
Rig	Ocean Patriot	Days from spud	12.71	Shoe TVD	642.2m		
Water Depth (LAT)	65.4m	Days on well	13.48	F.I.T. / L.O.T.	/ 2.12sg		
		Planned TD	2503.0m				
RT-SL(LAT)	21.5m	Current Op @ 0600	POH logging tools.				
RT-ML	86.9m	Planned Op	Rig down wireline.				
Rig Heading	215.0deg	Prepare and run Tubing Conveyed Logging tools on drill pipe.					

Summary of Period 0000 to 2400 Hrs

POH logging tools and rigged down wireline equipment.
Picked up Wiper BHA and ran in hole to tight hole section at 1783m on elevators. Washed and reamed from 1783m to 1870m until slick. Circulated bottoms up. POH.
Rigged up wireline and rerun logging tools #1. Unable to pass 1792m. Logged from 1792m.

Operations For Period 0000 Hrs to 2400 Hrs on 27 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0030	0.50	1870.0m	Continued to run the logging tools #1 past an obstruction at 1763 mRT. Unable to make progress.
EP	TP (HC)	LOG	0030	0230	2.00	1870.0m	POH logging tools. Static mud losses of 0.25 m³/hr (1.5 bbl/hr).
EP	TP (HC)	LOG	0230	0300	0.50	1870.0m	Rigged down wireline.
EP	TP (HC)	HBHA	0300	0430	1.50	1870.0m	Picked up Wiper BHA and ran in hole to 230m. Note: Tagged the 340mm (13-3/8") casing swedge at 92m, rotated BHA through.
EP	TP (HC)	TI	0430	0730	3.00	1870.0m	Continued RIH Wiper BHA on drill pipe to 1700m. Maximum dragged observed was 8.9 kdaNm (20 klbs).
EP	TP (HC)	WTH	0730	0830	1.00	1870.0m	Washed and reamed through tight hole section from 1700m to 1870m. Parameters: 150rpm, 3400 L/min (900gpm), 21 MPa (3100psi).
EP	TP (HC)	CHC	0830	1100	2.50	1870.0m	Circulated hole clean (2 x BU) including a 11.0 m³ (70bbl) Hi-Vis sweep. Parameters: 150rpm, 3400 L/min (900gpm), 21 MPa (3100psi). Max BG gas = 34 units.
EP	TP (HC)	FC	1100	1115	0.25	1870.0m	Flow checked the well, static.
EP	TP (HC)	TOT	1115	1200	0.75	1870.0m	Pumped the first 5 stands out from 1870m to 1730m 2270 L/min (600 gpm), with no rotation. Pulled on elevators from 1730m to 1556m. Pumped a slug.
EP	TP (HC)	TO	1200	1430	2.50	1870.0m	POH, good hole conditions observed to the shoe at 642m.
EP	TP (HC)	FC	1430	1445	0.25	1870.0m	Flow checked at the Shoe.
EP	TP (HC)	TO	1445	1530	0.75	1870.0m	Continued POH.
EP	TP (HC)	HBHA	1530	1630	1.00	1870.0m	Pulled and racked the BHA.
EP	TP (HC)	LOG	1630	1800	1.50	1870.0m	Held JHA, rigged up wireline. Made up logging tool run #1: PEX-DSI-HNGS
EP	TP (HC)	LOG	1800	2000	2.00	1870.0m	Run logging tools #1: PEX-DSI-HNGS Static mud losses = 159 L/hr (1 bbl/hr).
EP	TP (HC)	LOG	2000	2400	4.00	1870.0m	Tagged up high at 1792.5 mRT. Varied running speeds to pass tight hole section, unable to pass deeper. Logged up from 1792.5m.

Operations For Period 0000 Hrs to 0600 Hrs on 28 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP	LOG	0000	0230	2.50	1870.0m	Continued logging up with log run #1: PEX-DSI-HNGS

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	(HC) TP (HC)	LOG	0230	0400	1.50	1870.0m	Tools at surface, break down tools and reconfigure the toolstring to include a centraliser and a knuckle joint on bottom of the tool string.
PH	TP (HC)	LOG	0400	0500	1.00	1870.0m	RIH logging tools #1: PEX-DSI-HNGS
PH	TP (HC)	LOG	0500	0530	0.50	1870.0m	Tagged obstruction at 1792.5m, worked the logging tools to try and pass this depth. Unable to pass.
PH	TP (HC)	LOG	0530	0600	0.50	1870.0m	POH logging tools.

WBM Data

Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	8%	Solids:	11.31	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	800	H ₂ O:	88%	PV:	0.024Pa/s
Time:	10:30	HTHP-FL:		MBT:	7.5	Oil:		YP:	0.187MPa
Weight:	1.33sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.053
Temp:	46.0C°			PF:	0.04	pH:	8.7	Gels 10m:	0.096
						PHPA:	Oppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	38
								Fann 200:	51
								Fann 300:	63
								Fann 600:	87

Comment 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 Hivis pill. Pump 70bbl 11.0ppg Hivis 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.

Bit # 5RR

Bit # 5RR				Wear	I	O1	D	L	B	G	O2	R
					0	0	NO	A	X	I	NO	LOG
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	0.00mt	No.	Size	Progress		0.0m	Cum. Progress		0.0m	
Type:	Rock	RPM(avg)	158	1	14/32nd"	On Bottom Hrs		0.00h	Cum. On Btm Hrs		0.00h	
Serial No.:	5119202	F.Rate	3623lpm	3	20/32nd"	IADC Drill Hrs		0.00h	Cum IADC Drill Hrs		0.00h	
Bit Model	MXL-1X	SPP	13500kPa			Total Revs		0	Cum Total Revs		0	
Depth In	1870.0m	TFA	1.071			ROP(avg)		N/A	ROP(avg)		0.00 m/hr	
Depth Out	1870.0m											

Daily Comment Second wiper trip with this bit to clear obstruction at 1783m. Washed and reamed the last 5 stands to bottom.

Bitwear Comment Green bit, good for rerun.

BHA # 5RR

Weight(Wet)	24.49mt	Length	230.0m	Torque(max)	34000.0Nm	D.C. (1) Ann Velocity	83.07mpm
Wt Below Jar(Wet)	13.61mt	String	104.33mt	Torque(Off.Btm)	13600.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	104.33mt	Torque(On.Btm)	2720.0Nm	H.W.D.P. Ann Velocity	69.59mpm
		Slack-Off	104.33mt			D.P. Ann Velocity	57.17mpm

BHA Run Description Wiper Trip

BHA Run Comment Second wiper trip run to clear the obstruction at 1783m.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.33m	311mm		5119202	3x20, 1x14 nozzles
12.25in Near Bit Stabiliser	1.25m	311mm	127mm	50204	
8in DC	9.08m	203mm	73mm	186-008	
8in DC	9.46m	203mm	73mm	186-0059	
12.125in String Stab	1.68m	308mm	73mm	XM778	
Drill Collar	37.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	8.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	48
Fuel	M3	150	20.2	0	606.4	ESS	8
Potable Water	M3	0	19	0	347.0	BHI	6
Drill Water	M3	0	24	0	945.0	Dowell	2
						Rheochem	2
						TMT	3
						Cameron	3
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	1
						Schlumberger Wireline	1
						Total	94

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	0 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	0 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	23 Jun 2008	34 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
First Aid	1	27 Jul 2008	0 Days	An IP on the supply vessel complained of chest pains and dizziness. He was assisted off the boat to the rig and checked over by the medic. All clear given by medic with consultation with doctor. IP returned to the boat, boat headed for its scheduled trip to Portland. IP cleared to work after visit to Portland hospital.
JHA	33	27 Jul 2008	0 Days	Drill crew - 18 Deck Crew - 12 Mech - 3
Lost Time Incident	1	30 May 2008	58 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	0	13 May 2008	75 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	3 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	27 Jul 2008	0 Days	Discussed upcoming operations and associated hazards
PTW Issued	12	27 Jul 2008	0 Days	8 x hot work permits 4 x cold work permits
Rig Inspection	1	02 Jul 2008	25 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	27 Jul 2008	0 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 techniques.
Santos Induction	0	27 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	51	27 Jul 2008	0 Days	32 - Safe 19 - Corrective Actions
STOP Tour	2	27 Jul 2008	0 Days	3 x Dodi audits last 24hrs. Santos conducted a STOP audit of the mud pump room. Person working on the mud pumps had all PPE on and permit in place. Discussed what fluid isolations he had in place. No procedure available to determine what valves should be closed while working on the pumps. Reviewed the area and all valves were closed. JSA will be updated and Dodi informed of the findings.
Trip/Pit Drill	1	24 Jul 2008	3 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	359.8m³	Losses	24.8m³	Equip.	Descr.	Mesh Size	Hours
Active	79.5m³	Downhole	3.2m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	16.2m³	Centrifuge 2	MI Swaco		5
Hole	154.2m³	Dumped		Shaker 3	Bem 650 - MI Swacd	0/20/230/230/230/230	12
Slug		De-Sander		Shaker 4	Bem 650 - MI Swacd	0/20/230/230/230/230	12
Reserve	56.1m³	De-Silter		Shaker 5	Bem 650 - MI Swacd	0/20/230/230/230/230	12
Kill				Shaker 6	Bem 650 - MI Swacd	0/20/230/230/230/230	12
Brine	70.0m³	Centrifuge	5.4m³				
Comment	#2 Centrifuge needs repair done (awaiting spare parts).						

Marine									
Weather check on 27 Jul 2008 at 24:00								Rig Support	
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)
18.5km	22km/h	90.0deg	1015.00bar	10.0C°	0.5m	90.0deg	3sec		Tension (mt)
1								1	1382.9
2								2	1382.9
3								3	1399.9
4								4	1376.8
5								5	1410.9
6								6	1421.0
7								7	1410.9
8								8	1414.0

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks
Far Grip	22:30 26 Jul 08		On Location Note: Mud volume is for the 8-1/2" section.	Item
				Unit
				Quantity
				Fuel
				Potable Water
				Drill Water
				Cement
				Barite
				Gel
				KCl Brine
Nor Captain		05:00 27 Jul 08	Dockside Portland	NaCl Brine
				Mud
				Item
				Unit
				Quantity
				Fuel
				Potable Water
				Drill Water
				Cement
				Barite
				Gel
				KCl Brine
				Mud

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	11:32	Ocean Patriot		1
GYJ	11:40	Essendon		0

From : Peter Devine / Nathan Peri							
OIM : Dennis Gore							
Well Data							
Country	Australia	Measured Depth	1870.0m	Current Hole Size	315mm		
Field		TVD	1744.6m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m		
Rig	Ocean Patriot	Days from spud	13.71	Shoe TVD	642.2m		
Water Depth (LAT)	65.4m	Days on well	14.48	F.I.T. / L.O.T.	/ 2.12sg		
						Planned TD	2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600		Rigged down TCL tools.			
RT-ML	86.9m	Planned Op		Run a wiper trip to bottom. Rerun wireline logs.			
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

Pulled logging tools run #1 to surface. Reconfigured the toolstring and rerun the tools. Still unable to pass the obstruction at 1792.5m. POH and reconfigured the tools to run them on TCL and drill pipe.
 Rigged up TCL, run logging tools (PEX-HNGS) on drill pipe to 1730m. Made up the SE sub, run the wireline tools down drill pipe and latched and landed tools. Confirmed downhole communication with the logging tools.
 Logged down with drill pipe from 1730m to 1790m. Tagged HUD at 1790m and observed 0.9 - 4.4 kdaNm (2-10 klbs) compression on the logging tools.

Operations For Period 0000 Hrs to 2400 Hrs on 28 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0230	2.50	1870.0m	Continued logging up with log run #1: PEX-DSI-HNGS (Trip #4)
EP	TP (HC)	LOG	0230	0400	1.50	1870.0m	Tools at surface, broke out tools and reconfigured the toolstring to include a centraliser and a knuckle joint on bottom of the tool string.
EP	TP (HC)	LOG	0400	0500	1.00	1870.0m	RIH logging tools #1: PEX-DSI-HNGS (Trip #5)
EP	TP (HC)	LOG	0500	0530	0.50	1870.0m	Tagged obstruction at 1792.5m, worked the logging tools to try and pass this depth. Unable to pass.
EP	TP (HC)	LOG	0530	0630	1.00	1870.0m	POH logging tools.
EP	TP (HC)	LOG	0630	0730	1.00	1870.0m	Tools at surface. Broke out tools.
EP	TP (HC)	LOG	0730	0930	2.00	1870.0m	Reconfigured the Tubing Conveyed Logging tools to run with drill pipe: TCL-PEX-HNGS. Rearranged the wireline sheave wheels in the derrick to enable drill pipe to be run.
EP	TP (HC)	LOG	0930	1130	2.00	1870.0m	Held JHA. Made up Schlumberger XO's from logging tools to drill pipe. Completed testing the latch mechanism for the socket. Loaded the radioactive source.
EP	TP (HC)	LOG	1130	1830	7.00	1870.0m	Made up 127mm (5") drill pipe to the TCL-PEX-HNGS tools (Trip 6) RIH to 1730 mRT, no problems running through the wellhead area, good open hole conditions.
EP	TP (HC)	LOG	1830	2030	2.00	1870.0m	Rigged up wireline SE Sub, run wireline down drill pipe and landed and latched into the TCL tools. Confirmed tools were communicating.
EP	TP (HC)	LOG	2030	2100	0.50	1870.0m	Started logging with TCL from 1730m to 1760m (1 x std).
EP	TU (RE)	LOG	2100	2330	2.50	1870.0m	Attempted to break the drill pipe connection, unable to break out the TDS. Changed out the dies, increased hydraulic pressure, still unable to break. Pulled the drill pipe up one single. Broke out the connection with tongs. Run the drill pipe back down and set the slips.
EP	TP (HC)	LOG	2330	2400	0.50	1870.0m	Made up the next stand of drill pipe. Logged down from 1760m to 1790m, tagged up with 0.9 - 4.4 kdaNm (2-10 klbs) compression indicated by the logging tools. Pulled back to 1781m, hole slick, run back down and tagged up at 1790m with the same compression.

Operations For Period 0000 Hrs to 0600 Hrs on 29 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP (HC)	LOG	0000	0200	2.00	1870.0m	Pulled back to the SE sub at 1730m. Pulled 2.2 kdaNm (5.5 klbs) tension on the wireline and held for ten minutes to shear the latching toolstring from the TCL logging tools. Pulled the latching toolstring back to the SE sub. Broke out the SE sub, pulled the latching toolstring from the drill pipe and laid out. Rigged aside the wireline sheave wheels.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP (HC)	TO	0200	0400	2.00	1870.0m	Pumped slug, POH to the casing shoe at 642m. Good hole conditions observed.
PH	TP (HC)	FC	0400	0415	0.25	1870.0m	Flow checked the well. OK.
PH	TP (HC)	TO	0415	0530	1.25	1870.0m	Continued POH to surface.
PH	TP (HC)	LOG	0530	0600	0.50	1870.0m	Logging tools at surface, removed radioactive source. Continued rigging down logging tools.

General Comments

Comments	Rig Requirements	Lessons Learnt
ROV confirmed the SST heading with Gyro was 212°. Schlumberger Well Testing 5.0% rigged up. No BHI screen information available from midday.		

WBM Data

Mud Type:	KGLY	API FL:	4cm³/30m	KCl:	8%	Solids:	10.89	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	800	H2O:	89%	PV:	0.024Pa/s
Time:	14:00	HTHP-FL:		MBT:	7.5	Oil:		YP:	0.187MPa
Weight:	1.33sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.048
Temp:	30.0C°			PF:	0.04	pH:	8.7	Gels 10m:	0.091
						PHPA:	Oppb	Fann 003:	9
								Fann 006:	11
								Fann 100:	34
								Fann 200:	46
								Fann 300:	55
								Fann 600:	77
Comment	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.								

BHA # 6

Weight(Wet)	Length	34.4m	Torque(max)	D.C. (1) Ann Velocity	NaNmpm
Wt Below Jar(Wet)	String	104.33mt	Torque(Off.Btm)	D.C. (2) Ann Velocity	NaNmpm
	Pick-Up	104.33mt	Torque(On.Btm)	H.W.D.P. Ann Velocity	NaNmpm
	Slack-Off	104.33mt		D.P. Ann Velocity	NaNmpm
BHA Run Description	Tubing Conveyed Logging Tools: PEX-HNGS				
BHA Run Comment	TCL tools were run in on 5" drill pipe. Tagged up at 1790m, unable to push past this depth due to compression indications from the logging tools (2-10 klbs). POH				

Equipment	Length	OD	ID	Serial #	Comment
Logging Tool	0.61m	86mm			HF
Logging Tool	3.20m	86mm			AH
Logging Tool	7.38m	92mm			HRLT/W Rubber Stab
Logging Tool	6.60m	122mm			HILTH
Logging Tool	0.60m	86mm			AH-107
Logging Tool	1.07m	86mm			HNGC-B
Logging Tool	2.50m	86mm			HNGS-BA
Logging Tool	1.98m	92mm			EDTC-B/w Rub Stab
Logging Tool	0.44m	86mm			AH-369
Logging Tool	0.43m	86mm			SPA-A
Logging Tool	1.16m	86mm			HTCS-A
Logging Tool	1.48m	86mm			SAH-F
Logging Tool	0.61m	86mm			AH-107-2840
Logging Tool	5.18m	86mm			DWCH
X/O	1.11m	168mm			4-1/2" x 3-1/2" IF

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	8.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	49
Fuel	M3	0	21.6	-0.4	584.4	ESS	8
Potable Water	M3	23	27	1	344.0	BHI	7
Drill Water	M3	0	18	-1	926.0	Dowell	2
						Rheochem	2
						TMT	3
						Anadrill	2
						Anadrill	3
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	4
						Schlumberger Wireline	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	27 Jul 2008	1 Day	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	1 Day	Simulated a fire on the stbd crane at 10:22. Fire under control at 10:30 (full lifeboat muster also completed).
First Aid	1	23 Jun 2008	35 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
First Aid	1	27 Jul 2008	1 Day	An IP on the supply vessel complained of chest pains and dizziness. He was assisted off the boat to the rig and checked over by the medic. All clear given by medic with consultation with doctor. IP returned to the boat, boat headed for its scheduled trip to Portland. IP cleared to work after visit to Portland hospital.
JHA	26	28 Jul 2008	0 Days	Drill crew - 10 Deck Crew - 12 Mech - 4
Lost Time Incident	1	30 May 2008	59 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	0	13 May 2008	76 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	4 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	28 Jul 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	14	28 Jul 2008	0 Days	7 x hot work permits 7 x cold work permits
Rig Inspection	1	02 Jul 2008	26 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	27 Jul 2008	1 Day	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 techniques.
Santos Induction	4	28 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	86	28 Jul 2008	0 Days	51 - Safe 35 - Corrective Actions
STOP Tour	1	28 Jul 2008	0 Days	Diamond supervisor audits.
STOP Tour	1	28 Jul 2008	0 Days	Conducted a STOP audit of the mud pump room. Person working on the mud pumps had all PPE on and permit in place. Discussed what fluid isolations he had in place. No procedure available to determine what valves should be closed while working on the pumps. Reviewed the area and all valves were closed. JSA will be updated and Dodi informed of the findings
Trip/Pit Drill	1	24 Jul 2008	4 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOBV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	359.8m³	Losses	1.7m³	Equip.	Descr.	Mesh Size	Hours
Active	79.5m³	Downhole	1.7m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	0.0m³	Centrifuge 2	MI Swaco		0
Hole	154.2m³	Dumped		Shaker 3	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Slug		De-Sander		Shaker 4	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Reserve	56.1m³	De-Silter		Shaker 5	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Kill		Centrifuge		Shaker 6	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Brine	70.0m³						
Comment	#2 Centrifuge needs repair done (awaiting spare parts).						

Marine										
Weather check on 28 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
18.5km	19km/h	45.0deg	1020.00bar	10.0C°	0.5m	45.0deg	3sec	1	1382.9	99.79
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	107.05
0.4deg	0.3deg	0.50m	1.0m	230.0deg	12sec			3	1399.9	113.85
Rig Dir.	Ris. Tension	VDL		Comments				4	1376.8	103.87
215.0deg	122.02mt	1014.69mt			5			1410.9	112.04	
				6	1421.0			110.22		
								7	1410.9	120.20
								8	1414.0	122.02

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	22:30 26 Jul 08		On Location Note: Mud volume is for the 8-1/2" section.	Item	Unit	Quantity
				Fuel	m3	529
				Potable Water	m3	170
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	127
Nor Captain		05:00 27 Jul 08	Dockside Portland	Item	Unit	Quantity
				Fuel	m3	532
				Potable Water	m3	374
				Drill Water	m3	193
				Cement	mt	42
				Barite	mt	84
				Gel	mt	42
				Mud	m3	69
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:32	Ocean Patriot		7	
GYJ	11:40	Essendon		4	

From : Peter Devine / Nathan Peri
OIM : Dennis Gore

Well Data

Country	Australia	Measured Depth	1870.0m	Current Hole Size	315mm	
Field		TVD	1744.6m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	14.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	15.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Waited on FEWD and personnel.			
RT-ML	86.9m	Planned Op	Pick up and run FEWD to bottom and log the well. POH.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Pulled the TCL tools from 1764m to 1735m. Broke out the SE sub, shear released the Latching tools from the TCL tools. Pulled the wireline out of the drill pipe. Pulled the TCL tools on drill pipe to surface. Broke and laid out same.
 RIH wiper trip to bottom. Worked tight hole section from 1760m to 1835m. Circulated on bottom 1870m. Spotted Hi-Vis pill on bottom, attempted to POH, tight hole across 1800m to 1790m, worked through tight section. Run back to bottom and recirculate bottoms up and pill on bottom. POH on elevators through tight section. Continued POH. OK.

Operations For Period 0000 Hrs to 2400 Hrs on 29 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LOG	0000	0200	2.00	1870.0m	Pulled back to the SE sub at 1730m. Pulled 2.2 kdaNm (5.5 klbs) tension on the wireline and held for ten minutes to shear the latching toolstring from the TCL logging tools. Pulled the latching toolstring back to the SE sub. Broke out the SE sub, pulled the latching toolstring from the drill pipe and laid out. Rigged aside the wireline sheave wheels.
EP	TP (HC)	TO	0200	0400	2.00	1870.0m	Pumped slug, POH to the casing shoe at 642m. Good hole conditions observed.
EP	TP (HC)	FC	0400	0415	0.25	1870.0m	Flow checked the well - OK.
EP	TP (HC)	TO	0415	0530	1.25	1870.0m	Continued POH to surface.
EP	TP (HC)	LOG	0530	0700	1.50	1870.0m	Logging tools at surface, removed radioactive source. Continued rigging down logging tools. Removed sheave wheel from hang off line. Note: Hole Finder sub on the bottom of the logging tools had broken off.
EP	TP (HC)	HBHA	0700	0830	1.50	1870.0m	Laid out 311mm (12-1/4"). Near Bit Stabilizer. Picked up 311mm (12-1/4") Bit & float sub and BHA for a wiper trip. Opened DSC to run through the wellhead, tagged the casing swedge, rotated and continued running BHA to 229m.
EP	TP (HC)	TI	0830	1100	2.50	1870.0m	Continued RIH on drill pipe from 229m to 1757m. Max drag observed 4.4 kdaNm (10 klbs).
EP	TP (HC)	WTH	1100	1230	1.50	1870.0m	Washed and reamed from 1757m to 1870m. Tight hole from 1790 to 1795m with 8.9 - 11.1 kdaNm (20-25 klbs) drag. Parameters: 160rpm, 3785 L/min (1000gpm), 26.9 MPa (3900psi).
EP	TP (HC)	CHC	1230	1330	1.00	1870.0m	Circulated bottoms up, spotted 15.9m³ (100bbl) HI-Vis pill on bottom. Max BG gas = 0.1%. Flow checked-OK.
EP	TP (HC)	CHC	1330	1400	0.50	1870.0m	Pulled on elevators from 1870 to 1835m, no drag.
EP	TP (HC)	WTH	1400	1530	1.50	1870.0m	Drag increased from 1835m 22 kdaNm (50klbs). Made up TDS and back reamed from 1835m to 1786m. While backreaming through this section, the hole packed off at 1830m, the Jars failed to fire down, continued working pipe free and pulling above. Pulled up to 1786m. Worked back through the tight hole section x 3 until clear.
EP	TP (HC)	WTH	1530	1600	0.50	1870.0m	Pulled from 1786m to 1640m with no rotation or circulation required.
EP	TP (HC)	WTH	1600	1700	1.00	1870.0m	RIH from 1640m, tagged up at 1795m, washed and reamed through tight section, no drag after the first wipe. Continued washing down to 1870m
EP	TP (HC)	CHC	1700	1830	1.50	1870.0m	Circulated bottoms up, circulated to balance 15.9m³ (100bbl) HI-Vis pill on bottom. Flow checked.
EP	TP (HC)	TOT	1830	1900	0.50	1870.0m	Pulled on elevators from 1870m to 1700m. Note: Observed 11.1 kdaNm (25 klbs) drag from 1800m to 1780m (20m)

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	TO	1900	2100	2.00	1870.0m	Pumped slug and POH to the casing shoe at 642m. Good hole conditions.
EP	TP (HC)	FC	2100	2115	0.25	1870.0m	Flow checked at the casing shoe.
EP	TP (HC)	TO	2115	2200	0.75	1870.0m	Continue POH from 642m to 230m.
EP	TP (HC)	HBHA	2200	2400	2.00	1870.0m	Pulled BHA from 230m. Changed out the 203mm (8") Jars.

Operations For Period 0000 Hrs to 0600 Hrs on 30 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	TP (HC)	HBHA	0000	0130	1.50	1870.0m	Continued racking back BHA.
PH	TP (HC)	CRF	0130	0230	1.00	1870.0m	Cleared the rig floor.
PH	TP (HC)	WOE	0230	0400	1.50	1870.0m	Waited on FEWD tools to be calibrated and tested. Concurrent Ops: Picked up 24 x drill pipe joints.
PH	TU (PO)	PUP	0400	0600	2.00	1870.0m	Waited on personnel due to work hours being maximised. Concurrent Ops: Continued to pick up drill pipe to reach total depth (total 48Jts).

WBM Data

Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	8%	Solids:	11.31	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	800	H2O:	89%	PV:	0.023Pa/s
Time:	21:00	HTHP-FL:		MBT:	7.5	Oil:		YP:	0.153MPa
Weight:	1.33sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.048
Temp:	30.0C°			PF:	0.04	pH:	8.7	Gels 10m:	0.091
						PHPA:	Oppb	Fann 003:	9
								Fann 006:	12
								Fann 100:	35
								Fann 200:	47
								Fann 300:	55
								Fann 600:	78

Comment Build 210bbl Premix in Pit 1, weight up premix to 10.7ppg. Build HiVis/ LCM Pill in Pit 5 (5.8ppb Calcium Carbonate, 130 sec/qt vis). Spot 100 bbl 11.0 ppg Hivis/LCM Pill on bottom. Build 13 ppg Slug. Build another 100 bbl pumpable HiVis/ LCM Pill in Pit 5 (7ppb Calcium Carbonate 11.0ppg). Pump 2nd 120bbl 11.0ppg Hivis/ LCM pill. Operate 1 x Centrifuge to reduce LGS/MW while reaming and circulating. Barite usage to be charge on tomorrows report.

Bit # 5RR1				Wear	I	O1	D	L	B	G	O2	R
					0	0	NO	A	E	I	NO	BHA
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)		No. Size		Progress		0.0m	Cum. Progress		0.0m	
Type:	Rock	RPM(avg)	208	1	14/32nd"	On Bottom Hrs		0.00h	Cum. On Btm Hrs		0.00h	
Serial No.:	5119202	F.Rate	2574lpm	3	20/32nd"	IADC Drill Hrs		0.00h	Cum IADC Drill Hrs		0.00h	
Bit Model	MXL-1X	SPP	20064kPa			Total Revs		0	Cum Total Revs		0	
Depth In	1870.0m	TFA	1.071			ROP(avg)		N/A	ROP(avg)		0.00 m/hr	
Depth Out	1870.0m											
Daily Comment		Third wiper trip with this bit to clear obstruction at 1792m.										
Bitwear Comment		Green bit, good for rerun.										

BHA # 6

Weight(Wet)	Length	34.4m	Torque(max)	D.C. (1) Ann Velocity	NaNmpm
Wt Below Jar(Wet)	String	104.33mt	Torque(Off.Btm)	D.C. (2) Ann Velocity	NaNmpm
	Pick-Up	104.33mt	Torque(On.Btm)	H.W.D.P. Ann Velocity	NaNmpm
	Slack-Off	104.33mt		D.P. Ann Velocity	NaNmpm
BHA Run Description		Tubing Conveyed Logging Tools: PEX-HNGS			
BHA Run Comment		TCL tools were run in on 5" drill pipe. Tagged up at 1790m, unable to push past this depth due to compression indications from the logging tools (2-10 klbs). POH. NOTE: The bottom Hole Finder had broken off.			

Equipment	Length	OD	ID	Serial #	Comment
Logging Tool	0.61m	86mm			HF
Logging Tool	3.20m	86mm			AH
Logging Tool	7.38m	92mm			HRLT/W Rubber Stab
Logging Tool	6.60m	122mm			HILTH
Logging Tool	0.60m	86mm			AH-107
Logging Tool	1.07m	86mm			HNGC-B
Logging Tool	2.50m	86mm			HNGS-BA
Logging Tool	1.98m	92mm			EDTC-B/w Rub Stab
Logging Tool	0.44m	86mm			AH-369
Logging Tool	0.43m	86mm			SPA-A
Logging Tool	1.16m	86mm			HTCS-A
Logging Tool	1.48m	86mm			SAH-F
Logging Tool	0.61m	86mm			AH-107-2840
Logging Tool	5.18m	86mm			DWCH
X/O	1.11m	168mm			4-1/2" x 3-1/2" IF

BHA # 7

Weight(Wet)	24.49mt	Length	230.0m	Torque(max)	D.C. (1) Ann Velocity	59.03mpm
Wt Below Jar(Wet)	13.61mt	String	102.06mt	Torque(Off.Btm)	D.C. (2) Ann Velocity	0mpm
		Pick-Up	108.86mt	Torque(On.Btm)	H.W.D.P. Ann Velocity	49.45mpm
		Slack-Off	99.79mt		D.P. Ann Velocity	40.62mpm

BHA Run Description	Wiper Trip #3.
BHA Run Comment	Good hole down to 1790m. Worked tight hole through to 1835m. Pulled back through, hole packed off at 1790m, jars would not fire down. Worked free and reamed section. Wiped clear, 25klbs drag when pulled back through to surface.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.33m	311mm		5119202	3x20, 1x14 nozzles
Bit Sub	0.90m	203mm	76mm	GUD 1231-2	
8in DC	9.08m	203mm	73mm	186-008	
8in DC	9.46m	203mm	73mm	186-0059	
12.125in String Stab	1.68m	308mm	73mm	XM778	
Drill Collar	37.65m	203mm	73mm		
8in Jar	10.11m	210mm	76mm	718096	
Drill Collar	18.91m	203mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance
Barite	MT	0	4	0	4.0
Gel	MT	0	0	0	53.0
Cement	MT	0	0	0	140.0
Fuel	M3	0	10.8	0	573.6
Potable Water	M3	31	24	0	351.0
Drill Water	M3	0	18	0	908.0

Personnel On Board

Company	Pax
Santos	4
Santos	2
DOGC	48
ESS	8
BHI	7
Dowell	2
Rheochem	2
TMT	3
Anadrill	2
Anadrill	3
Schlumberger Wireline	9
MI Swaco	1
Schlumberger Testing	4
Schlumberger Wireline	1
Schlumberger Drilling & Measurements	2
Santos	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	27 Jul 2008	2 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	2 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	23 Jun 2008	36 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
First Aid	1	27 Jul 2008	2 Days	An IP on the supply vessel complained of chest pains and dizziness. He was assisted off the boat to the rig and checked over by the medic. All clear given by medic with consultation with doctor. IP returned to the boat, boat headed for its scheduled trip to Portland. IP cleared to work after visit to Portland hospital.
JHA	30	29 Jul 2008	0 Days	Drill crew - 11 Deck Crew - 13 Mech - 3 Elect -3
Lost Time Incident	1	30 May 2008	60 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	0	13 May 2008	77 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	5 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	29 Jul 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	11	29 Jul 2008	0 Days	9 x hot work permits 2 x cold work permits
Rig Inspection	1	02 Jul 2008	27 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Meeting	3	27 Jul 2008	2 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 techniques.
Santos Induction	3	29 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	83	29 Jul 2008	0 Days	47 - Safe 36 - Corrective Actions
STOP Tour	1	28 Jul 2008	1 Day	Conducted a STOP audit of the mud pump room. Person working on the mud pumps had all PPE on and permit in place. Discussed what fluid isolations he had in place. No procedure available to determine what valves should be closed while working on the pumps. Reviewed the area and all valves were closed. JSA will be updated and Dodi informed of the findings
STOP Tour	0	29 Jul 2008	0 Days	Diamond supervisor audits.
Trip/Pit Drill	1	24 Jul 2008	5 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Wojciech Czarny			
Available	320.2m³	Losses	20.5m³	Equip.	Descr.	Mesh Size	Hours
Active	85.9m³	Downhole	1.0m³	Centrifuge 1	MI Swaco		0
Mixing	0.0m³	Surf+ Equip	16.8m³	Centrifuge 1	MI SW FVS 518		0
Hole	154.2m³	Dumped		Centrifuge 2	MI Swaco		0
Slug				Centrifuge 2	MI SW FVS 518		4
Slug		De-Sander		Shaker 3	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Reserve	28.6m³	De-Silter		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	9
Kill				Shaker 4	Bem 650 - MI Swacd	0/20/230/230/230/230	0
Brine	51.5m³	Centrifuge	2.7m³	Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	9
				Shaker 5	Bem 650 - MI Swacd	0/20/230/230/230/230	0
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	9
				Shaker 6	Bem 650 - MI Swacd	0/20/230/230/230/230	0
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	9
Comment #2 Centrifuge needs repair done (awaiting spare parts).							

Marine											
Weather check on 29 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	44km/h	10.0deg	1015.00bar	10.0C°	0.8m	10.0deg	3sec	1	1382.9	102.06	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	107.96	
0.5deg	0.3deg	0.70m	1.5m	240.0deg	12sec			3	1399.9	112.04	
Rig Dir.	Ris. Tension	VDL		Comments				4	1376.8	104.78	
215.0deg	124.74mt	1010.61mt			5			1410.9	111.13		
					6			1421.0	112.04		
								7	1410.9	122.02	
								8	1414.0	122.92	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	22:30 26 Jul 08		On Location	Item	Unit	Quantity
			Note: Mud volume is for the 8-1/2" section.	Fuel	m3	524
				Potable Water	m3	164
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	127
Nor Captain		17:00 28 Jul 08	Dockside Portland Made a round trip to the Ocean Patriot arriving 15:45 and departing 17:00hrs. Offloaded LWD tools.	Item	Unit	Quantity
				Fuel	m3	524
				Potable Water	m3	364
				Drill Water	m3	193
				Cement	mt	38
				Barite	mt	84
				Gel	mt	42
				Mud	m3	69
				KCl Brine	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	13:53	Ocean Patriot		4	
GYJ	14:02	Essendon		2	

From : Peter Devine / Nathan Peri							
OIM : Dennis Gore							
Well Data							
Country	Australia	Measured Depth	1875.0m	Current Hole Size	311mm	Planned TD2503.0m	
Field		TVD	1748.3m	Casing OD	340mm		
Drill Contractor	DOGC	Progress	5.0m	Shoe MD	642.2m		
Rig	Ocean Patriot	Days from spud	15.71	Shoe TVD	642.2m		
Water Depth (LAT)	65.4m	Days on well	16.48	F.I.T. / L.O.T.	/ 2.12sg		
RT-SL(LAT)	21.5m	Current Op @ 0600		Continued taking Stethoscope sample tests.			
RT-ML	86.9m	Planned Op		Complete FEWD logging run. POH. Run MDT.			
Rig Heading	215.0deg						

Summary of Period 0000 to 2400 Hrs

POH wiper trip. Picked up 48 Jts of drill pipe while awaiting for FEWD tools and for personnel to rest.
Picked up FEWD BHA, TIH and reamed through from 1760m to 1870m.
Drilled a further 5m of rathole to allow logging tools past the bottom of the reservoir.
Downlinked tools, pulled to 1845m. Attempted to log from 1845m to 1835m, unable to pull consistently due to hole conditions. Washed and reamed from 1845m to 1835m until slick.

Operations For Period 0000 Hrs to 2400 Hrs on 30 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	HBHA	0000	0130	1.50	1870.0m	Continued racking back BHA.
EP	TP (HC)	CRF	0130	0230	1.00	1870.0m	Cleared the rig floor.
EP	TP (HC)	WOE	0230	0400	1.50	1870.0m	Calibrated & tested FEWD tools.
EP	TU (PO)	PUP	0400	0600	2.00	1870.0m	Concurrent Ops: Picked up 24 x drill pipe joints. Waited on personnel due to work hours being maximised.
EP	TU (PO)	PUP	0600	0630	0.50	1870.0m	Concurrent Ops: Continued to pick up drill pipe to reach total depth (total 48Jts). Racked back drill pipe.
EP	TP (WOE)	RS	0630	0730	1.00	1870.0m	Initialised FEWD tools on surface. Concurrent Ops: Serviced TDS and blocks. Conducted dropped object inspection of derrick and travelling equipment.
EP	TP (HC)	HBHA	0730	1230	5.00	1870.0m	Picked up 311mm (12-1/4") Bit, Bit Sub and FEWD BHA. Checked communications with tools, loaded radio active sources.
EP	TP (HC)	HBHA	1230	1400	1.50	1870.0m	Picked up BHA to 100m, shallow pulse tested FEWD tools at 2400 L/min (650 gpm) , 6.9 MPa (1000psi). Good test.
EP	TP (HC)	TI	1400	1800	4.00	1870.0m	Continued picking up BHA to 213m. Continued running FEWD BHA on drill pipe to 1713m.
EP	TP (HC)	RW	1800	1830	0.50	1870.0m	Washed and reamed from 1713m to 1741m.
EP	TP (HC)	LDPC	1830	2130	3.00	1870.0m	Washed and reamed while logging from 1741m to 1870m at 60-90 m/hr, 110 rpm, 3200 L/min (850gpm), 23.5 MPa (3400psi). Tight spot at 1790m TD's, stalled out, picked up and washed through clean.
EP	TP (HC)	DA	2130	2230	1.00	1875.0m	Drilled ahead 311mm (12-1/4") hole from 1870m to 1875m (5m) for FEWD tools logging rat hole.
EP	TP (HC)	LDPC	2230	2330	1.00	1875.0m	Downlinked tools on bottom 1875m (1748m TVD). Pulled back to 1845m, logged up from 1845m to 1835m at 40m/hr. Unable to log due to tight hole and inconsistent pulling speed.
EP	TP (HC)	LDPC	2330	2400	0.50	1875.0m	Washed and reamed the stand across 1845m to 1835m until slick. Parameters: 140 rpm, 3028 L/min (800gpm), 22.8 MPa (3300psi)

Operations For Period 0000 Hrs to 0600 Hrs on 31 Jul 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LDPC	0000	0100	1.00	1875.0m	Logged from 1845m to 1835m to obtain correlation data. Logging speed 20m/hr with 3028 L/min (800gpm). Run down to 1845m, shutdown pumps and rotary and conduct Stick test for 15min

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LDPC	0100	0200	1.00	1875.0m	with BHA - OK. Ran back to bottom at 1875m, logged up with Sonic to 1828m.
EP	TP (HC)	LDPC	0200	0230	0.50	1875.0m	Shutdown pumps and rotary, took Stethoscope 15minute probe test #1 at 1825.5m (probe depth). Failed test.
EP	TP (HC)	LDPC	0230	0330	1.00	1875.0m	Washed and reamed stand while trouble shooting tools.
EP	TP (HC)	LDPC	0330	0430	1.00	1875.0m	Downlinked tools. Set Stethoscope tools to recording in memory. Pulled back to 1825.5m (probe depth). Downlinked tools to open probe and took #1 test again. Waited 15 minutes, good test. Closed probe and pulled to next depth at 1819.5m (probe depth).
EP	TP (HC)	LDPC	0430	0500	0.50	1875.0m	Downlinked tools, attempted to record the #2 test in real time. Good test. Downlinked to retract the probe.
EP	TP (HC)	LDPC	0500	0600	1.00	1875.0m	Pulled to next depth #3 at 1817.0m (probe depth), set and tested with probe, failed real time test #3. Retracted probe and worked pipe to rotate toolface 90°. Set pipe on probe test #3 depth 1817.0m, attempted sample test again.

General Comments

Comments	Rig Requirements	Lessons Learnt
NOTE: Drilled a further 5m of rathole to 1875 mRT (1748 mTVD) to accommodate the FEWD tools across the reservoir. Schlumberger well testing is 80% rigged up.		

WBM Data

Mud Type:	KGLY	API FL:	4cm³/30m	KCl:	8%	Solids:	10.75	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	880	H2O:	89%	PV:	0.022Pa/s
Time:	22:20	HTHP-FL:		MBT:	0.8	Oil:		YP:	0.163MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.038
Temp:	43.0C°			PF:	0.05	pH:	8.5	Gels 10m:	0.086
						PHPA:	Oppb	Fann 003:	9
								Fann 006:	12
								Fann 100:	34
								Fann 200:	45
								Fann 300:	56
								Fann 600:	78
Comment	No treat ment to the active system. Build 13.5ppg Slug. Charge off Barite from yesterday and today's usage. Run centrifuge to cut back MW and LGS% in surface pits and system while RIH and pumping to bottom with LWD.								

Bit # 5RR2

										NO	
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs		Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	3.63mt	No. Size		Progress	5.0m	Cum. Progress		5.0m	
Type:	Rock	RPM(avg)	90	1	14/32nd"	On Bottom Hrs	1.10h	Cum. On Btm Hrs		1.10h	
Serial No.:	5119202	F.Rate	3218lpm	3	20/32nd"	IADC Drill Hrs	2.00h	Cum IADC Drill Hrs		2.00h	
Bit Model	MXL-1X	SPP	21374kPa			Total Revs	430	Cum Total Revs		430	
Depth In	1870.0m	TFA	1.071			ROP(avg)	4.55 m/hr	ROP(avg)	4.55 m/hr		
Depth Out	1875.0m										
Daily Comment		Drilled 5m of new hole to place the logging below the reservoir.									

BHA # 8

Weight(Wet)	22.68mt	Length	213.2m	Torque(max)	27200.0Nm	D.C. (1) Ann Velocity	73.78mpm
Wt Below Jar(Wet)	9.07mt	String	122.47mt	Torque(Off.Btm)	10880.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	129.27mt	Torque(On.Btm)	13600.0Nm	H.W.D.P. Ann Velocity	61.81mpm
		Slack-Off	111.13mt			D.P. Ann Velocity	50.77mpm
BHA Run Description		LWD Logging BHA.					

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.33m	311mm		5119202	1 x 14, 3 x 20 nozzles
Bit Sub	0.90m	203mm	76mm	GUD1231-2	Float Installed
Saver Sub	0.36m	213mm	83mm	03137-3	
Stethoscope 825	9.58m	305mm	83mm	AF82	
Saver Sub	0.46m	210mm	83mm	41940	
Saver Sub	0.45m	216mm	108mm	MSSB-GC	
Telescope 825	7.56m	216mm	108mm	VA77	
Saver Sub	0.47m	216mm	108mm	ASQ8080	
Saver Sub	0.37m	216mm	108mm		
ARC-8	5.50m	232mm	108mm	2724	
Sonic ILS	0.87m	305mm	108mm	242280730	
Sonic	6.88m	234mm	108mm	34888	
Saver Sub	0.32m	210mm	108mm	MSSB-KC	
ADN w/Stab	6.36m	302mm	108mm	42730	
Pony Drill Collar	2.50m	232mm	108mm	2986	
Drill Collar	9.44m	203mm	73mm		
8in Jar	9.94m	210mm	76mm	989SE2	
Drill Collar	9.45m	207mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	16	0	-12.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	47
Fuel	M3	0	14	0	559.6	ESS	8
Potable Water	M3	29	26	0	354.0	BHI	3
Drill Water	M3	0	30	0	878.0	Dowell	2
						Rheochem	2
						TMT	3
						Anadrill	2
						Anadrill	1
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	4
						Schlumberger Wireline	1
						Schlumberger Drilling & Measurements	2
						Santos	2
						DOGC Service	7
						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).

HSE Summary				
Events	Num Events	Date of Last	Days Since	Remarks
Abandon Drill	1	27 Jul 2008	3 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	3 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	23 Jun 2008	37 Days	IP was opening PPE locker in the sack room to exchange a dirty dust mask with a new mask. IP opened locker door harder than he expected and locker door swung open and struck him on the safety glasses. Safety glasses cut left eye brow (2.5 cm) from the impact. Hard hat had been taken off to exchange dust masks.
First Aid	1	27 Jul 2008	3 Days	An IP on the supply vessel complained of chest pains and dizziness. He was assisted off the boat to the rig and checked over by the medic. All clear given by medic with consultation with doctor. IP returned to the boat, boat headed for its scheduled trip to Portland. IP cleared to work after visit to Portland hospital.
JHA	33	30 Jul 2008	0 Days	Drill crew - 13 Deck Crew - 15 Welder - 3 Elect -2
Lost Time Incident	1	30 May 2008	61 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	0	13 May 2008	78 Days	No MTI since start of campaign
Medical Treatment Incident	1	24 Jul 2008	6 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	30 Jul 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	13	30 Jul 2008	0 Days	9 x hot work permits 4 x cold work permits
Rig Inspection	1	02 Jul 2008	28 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Audit	1	29 Jul 2008	1 Day	Santos environment audit conducted.
Safety Audit	1	30 Jul 2008	0 Days	EHSMS audit conducted onboard.
Safety Meeting	3	27 Jul 2008	3 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 techniques.
Santos Induction	4	30 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	90	30 Jul 2008	0 Days	47 - Safe 36 - Corrective Actions
STOP Tour	1	28 Jul 2008	2 Days	Conducted a STOP audit of the mud pump room. Person working on the mud pumps had all PPE on and permit in place. Discussed what fluid isolations he had in place. No procedure available to determine what valves should be closed while working on the pumps. Reviewed the area and all valves were closed. JSA will be updated and Dodi informed of the findings
STOP Tour	0	30 Jul 2008	0 Days	Diamond supervisor audits.
Trip/Pit Drill	1	24 Jul 2008	6 Days	Sounded the alarm on the drill floor for a kick drill. Crew reacted and had the FOSV in place within 40 seconds.

Shakers, Volumes and Losses Data				Engineer : Carissa Thompson / Fius Siregar			
Available	344.6m³	Losses	13.2m³	Equip.	Descr.	Mesh Size	Hours
Active	91.4m³	Downhole	0.0m³	Centrifuge 1	MI SW FVS 518		0
Mixing	0.0m³	Surf+ Equip	10.7m³	Centrifuge 1	MI SW FVS 518		0
Hole	144.5m³	Dumped		Centrifuge 2	MI SW FVS 518		4
Slug				Centrifuge 2	MI SW FVS 518		4
Reserve	57.2m³	De-Sander		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	9
Kill		De-Silter		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	11
Brine	51.5m³	Centrifuge	2.5m³	Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	9
				Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	11
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	9
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	11
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	9
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	11
Comment #2 Centrifuge needs repair done (awaiting spare parts).							

Marine											
Weather check on 30 Jul 2008 at 24:00								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period				Anchors
11.1km	37km/h	330.0deg	1012.00bar	9.0C°	0.5m	330.0deg	3sec	1	1382.9	103.87	
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments					
0.4deg	0.3deg	0.50m	1.5m	250.0deg	12sec						
Rig Dir.	Ris. Tension	VDL			Comments						
215.0deg	123.83mt	1005.62mt									
								2	1382.9	106.14	
								3	1399.9	113.85	
								4	1376.8	103.87	
								5	1410.9	112.04	
								6	1421.0	110.22	
								7	1410.9	120.20	
								8	1414.0	123.83	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:00 30 Jul 08	Transit to Portland Note: Mud volume is for the 8-1/2" section.	Item	Unit	Quantity
				Fuel	m3	518
				Potable Water	m3	158
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	127
Nor Captain	22:00 30 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	518.3
				Potable Water	m3	359
				Drill Water	m3	193
				Cement	mt	38
				Barite	mt	84
				Gel	mt	42
				Mud	m3	69
				KCl Brine	m3	0

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	11:25	Ocean Patriot		12
GYJ	11:40	Essendon		11

Summary of Period 0000 to 2400 Hrs			
Continued taking pressure probe tests in the reservoir. wiped the hole to bottom, circulated a Hi-Vis pill to balance on bottom. POH and laid out BHA.			

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
EP	TP (HC)	LDPC	0000	0100	1.00	1875.0m	Logged from 1845m to 1835m to obtain correlation data. Logging speed 20m/hr with 3028 L/min (800gpm). Ran down to 1845m, shutdown pumps and rotary and conduct Stick test for 15min with BHA.
EP	TP (HC)	LDPC	0100	0200	1.00	1875.0m	Ran back to bottom at 1875m, logged up with Sonic to 1828m.
EP	TP (HC)	LDPC	0200	0230	0.50	1875.0m	Shutdown pumps and rotary, took Stethoscope 15minute probe test #1 at 1825.5m (probe depth). Failed test.
EP	TP (HC)	LDPC	0230	0330	1.00	1875.0m	Washed and reamed stand while trouble shooting tools.
EP	TP (HC)	LDPC	0330	0430	1.00	1875.0m	Downlinked tools. Set Stethoscope tools to recording in memory. Pulled back to 1825.5m (probe depth). Downlinked tools to open probe and take #1 test again. Waited 15 minutes, good test.
EP	TP (HC)	LDPC	0430	0500	0.50	1875.0m	Closed probe and pulled to next depth at 1819.5m (probe depth). Downlinked tools, attempted to record the #2 test in real time. Good test. Downlinked to retract the probe.
EP	TP (HC)	LDPC	0500	0600	1.00	1875.0m	Pulled to next depth #3 at 1817.0m (probe depth), set and tested with probe, failed real time test #3. Retracted probe and worked pipe to rotate toolface 90°. Set pipe on probe test #3 depth 1817.0m, attempted sample test again.
EP	TP (HC)	LDPC	0600	1400	8.00	1875.0m	Continued Stethoscope testing. Had hydraulic problems with the tools on several sample points. A total of 17 tests were attempted with four positive results and one result on memory. Probe sample depths tested (m): 1825.5, 1819.5, 1816.75, 1813.85, 1806.25, 1801.9, 1797.8m Positive tests at: 1797.8, 1801.9, 1809.5, 1819.5m Average mud losses over this period 318 L/hr (2 bbl/hr).
EP	TP (HC)	CMD	1400	1515	1.25	1875.0m	Washed and reamed back to bottom at 1875m. Circulated to balance a 16 m³ (100bbl) Hi-Vis pill on bottom.
EP	TP (HC)	FC	1515	1530	0.25	1875.0m	Flow checked. Static.
EP	TP (HC)	TO	1530	2030	5.00	1875.0m	POH, slick hole back to the shoe at 642m.
EP	TP (HC)	FC	2030	2045	0.25	1875.0m	Performed trip drill. Flow checked. Static.
EP	TP (HC)	TO	2045	2130	0.75	1875.0m	Continued POH to the BHA at 213m.
EP	TP (HC)	HBHA	2130	2400	2.50	1875.0m	Pulled and laid out BHA. Held JSA, removed radio active sources. Laid out FEWD.

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Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	TI	0000	0130	1.50	1875.0m	Picked up centralized 127mm (5") Cement Mule shoe. RIH on drill pipe to the casing shoe at 642m.
PH	P	SC	0130	0400	2.50	1875.0m	Slipped and cut 33m of drill line.
PH	P	RS	0400	0430	0.50	1875.0m	Functioned crown-o-matic, serviced blocks and TDS.
PH	P	TI	0430	0600	1.50	1875.0m	Continued running the cement mule shoe from 1310m to bottom.

WBM Data

Mud Type:	KGLY	API FL:	4cm³/30m	KCl:	8%	Solids:	10.75	Viscosity:	0sec/L
Sample-From:	FL	Filter-Cake:	1mm	Hard/Ca:	880	H2O:	89%	PV:	0.021Pa/s
Time:	09:00	HTHP-FL:		MBT:	0.8	Oil:		YP:	0.182MPa
Weight:	1.32sg	HTHP-Cake:		PM:	0.1	Sand:	0.2	Gels 10s:	0.048
Temp:	57.0C°			PF:	0.04	pH:	8.5	Gels 10m:	0.096
						PHPA:	0ppb	Fann 003:	9
								Fann 006:	12
								Fann 100:	35
								Fann 200:	48
								Fann 300:	59
								Fann 600:	80

Comment 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 Hivis/ LCM pill (7.6ppb Omycarb20). Pump 100 bbl Hivis/ 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.

Bit # 5RR2

Bit # 5RR2				Wear	I 1	O1 1	D NO	L A	B E	G 1	O2 NO	R LOG
Size:	311mm	IADC#	117	Nozzles		Drilled over last 24 hrs			Calculated over Bit Run			
Mfr:	HUGHES	WOB(avg)	3.63mt	No.	Size	Progress		0.0m	Cum. Progress			5.0m
Type:	Rock	RPM(avg)	90	1	14/32nd"	On Bottom Hrs		0.00h	Cum. On Btm Hrs			1.10h
Serial No.:	5119202	F.Rate	3218lpm	3	20/32nd"	IADC Drill Hrs		0.00h	Cum IADC Drill Hrs			2.00h
Bit Model	MXL-1X	SPP	21374kPa			Total Revs		430	Cum Total Revs			860
Depth In	1870.0m	TFA	1.071			ROP(avg)		N/A	ROP(avg)			4.55 m/hr
Depth Out	1875.0m											
Bitwear Comment		The cutting structures still look green with only a 5m rathole drilled. The gauge was 1/16" under caused by the three wiper trips with wash,reaming and back reaming required on all three runs.										

BHA # 8

Weight(Wet)	22.68mt	Length	213.2m	Torque(max)	27200.0Nm	D.C. (1) Ann Velocity	73.78mpm
Wt Below Jar(Wet)	9.07mt	String	122.47mt	Torque(Off.Btm)	10880.0Nm	D.C. (2) Ann Velocity	0mpm
		Pick-Up	129.27mt	Torque(On.Btm)	13600.0Nm	H.W.D.P. Ann Velocity	61.81mpm
		Slack-Off	111.13mt			D.P. Ann Velocity	50.77mpm

BHA Run Description LWD Logging BHA.

BHA Run Comment Good downlinks with the tools, however out of the 17 stethoscope tests taken only 5 were successful. No hole problems other then avg 25k overpull.

Equipment	Length	OD	ID	Serial #	Comment
Bit	0.33m	311mm		5119202	1 x 14, 3 x 20 nozzles
Bit Sub	0.90m	203mm	76mm	GUD1231-2	Float Installed
Saver Sub	0.36m	213mm	83mm	03137-3	
Stethoscope 825	9.58m	305mm	83mm	AF82	
Saver Sub	0.46m	210mm	83mm	41940	
Saver Sub	0.45m	216mm	108mm	MSSB-GC	
Telescope 825	7.56m	216mm	108mm	VA77	
Saver Sub	0.47m	216mm	108mm	ASQ8080	
Saver Sub	0.37m	216mm	108mm		
ARC-8	5.50m	232mm	108mm	2724	
Sonic ILS	0.87m	305mm	108mm	242280730	
Sonic	6.88m	234mm	108mm	34888	
Saver Sub	0.32m	210mm	108mm	MSSB-KC	
ADN w/Stab	6.36m	302mm	108mm	42730	
Pony Drill Collar	2.50m	232mm	108mm	2986	
Drill Collar	9.44m	203mm	73mm		
8in Jar	9.94m	210mm	76mm	989SE2	
Drill Collar	9.45m	207mm	73mm		
X/O	1.09m	203mm	67mm	GUD1231-6	
HWDP	140.40m	175mm	76mm		

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	0	0	-12.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	140.0	DOGC	45
Fuel	M3	0	15.3	0	544.3	ESS	8
Potable Water	M3	35	29	0	360.0	BHI	5
Drill Water	M3	0	14	0	864.0	Dowell	2
						Rheochem	2
						TMT	3
						Anadrill	2
						Anadrill	2
						Schlumberger Wireline	9
						MI Swaco	1
						Schlumberger Testing	4
						Schlumberger Wireline	1
						Schlumberger Drilling & Measurements	2
						DOGC Service	7
						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	27 Jul 2008	4 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	4 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	0 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	0 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	16	31 Jul 2008	0 Days	Drill crew - 5 Deck Crew - 8 Elect -3
Lost Time Incident	1	30 May 2008	62 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	7 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	31 Jul 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	13	31 Jul 2008	0 Days	8 x hot work permits 5 x cold work permits
Rig Inspection	1	02 Jul 2008	29 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Audit	1	30 Jul 2008	1 Day	EHSMS audit conducted onboard.
Safety Meeting	3	27 Jul 2008	4 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 techniques.
Santos Induction	2	31 Jul 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	63	31 Jul 2008	0 Days	39 - Safe 24- Corrective Actions
STOP Tour	1	31 Jul 2008	0 Days	Diamond supervisor audits.
Trip/Pit Drill	1	31 Jul 2008	0 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	412.8m³	Losses	11.2m³	Equip.	Descr.	Mesh Size	Hours
Active	93.3m³	Downhole	6.4m³	Centrifuge 1	MI SW FVS 518		0
Mixing	0.0m³	Surf+ Equip	3.5m³	Centrifuge 1	MI SW FVS 518		0
Hole	154.5m³	Dumped	1.3m³	Centrifuge 2	MI SW FVS 518		4
Slug				Centrifuge 2	MI SW FVS 518		0
Slug		De-Sander		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	11
Reserve	113.5m³	De-Silter		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	16
Kill		Centrifuge	0.0m³	Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	11
Brine	51.5m³			Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	16
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	11
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	16
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	11
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	16
Comment				#2 Centrifuge repaired and back in the system.			

Marine										
Weather check on 31 Jul 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
22.2km	44km/h	23.0deg	1005.00bar	12.0C°	0.6m	23.0deg	3sec	1	1382.9	93.89
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	94.80
0.4deg	0.4deg	0.70m	2.0m	23.0deg	12sec			3	1399.9	125.19
Rig Dir.	Ris. Tension	VDL		Comments				4	1376.8	99.79
215.0deg	124.74mt	1066.85mt			5			1410.9	135.17	
				6	1421.0			135.17		
								7	1410.9	120.20
								8	1414.0	115.21

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:00 30 Jul 08	Transit to Portland Note: Mud volume is for the 8-1/2" section.	Item	Unit	Quantity
				Fuel	m3	515
				Potable Water	m3	152
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	250
Nor Captain	22:00 30 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	507.5
				Potable Water	m3	359
				Drill Water	m3	193
				Cement	mt	38
				Barite	mt	84
				Gel	mt	42
				KCl Brine	m3	0
				Mud	m3	0

Helicopter Movement					
Flight #	Time	Destination	Comment	Pax	
GYJ	11:08	Ocean Patriot		9	
GYJ	11:22	Essendon		10	

From : Peter Devine / Rohan Richardson
OIM : Rod Dotson
Well Data

Country	Australia	Measured Depth	1875.0m	Current Hole Size	311mm	
Field		TVD	1748.3m	Casing OD	340mm	
Drill Contractor	DOGC	Progress	0.0m	Shoe MD	642.2m	
Rig	Ocean Patriot	Days from spud	17.71	Shoe TVD	642.2m	
Water Depth (LAT)	65.4m	Days on well	18.48	F.I.T. / L.O.T.	/ 2.12sg	Planned TD 2503.0m
RT-SL(LAT)	21.5m	Current Op @ 0600	Tagged cement at 1421 m with 6.7 t (15 k lbs) WOB.			
RT-ML	86.9m	Planned Op	Kick off cement plug and drill ahead 311 mm (12 1/4") hole.			
Rig Heading	215.0deg					

Summary of Period 0000 to 2400 Hrs

Picked up cement stinger and RIH on drill pipe to 614 m, slipped and cut drill line. Continued to RIH cement stinger to 1870 m and circulated hole clean. Mixed and pumped cement plug #1 from 1870 m to 1720 m. POOH to 1720 m and circulated bottoms up. Rigged up cement lines and pumped cement plug #2 from 1720 m to 1570 m. POOH to 1570 m and circulated bottoms up. Made up cement lines and pumped cement plug #3 from 1570 m to 1420 m. POOH to 1320 m and circulated bottoms up. Continued to POOH and laid out cement stinger. Held pre job safety meeting and rigged up to handle BHA. Made up and RIH directional BHA to 52 m and performed shallow test, ok.

Operations For Period 0000 Hrs to 2400 Hrs on 01 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PA	P	TI	0000	0130	1.50	1875.0m	Picked up centralised 127 mm (5") cement mule shoe. RIH on drill pipe to casing shoe at 614 m.
PA	P	SC	0130	0400	2.50	1875.0m	Slipped and cut 33 m of drill line.
PA	P	RS	0400	0430	0.50	1875.0m	Functioned crown-o-matic, serviced blocks and TDS.
PA	P	TI	0430	0700	2.50	1875.0m	Continued RIH with cement mule shoe from 614 m to 1870 m.
PA	P	CHC	0700	0800	1.00	1875.0m	Circulated bottoms up and held pre job safety meeting.
PA	P	CMP	0800	0900	1.00	1875.0m	Made up elevator cementing sub with FOSV and low torque valve to drill pipe and attached cement lines. Lined up cement unit and pumped 0.8 m3 (5 bbls) of drill water. Closed low torque and P/ Tested cement lines to 10.3 MPa (1500 psi) for 5 mins, ok. Pumped 1.6 m3 (10 bbls) of drill water, mixed and pumped 13.6 m3 (86 bbls) of 1.9 sg (15.8 ppg) class G slurry, 466 sacks. Pumped 0.3 m3 (2 bbls) of drill water and displaced with 14.6 m3 (92 bbls) of mud.
PA	P	TO	0900	0930	0.50	1875.0m	POOH from 1870 m to 1720 m
PA	P	CHC	0930	1030	1.00	1875.0m	Circulated bottoms up and held pre job safety meeting.
PA	P	CMP	1030	1130	1.00	1875.0m	Made up elevator cementing sub with FOSV and low torque valve to drill pipe and attached cement lines. Lined up cement unit and pumped 0.8 m3 (5 bbls) of drill water. Closed low torque and P/ Tested cement lines to 10.3 MPa (1500 psi) for 5 mins, ok. Pumped 1.6 m3 (10 bbls) of drill water, mixed and pumped 13.6 m3 (86 bbls) of 1.9 sg (15.8 ppg) class G slurry, 466 sacks. Pumped 0.3 m3 (2 bbls) of drill water and displaced with 13.5 m3 (85 bbls) of mud.
PA	P	TO	1130	1200	0.50	1875.0m	POOH from 1720 m to 1570 m.
PA	P	CHC	1200	1300	1.00	1875.0m	Circulated bottoms up and held pre job safety meeting.
PA	P	CMP	1300	1400	1.00	1875.0m	Made up elevator cementing sub with FOSV and low torque valve to drill pipe and attached cement lines. Lined up cement unit and pumped 0.8 m3 (5 bbls) of drill water. Closed low torque and P/ Tested cement lines to 10.3 MPa (1500 psi) for 5 mins, ok. Pumped 7.1 m3 (45 bbls) of mud push ahead of cement, mixed and pumped 13.6 m3 (86 bbls) of 2.0 sg (16.5 ppg) class G slurry, 510 sacks. Pumped 1.1 m3 (7 bbls) of mud push behind the cement and displaced with 11.1 m3 (70 bbls) of mud.
PA	P	TO	1400	1500	1.00	1875.0m	POOH from 1570 m to 1320 m.
PA	P	CHC	1500	1600	1.00	1875.0m	Circulated bottoms up and discharged 4.3 m3 (27 bbls) of cement contaminated mud.
PA	P	TO	1600	1930	3.50	1875.0m	POOH from 1320 m to surface and laid out mule shoe.
PA	P	HBHA	1930	2000	0.50	1875.0m	Made up floor to handle BHA
PA	P	HBHA	2000	2400	4.00	1875.0m	Held pre job safety meeting and made up 311 mm (12 1/4") BHA to 52 m.

Operations For Period 0000 Hrs to 0600 Hrs on 02 Aug 2008

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	HBHA	0000	0100	1.00	1875.0m	Continued to make up BHA from 52 m to 183 m.

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PH	P	TI	0100	0230	1.50	1875.0m	Continued to RIH from 183 m to 616 m
PH	P	RS	0230	0300	0.50	1875.0m	Serviced TDS and blocks, primed mud pump #2 after changing out swabs.
PH	P	CMD	0300	0345	0.75	1875.0m	Flushed choke and kill lines with fresh 1.3 sg (11.1 ppg) mud
PH	P	TI	0345	0500	1.25	1875.0m	Continued to RIH from 616 m to 1328 m.
PH	P	WIN	0500	0600	1.00	1875.0m	Made up TDS and washed from 1328 m to 1420 m. Tagged cement at 1421 m with 6.7 t (15 klbs) WOB.

WBM Data

Mud Type:	KGLY	API FL:	4cm ³ /30m	KCl:	8%	Solids:	11.17	Viscosity:	0sec/L
Sample-From:	Pit	Filter-Cake:	1mm	Hard/Ca:	880	H ₂ O:	89%	PV:	0.022Pa/s
Time:	21:00	HTHP-FL:		MBT:	0.8	Oil:		YP:	0.168MPa
Weight:	1.33sg	HTHP-Cake:		PM:	0.2	Sand:	0.2	Gels 10s:	0.048
Temp:	35.0C°			PF:	0.04	pH:	9.5	Gels 10m:	0.096
						PHPA:	0ppb	Fann 003:	10
								Fann 006:	13
								Fann 100:	36
								Fann 200:	46
								Fann 300:	57
								Fann 600:	79
Comment		Pre treated active system with 0.25 ppb Sodium bicarbonate. Dumped 233 bbls of contaminated mud after cement plugs and 77 bbls from sand traps. 18 bbl losses were seen during tripping operations. Screened down shakers to 84 mesh prior to cement job.							

Bulk Stocks

Name	Unit	In	Used	Adjust	Balance	Personnel On Board	
						Company	Pax
Barite	MT	0	11	0	-23.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	50	0	90.0	DOGC	45
Fuel	M3	0	19.3	0	525.0	ESS	8
Potable Water	M3	28	29	0	359.0	BHI	6
Drill Water	M3	0	82	0	782.0	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	5 Days	Abandonment drill completed after the fire drill. Completed full muster at lifeboat stations 1 and 2 in 10 minutes.
Fire Drill	1	27 Jul 2008	5 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	1 Day	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	1 Day	IP was working on making up well test gear when the piece he was tightening slipped and caught his finger. Very minor laceration.
JHA	29	01 Aug 2008	0 Days	Drill crew - 15 Deck Crew - 13 Welder - 1
Lost Time Incident	1	30 May 2008	63 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	8 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	01 Aug 2008	0 Days	Discussed upcoming operations and associated hazards prior to each shift starting.
PTW Issued	8	01 Aug 2008	0 Days	6 x hot work permits 2 x cold work permits
Rig Inspection	1	02 Jul 2008	30 Days	Conducted hazard hunt checking for flammable liquids in containers secured properly and in correct place with signage.
Safety Audit	1	30 Jul 2008	2 Days	EHSMS audit conducted onboard.
Safety Meeting	3	27 Jul 2008	5 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 techniques.
Santos Induction	1	01 Aug 2008	0 Days	Completed Santos induction with new personnel to site.
Stop Observations	71	01 Aug 2008	0 Days	40 - Safe 31- Corrective Actions
STOP Tour	1	31 Jul 2008	1 Day	Diamond supervisor audits.
Trip/Pit Drill	1	31 Jul 2008	1 Day	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	408.9m³	Losses	54.3m³	Equip.	Descr.	Mesh Size	Hours
Active	77.4m³	Downhole		Centrifuge 1	MI SW FVS 518		0
Mixing	0.0m³	Surf+ Equip	5.0m³	Centrifuge 1	MI SW FVS 518		0
Hole	154.4m³	Dumped	49.3m³	Centrifuge 2	MI SW FVS 518		0
Slug		De-Sander		Centrifuge 2	MI SW FVS 518		0
Reserve	125.6m³	De-Silter		Shaker 3	Bem 650 - MI SW	10/20/230/230/230/230	16
Kill		Centrifuge	0.0m³	Shaker 3	Bem 650 - MI SW	20 / 10 84 HC x 4	11
Storage	51.5m³			Shaker 4	Bem 650 - MI SW	10/20/230/230/230/230	16
				Shaker 4	Bem 650 - MI SW	20 / 10 84 HC x 4	11
				Shaker 5	Bem 650 - MI SW	10/20/230/230/230/230	16
				Shaker 5	Bem 650 - MI SW	20 / 10 84 HC x 4	11
				Shaker 6	Bem 650 - MI SW	10/20/230/230/230/230	16
				Shaker 6	Bem 650 - MI SW	20 / 10 84 HC x 4	11
Comment				#2 Centrifuge repaired and back in the system.			

Marine										
Weather check on 01 Aug 2008 at 24:00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)
18.5km	52km/h	240.0deg	1006.00bar	12.0C°	2.0m	240.0deg	7sec	1	1382.9	93.89
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather Comments		2	1382.9	94.80
1.0deg	0.5deg	1.00m	4.0m	225.0deg	14sec			3	1399.9	125.19
Rig Dir.	Ris. Tension	VDL	Comments		4			1376.8	99.79	
215.0deg	124.74mt	1034.65mt			5			1410.9	135.17	
					6			1421.0	135.17	
								7	1410.9	120.20
								8	1414.0	115.21

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip		22:00 30 Jul 08	Portland	Item	Unit	Quantity
				Fuel	m3	515
				Potable Water	m3	146
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	127
Nor Captain	22:00 30 Jul 08		On location.	Item	Unit	Quantity
				Fuel	m3	496.7
				Potable Water	m3	355
				Drill Water	m3	193
				Cement	mt	38
				Barite	mt	84
				Gel	mt	42
				Mud	m3	0
				KCl Brine	m3	0

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ	11:18	Ocean Patriot		7
GYJ	11:37	Essendon		16

Summary of Period 0000 to 2400 Hrs			
RIH with 311 mm (12 1/4") BHA and tagged cement at 1421 m. Kicked off with 100 % new formation at 1505 m. Commenced Netherby-1DW at 21:00 hrs.			

Phse	Cls (RC)	Op	From	To	Hrs	Depth	Activity Description
PA	P	HBHA	0000	0100	1.00	1875.0m	Continued to make up BHA from 52 m to 183 m.
PA	P	TI	0100	0230	1.50	1875.0m	Continued to RIH from 183 m to 616 m
PA	P	RS	0230	0300	0.50	1875.0m	Serviced TDS and blocks, primed mud pump #2 after changing out swabs.
PA	P	CMD	0300	0345	0.75	1875.0m	Flushed choke and kill lines with fresh 1.3 sg (11.1 ppg) mud
PA	P	TI	0345	0500	1.25	1875.0m	Continued to RIH from 616 m to 1328 m.
PA	P	WIN	0500	0600	1.00	1875.0m	Made up TDS and washed from 1328 m to 1420 m. Tagged cement at 1421 m with 6.7 t (15 klbs) WOB.
PA	P	ST	0600	2100	15.00	1875.0m	Attempted to kick off cement plug from 1421 m to 1491 m using time drilling technique, unsuccessful. Continued to fall through hard stringers into green cement. Established 2.2 - 4.4 kdaN (5 - 10 klbs) WOB from 1491 m and observed change in azimuth. 100 % new formation at shakers from 1505 m. Commenced Netherby-1DW at 21:00 hrs.

Mud Type:	KGLY	API FL:	6cm ³ /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.								

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BHA # 9							
Weight(Wet)	18.14mt	Length	183.1m	Torque(max)	29.6Nm	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)	15.6Nm	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			

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Barite	MT	0	7	0	-30.0	Santos	4
Gel	MT	0	0	0	53.0	Santos	2
Cement	MT	0	0	0	90.0	DOGC	45
Fuel	M3	0	18.4	0	506.6	ESS	8
Potable Water	M3	34	26	0	367.0	BHI	6
Drill Water	M3	0	30	0	752.0	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 techniques.
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 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	391.6m³	Losses	19.5m³	Equip.	Descr.	Mesh Size	Hours
Active	95.7m³	Downhole		Centrifuge 1	MI SW FVS 518		0
Mixing	0.0m³	Surf+ Equip	19.5m³	Centrifuge 1	MI SW FVS 518		0
Hole	147.7m³	Dumped	0.0m³	Centrifuge 2	MI SW FVS 518		0
Slug				Centrifuge 2	MI SW FVS 518		0
Slug		De-Sander		Shaker 3	Bem 650 - MI SW	20 / 10 84 HC x 4	11
Reserve	96.7m³	De-Silter		Shaker 3	Bem 650 - MI SW	20 / 20 230 HC x 4	18
Kill				Shaker 4	Bem 650 - MI SW	20 / 10 84 HC x 4	11
Storage	51.5m³	Centrifuge	0.0m³	Shaker 4	Bem 650 - MI SW	20 / 20 230 HC x 4	18
				Shaker 5	Bem 650 - MI SW	20 / 10 84 HC x 4	11
				Shaker 5	Bem 650 - MI SW	20 / 20 230 HC x 4	18
				Shaker 6	Bem 650 - MI SW	20 / 10 84 HC x 4	11
				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								Rig Support			
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Chain out (m)	Tension (mt)	
18.5km	28km/h	263.0deg	1018.00bar	12.0C°	0.5m	263.0deg	3sec	1	1382.9	94.80	
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									
								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	

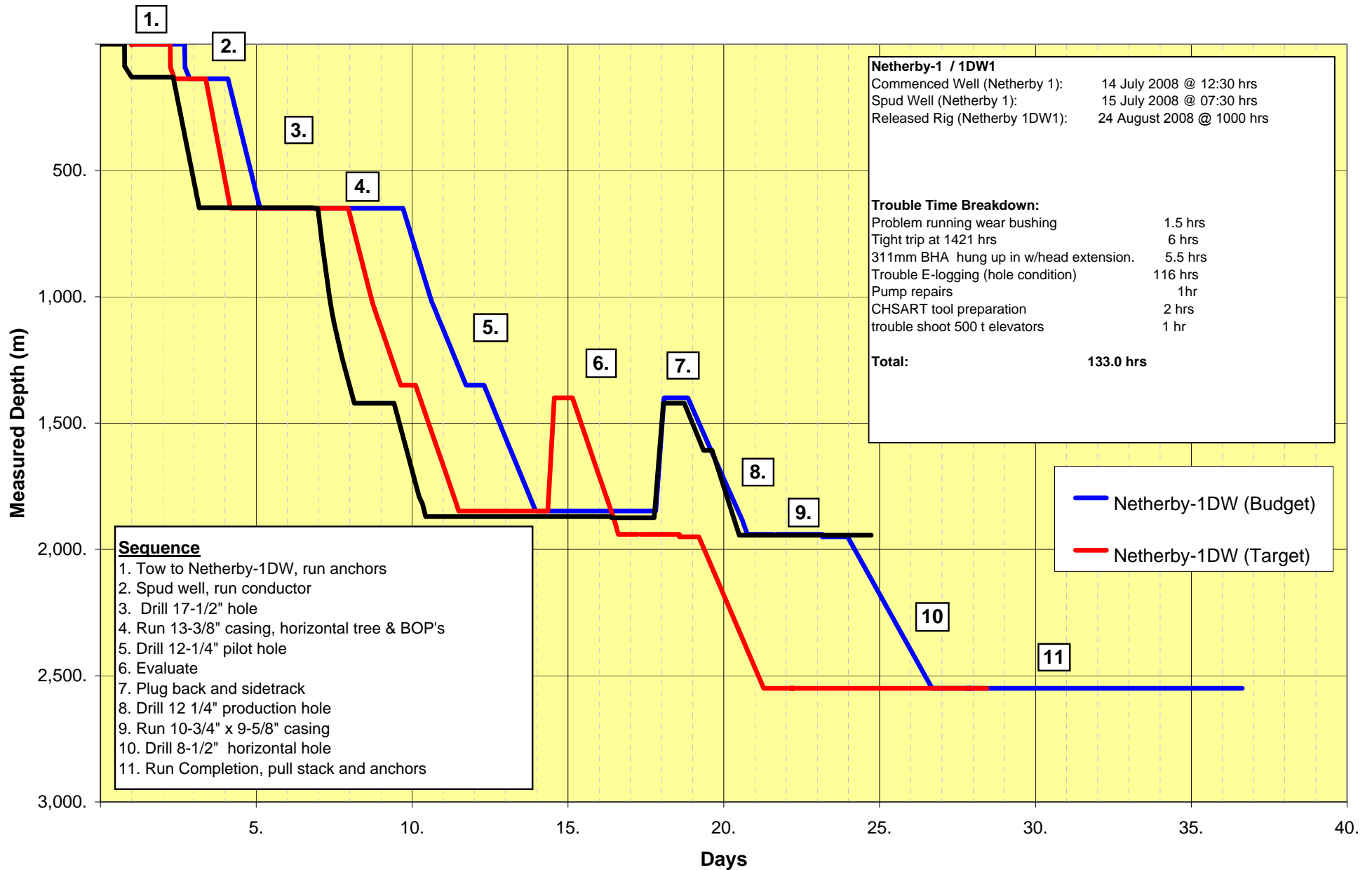
Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip	18:00 hrs 02.08.08		Standby Ocean Patriot	Item	Unit	Quantity
				Fuel	m3	513
				Potable Water	m3	140
				Drill Water	m3	450
				Cement	mt	43.5
				Barite	mt	84
				Gel	mt	59
				KCl Brine	m3	140
				NaCl Brine	m3	185
				Mud	m3	250
Nor Captain	22:00 30 Jul 08		Standby Ocean Patriot	Item	Unit	Quantity
				Fuel	m3	486.1
				Potable Water	m3	350
				Drill Water	m3	193
				Cement	mt	38
				Barite	mt	84
				Gel	mt	42
				Mud	m3	0
				KCl Brine	m3	0

Helicopter Movement				
Flight #	Time	Destination	Comment	Pax
GYJ		Ocean Patriot	No Helicopter to site	
GYJ		Essendon	No Helicopter to site	

SECTION 6 : TIME / DEPTH CURVE

The Netherby 1 Time / Depth Curve also incorporates Netherby 1DW1.

Netherby-1 / 1DW1 Time versus Depth Curve



SECTION 7 : BHA SUMMARY

BHA Summaries are also mentioned in Section 8.

BHA Data Sheet

Santos Limited - Netherby-1 DW

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












[illegible]

BHA Comments:

[illegible][illegible]

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

Quality Control	
Created By:	AStroud
Checked By:	

	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

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 Surface	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

	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

Cum. Len. (m)				
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" HMDC (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 Sur	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:

Santos Limited - Netherby-1 DW


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

[illegible]

BHA Comments:			

Stabilizer		Sensor		Bit Nozzles	
Blade Length (m)	Mid-Pt. To Bit (m)	Type	Distance To Bit (m)	Count	Size (1/32 in)
0.60	1.08			1	14.00
0.60	20.87			3	20.00
	Bend To Bottom			TFA (in2)	1.07
Bent Housing Angle (deg)	Connection (m)				

Quality Control	
Created By:	AStroud
Checked By:	

	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				
<div>Insert Logo</div>				
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:		
<div>Quality Control</div> <div>Created by: AStroud Date: 30/07/2008</div> <div>Checked by: Date:</div>				

Schlumberger

SECTION 8 : BIT RECORD & PERFORMANCE SUMMARY

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
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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.

BHA No.1 209.77m		
15 x 127mm (5-1/2") HWDP	140.23m	
Cross-over	1.09m	
3x 203mm (8") DC	28.29m	
Cross-over	1.09m	
2x241mm (9-1/2") DC	18.61m	
375mm (14-3/4") Stabiliser	2.43m	
1 x 203mm (8") NMDC	8.93m	
1x438mm(17-1/4") Stabiliser	2.43m	
1x241mm(9.5")Anderdrift	3.0m	
Bit Sub w/Solid Float	0.91m	
914mm (36") Hole Opener	2.11m	
914mm (36") Bit Y11C Jets: 3x24, 1x16" 0.65		

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

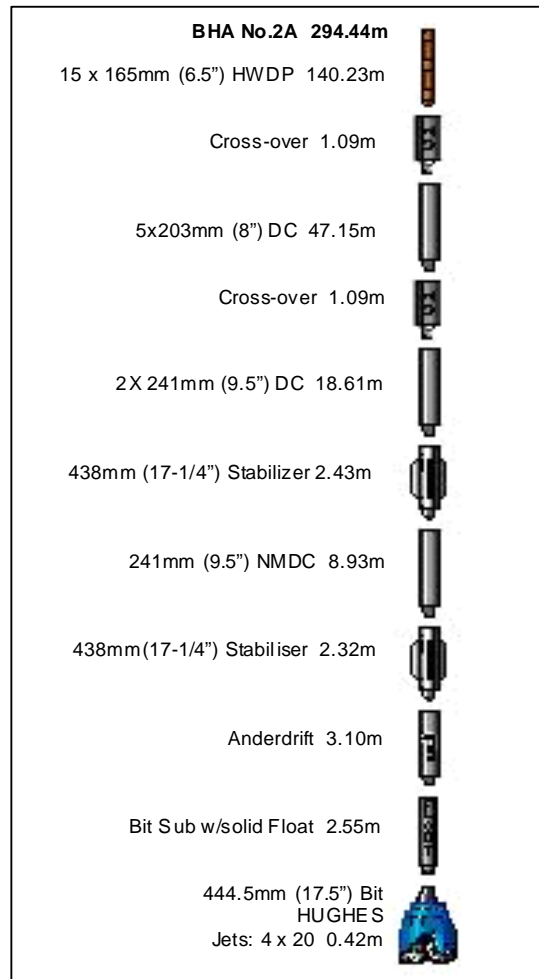
Seawater and PHG sweeps	1.05sg
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Lithology

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

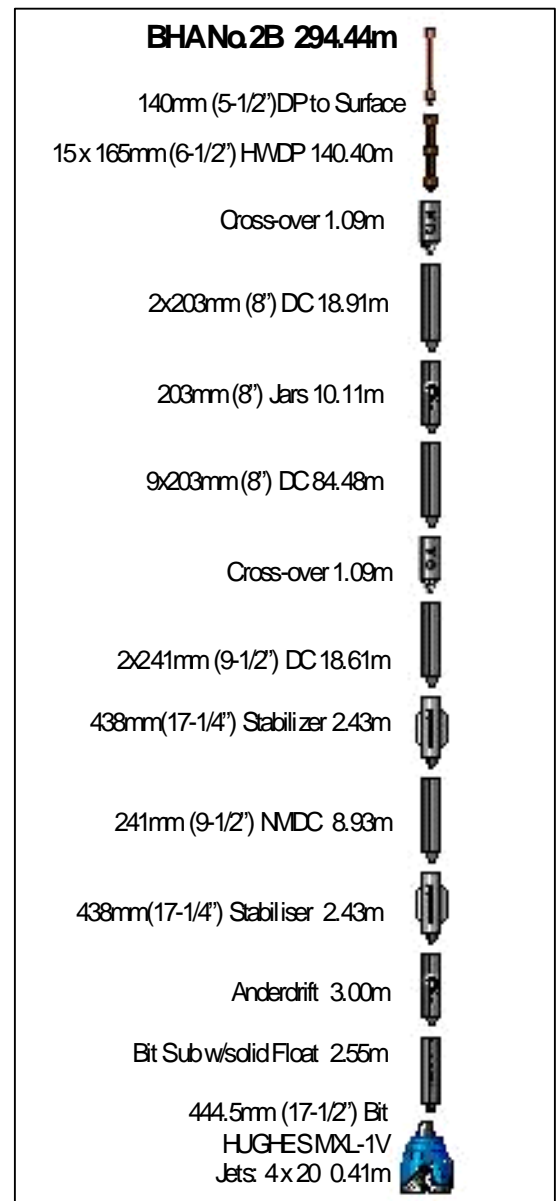
Sea water and PHG Sweeps	1.05sg
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Lithology

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
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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.

BHA No.3 271.62m		
127mm (5") DP to surface		
15x 127mm (5") HWDP	140.23m	
Crossover	1.09m	
2x203mm (8") DC	18.77m	
203mm(8") Jar	10.11m	
7x203mm(8") DC	65.76m	
311mm (12-1/4") IBS Stabilizer	2.34m	
1 x 209mm (8-1/4") DC	9.36m	
Upper Saver Sub	0.47m	
MWD - Power Pulse	7.68m	
Saver Sub	0.87m	
MWD - ARC-8	5.51m	
Lower Saver Sub	0.38m	
375mm (14-3/4") NB Stabiliser	2.44m	
209mm(8-1/4") Pony Collar	5.05m	
311mm(12-1/4") Float	1.26m	
311mm (12-1/4") Bit HUGHES MX-03DX Jets: 3 x 15, 1 x 16	0.30m	

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

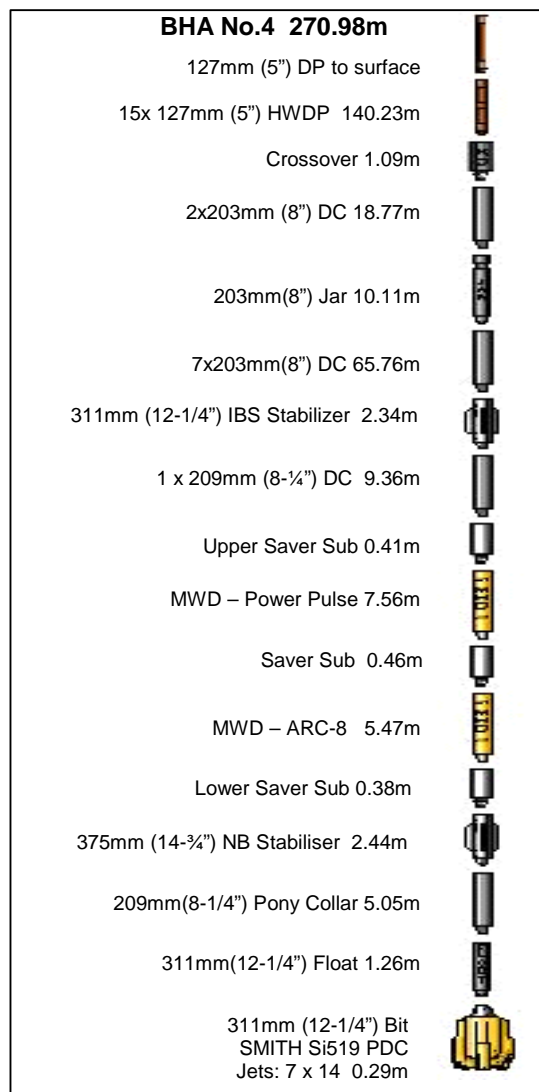
KGLY	1.34sg
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Lithology

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.



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
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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.

BHA No.5 213.23m	
127mm (5") DP to surface	
15x 127mm (5") HWDP 140.23m	
Crossover 1.09m	
2x203mm (8") DC 18.77m	
203mm(8") Jar 10.11m	
7x203mm(8") DC 65.76m	
311mm (12-1/4") IBS Stabilizer 2.34m	
1 x 209mm (8-1/4") DC 9.36m	
Upper Saver Sub 0.41m	
MWD – Power Pulse 7.56m	
Sub 0.46m	
MWD – ARC-8 5.47m	
Upper Saver Sub 0.38m	
209mm (8-3/8") Sethoscooper 9.58m	
209mm(8-3/8") Lower saver sub 0.36m	
203mm(8") Bit Sub 0.9m	
311mm (12-1/4") Bit SMITH Si519 PDC Jets: 3 x 20,1 X14 0.33m	

BIT SUMMARY

BIT SUMMARY																																																																					
OPERATOR Santos Ltd						WELL NAME Netherby-1 & Netherby-1DW1						LOCATION VIC /P44						CONTRACTOR Diamond Offshore General Company						RIG Ocean Patriot																																													
<div></div>				Mud Pump Data All Sections 165mm (6.0") Liners, 105mm (12") Stroke 97% Eff 0.1018bbi/stk			BIT DULL CHARACTERISTICS														REASONS PULLED																																																
							BC - Broken Cone BT - Broken Teeth BU - Balled Up CC - Cracked Cone CD - Cone Dragged							CI - Cone Interference CR - Cored CT - Chipped Teeth FC - Flat Crested Wear HC - Heat Checking							JD - Junk Damage LC - Lost Cone LN - Lost Nozzle LT - Lost Teeth OC - Off-Center Wear							PB - Pinched Bit PN - Plugged Nozzle RG - Rounded Gauge RO - Ring Out SD - Shirlail Damage							SS - Self-Sharpening TR - Tracking WO - Washed-Out Bit WT - Worn Teeth NO - No Dull Characts							BHA - Bottomhole Assembly DMF - Downhole Motor Failure DSF - Drill String Failure DST - Drill Stem Test DTF - Downhole Tool Failure							LOG - Run Logs RIG - Rig Repair CM - Condition Mud CP - Core Point DP - Drill Plug							FM - Formation Change HP - Hole Problems HR - Hours PP - Pump Pressure PR - Penetration rate							TD - Total / Clog depth TQ - Torque TW - Twists Off WC - Weather Conditions WD - Wearout - Drill String						
							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						MW SG		REMARKS																																
							I	O	D	L	B	G	O	R																																																							
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	41-62 / 56-63	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 1 Drilling Fluids Report also incorporates Netherby 1DW1.

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	

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Start : 15th July 2008

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Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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 700bbbls 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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

12¹/₄" Hole Section Pilot Hole

HOLE SIZE : 12¹/₄"
MUD TYPE : KCI / 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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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/100ft².

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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 (100°F+) 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.

Operator : Santos
Well : Netherby-1
Rig : Ocean Patriot
Spud : 15th July 2008

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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

12¹/₄" Hole Section DW

HOLE SIZE : 12 1/4"
MUD TYPE : KCI / 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 12¹/₄" 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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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 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 120°F. 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/100ft² and 30-49 lb/100ft², respectively. Maximum BHT reached 75 degrees Celsius (169°F) 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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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%.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Total of new screens used on 12 ¼ " section Netherby-1 DW were:-

- 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

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

8¹/₂" 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 8¹/₂" 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 existing 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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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 120°F. 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/100ft² and 21-36 lb/100ft², 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).

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Total of new screens used on 8 1/2" section Netherby-1 DW were:-

- 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

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
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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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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).

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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 120°F 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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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.

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

5. FRP INTERVAL SUMMARIES

Interval Summary

Santos Ltd

Netherby - 1

36" Section

Key Interval Data		Volume Reconcile		Volume Accounting	
Initial Depth (m)	0	Recd From Prev Section	0	Surface Loss (bbl / m)	957
Final Depth (m)	131	Received Volume LMP	0	Sub-Surface (bbl / m)	0
Interval Depth (m)	131	Total Built/Added	1469	Total Loss	957
		BackLoad Volume LMP	0	Dilution Factor (bbl / m)	7.31
		Nett Volume	1469	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

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Interval Summary

Santos Ltd

Netherby - 1

17 1/2" Section

Key Interval Data		Volume Reconcile		Volume Accounting	
Initial Depth (m)	131	Recd From Prev Section	0	Surface Loss (bbl / m)	3479
Final Depth (m)	647	Received Volume LMP	895	Sub-Surface (bbl / m)	0
Interval Depth (m)	516	Total Built/Added	3309	Total Loss	3479
		BackLoad Volume LMP	0	Dilution Factor (bbl / m)	6.74
		Nett Volume	4204	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		Volume Reconcile		Volume Accounting	
Initial Depth (m)	647	Recd From Prev Section	0	Surface Loss (bbl / m)	2050
Final Depth (m)	1875	Received Volume LMP	1932	Sub-Surface (bbl / m)	308
Interval Depth (m)	1228	Total Built/Added	3129	Total Loss	2358
		BackLoad Volume LMP	0	Dilution Factor (bbl / m)	1.92
		Nett Volume	5061	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
KCI / 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
KCI (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		Volume Reconcile		Volume Accounting	
Initial Depth (m)	1505	Recd From Prev Section	2160	Surface Loss (bbl / m)	1129
Final Depth (m)	1944	Received Volume LMP	1387	Sub-Surface (bbl / m)	187
Interval Depth (m)	439	Total Built/Added	628	Total Loss	1316
		BackLoad Volume LMP	399	Dilution Factor (bbl / m)	3.00
		Nett Volume	3776	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		Volume Reconcile		Volume Accounting	
Initial Depth (m)	1944	Recd From Prev Section	2460	Surface Loss (bbl / m)	2823
Final Depth (m)	2517	Received Volume LMP	1222	Sub-Surface (bbl / m)	0
Interval Depth (m)	573	Total Built/Added	1052	Total Loss	2823
		BackLoad Volume LMP	1912	Dilution Factor (bbl / m)	4.93
		Nett Volume	2822	Prog Dil' Factor (bbl / m)	1.0
		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		

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

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

7. FLUID PROPERTIES SUMMARY

WBM Fluid Properties Summary

Date	Day					Rheology					Fluid Loss Data				Solids					Water Phase Chemistry										
		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	
04-Aug-08	3	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	
		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	
06-Aug-08	5	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	
		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	
08-Aug-08	7	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	
		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	
10-Aug-08	9	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				
		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				
11-Aug-08	10	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				
		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				
12-Aug-08	11	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				
		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				
14-Aug-08	13	NaCl brine													0.0	0.0														
		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				
15-Aug-08	14	NaCl brine													0.0	0.0														
		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				
16-Aug-08	15	NaCl brine													0.0	0.0														
		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														
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

Date	Day					Rheology					Fluid Loss Data				Solids					Water Phase Chemistry											
		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															

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

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
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		Surface				Sub-Surface									
																	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
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		Surface				Sub-Surface										
																	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": KCI/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		
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		Surface			Sub-Surface											
																	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	Drill ahead SW/PAC
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	
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": KCI/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
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		Surface				Sub-Surface										
																	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		
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

179bbl other added cement?/riser volume added?

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		
					Rec'd	B'load	Water	Other	Chems	Sea Water		Hole	Active	Resv	Store		Surface				Sub-Surface											
																	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 KCI 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 Completion 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	
					Rec'd	B'load	Water	Other	Chems	Sea Water	Hole		Active	Resv	Store	Surface				Sub-Surface												
																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 D/F mud discharged. 494bbls D/F 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 D/F backloaded to boat. 247bbls of D/F & 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 D/F 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			

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

9. DAILY MUD REPORTS

 WATER BASED MUD Daily Drilling Report	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		LOCATION STATE						
				VIC/P44		Otway Basin Victoria						
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)						
BIT SIZE (")	No Bit	0 0 0 0 0 0		0.00 Riser Length m		HOLE 0 PITS 452						
DRILL PIPE SIZE (")	TYPE	LENGTH 0 m		Conductor @ 0 m		PUMP SIZE 6 x 12 Inches						
DRILL PIPE SIZE (")	TYPE	LENGTH 0 m		Surface @ m		PUMP MODEL National						
DRILL COLLAR SIZE (")	TYPE	LENGTH 0 m		Intermediate @ m		% EFFICIENCY 97						
8.25	9.5	0 0 m		Prod. or LNR @ m		SURFACE TO BIT 0 min						
						TOTAL CIRCULATING VOL. 452						
						RESERVE PITS 202						
						STORAGE TANKS 0						
						BBL / STK 0.1018						
						STK / MIN						
						BBL / MIN						
						GAL / MIN						
						TOTAL CIRC TIME min						
MUD PROPERTIES				MUD PROPERTY SPECIFICATIONS								
SAMPLE FROM				Pit		MW ALAP MFV 100 pH 5-10.5						
MUD TYPE				SWPH		10s Gel >15 10m Gel >40 6 RPM >40						
TIME SAMPLE TAKEN						MUD COMMENTS						
FLOWLINE TEMPERATURE °F						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.						
TOTAL MEASURED DEPTH (TMD) Metres						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.						
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) °F												
GEL STRENGTH (lb / 100FT) 10sec/10min/30min						OPERATIONAL COMMENTS						
n K (lb/100 ft)						Arrived on location. Run anchors and commenced rigging up operations.						
API FILTRATE (cm / 30 min.)						Please disregard the above Spud Date - we are yet to Spud.						
HPHT FILTRATE (cm / 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)						Water Source Supply Boats						
PHPA (Calc ppb)						MUD ACCOUNTING (BBLs) SUMMARY						
GLYCOL CONTENT (% V/V)						FLUID BUILT FLUID DISPOSED Start Vol 0						
K+ (mg / L)						Drill Water 637 S.C.E. 0 Boat Rcd 0						
KCl (% by Wt.)						Chemical 17 Discharge 0 Boat Bk 0						
METHYLENE BLUE CAPACITY (ppb equiv/%)						Seawater 0 Downhole 0 Built 654						
SOLIDS CONTENT (% by volume) Calc 0.00						Other 0 Other 0 Lost sub 0						
LIQUID CONTENT (% by volume) Calc 0.00						RECEIVED 654 LOST 0 Lost srf 0						
SAND CONTENT (% by volume)						TOTAL MUD ON RIG (bbls) 654						
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Bentonite FOB (Portland)	1000 Kg	0	81	6	75	Desander	0	No.	0	0	0	0
Barite FOB (Portland)	1000 Kg	0	117	2	115	Desilter	0	No.	0	0	0	0
Barite (sacked)	25 Kg Sack	0	160	0	160	Mud Cleaner			0	0	0	0
Calcium Chloride (77%)	25 Kg	0	61	0	61	Centrifuge 1			0	0	0	0
Caustic Soda	25 Kg Drum	0	28	0	28	Centrifuge 2			0	0	0	0
Citric Acid	25 Kg Sack	0	41	0	41	Degasser			0	SOLIDS ANALYSIS		
Defoam-A	25 Ltr Drum	0	29	0	29	Cuttings Dryer			0	HGS %	0.0	
Drill-pol	25 Kg Drum	0	96	0	96				0	LGS %	0.0	
Drispac SL (22.7kg)	23 Kg	0	180	0	180				0	Drilled Solids %	0.000	
Flowzan	25 Kg Sack	0	62	0	62				0	Salt %	0.000	
Fracseal	25 lb Sack	0	140	0	140				0			
Guar Gum	25 Kg Sack	0	101	0	101							
Idcide-20	20 Ltr Drum	0	35	0	35							
Rheochem Engineer: Wojciech Czarny Kellie Jericho						Office: Perth		Telephone: +61 8 9410 8200		Fax: +61 8 9410 8299		

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from the



RHEOCHEM

Date: 14/07/2008

Report No 1

DAILY MUD VOLUME ACCOUNT

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

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls)				Comments
		Current	Capacity	MW (ppg)		
1	Reserve	202	230	9.6		Kill Mud - still mixing
5	Active	452	508	8.75		PHG

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	

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	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		LOCATION STATE	
				VIC/P44		Otway Basin Victoria	
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)	
BIT SIZE (")	Reed Hycalog	15 15 15 15 15		HOLE PITS		CIRCULATION DATA	
12.25		15 0 0 0 0		929 602		PUMP SIZE PRESS 2781 psi	
DRILL PIPE SIZE (")	TYPE	LENGTH		TOTAL CIRCULATING VOL.		PUMP MODEL % EFFICIENCY SURFACE TO BIT	
5	dp	1,320 m		1531		National 97 5 min	
DRILL PIPE SIZE (")	TYPE	LENGTH		RESERVE PITS		BBL / STK STK / MIN BOTTOMS UP	
5	HW	142 m		608		0.1018 187 40 min	
DRILL COLLAR SIZE (")		LENGTH		STORAGE TANKS		BBL / MIN GAL / MIN TOTAL CIRC TIME	
8	9.5	43 0 m		324		19.04 800 94 min	
MUD PROPERTIES				MUD PROPERTY SPECIFICATIONS			
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 3 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 / 30 min.)		4.2		6.0		6.4	
HPHT FILTRATE (cm / 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	
PRODUCT USAGE				MUD COMMENTS			
Product	UnitSize	Start	Received	Used	Close	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.	
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		
						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) SUMMARY	
						FLUID BUILT FLUID DISPOSED 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						SOLIDS CONTROL EQUIPMENT	
Product	UnitSize	Start	Received	Used	Close	Type	Hours OF UF GPM Feed
Sodium Bicarbonate	25 Kg Sack	32	0	12	20	Desander	0 0 0 0
Citric Acid	25 Kg Sack	33	0	10	23	Desilter	0 0 0 0
Barite FOB (Portland)	1000 Kg	93	0	7	86	Mud Cleaner	0 0 0 0
						Centrifuge 1	8 9.4 17 30
						Centrifuge 2	0 0 0 0
						Degasser	0
						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							

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 2/08/2008

Report No 20

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 36	No Bit	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	0	0	0	Prod. or LNR @ m	STORAGE TANKS 0		BBL / MIN 15.47	GAL / MIN 650	TOTAL CIRC TIME 41 min		

SAMPLE FROM	Pit	Pit	Pit	MW	ALAP	MFV	100	pH	5-10.5
MUD TYPE	SWPH	SWPH	SWPH	10s Gel	>15	10m Gel	>40	6 RPM	>40

YIELD POINT (lb/100FT) ²		°F		106		73		65		OPERATIONAL COMMENTS		
GEL STRENGTH (lb/100FT) 10sec/10min/30min				49	49		40	43		45	55	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.
n K (lb/100 ft)				0.22	19.51		0.22	19.51		0.22	19.51	
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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	Water Source	Supply Boats				
SULPHITE (mg / L)				MUD ACCOUNTING (BBLs)				SUMMARY	
PHPA (Calc ppb)				FLUID BUILT		FLUID DISPOSED		Start Vol	654
GLYCOL CONTENT (% V/V)				Drill Water	768	S.C.E.	0	Boat Rcd	0
K+ (mg / L)				Chemical	47	Discharge	957	Boat Bk	0
KCl (% by Wt.)				Seawater	0	Downhole	0	Built	815
METHYLENE BLUE CAPACITY (ppb equiv/%)				Other	0	Other	0	Lost sub	0
SOLIDS CONTENT (% by volume) Calc	3.13	3.13	3.13	RECEIVED	815	LOST	957	Lost srf	957
LIQUID CONTENT (% by volume) Calc	96.88	96.88	96.88	TOTAL MUD ON RIG (bbls)					512
SAND CONTENT (% by volume)									

Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
Calcium Chloride (77%)	25 Kg	61	0	25	36	Desander	Cone Size	0	No.		0	0	0	0
Bentonite FOB (Portland)	1000 Kg	81	26	12	95	Desilter	Cone Size	0	No.		0	0	0	0
Barite FOB (Portland)	1000 Kg	117	0	11	106	Mud Cleaner					0	0	0	0
Caustic Soda	25 Kg Drum	28	0	3	25	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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RHEOCHEM

Date: 15/07/2008

Report No 2

DAILY MUD VOLUME ACCOUNT

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)				Comments
		Current	Capacity	MW (ppg)		
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (") 17.5	Huges MXL-1V	18	18	18	18	0	0.00 Riser Length	87	m	HOLE 0	PITS 385	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 1174 psi		
DRILL PIPE SIZE (") 5	TYPE dp	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	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				Intermediate @		m	STORAGE TANKS 0		BBL / MIN 18.53	GAL / MIN 778	TOTAL CIRC TIME 39 min	

MUD PROPERTY SPECIFICATIONS

SAMPLE FROM		Pit		Pit		Pit		MW	ALAP	MFV	100	pH	5-10.5
MUD TYPE		SWPH		SWPH		SWPH		10s Gel	>15	10m Gel	>40	6 RPM	>40
TIME SAMPLE TAKEN		6:00		10:00		22:00		MUD COMMENTS					
FLOWLINE TEMPERATURE °F								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.					
TOTAL MEASURED DEPTH (TMD) Metres		131		131		174		Used 75 bbl connection/50 bbl midstand sweeps as per Co.Man request.					
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)		0.13 27.80		0.13 27.80		0.13 27.80							
API FILTRATE (cm / 30 min.)													
HPHT FILTRATE (cm / 30 min.) °F													
API : HPHT (Cake / 32nd in.)													
pH		9.5		9.5		9.5		Continued 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.					
ALKALINITY MUD (Pm)		0.3		0.2		0.2		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.					
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)													
PPHA (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)													
								Water Source		Supply Boats			
								MUD ACCOUNTING (BBLs)				SUMMARY	
								FLUID BUILT		FLUID DISPOSED		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 (bbbs)				1823	

SOLIDS CONTROL EQUIPMENT

Product	UnitSize	Start	Received	Used	Close									
						Type					Hours	OF	UF	GPM Feed
Bentonite FOB (Portland)	1000 Kg	89	0	18	71	Desander	Cone Size	0	No.		0	0	0	0
Caustic Soda	25 Kg Drum	25	0	2	23	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			

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Any opinion and/or recommendation, expressed orally or written herein, has be prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from the use of the same.



RHEOCHEM

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (") 17.5	Huges MXL-1V	18	18	18	18	0	0.00 Riser Length	87	HOLE 0	PITS 0	PUMP SIZE 6 x 12 Inches		CIRCULATION PRESS 2315 psi		
DRILL PIPE SIZE (") 5	TYPE dp	0 m						30 Conductor @	131	TOTAL CIRCULATING VOL. 0		PUMP MODEL National		% EFFICIENCY 97	SURFACE TO BIT 2 min
DRILL PIPE SIZE (") 5	TYPE HW	0 m					Surface @	m		RESERVE PITS 673		BBL / STK 0.01018		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
							Prod. or LNR @	m							

MUD PROPERTY SPECIFICATIONS

PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
Barite (sacked)	25 Kg Sack	320	0	40	280	Desander	Cone Size	0	No.		0	0	0	0
Bentonite FOB (Portland)	1000 Kg	71	0	18	53	Desilter	Cone Size	0	No.		0	0	0	0
Caustic Soda	25 Kg Drum	23	0	3	20	Mud Cleaner					0	0	0	0
Barite FOB (Portland)	1000 Kg	104	0	1	103	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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RHEOCHEM

Date: 17/07/2008

Report No 4

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE						DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 17.5	No Bit	0	0	0	0	0	0	0.00 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		LENGTH 0		0		m		Intermediate @	m	STORAGE TANKS 0		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min	
		0		0		m		Prod. or LNR @	m						

SAMPLE FROM	Pit	Pit	Pit	MW	ALAP	MFV	100	pH	5-10.5
MUD TYPE	SWPH	KGLY	SWPH	10s Gel	>20	10m Gel	40	6 RPM	>40

PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
KCl (sacked)	25 Kg Sack	440	200	40	600	Desander	Cone Size	0	No.		0	0	0	0
KCl / Glycol / Premix_*RIG	0 bbl	0	70	0	70	Desilter	Cone Size	0	No.		0	0	0	0
Idcide-20	20 Ltr Drum	35	32	0	67	Mud Cleaner					0	0	0	0
Rheopac R	25 Kg Sack	0	132	0	132	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 %		0.075
											0			

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RHEOCHEM

Date: 18/07/2008

Report No 5

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 12.25	No Bit	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
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	0	0	0	Intermediate @	m	STORAGE TANKS 0		BBL / MIN 0	GAL / MIN 0	TOTAL CIRC TIME #Error min	

MUD PROPERTY SPECIFICATIONS

SAMPLE FROM		Pit		Pit				MW		9	API FL		<8	pH	8-9
MUD TYPE		KGLY		POLY				KCI		8-10	6 RPM		8-12	LGS	<5
TIME SAMPLE TAKEN		3:00		19:00				MUD COMMENTS							
FLOWLINE TEMPERATURE °F								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.							
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) 3 10sec/10min/30min		4	4	5	4	5					OPERATIONAL COMMENTS Run and latch BOP.				
n K (lb/100 ft)		0.43	4.72	0.43	4.72										
API FILTRATE (cm / 30 min.)		6.4		>20											
HPHT FILTRATE (cm / 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													
KCI (% 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											

SOLIDS CONTROL EQUIPMENT

Product	UnitSize	Start	Received	Used	Close								
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 %		1.760				
						0							

Rheochem Engineer: Wojciech Czarny Kellie Jericho **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

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RHEOCHEM

Date: 19/07/2008

Report No 6

DAILY MUD VOLUME ACCOUNT

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: <input type="text"/> BBL/HR FOR <input type="text"/> 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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES	MUD PROPERTY SPECIFICATIONS
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PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
Flowzan	25 Kg Sack	62	0	27	35	Desander	Cone Size	0	No.		0	0	0	0
Drill-pol	25 Kg Drum	96	0	16	80	Desilter	Cone Size	0	No.		0	0	0	0
Drispac SL (22.7kg)	23 Kg	180	0	15	165	Mud Cleaner					0	0	0	0
Glychem MC	220 Kg	0	48	0	48	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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RHEOCHEM

Date: 20/07/2008

Report No 7

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES	MUD PROPERTY SPECIFICATIONS
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PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed	
Rheopac R	25 Kg Sack	95	0	62	33	Desander	Cone Size	0	No.		0	0	0	0
Drill-pol	25 Kg Drum	80	0	10	70	Desilter	Cone Size	0	No.		0	0	0	0
Defoam-A	25 Ltr Drum	29	0	1	28	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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RHEOCHEM

Date: 21/07/2008

Report No 8

DAILY MUD VOLUME ACCOUNT

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: <input type="text"/> BBL/HR FOR <input type="text"/> 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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION	
				VIC/P44		STATE	
						Otway Basin	
						Victoria	
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)	
BIT SIZE (")	Hughes MXL-1X	20	20	20	14	0	
12.25		0	0	0	0	0	
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		131 m	
5	dp	1,143 m		13.38 Surface @		642 m	
DRILL PIPE SIZE (")	TYPE	LENGTH		Intermediate @		m	
5	HW	140 m		Prod. or LNR @		m	
DRILL COLLAR SIZE (")		LENGTH		STORAGE TANKS		0	
8	9.5	96	42	0			
MUD PROPERTIES				MUD PROPERTY SPECIFICATIONS			
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) 3 10sec/10min/30min		9	12	13	9	12	14
n K (lb/100 ft)		0.44	2.92	0.44	2.92	0.44	2.92
API FILTRATE (cm / 30 min.)		6.4		5.6		5.6	
HPHT FILTRATE (cm / 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	
PRODUCT USAGE		SOLIDS CONTROL EQUIPMENT					
Product	UnitSize	Start	Received	Used	Close	Type	
KCl (sacked)	25 Kg Sack	600	0	80	520	Desander	Cone Size 0 No.
Drill-pol	25 Kg Drum	70	0	40	30	Desilter	Cone Size 0 No.
Drispac SL (22.7kg)	23 Kg	165	0	32	133	Mud Cleaner	
Flowzan	25 Kg Sack	35	0	27	8	Centrifuge 1	MI SW FVS518
JK-261 LV	25 Kg	149	0	15	134	Centrifuge 2	
Glychem MC	220 Kg	48	0	10	38	Degasser	
KCL (Big Bag)	1000 Kg Bulk B	28	0	6	22	Cuttings Dryer	
Sodium Sulphite	25 Kg	76	0	6	70	Shale Shaker #1	20/10 84HC x 4
Barite FOB (Portland)	1000 Kg	219	0	2	217	Shale Shaker #1	20/10 200HC x 4
KCl / Glycol / Premix_*RIG	0 bbl	307	450	0	757	Shale Shaker #2	20/10/165HC x 4
						Shale Shaker #2	20/10 200HC x 4
Rheochem Engineer: Wojciech Czarny Kellie Jericho		Office: Perth		Telephone: +61 8 9410 8200		Fax: +61 8 9410 8299	

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 22/07/2008

Report No 9

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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)		
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		
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1.196 m	30 Conductor @ 131 m		TOTAL CIRCULATING VOL. 1283		
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 140 m	13.38 Surface @ 642 m		RESERVE PITS 1237		
DRILL COLLAR SIZE (") 8	9.5	LENGTH 96 42 m	Intermediate @ m		STORAGE TANKS 0		
			Prod. or LNR @ m		BBL / MIN 23.31 GAL / MIN 979		
					PUMP SIZE 6 x 12 Inches CIRCULATION PRESS 3375 psi		
					PUMP MODEL National % EFFICIENCY 97 SURFACE TO BIT 3 min		
					BOTTOMS UP 25 min		
					TOTAL CIRC TIME 52 min		
MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS				
SAMPLE FROM		Pit	FL		MW 9 API FL <8 pH 8-9		
MUD TYPE		KGLY	KGLY		KCI 8-10 6 RPM 8-12 LGS <5		
TIME SAMPLE TAKEN		5:00	22:45		MUD COMMENTS		
FLOWLINE TEMPERATURE °F				120	Receive 370 bbl of KCI/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.		
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 3 10sec/10min/30min		10	17	9 15 16			
n K (lb/100 ft)		0.51	1.94	0.51 1.94			
API FILTRATE (cm / 30 min.)		5.4		4	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.		
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)		0.10	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			
KCI (% 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			
Water Source		Supply Boats					
MUD ACCOUNTING (BBLs)		SUMMARY					
FLUID BUILT		FLUID DISPOSED		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		
KCI / 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							

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RHEOCHEM

Date: 23/07/2008

Report No 10

DAILY MUD VOLUME ACCOUNT

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:	<input type="text"/> BBL/HR FOR <input type="text"/> 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)			Comments
		Current	Capacity	MW (ppg)	
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	KCI/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	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 (")	Reed Hycalog	16	16	16	16	16	HOLE	PITS	PUMP SIZE			
12.25		16	0	0	0	0	901	658	6 x 12 Inches			
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL				
5	dp	1,592 m		131 m		1559		National				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		% EFFICIENCY				
5	HW	140 m		642 m		727		97				
DRILL COLLAR SIZE (")				Intermediate @		STORAGE TANKS		BBL / STK				
8	9.5			m		0		0.1018				
				Prod. or LNR @				STK / MIN				
				m				234				
								BBL / MIN				
								23.82				
								GAL / MIN				
								1001				
								TOTAL CIRC TIME				
								63 min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
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 ^ 3) 10sec/10min/30min				10 17 19		11 22 24		11 23 26				
n K (lb/100 ft)				0.47 3.51		0.47 3.51		0.47 3.51				
API FILTRATE (cm / 30 min.)				4.0		4.3		4.0				
HPHT FILTRATE (cm / 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				
PRODUCT USAGE				SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
KCl / Glycol / Premix_*RIG	0 bbl	757	0	757	0	Desander	Cone Size	0	No.	0	0	0
KCl (sacked)	25 Kg Sack	520	0	80	440	Desilter	Cone Size	0	No.	0	0	0
Barite (sacked)	25 Kg Sack	120	0	40	80	Mud Cleaner			0	0	0	0
Barite FOB (Portland)	1000 Kg	188	0	30	158	Centrifuge 1	MI SW FVS518					
Sodium Sulphite	25 Kg	68	0	9	59	Centrifuge 2			0	0	0	0
Flowzan	25 Kg Sack	0	80	6	74	Degasser			0	SOLIDS ANALYSIS		
Drispac SL (22.7kg)	23 Kg	120	0	4	116	Cuttings Dryer			0	HGS %	6.5	
Idcide-20	20 Ltr Drum	67	0	3	64	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				
Rheochem Engineer: Wojciech Czarny Carissa Thompson						Office: Perth Telephone: +61 8 9410 8200 Fax: +61 8 9410 8299						

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RHEOCHEM

Date: 24/07/2008

Report No 11

DAILY MUD VOLUME ACCOUNT

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:	<input type="text"/> BBL/HR FOR <input type="text"/> 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)			Comments
		Current	Capacity	MW (ppg)	
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	KCI/Glycol polymer
Trip Tank	Active	25	70	11	KCI/Glycol polymer
Sand Trap	Active	54	54	11	KCI/Glycol polymer
Settling Pits	Active	83	81	11	KCI/Glycol polymer
Surface Line	Active	70	80	11	KCI/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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 12.25	Reed Hycalog	16 16	16 0	16 0	16 0	16 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	STORAGE TANKS 0		BBL / MIN 24.13	GAL / MIN 1013	TOTAL CIRC TIME 61 min	
							Prod. or LNR @	m						

MUD PROPERTY SPECIFICATIONS

SAMPLE FROM		FL	Pit	MW	11.0	API FL	<4	pH	8-9
MUD TYPE		KGLY	KGLY	KCI	8-10	6 RPM	12-16	LGS	<5
TIME SAMPLE TAKEN		6:00	18:00	MUD COMMENTS					
FLOWLINE TEMPERATURE °F		144		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 observed due to LGS invasion while reaming.					
TOTAL MEASURED DEPTH (TMD) Metres		1870	1870	Losses during logging 10 bbl. Losses during tripping 13 bbl reported as OTHER.					
WEIGHT ppg / SG		11.2 1.34	11.2 1.34	Charge off remaining Barite from yesterday's usage.					
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						
PPHA (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						
				Water Source		Supply Boats			
				MUD ACCOUNTING (BBLs)				SUMMARY	
				FLUID BUILT		FLUID DISPOSED		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	

SOLIDS CONTROL EQUIPMENT

Product	UnitSize	Start	Received	Used	Close									
						Type					Hours	OF	UF	GPM Feed
Barite FOB (Portland)	1000 Kg	158	0	35	123	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			

Rheochem Engineer: Wojciech Czarny Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 25/07/2008

Report No 12

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	Hughes MXL-1X	20	20	20	14	0	HOLE	PITS	PUMP SIZE			
12.25		0	0	0	0	0	970	539	6 x 12 Inches			
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL				
5	dp	0 m		131 m		1509		National				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		% EFFICIENCY				
6.72	HW	0 m		642 m		462		97				
DRILL COLLAR SIZE (")		LENGTH		Intermediate @		STORAGE TANKS		BBL / STK				
8	9.5	0 m		m		440		0.1018				
				Prod. or LNR @				BBL / MIN				
								23.92				
								GAL / MIN				
								1005				
								TOTAL CIRC				
								TIME				
								79 min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM				Pit		FL		MW				
MUD TYPE				KGLY		KGLY		11.0				
TIME SAMPLE TAKEN				8:30		13:00		API FL				
FLOWLINE TEMPERATURE				°F		°F		<4				
TOTAL MEASURED DEPTH (TMD)				Metres		Metres		pH				
WEIGHT				ppg / SG		ppg / SG		8-9				
FUNNEL VISCOSITY (sec / qt) API @				120 °F		120 °F		KCI				
RHEOLOGY 600 : 300 RPM				120 °F		120 °F		8-10				
RHEOLOGY 200 : 100 RPM				120 °F		120 °F		6 RPM				
RHEOLOGY 6 : 3 RPM				120 °F		120 °F		12-16				
PLASTIC VISCOSITY cP @				120 °F		120 °F		LGS				
YIELD POINT (lb / 100FT) ^ 2				120 °F		120 °F		<5				
GEL STRENGTH (lb / 100FT) 10sec/10min/30min				10		10		MUD COMMENTS				
n K (lb/100 ft)				0.48		0.48		Treat active system to maintain mud parameters.				
API FILTRATE (cm / 30 min.)				3.8		4.0		Intermittent heavy Losses at shakers observed due to cuttings/filter caker returns and high pump rate while RIH.				
HPHT FILTRATE (cm / 30 min.)				°F		°F		Observed increased fine cuttings and new cuttings on shakers while circ to bottom.				
API : HPHT (Cake / 32nd in.)				1		1		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.				
pH				9.0		9.2		OPERATIONAL COMMENTS				
ALKALINITY MUD (Pm)				0.1		0.1		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.				
ALKALINITY FILTRATE (Pf / Mf)				0.05		0.06		Water Source				
CHLORIDE (mg / L)				51,000		48,000		Supply Boats				
TOTAL HARDNESS AS CALCIUM (mg / L)				880		880		MUD ACCOUNTING (BBLs)				
SULPHITE (mg / L)				100		100		SUMMARY				
PHPA (Calc ppb)				0.00		0.00		FLUID BUILT				
GLYCOL CONTENT (% V/V)				3		3		FLUID DISPOSED				
K+ (mg / L)				45393.5979		44853.2010		Start Vol				
KCI (% by Wt.)				8.4		8.3		2242				
METHYLENE BLUE CAPACITY (ppb equiv/%))				6.3		6.3		Drill Water				
SOLIDS CONTENT (% by volume) Calc				11.81		11.81		0				
LIQUID CONTENT (% by volume) Calc				88.19		88.19		S.C.E.				
SAND CONTENT (% by volume)				0.4		0.4		251				
								Boat Rcd				
								445				
								Chemical				
								2				
								Discharge				
								0				
								Boat Bk				
								0				
								Seawater				
								0				
								Downhole				
								21				
								Built				
								2				
								Other				
								6				
								Lost su				
								21				
								RECEIVED				
								2				
								LOST				
								278				
								TOTAL MUD ON RIG (bbls)				
								2411				
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Flowzan	25 Kg Sack	74	0	4	70	Desander	0	No.	0	0	0	0
Sodium Bicarbonate	25 Kg Sack	47	0	4	43	Desilter	0	No.	0	0	0	0
Sodium Sulphite	25 Kg	59	0	4	55	Mud Cleaner			0	0	0	0
Idcide-20	20 Ltr Drum	64	0	3	61	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			
Rheochem Engineer: Wojciech Czarny Carissa Thompson						Office: Perth						
Telephone: +61 8 9410 8200						Fax: +61 8 9410 8299						

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RHEOCHEM

Date: 26/07/2008

Report No 13

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="1"/> BBL/HR FOR <input type="text" value="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)			Comments
		Current	Capacity	MW (ppg)	
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

 WATER BASED MUD Daily Drilling Report Rheochem Ltd	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		LOCATION		STATE				
					VIC/P44		Otway Basin		Victoria				
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	Hughes MXL-1X	20	20	20	14	0	HOLE	PITS	PUMP SIZE				
12.25		0	0	0	0	0	970	500	6 x 12 Inches				
DRILL PIPE SIZE (")	TYPE	LENGTH		Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL					
5	dp	0 m		0 m		1470		National					
DRILL PIPE SIZE (")	TYPE	LENGTH		Surface @		RESERVE PITS		% EFFICIENCY					
6.72	HW	0 m		m		353		97					
DRILL COLLAR SIZE (")		LENGTH		Intermediate @		STORAGE TANKS		SURFACE TO BIT					
8	9.5	0 m		m		440		0 min					
				Prod. or LNR @		BBL / MIN		BOTTOMS UP					
								0 min					
								TOTAL CIRC TIME					
								min					
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS								
SAMPLE FROM				Pit		FL		MW					
MUD TYPE				KGLY		KGLY		11.0					
TIME SAMPLE TAKEN				7:00		10:30		API FL					
FLOWLINE TEMPERATURE				°F		115		<4					
TOTAL MEASURED DEPTH (TMD)				Metres		1870		pH					
WEIGHT				ppg / SG		11.1		8-9					
FUNNEL VISCOSITY (sec / qt) API @				120 °F		60		KCI					
RHEOLOGY 600 : 300 RPM				120 °F		80		8-10					
RHEOLOGY 200 : 100 RPM				120 °F		47		6 RPM					
RHEOLOGY 6 : 3 RPM				120 °F		12		12-16					
PLASTIC VISCOSITY cP @				120 °F		23		LGS					
YIELD POINT (lb / 100FT) ^2				120 °F		34		<5					
GEL STRENGTH (lb / 100FT ^3 10sec/10min/30min				10		19		MUD COMMENTS					
n K (lb/100 ft)				0.47		3.46		No treatment to active system.					
API FILTRATE (cm / 30 min.)				3.8		3.9		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).					
HPHT FILTRATE (cm / 30 min.)				°F				****Mud check #2 active mud while circ BU.					
API : HPHT (Cake / 32nd in.)				1		1		OPERATIONAL COMMENTS					
pH				9.0		8.7		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.					
ALKALINITY MUD (Pm)				0.1		0.1		Water Source					
ALKALINITY FILTRATE (Pf / Mf)				0.05		0.9		Supply Boats					
CHLORIDE (mg / L)				49,000		48,000		MUD ACCOUNTING (BBLs)					
TOTAL HARDNESS AS CALCIUM (mg / L)				880		800		SUMMARY					
SULPHITE (mg / L)				80		80		FLUID BUILT					
PHPA (Calc ppb)				0.00		0.00		FLUID DISPOSED					
GLYCOL CONTENT (% V/V)				3.2		3.2		Start Vol					
K+ (mg / L)				44853.2010		44853.2010		2411					
KCl (% by Wt.)				8.3		8.3		Drill Water					
METHYLENE BLUE CAPACITY (ppb equiv/%)				6.3		0.7		0					
SOLIDS CONTENT (% by volume) Calc				11.31		11.31		S.C.E.					
LIQUID CONTENT (% by volume) Calc				88.69		88.69		107					
SAND CONTENT (% by volume)				0.2		0.2		0					
								Boat Rcd					
								Boat Bk					
								0					
								Built					
								8					
								Lost su					
								20					
								Lost srf					
								136					
								TOTAL MUD ON RIG (bbls)					
								2263					
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed
Flowzan	25 Kg Sack	70	0	4	66	Desander	Cone Size	0	No.	0	0	0	0
Barite FOB (Portland)	1000 Kg	123	0	3	120	Desilter	Cone Size	0	No.	0	0	0	0
Glychem MC	220 Kg	32	0	2	6	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							

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 27/07/2008

Report No 14

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 12.25	No Bit	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
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	0	0	0	Intermediate @	m	STORAGE TANKS 440		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min	
							Prod. or LNR @	m						

SAMPLE FROM			Pit		Pit		Pit		MW	11.0	API FL	<4	pH	8-9
MUD TYPE			KGLY		KGLY		KGLY		KCI	8-10	6 RPM	12-16	LGS	<5
TIME SAMPLE TAKEN			9:00		14:00		20:00		MUD COMMENTS					
FLOWLINE TEMPERATURE °F			86						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.					
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			24		22		22							

YIELD POINT (lb/100FT)	120	F	34	39	33	OPERATIONAL COMMENTS				
GEL STRENGTH (lb /100FT) 10sec/10min/30min	10	19	23	11	20	24	10	19	23	POOH wireline to reconfigure tools, due to being unable to pass below 1783m MD. Recommend wireline operations. RIH to attempt wireline logging with 5" drill pipe.
n K (lb/100 ft)	0.49	2.67	0.49	2.67	0.49	2.67				
API FILTRATE (cm /30 min.)	3.8		3.9		3.9					
HPHT FILTRATE (cm /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					
Water Source							Supply Boats			
MUD ACCOUNTING (BBLs)								SUMMARY		
FLUID BUILT				FLUID DISPOSED			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		

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

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RHEOCHEM

Date: 28/07/2008

Report No 15

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 12.25	No Bit	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	Prod. or LNR @ m	STORAGE TANKS 537		BBL / MIN	GAL / MIN	TOTAL CIRC TIME min	

SAMPLE FROM		Pit		FL		FL		MW	11.0	API FL	<4	pH	8-9
MUD TYPE		KGLY		KGLY		KGLY		KCI	8-10	6 RPM	12-16	LGS	<5
TIME SAMPLE TAKEN		5:00		13:00		21:00		MUD COMMENTS					
FLOWLINE TEMPERATURE	°F			120		95		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.					
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	OPERATIONAL COMMENTS				
GEL STRENGTH (lb / 100FT) ³ 10sec/10min/30min	9 19 22	9 19 23	10 19 24	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.					
n K (lb/100 ft)	0.50 2.38	0.50 2.38	0.50 2.38						
API FILTRATE (cm / 30 min.)	3.8	3.9	3.8						
HPHT FILTRATE (cm / 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						
				Water Source		Supply Boats			
				MUD ACCOUNTING (BBLs)		SUMMARY			
				FLUID BUILT		FLUID DISPOSED		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					

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

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RHEOCHEM

Date: 29/07/2008

Report No 16

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="1"/> BBL/HR FOR <input type="text" value="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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	Hughes MXL-1X	20	20	20	14	0	HOLE	PITS	PUMP SIZE			
12.25		0	0	0	0	0	909	575	6 x 12 Inches			
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL				
5	dp	1.632 m		131 m		1484		National				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		% EFFICIENCY				
6.72	HW	140 m		642 m		360		97				
DRILL COLLAR SIZE (")				Intermediate @		STORAGE TANKS		BBL / STK				
8				m		324		0.1018				
				Prod. or LNR @				STK / MIN				
				m				210				
								BBL / MIN				
								21.38				
								GAL / MIN				
								898				
								TOTAL CIRC TIME				
								82 min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM			Pit		Pit		FL		MW			
MUD TYPE			KGLY		KGLY		KGLY		11.0			
TIME SAMPLE TAKEN			6:00		14:00		22:20		API FL			
FLOWLINE TEMPERATURE			°F				110		<4			
TOTAL MEASURED DEPTH (TMD)			Metres		1870		1870		pH			
WEIGHT			ppg / SG		11.2		1.34		8-9			
FUNNEL VISCOSITY (sec / qt) API @			120 °F		61		60		6 RPM			
RHEOLOGY 600 : 300 RPM			120 °F		80		57		12-16			
RHEOLOGY 200 : 100 RPM			120 °F		47		35		LGS			
RHEOLOGY 6 : 3 RPM			120 °F		12		9		<5			
PLASTIC VISCOSITY cP @			120 °F		23		21		MUD COMMENTS			
YIELD POINT (lb / 100FT) ^2			120 °F		34		33		No treat ment to the active system.			
GEL STRENGTH (lb / 100FT ^3 10sec/10min/30min			10		19		21		Build 13.5ppg Slug. Charge off Barite from yesterday and todays usage.			
n K (lb/100 ft)			0.48		2.85		0.48		Run centrifuge to cut back MW and LGS% in surface pits and system while RIH and pumping to bottom with LWD.			
API FILTRATE (cm / 30 min.)			3.8		3.8		3.8		OPERATIONAL COMMENTS			
HPHT FILTRATE (cm / 30 min.)			°F						PU 5" drillpipe. Make up and run LWD BHA assembly.			
API : HPHT (Cake / 32nd in.)			1		1		1		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.			
pH			8.7		8.7		8.5		Water Source			
ALKALINITY MUD (Pm)			0.1		0.1		0.1		Supply Boats			
ALKALINITY FILTRATE (Pf / Mf)			0.04		0.9		0.04		0.9			
CHLORIDE (mg / L)			46,000		46,000		45,000		MUD ACCOUNTING (BBLs)			
TOTAL HARDNESS AS CALCIUM (mg / L)			880		840		880		SUMMARY			
SULPHITE (mg / L)			50		50		50		FLUID BUILT			
PHPA (Calc ppb)			0.00		0.00		0.00		FLUID DISPOSED			
GLYCOL CONTENT (% V/V)			3.2		3.2		3.2		Start Vol			
K+ (mg / L)			44853.2010		44853.2010		44853.2010		2227			
KCl (% by Wt.)			8.3		8.3		8.3		Drill Water			
METHYLENE BLUE CAPACITY (ppb equiv/%))			7.5		0.8		7.5		0			
SOLIDS CONTENT (% by volume) Calc			11.81		11.03		10.75		S.C.E.			
LIQUID CONTENT (% by volume) Calc			88.19		88.97		89.25		83			
SAND CONTENT (% by volume)			0.2		0.2		0.2		Discharge			
									0			
									Boat Rcd			
									0			
									Boat Bk			
									0			
									Built			
									24			
									Lost su			
									0			
									Lost srf			
									83			
									TOTAL MUD ON RIG (bbls)			
									2168			
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Barite FOB (Portland)	1000 Kg	120	0	16	104	Desander	0	No.	0	0	0	0
						Desilter	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						

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RHEOCHEM

Date: 30/07/2008

Report No 17

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES	MUD PROPERTY SPECIFICATIONS
----------------	-----------------------------

PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
Omyacarb 20	25 Kg	61	0	13	48	Desander	Cone Size	0	No.		0	0	0	0
Barite FOB (Portland)	1000 Kg	104	0	4	100	Desilter	Cone Size	0	No.		0	0	0	0
Sodium Sulphite	25 Kg	55	0	4	51	Mud Cleaner					0	0	0	0
Flowzan	25 Kg Sack	57	0	1	56	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			

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 31/07/2008

Report No 18

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="2"/> BBL/HR FOR <input type="text" value="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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE																		
					VIC/P44		Otway Basin		Victoria																		
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA																			
BIT SIZE (")	No Bit	<table border="1"> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>		0	0	0	0	0	0	0	0	0	0	0	0	19.50 Riser Length 87 m		<table border="1"> <tr> <td>HOLE</td> <td>PITS</td> </tr> <tr> <td>668</td> <td>487</td> </tr> </table>		HOLE	PITS	668	487	PUMP SIZE		CIRCULATION	
0	0	0	0	0	0																						
0	0	0	0	0	0																						
HOLE	PITS																										
668	487																										
12.25								PRESS		psi																	
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @ 113 m		TOTAL CIRCULATING VOL.		PUMP MODEL		% EFFICIENCY	SURFACE TO BIT																
5	dp	71 m				1155		National		97	0 min																
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @ 624 m		RESERVE PITS		BBL / STK		STK / MIN	BOTTOMS UP																
6.72	HW	0 m		Intermediate @ 0 m		790					0 min																
DRILL COLLAR SIZE (")		LENGTH		Prod. or LNR @ 0 m		STORAGE TANKS		BBL / MIN		GAL / MIN	TOTAL CIRC TIME																
8	9.5	0 m				324					min																
MUD PROPERTIES						MUD PROPERTY SPECIFICATIONS																					
SAMPLE FROM				Pit		Pit		Pit		MW	11.0	API FL	<4	pH	8-9												
MUD TYPE				KGLY		KGLY		KGLY		KCI	8-10	6 RPM	12-16	LGS	<5												
TIME SAMPLE TAKEN				4:00		18:00		21:00		MUD COMMENTS																	
FLOWLINE TEMPERATURE °F				95						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 tomorrow's 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.																	
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		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.																	
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 3 10sec/10min/30min n K (lb/100 ft)				10 20 24		10 20 25		10 20 25																			
API FILTRATE (cm / 30 min.)				3.8		4.0		4.0		OPERATIONAL COMMENTS																	
HPHT FILTRATE (cm / 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		Water Source Supply Boats																	
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		MUD ACCOUNTING (BBLs) SUMMARY																	
K+ (mg / L)				44853.2010		44853.2010		44853.2010																			
KCI (% 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		TOTAL MUD ON RIG (bbls) 2269																	
SAND CONTENT (% by volume)				0.2		0.2		0.2																			
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT																					
Product	UnitSize	Start	Received	Used	Close	Type										Hours	OF	UF	GPM Feed								
Sodium Bicarbonate	25 Kg Sack	43	0	11	32	Desander	Cone Size	0	No.							0	0	0	0								
Citric Acid	25 Kg Sack	41	0	8	33	Desilter	Cone Size	0	No.	0	0	0	0														
Barite FOB (Portland)	1000 Kg	100	0	7	93	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																					

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RHEOCHEM

Date: 1/08/2008

Report No 19

DAILY MUD VOLUME ACCOUNT

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

TANK STORAGE VOLUMES:

Tank Name	Tank Status	Tank Volumes (bbls)			Comments
		Current	Capacity	MW (ppg)	
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	

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	

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 (")	No Bit	0	0	0	0	0	HOLE	PITS	PUMP SIZE		CIRCULATION	
8.5		0	0	0	0	0	0	0	6 x 12 Inches		PRESS	
DRILL PIPE SIZE (")	7	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL		% EFFICIENCY	SURFACE TO BIT	
	tubing	1,733 m		113 m		0		National		97	0 min	
DRILL PIPE SIZE (")	6.875	LENGTH		13.38 Surface @		RESERVE PITS		BBL / STK		STK / MIN	BOTTOMS UP	
	HW	0 m		642 m		0					0 min	
DRILL COLLAR SIZE (")	6.625	LENGTH		9.625 Intermediate @		STORAGE TANKS		BBL / MIN		GAL / MIN	TOTAL CIRC TIME	
	6.625	219 542 m		1,936 m		0					min	
MUD PROPERTIES						MUD PROPERTY SPECIFICATIONS						
SAMPLE FROM						MW 9.5 API FL <4 pH 8-9.5						
MUD TYPE						6 RPM 10-14 LGS <5 NaCl % wt 12.5						
TIME SAMPLE TAKEN						MUD COMMENTS						
FLOWLINE TEMPERATURE °F						Standing by for mixing Spud mud.						
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) °F												
GEL STRENGTH (lb / 100FT) 10sec/10min/30min												
n K (lb/100 ft)												
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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)												
						Water Source Supply Boats						
						MUD ACCOUNTING (BBLs)				SUMMARY		
						FLUID BUILT		FLUID DISPOSED		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						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
						Desander	Cone Size	0	No.	0	0	0
						Desilter	Cone Size	0	No.	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		

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RHEOCHEM

Date: 24/08/2008

Report No 23

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE					DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (") 12.25	Reed Hycalog	15	15	15	15	15	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 PROPERTY SPECIFICATIONS

[illegible]

SOLIDS CONTROL EQUIPMENT

Product	UnitSize	Start	Received	Used	Close									
						Type					Hours	OF	UF	GPM Feed
JK-261 LV	25 Kg	0	134	24	110	Desander	Cone Size	0	No.		0	0	0	0
Citric Acid	25 Kg Sack	0	23	6	17	Desilter	Cone Size	0	No.		0	0	0	0
Sodium Bicarbonate	25 Kg Sack	0	20	5	15	Mud Cleaner					0	0	0	0
Barite (sacked)	25 Kg Sack	0	80	0	80	Centrifuge 1	MI SW FVS518				2	9.4	17	30
Barite FOB (Portland)	1000 Kg	0	86	0	86	Centrifuge 2					0	0	0	0
Bentonite FOB (Portland)	1000 Kg	0	53	0	53	Degasser					0	SOLIDS ANALYSIS		
Calcium Chloride (77%)	25 Kg	0	36	0	36	Cuttings Dryer					0	HGS %		6.4
Caustic Soda	25 Kg Drum	0	20	0	20	Shale Shaker #1	20/20 230HC x 4				3	LGS %		4.4
Defoam-A	25 Ltr Drum	0	28	0	28	Shale Shaker #2	20/20 200HC x 4				3	Drilled Solids %		3.600
Drill-pol	25 Kg Drum	0	30	0	30	Shale Shaker #3	20/20 200HC x 4				3	Salt %		2.784
Drispac SL (22.7kg)	23 Kg	0	108	0	108	Shale Shaker #4	20/20 230HC x 4				3			
Flowzan	25 Kg Sack	0	56	0	56									
Fracseal	25 lb Sack	0	140	0	140									

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

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RHEOCHEM

Date: 2/08/2008

Report No 1

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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)								
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								
DRILL PIPE SIZE (") 5	TYPE dp	LENGTH 1.747 m	30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 1409								
DRILL PIPE SIZE (") 5	TYPE HW	LENGTH 142 m	13.38 Surface @ 642 m		RESERVE PITS 539								
DRILL COLLAR SIZE (") 8	0	LENGTH 43 0 m	Intermediate @ m		STORAGE TANKS 125								
			Prod. or LNR @ m		BBL / STK 0.1018								
					STK / MIN 220								
					BBL / MIN 22.4								
					GAL / MIN 941								
					TOTAL CIRC TIME 66 min								
MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS										
SAMPLE FROM		Pit	FL	Pit	MW 11.0 API FL :8.0 KCI 8-10								
MUD TYPE		8KCL	8KCL	8KCL	PHPA 1.5-2.0 6 RPM 12-16 LGS <5								
TIME SAMPLE TAKEN		5:30	15:00	22:30	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.								
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 3 10sec/10min/30min		10 19 24	10 19 25	10 19 25	OPERATIONAL COMMENTS Drill ahead 12.25" section to 1932m MD 1681m TVD at midnight. Reached maximum of 80.4 degrees inclination while drilling ahead.								
n K (lb/100 ft)		0.46 3.22	0.46 3.22	0.46 3.22									
API FILTRATE (cm / 30 min.)		6.4	5.2	4.4									
HPHT FILTRATE (cm / 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	Water Source Supply Boats.								
PHPA (Calc ppb)		0.80	1.20	1.50									
GLYCOL CONTENT (% V/V)		2.9	3	3	MUD ACCOUNTING (BBLs)								
K+ (mg / L)		44853.2010	47014.799	48636									
KCI (% by Wt.)		8.3	8.7	9.0	SUMMARY								
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	FLUID BUILT FLUID DISPOSED								
LIQUID CONTENT (% by volume) Calc		89.18	89.60	89.32									
SAND CONTENT (% by volume)		0.2	0.2	0.2	Drill Water 212 S.C.E. 279								
					Chemical 23 Discharge 0								
					Seawater 0 Downhole 0								
					Other 0 Other 0								
					RECEIVED 235 LOST 279								
					TOTAL MUD ON RIG (bbls) 2073								
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed
KCI (sacked)	25 Kg Sack	440	0	80	360	Desander	Cone Size	0	No.	0	0	0	0
JK-261 LV	25 Kg	110	0	40	70	Desilter	Cone Size	0	No.	0	0	0	0
Drispac SL (22.7kg)	23 Kg	108	0	20	88	Mud Cleaner				0	0	0	0
Flowzan	25 Kg Sack	56	0	17	39	Centrifuge 1	MI SW FVS518			11	9.5	17.5	45
Citric Acid	25 Kg Sack	17	0	14	3	Centrifuge 2	MI SW FVS518			11	9.3	18	25
Sodium Bicarbonate	25 Kg Sack	15	0	12	3	Degasser				0	SOLIDS ANALYSIS		
Sodium Sulphite	25 Kg	51	0	4	47	Cuttings Dryer				0	HGS %		6.5
Glychem MC	220 Kg	6	0	2	4	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							

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RHEOCHEM

Date: 3/08/2008

Report No 2

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES	MUD PROPERTY SPECIFICATIONS
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PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed	
KCl (sacked)	25 Kg Sack	360	0	40	320	Desander	Cone Size	0	No.		0	0	0	0
Barite FOB (Portland)	1000 Kg	86	56	31	111	Desilter	Cone Size	0	No.		0	0	0	0
Flowzan	25 Kg Sack	39	0	14	25	Mud Cleaner					0	0	0	0
Drispac SL (22.7kg)	23 Kg	88	0	8	80	Centrifuge 1	MI SW FVS518				11	9.4	17.5	15
Idcide-20	20 Ltr Drum	60	0	8	52	Centrifuge 2	MI SW FVS518				6	9.5	17	45
Sodium Sulphite	25 Kg	47	0	8	39	Degasser					0	SOLIDS ANALYSIS		
Citric Acid	25 Kg Sack	3	0	3	0	Cuttings Dryer					0	HGS %		6.3
Sodium Bicarbonate	25 Kg Sack	3	0	3	0	Shale Shaker #1	20/20 230HC x 4				24	LGS %		4.7
MEG	220 Kg	8	0	2	6	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			

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RHEOCHEM

Date: 4/08/2008

Report No 3

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES										MUD PROPERTY SPECIFICATIONS									
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PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
KCl (sacked)	25 Kg Sack	320	0	120	200	Desander	Cone Size	0	No.		0	0	0	0
Soda Ash	25 Kg Sack	36	0	16	20	Desilter	Cone Size	0	No.		0	0	0	0
Barite FOB (Portland)	1000 Kg	111	0	6	105	Mud Cleaner					0	0	0	0
Drill-pol	25 Kg Drum	30	0	6	24	Centrifuge 1	MI SW FVS518				11	9.4	18.5	45
Drispac SL (22.7kg)	23 Kg	80	0	6	74	Centrifuge 2	MI SW FVS518				11	9.3	19	20
Flowzan	25 Kg Sack	25	0	4	21	Degasser					0	SOLIDS ANALYSIS		
Glychem MC	220 Kg	4	0	4	0	Cuttings Dryer					0	HGS %		6.4
JK-261 LV	25 Kg	70	0	4	66	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			

Rheochem Engineer: Fius Siregar Carissa Thompson **Office:** Perth **Telephone:** +61 8 9410 8200 **Fax:** +61 8 9410 8299

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RHEOCHEM

Date: 5/08/2008

Report No 4

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE												
					VIC/P44		Otway Basin		Victoria												
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA													
BIT SIZE (")	No Bit	0	0	0	0	0	HOLE	PITS	PUMP SIZE	CIRCULATION											
12.25		0	0	0	0	0	970	430	6 x 12 Inches	PRESS											
DRILL PIPE	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL		% EFFICIENCY											
SIZE (")	9 5/8 csg	649 m		113 m		1400		National		97											
DRILL PIPE	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		BBL / STK		STK / MIN											
SIZE (")	5	0 m		642 m		392				BOTTOMS											
DRILL COLLAR SIZE (")	HW	0 m		Intermediate @		STORAGE TANKS		BBL / MIN		GAL / MIN											
8	0	0 m		Prod. or LNR @		0				TOTAL CIRC											
										TIME											
										min											
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS																
SAMPLE FROM				Pit		Pit		Pit		MW	11.0	API FL	:8.0	KCI	8-10						
MUD TYPE				8KCL		8KCL		8KCL		PHPA	1.5-2.0	6 RPM	12-16	LGS	<5						
TIME SAMPLE TAKEN				8:30		15:00		22:00		MUD COMMENTS											
FLOWLINE TEMPERATURE				°F						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.											
TOTAL MEASURED DEPTH (TMD)				Metres		1944		1944								1944					
WEIGHT				ppg / SG		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			
RHEOLOGY 200 : 100 RPM				120 °F		62		44								63		44			
RHEOLOGY 6 : 3 RPM				120 °F		13		10								12		9			
PLASTIC VISCOSITY cP@				120 °F		31		30								30					
YIELD POINT (lb / 100FT) ²				120 °F		45		48								47					
GEL STRENGTH (lb / 100FT) 10sec/10min/30min				11		26		33								9		26		31	
n K (lb/100 ft)				0.47		4.00		0.47		4.00		0.47		4.00							
API FILTRATE (cm / 30 min.)				3.9		3.8		3.8		Continue POOH to +/-1310m. Flow Check. Pump 25 bbl 13.1ppg Slug. Continue to POOH to surface. Rack back BHA, L/D FEWD. Retrieve Wear Bushing. R/U to Run 10 3/4" & 9 5/8" Casing. Commence running 9 5/8" casing.											
HPHT FILTRATE (cm / 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													
Water Source				Supply Boats																	
MUD ACCOUNTING (BBLs)				SUMMARY																	
FLUID BUILT				FLUID DISPOSED				Start Vol				1884									
Drill Water				0				S.C.E.				0									
Chemical				31				Discharge				63									
Seawater				0				Downhole				0									
Other				0				Other				60									
RECEIVED				31				LOST				123									
TOTAL MUD ON RIG (bbls)				1792																	
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT															
Product		UnitSize	Start	Received	Used	Close	Type		Cone Size		No.	Hours	OF	UF	GPM Feed						
Barite FOB (Portland)		1000 Kg	105	0	21	84	Desander		0		No.	0	0	0	0						
Flowzan		25 Kg Sack	21	40	0	61	Desilter		0		No.	0	0	0	0						
Omyacarb 20		25 Kg	48	576	0	624	Mud Cleaner					0	0	0	0						
Salt (sacked)		25 Kg	0	672	0	672	Centrifuge 1		MI SW FVS518												
Starch M		23 Kg	0	80	0	80	Centrifuge 2		MI SW FVS518												
XANVIS		25 Kg	0	80	0	80	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									
Rheochem Engineer: Fius Siregar						Carissa Thompson		Office: Perth		Telephone: +61 8 9410 8200		Fax: +61 8 9410 8299									

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 6/08/2008

Report No 5

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

BHA	BIT TYPE	JET SIZE						DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
BIT SIZE (") 12.25	No Bit	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	STORAGE TANKS 937		BBL / MIN 6.62	GAL / MIN 278	TOTAL CIRC TIME 318 min
								Prod. or LNR @	m						

SAMPLE FROM		Pit		Pit		Pit		MW	11.0	API FL	-8.0	KCI	8-10
MUD TYPE		8KCL		8KCL		8KCL		PHPA	1.5-2.0	6 RPM	12-16	LGS	<5
TIME SAMPLE TAKEN		8:00		15:00		22:00		MUD COMMENTS					
FLOWLINE TEMPERATURE	°F							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).					
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							

FIELD POINT (lb/100FT) ²	120 °F	44	47	46	OPERATIONAL COMMENTS						
GEL STRENGTH (lb/100FT) 10sec/10min/30min		12 27 34	12 28 33	10 25 33	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.						
n K (lb/100 ft)		0.48 3.82	0.48 3.82	0.48 3.82							
API FILTRATE (cm /30 min.)		3.9	4.2	4.2							
HPHT FILTRATE (cm /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	Water Source		Supply Boats				
PHPA (Calc ppb)		1.40	1.40	1.30	MUD ACCOUNTING (BBLs)		SUMMARY				
GLYCOL CONTENT (% V/V)		3	3	3	FLUID BUILT		FLUID DISPOSED		Start Vol	1792	
K+ (mg /L)		48636	48636	48636	Drill Water	0	S.C.E.	9	Boat Rcd	937	
KCl (% by Wt.)		9.0	9.0	9.0	Chemical	0	Discharge	32	Boat Bk	399	
METHYLENE BLUE CAPACITY (ppb equiv/%)		10.0 1.1	11.3 1.2	11.3 1.2	Seawater	0	Downhole	28	Built	0	
SOLIDS CONTENT (% by volume) Calc		10.96	10.40	11.31	Other	0	Other	0	Lost su	28	
LIQUID CONTENT (% by volume) Calc		89.04	89.60	88.69	RECEIVED	0	LOST	69	Lost srf	41	
SAND CONTENT (% by volume)		0.15	0.2	0.2	TOTAL MUD ON RIG (bbls)					2261	

PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT									
Product	UnitSize	Start	Received	Used	Close	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

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RHEOCHEM

Date: 7/08/2008

Report No 6

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="2"/> BBL/HR FOR <input type="text" value="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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	No Bit	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	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	LENGTH 0 m		13.38 Surface @ 642 m		RESERVE PITS 359		BBL / STK STK / MIN BOTTOMS UP 0 min				
DRILL COLLAR SIZE (")	9.625	LENGTH 0 m		10.75 Intermediate @ 514 m		STORAGE TANKS 938		BBL / MIN GAL / MIN TOTAL CIRC TIME min				
		0 0 0 m		9.625 Prod. or LNR @ 1,936 m								
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM			Pit		Pit		Pit		MW 11.0 API FL :8.0 KCI 8-10			
MUD TYPE			8KCL		WFW		WFW		PHPA 1.5-2.0 6 RPM 12-16 LGS <5			
TIME SAMPLE TAKEN			5:00		5:30		21:00		MUD COMMENTS			
FLOWLINE TEMPERATURE °F									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 tomorrow's 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.			
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 3 10sec/10min/30min n K (lb/100 ft)			11 27 33 0.34 4.31		10 12 13 0.34 4.31		10 12 15 0.34 4.31					
API FILTRATE (cm / 30 min.)			4.0		3.8		3.8		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.			
HPHT FILTRATE (cm / 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						Water Source Supply Boats			
K+ (mg / L)			48636									
KCI (% 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		MUD ACCOUNTING (BBLs) SUMMARY FLUID BUILT FLUID DISPOSED Drill Water 0 S.C.E. 79 Start Vol 2261 Chemical 1 Discharge 14 Boat Rcd 450 Seawater 0 Downhole 159 Boat Bk 0 Other 0 Other 0 Built 1 RECEIVED 1 LOST 252 Lost su 159 TOTAL MUD ON RIG (bbls) 2460			
LIQUID CONTENT (% by volume) Calc			88.27		98.38		98.38					
SAND CONTENT (% by volume)			0.15		0		0					
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Idcide-20	20 Ltr Drum	52	0	8	44	Desander	0	No.	0	0	0	0
Flowzan	25 Kg Sack	61	0	2	59	Desilter	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			
Rheochem Engineer: Fius Siregar Carissa Thompson Office: Perth						Telephone: +61 8 9410 8200 Fax: +61 8 9410 8299						

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RHEOCHEM

Date: 8/08/2008

Report No 7

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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



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

MUD PROPERTIES										MUD PROPERTY SPECIFICATIONS									
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PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type					Hours	OF	UF	GPM Feed
XANVIS	25 Kg	80	0	19	61	Desander	Cone Size	0	No.		0	0	0	0
Idcide-20	20 Ltr Drum	44	0	4	40	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			

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RHEOCHEM

Date: 9/08/2008

Report No 8

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	REED	13	13	13	13	13	HOLE	PITS	PUMP SIZE			
8.5	RSX519M	0	0	0	0	0	555	509	6 x 12 Inches			
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL				
5	dp	2.037 m		113 m		1064		National				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		% EFFICIENCY				
6.875	HW	140 m		642 m		0		97				
DRILL COLLAR SIZE (")		LENGTH		9.625 Intermediate @		STORAGE TANKS		SURFACE TO BIT				
6.75	0	44		1,936 m		565		8 min				
		0		Prod. or LNR @				BOTTOMS UP				
								25 min				
								TOTAL CIRC TIME				
								106 min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM			Pit		FL		MW		9.5			
MUD TYPE			WFW		WFW		API FL		<4			
TIME SAMPLE TAKEN			4:30		10:30		pH		8-9.5			
FLOWLINE TEMPERATURE °F			116		116		LGS		<5			
TOTAL MEASURED DEPTH (TMD) Metres			2020		2120		NaCl % wt					
WEIGHT ppg / SG			9.5		1.14		12.5					
FUNNEL VISCOSITY (sec / qt) API @ 120 °F			42		45							
RHEOLOGY 600 : 300 RPM 120 °F			48		37		51		39			
RHEOLOGY 200 : 100 RPM 120 °F			31		24		34		26			
RHEOLOGY 6 : 3 RPM 120 °F			10		8		11		9			
PLASTIC VISCOSITY cP @ 120 °F			10		12		11					
YIELD POINT (lb / 100FT) 2 120 °F			21		27		28					
GEL STRENGTH (lb / 100FT 3 10sec/10min/30min			9		13		15					
n K (lb/100 ft)			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			
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			
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					
PRODUCT USAGE					SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Wellflow DIF	0 bbl	1487	0	1487	0	Desander	0	No.	0	0	0	0
Salt (sacked)	25 Kg	672	432	348	756	Desilter	0	No.	0	0	0	0
Omyacarb 20	25 Kg	624	0	203	421	Mud Cleaner			0	0	0	0
Starch M	23 Kg	80	0	28	52	Centrifuge 1	MI SW FVS518		12	9.1	17	20
XANVIS	25 Kg	61	0	22	39	Centrifuge 2	MI SW FVS518		12	9.1	17	20
Defoam-A	25 Ltr Drum	28	0	1	27	Degasser			0	SOLIDS ANALYSIS		
KCl (sacked)	25 Kg Sack	200	40	0	240	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			
Rheochem Engineer: Fius Siregar					Carissa Thompson		Office: Perth		Telephone: +61 8 9410 8200		Fax: +61 8 9410 8299	

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RHEOCHEM

Date: 10/08/2008

Report No 9

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="0"/> BBL/HR FOR <input type="text" value="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)			MW (ppg)	Comments
		Current	Capacity			
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	REED	13	13	13	13	13	HOLE	PITS	PUMP SIZE			
8.5	RSX519M	0	0	0	0	0	611	515	6 x 12 Inches			
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL				
5	dp	2,304 m		113 m		1126		National				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		% EFFICIENCY				
6.875	HW	140 m		642 m		0		97				
DRILL COLLAR SIZE (")		LENGTH		9.625 Intermediate @		STORAGE TANKS		SURFACE TO BIT				
6.75	0	44		1,936 m		272		9 min				
				Prod. or LNR @				BOTTOMS UP				
								27 min				
								TOTAL CIRC TIME				
								90 min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM		Pit		FL		FL		MW				
								9.5				
MUD TYPE		WFW		WFW		WFW		API FL				
								<4				
TIME SAMPLE TAKEN		3:00		11:00		22:00		pH				
								8-9.5				
FLOWLINE TEMPERATURE		°F		122		124		LGS				
								<5				
TOTAL MEASURED DEPTH (TMD)		Metres		2258		2340		NaCl % wt				
								12.5				
WEIGHT		ppg / SG		9.6		1.15		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.				
FUNNEL VISCOSITY (sec / qt) API @		120 °F		46		47		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.				
RHEOLOGY 600 : 300 RPM		120 °F		56		44		OPERATIONAL COMMENTS				
								Continue to drill ahead directionally to 2488m MD / 1660m TVD. Maximum angle drilled 96.37 degrees.				
RHEOLOGY 200 : 100 RPM		120 °F		38		30						
RHEOLOGY 6 : 3 RPM		120 °F		13		10						
PLASTIC VISCOSITY cP @		120 °F		12		11						
YIELD POINT (lb / 100FT) ^2		120 °F		32		33						
GEL STRENGTH (lb / 100FT ^3 10sec/10min/30min				12		15						
n K (lb/100 ft)				0.32		6.30						
API FILTRATE (cm / 30 min.)				3.5		3.8						
HPHT FILTRATE (cm / 30 min.)		°F										
API : HPHT (Cake / 32nd in.)				0.5		0.5						
pH				9.5		9.3						
ALKALINITY MUD (Pm)				0.3		0.3						
ALKALINITY FILTRATE (Pf / Mf)				0.05		0.8						
CHLORIDE (mg / L)				88,000		91,000						
TOTAL HARDNESS AS CALCIUM (mg / L)				400		400						
SULPHITE (mg / L)				50		80						
PHPA (Calc ppb)												
GLYCOL CONTENT (% V/V)												
K+ (mg / L)												
KCl (% by Wt.)												
METHYLENE BLUE CAPACITY (ppb equiv/%))				2.0		0.2						
SOLIDS CONTENT (% by volume) Calc				2.45		2.02						
LIQUID CONTENT (% by volume) Calc				97.55		97.98						
SAND CONTENT (% by volume)				0.2		0.2						
PRODUCT USAGE					SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
Starch M	23 Kg	52	0	10	42	Desander	Cone Size	0	No.	0	0	0
Soda Ash	25 Kg Sack	20	0	4	16	Desilter	Cone Size	0	No.	0	0	0
Sodium Sulphite	25 Kg	39	0	4	35	Mud Cleaner			0	0	0	0
XANVIS	25 Kg	39	0	3	36	Centrifuge 1	MI SW FVS518		24	9.3	15.7	50
Defoam-A	25 Ltr Drum	27	0	2	25	Centrifuge 2	MI SW FVS518		24	9.3	15.8	30
Dirt Magnet	200 Ltr Drum	0	4	0	4	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			
Rheochem Engineer: Fius Siregar					Carissa Thompson		Office: Perth		Telephone: +61 8 9410 8200		Fax: +61 8 9410 8299	

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 11/08/2008

Report No 10

DAILY MUD VOLUME ACCOUNT

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: <input type="text" value="0"/> BBL/HR FOR <input type="text" value="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)			Comments
		Current	Capacity	MW (ppg)	
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		LOCATION		STATE				
					VIC/P44		Otway Basin		Victoria				
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	No Bit	0	0	0	0	0	HOLE	PITS	PUMP SIZE				
8.5		0	0	0	0	0	686	470	6 x 12 Inches				
DRILL PIPE SIZE (")	TYPE	LENGTH		30 Conductor @		TOTAL CIRCULATING VOL.		PUMP MODEL	% EFFICIENCY				
5	dp	196 m		113 m		1156		National	97				
DRILL PIPE SIZE (")	TYPE	LENGTH		13.38 Surface @		RESERVE PITS		BBL / STK	STK / MIN				
6.875	HW	0 m		642 m		248							
DRILL COLLAR SIZE (")		LENGTH		9.625 Intermediate @		STORAGE TANKS		BBL / MIN	GAL / MIN				
6.75	0	0 m		1,936 m		1008							
				Prod. or LNR @									
				m									
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS								
SAMPLE FROM		Pit		FL		Pit		MW	9.5				
MUD TYPE		WFW		WFW		WFW		6 RPM	10-14				
TIME SAMPLE TAKEN		3:00		12:00		22:00		API FL <4					
FLOWLINE TEMPERATURE °F		124		122				pH 8-9.5					
TOTAL MEASURED DEPTH (TMD) Metres		2517		2517		2517		LGS <5					
WEIGHT ppg / SG		9.6		1.15		9.6		NaCl % wt 12.5					
FUNNEL VISCOSITY (sec / qt) API @ 120 °F		45		47		50		MUD COMMENTS					
RHEOLOGY 600 : 300 RPM 120 °F		58		46		60		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.					
RHEOLOGY 200 : 100 RPM 120 °F		40		33		42							
RHEOLOGY 6 : 3 RPM 120 °F		13		10		14							
PLASTIC VISCOSITY cP @ 120 °F		12		12		12							
YIELD POINT (lb / 100FT) 2 120 °F		34		36		35							
GEL STRENGTH (lb / 100FT 3 10sec/10min/30min		11		14		15		OPERATIONAL COMMENTS					
n K (lb/100 ft)		0.33		6.08		0.33		Build Hi-vis Sweep in Slug Pit for casing clean-up. Uncorrected solids from Retort = 7%. Use 16 x 325 mesh screens.					
API FILTRATE (cm / 30 min.)		3.9		3.6		3.6		*****					
HPHT FILTRATE (cm / 30 min.) °F								**					
API : HPHT (Cake / 32nd in.)		0.5		0.5		0.5		Continue to drill ahead to Well TD 2517m MD /1655m TVD. Circulate 2 x BU, run booster pumps while circulating. 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.					
pH		9.0		9.0		9.0		Water Source					
ALKALINITY MUD (Pm)		0.3		0.2		0.2		Supply Boats					
ALKALINITY FILTRATE (Pf / Mf)		0.05		0.7		0.04		0.7					
CHLORIDE (mg / L)		84,000		84,000		84,000		MUD ACCOUNTING (BBLs)					
TOTAL HARDNESS AS CALCIUM (mg / L)		400		480		480		SUMMARY					
SULPHITE (mg / L)		120		80		80		FLUID BUILT					
PHPA (Calc ppb)								FLUID DISPOSED					
GLYCOL CONTENT (% V/V)								Start Vol					
K+ (mg / L)								1398					
KCl (% by Wt.)								Drill Water					
METHYLENE BLUE CAPACITY (ppb equiv/%)		2.0		0.2		2.0		17					
SOLIDS CONTENT (% by volume) Calc		2.52		2.52		2.52		S.C.E.					
LIQUID CONTENT (% by volume) Calc		97.48		97.48		97.48		35					
SAND CONTENT (% by volume)		0.2		0.2		0.2		Discharge					
								17					
								Boat Bk					
								0					
								Built					
								21					
								Lost sub					
								0					
								Lost srf					
								52					
								TOTAL MUD ON RIG (bbls)					
								2411					
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed
Salt (sacked)	25 Kg	756	0	10	746	Desander	Cone Size	0	No.		0	0	0
Starch M	23 Kg	42	0	10	32	Desilter	Cone Size	0	No.		0	0	0
Icdide-20	20 Ltr Drum	40	0	6	34	Mud Cleaner				0	0	0	0
Sodium Sulphite	25 Kg	35	0	6	29	Centrifuge 1	MI SW FVS518			6	9.3	15.7	50
XANVIS	25 Kg	36	0	3	33	Centrifuge 2	MI SW FVS518			6	9.3	15.8	30
NaCl Completion Brine	0 bbl	0	1044	0	1044	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	

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RHEOCHEM

Date: 12/08/2008

Report No 11

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 WATER BASED MUD Daily Drilling Report Rheochem Ltd	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	No Bit	0 0 0 0 0 0		19.50 Riser Length 87 m		HOLE 690 PITS 508		PUMP SIZE 6 x 12 Inches				
DRILL PIPE SIZE (")	5	LENGTH 0 m		30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 1198		PUMP MODEL National				
DRILL PIPE SIZE (")	6.875	LENGTH 0 m		13.38 Surface @ 642 m		RESERVE PITS 195		PUMP MODEL National				
DRILL PIPE SIZE (")	6.875	LENGTH 0 m		9.625 Intermediate @ 1,936 m		STORAGE TANKS 1008		PUMP MODEL National				
DRILL PIPE SIZE (")	6.875	LENGTH 0 m		Prod. or LNR @ m				PUMP MODEL National				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM				Pit		Pit		MW 9.5 API FL <4 pH 8-9.5				
MUD TYPE				WFW		WFW		6 RPM 10-14 LGS <5 NaCl % wt 12.5				
TIME SAMPLE TAKEN				6:00		18:30		MUD COMMENTS				
FLOWLINE TEMPERATURE °F								Screen down shakers to 230 mesh in preparation for scraper run.				
TOTAL MEASURED DEPTH (TMD) Metres				2517		2517		NTU readings for the NaCl Completions Brine:				
WEIGHT ppg / SG				9.6 1.15		9.6 1.15		Pit 1 = 31				
FUNNEL VISCOSITY (sec / qt) API @ 120 °F				51		51		Pit 2 = 18				
RHEOLOGY 600 : 300 RPM 120 °F				56 45		55 44		Pit 4 = 44				
RHEOLOGY 200 : 100 RPM 120 °F				39 31		38 30		Adjustment made on Chemical inventory.				
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 3 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						
PRODUCT USAGE				SOLIDS CONTROL EQUIPMENT								
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
Omyacarb 20	25 Kg	421	0	1	420	Desander	Cone Size	0	No.	0	0	0
XANVIS	25 Kg	33	0	1	32	Desilter	Cone Size	0	No.	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												

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 13/08/2008

Report No 12

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 WATER BASED MUD Daily Drilling Report Rheochem Ltd	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE	DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	No Bit	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	0 0 0 0 0 0	30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 1055		PUMP MODEL National		% EFFICIENCY 97			
DRILL PIPE TYPE	dp	LENGTH 0 m	13.38 Surface @ 642 m		RESERVE PITS 190		BBL / STK		STK / MIN			
DRILL PIPE SIZE (")	6.875	0 m	9.625 Intermediate @ 1,936 m		STORAGE TANKS 1008		BBL / MIN		GAL / MIN			
DRILL COLLAR SIZE (")	6.625	70 542 m	Prod. or LNR @ m				BBL / MIN		TOTAL CIRC TIME min			
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM			Pit		Pit		MW 9.5 API FL <4 pH 8-9.5					
MUD TYPE			WFW		WFW		6 RPM 10-14 LGS <5 NaCl % wt 12.5					
TIME SAMPLE TAKEN			10:00		18:00		MUD COMMENTS					
FLOWLINE TEMPERATURE °F							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.					
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 3 10sec/10min/30min			10 13 14		10 13 15							
n K (lb/100 ft)			0.30 6.56		0.30 6.56		OPERATIONAL COMMENTS RIH with the screens and tubulars. Preparing to RIH with DP.					
API FILTRATE (cm / 30 min.)			3.5		3.5							
HPHT FILTRATE (cm / 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)							Water Source Supply Boats					
GLYCOL CONTENT (% V/V)							MUD ACCOUNTING (BBLs) SUMMARY					
K+ (mg / L)							FLUID BUILT FLUID DISPOSED					
KCl (% by Wt.)							Drill Water 0 S.C.E. 0 Boat Rcd 0					
METHYLENE BLUE CAPACITY (ppb equiv/%)			2.5 0.3		2.5 0.3		Chemical 0 Discharge 148 Boat Bk 0					
SOLIDS CONTENT (% by volume) Calc			2.68		2.68		Seawater 0 Downhole 0 Built 0					
LIQUID CONTENT (% by volume) Calc			97.32		97.32		Other 0 Other 0 Lost su 0					
SAND CONTENT (% by volume)			0.1		0.1		RECEIVED 0 LOST 148 Lost srf 148					
TOTAL MUD ON RIG (bbls)							2253					
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Idcide-20	20 Ltr Drum	30	0	1	29	Desander	0	No.	0	0	0	0
						Desilter	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		

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RHEOCHEM

Date: 14/08/2008

Report No 13

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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		LOCATION		STATE												
					VIC/P44		Otway Basin		Victoria												
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA													
BIT SIZE (")	No Bit	<table border="1"> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> </table>		0	0	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
0	0	0	0	0	0																
0	0	0	0	0	0																
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						MUD PROPERTY SPECIFICATIONS															
SAMPLE FROM				Pit		Pit		MW 9.5 API FL <4 pH 8-9.5													
MUD TYPE				NACL		WFW		6 RPM 10-14 LGS <5 NaCl % wt 12.5													
TIME SAMPLE TAKEN				9:00		15:30		MUD COMMENTS													
FLOWLINE TEMPERATURE °F								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													
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 3 10sec/10min/30min						9 12 14															
n K (lb/100 ft)				0.34 4.84		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)						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															
								TOTAL MUD ON RIG (bbls) 1507													
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT															
Product	UnitSize	Start	Received	Used	Close	Type				Hours	OF	UF	GPM Feed								
Salt (sacked)	25 Kg	746	0	556	190	Desander	Cone Size	0	No.	0	0	0	0								
Flowzan	25 Kg Sack	59	0	8	51	Desilter	Cone Size	0	No.	0	0	0	0								
Idcide-20	20 Ltr Drum	29	0	7	22	Mud Cleaner				0	0	0	0								
Sodium Sulphite	25 Kg	29	0	5	24	Centrifuge 1	MI SW FVS518														
Dirt Magnet	200 Ltr Drum	4	0	2	2	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 %	1.3									
						Shale Shaker #2	40/20 230HC x 4			5	Drilled Solids %	0.987									
						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											

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RHEOCHEM

Date: 15/08/2008

Report No 14

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE	DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	No Bit	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	LENGTH 934 m	30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 770		PUMP MODEL National		% EFFICIENCY 97			
DRILL PIPE SIZE (")	6.875	LENGTH 0 m	13.38 Surface @ 642 m		RESERVE PITS 85		BBL / STK		STK / MIN			
DRILL COLLAR SIZE (")	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m		STORAGE TANKS 0		BBL / MIN		GAL / MIN			
			Prod. or LNR @ m						TOTAL CIRC TIME min			
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM			Pit				MW 9.5 API FL <4 pH 8-9.5					
MUD TYPE			WFW				6 RPM 10-14 LGS <5 NaCl % wt 12.5					
TIME SAMPLE TAKEN			3:30				MUD COMMENTS					
FLOWLINE TEMPERATURE °F							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.					
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 3 10sec/10min/30min			9 12 14									
n K (lb/100 ft)			0.34 4.84				OPERATIONAL COMMENTS Jet BOP's and circulated 1.25 riser volume. Commenced RIH upper Completion assembly.					
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)							Water Source Supply Boats					
GLYCOL CONTENT (% V/V)							MUD ACCOUNTING (BBLs) SUMMARY					
K+ (mg / L)							FLUID BUILT FLUID DISPOSED Start Vol 1507					
KCl (% by Wt.)							Drill Water 0 S.C.E. 0 Boat Rcd 0					
METHYLENE BLUE CAPACITY (ppb equiv/%)			2.5 0.3				Chemical 0 Discharge 247 Boat Bk 405					
SOLIDS CONTENT (% by volume) Calc			2.68				Seawater 0 Downhole 0 Built 0					
LIQUID CONTENT (% by volume) Calc			97.32				Other 0 Other 0 Lost su 0					
SAND CONTENT (% by volume)			0.2				RECEIVED 0 LOST 247 Lost srf 247					
							TOTAL MUD ON RIG (bbls) 855					
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Idcide-20	20 Ltr Drum	22	0	3	19	Desander	0	No.	0	0	0	0
						Desilter	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		

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RHEOCHEM

Date: 16/08/2008

Report No 15

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	No Bit	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			
DRILL PIPE SIZE (")	6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m		RESERVE PITS 44		BBL / STK	STK / MIN			
DRILL COLLAR SIZE (")	6.625	LENGTH 219	542 m	9.625 Intermediate @ 1,936 m		STORAGE TANKS 0		BBL / MIN	GAL / MIN			
				Prod. or LNR @ m				BOTTOMS UP 0 min	TOTAL CIRC TIME min			
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM					MW 9.5 API FL <4 pH 8-9.5							
MUD TYPE					6 RPM 10-14 LGS <5 NaCl % wt 12.5							
TIME SAMPLE TAKEN					MUD COMMENTS							
FLOWLINE TEMPERATURE °F					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.							
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) °F												
GEL STRENGTH (lb / 100FT @ 10sec/10min/30min												
n K (lb/100 ft)												
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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)												
					Water Source Supply Boats							
					MUD ACCOUNTING (BBLs)				SUMMARY			
					FLUID BUILT		FLUID DISPOSED		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						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
Salt (sacked)	25 Kg	190	0	190	0	Desander	Cone Size 0	No.	0	0	0	0
Idcide-20	20 Ltr Drum	19	0	1	18	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		

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RHEOCHEM

Date: 17/08/2008

Report No 16

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 Rheochem	WATER BASED MUD Daily Drilling Report		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 (")	No Bit	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
DRILL PIPE SIZE (")	6.875	TYPE HW	LENGTH	0 m	13.38 Surface @	642 m	RESERVE PITS		108	BBL / STK	STK / MIN	SURFACE TO BIT	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	BOTTOMS UP	0 min
			Prod. or LNR @		m						TOTAL CIRC TIME		min
MUD PROPERTIES						MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM						MW 9.5 API FL <4 pH 8-9.5							
MUD TYPE						6 RPM 10-14 LGS <5 NaCl % wt 12.5							
TIME SAMPLE TAKEN						MUD COMMENTS							
FLOWLINE TEMPERATURE °F						Received Salt and Brine off the Far Grip. Checked screens and discarded worn ones as necessary.							
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) °F													
GEL STRENGTH (lb / 100FT) 10sec/10min/30min													
n K (lb/100 ft)													
API FILTRATE (cm / 30 min.)													
HPHT FILTRATE (cm / 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)													
						Water Source Supply Boats							
						MUD ACCOUNTING (BBLs)				SUMMARY			
						FLUID BUILT		FLUID DISPOSED		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						SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed	
NaCl Completion Brine	0 bbl	0	78	78	0	Desander	0	No.	0	0	0	0	
Salt (sacked)	25 Kg	0	432	0	432	Desilter	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			

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 18/08/2008

Report No 17

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 Rheochem	WATER BASED MUD Daily Drilling Report		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)								
BIT SIZE (") 8.5	No Bit	0 0 0 0 0 0	19.50 Riser Length 87 m		HOLE 376 PITS 462								
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1,733 m	30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 838								
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m		RESERVE PITS 108								
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m		STORAGE TANKS 0								
			Prod. or LNR @ m		BBL / MIN GAL / MIN								
MUD PROPERTIES			MUD PROPERTY SPECIFICATIONS										
SAMPLE FROM					MW 9.5 API FL <4 pH 8-9.5								
MUD TYPE			NACL		6 RPM 10-14 LGS <5 NaCl % wt 12.5								
TIME SAMPLE TAKEN					MUD COMMENTS								
FLOWLINE TEMPERATURE °F					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.								
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) °F													
GEL STRENGTH (lb / 100FT) 10sec/10min/30min							OPERATIONAL COMMENTS Displaced Tubing with 216bbl diesel and 5 bbl drill water. Set packer. Performed preflow checks and commenced cleanup.						
n K (lb/100 ft)													
API FILTRATE (cm / 30 min.)													
HPHT FILTRATE (cm / 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)					Water Source Supply Boats								
SULPHITE (mg / L)					MUD ACCOUNTING (BBLs) SUMMARY								
PHPA (Calc ppb)					FLUID BUILT FLUID DISPOSED								
GLYCOL CONTENT (% V/V)					Start Vol 1010								
K+ (mg / L)					Drill Water 0 S.C.E. 0 Boat Rcd 0								
KCl (% by Wt.)					Chemical 0 Discharge 64 Boat Bk 0								
METHYLENE BLUE CAPACITY (ppb equiv/%)					Seawater 0 Downhole 0 Built 0								
SOLIDS CONTENT (% by volume) Calc 0.00					Other 0 Other 0 Lost su 0								
LIQUID CONTENT (% by volume) Calc 0.00					RECEIVED 0 LOST 64 Lost srf 64								
SAND CONTENT (% by volume)					TOTAL MUD ON RIG (bbls) 946								
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed	
						Desander	0	No.	0	0	0	0	
						Desilter	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	

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RHEOCHEM

Date: 19/08/2008

Report No 18

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 Rheochem	WATER BASED MUD Daily Drilling Report		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	19.50 Riser Length 87 m		HOLE 0	PITS 325	PUMP SIZE 6 x 12 Inches																																				
DRILL PIPE SIZE (") 7	TYPE tubing	LENGTH 1.733 m	30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 325		PUMP MODEL National																																				
DRILL PIPE SIZE (") 6.875	TYPE HW	LENGTH 0 m	13.38 Surface @ 642 m		RESERVE PITS 100		% EFFICIENCY 97																																				
DRILL COLLAR SIZE (") 6.625	6.625	LENGTH 219 542 m	9.625 Intermediate @ 1,936 m		STORAGE TANKS 0		BOTTOMS UP 0 min																																				
			Prod. or LNR @ m		BBL / MIN		GAL / MIN																																				
							TOTAL CIRC TIME min																																				
MUD PROPERTIES				MUD PROPERTY SPECIFICATIONS																																							
SAMPLE FROM				MW 9.5 API FL <4 pH 8-9.5																																							
MUD TYPE				6 RPM 10-14 LGS <5 NaCl % wt 12.5																																							
TIME SAMPLE TAKEN				MUD COMMENTS																																							
FLOWLINE TEMPERATURE °F				MEG used for Inflow Testing TRSV ops. 50bbl pumpable Hi-Vis pill prepared with 2.9 ppb Flowzan in Pit 1.																																							
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) °F																																											
GEL STRENGTH (lb / 100FT @ 10sec/10min/30min																																											
n K (lb/100 ft)																																											
API FILTRATE (cm / 30 min.)																																											
HPHT FILTRATE (cm / 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				Water Source Supply Boats																																							
LIQUID CONTENT (% by volume) Calc 0.00 0.00 0.00				MUD ACCOUNTING (BBLs) SUMMARY																																							
SAND CONTENT (% by volume)				<table border="1"> <tr> <th colspan="2">FLUID BUILT</th> <th colspan="2">FLUID DISPOSED</th> <th>Start Vol</th> <th>946</th> </tr> <tr> <td>Drill Water</td> <td>0</td> <td>S.C.E.</td> <td>0</td> <td>Boat Rcd</td> <td>0</td> </tr> <tr> <td>Chemical</td> <td>9</td> <td>Discharge</td> <td>530</td> <td>Boat Bk</td> <td>0</td> </tr> <tr> <td>Seawater</td> <td>0</td> <td>Downhole</td> <td>0</td> <td>Built</td> <td>9</td> </tr> <tr> <td>Other</td> <td>0</td> <td>Other</td> <td>0</td> <td>Lost su</td> <td>0</td> </tr> <tr> <td>RECEIVED</td> <td>9</td> <td>LOST</td> <td>530</td> <td>Lost srf</td> <td>530</td> </tr> </table>				FLUID BUILT		FLUID DISPOSED		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
FLUID BUILT		FLUID DISPOSED		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						SOLIDS CONTROL EQUIPMENT																																					
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed																															
Flowzan	25 Kg Sack	51	0	7	44	Desander	Cone Size	0	No.	0	0	0																															
MEG	220 Kg	6	0	6	0	Desilter	Cone Size	0	No.	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																																	

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 20/08/2008

Report No 19

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE	DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	No Bit	0 0 0 0 0	0.00 Riser Length 87 m		HOLE	PITS	PUMP SIZE	CIRCULATION PRESS				
8.5					0	0	6 x 12 Inches	psi				
DRILL PIPE SIZE (")	TYPE	LENGTH	30 Conductor @ 113 m		TOTAL CIRCULATING VOL.		PUMP MODEL	% EFFICIENCY	SURFACE TO BIT			
7	tubing	1,733 m			0		National	97	0 min			
DRILL PIPE SIZE (")	TYPE	LENGTH	13.38 Surface @ 642 m		RESERVE PITS		BBL / STK	STK / MIN	BOTTOMS UP			
6.875	HW	0 m			0				0 min			
DRILL COLLAR SIZE (")		LENGTH	9.625 Intermediate @ 1,936 m		STORAGE TANKS		BBL / MIN	GAL / MIN	TOTAL CIRC TIME			
6.625		219 542 m			0				min			
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM					MW 9.5 API FL <4 pH 8-9.5							
MUD TYPE					6 RPM 10-14 LGS <5 NaCl % wt 12.5							
TIME SAMPLE TAKEN					MUD COMMENTS							
FLOWLINE TEMPERATURE °F					Received Chemicals for Henry-2. Discharged Surface volume of Brine and commenced cleaning pits.							
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) °F												
GEL STRENGTH (lb / 100FT) 10sec/10min/30min												
n K (lb/100 ft)												
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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)												
PRODUCT USAGE					SOLIDS CONTROL EQUIPMENT							
Product	UnitSize	Start	Received	Used	Close	Type	Cone Size	No.	Hours	OF	UF	GPM Feed
Citric Acid	25 Kg Sack	0	80	0	80	Desander	0	No.	0	0	0	0
Drill-pol	25 Kg Drum	24	64	0	88	Desilter	0	No.	0	0	0	0
Drispac SL (22.7kg)	23 Kg	74	80	0	154	Mud Cleaner			0	0	0	0
Flowzan	25 Kg Sack	44	40	0	84	Centrifuge 1	MI SW FVS518					
Idcide-20	20 Ltr Drum	18	32	0	50	Centrifuge 2	MI SW FVS518					
JK-261 LV	25 Kg	66	120	0	186	Degasser			0	SOLIDS ANALYSIS		
KCl (sacked)	25 Kg Sack	240	280	0	520	Cuttings Dryer			0	HGS %		0.0
Salt (sacked)	25 Kg	432	48	0	480	Shale Shaker #1	40/20 230HC x 4			LGS %		0.0
Soda Ash	25 Kg Sack	16	48	0	64	Shale Shaker #2	40/20 230HC x 4			Drilled Solids %		0.000
Sodium Sulphite	25 Kg	24	40	0	64	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		

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RHEOCHEM

Date: 21/08/2008

Report No 20

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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	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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE		DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA				
BIT SIZE (")	No Bit	0 0 0 0 0 0		0.00 Riser Length 87 m		HOLE 0 PITS 0		PUMP SIZE 6 x 12 Inches				
DRILL PIPE SIZE (")	7	LENGTH 1.733 m		30 Conductor @ 113 m		TOTAL CIRCULATING VOL. 0		PUMP MODEL National				
DRILL PIPE SIZE (")	6.875	LENGTH 0 m		13.38 Surface @ 642 m		RESERVE PITS 0		% EFFICIENCY 97				
DRILL COLLAR SIZE (")	6.625	LENGTH 219 542 m		9.625 Intermediate @ 1,936 m		STORAGE TANKS 0		SURFACE TO BIT 0 min				
				Prod. or LNR @ m				BOTTOMS UP 0 min				
								TOTAL CIRC TIME min				
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM					MW 9.5 API FL <4 pH 8-9.5							
MUD TYPE					6 RPM 10-14 LGS <5 NaCl % wt 12.5							
TIME SAMPLE TAKEN					MUD COMMENTS							
FLOWLINE TEMPERATURE °F					Received Lab Supplies. Standing by for Rig Move.							
TOTAL MEASURED DEPTH (TMD) Metres					Received 33 MT of Bentonite off Nor Captain.							
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) °F												
GEL STRENGTH (lb / 100FT @ 10sec/10min/30min												
n K (lb/100 ft)												
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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)												
					Water Source Supply Boat							
					MUD ACCOUNTING (BBLs) SUMMARY							
					FLUID BUILT FLUID DISPOSED 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						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
Bentonite FOB (Portland)	1000 Kg	53	33	0	86	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		

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RHEOCHEM

Date: 22/08/2008

Report No 21

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

 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		LOCATION		STATE			
					VIC/P44		Otway Basin		Victoria			
BHA	BIT TYPE	JET SIZE	DEPTHS/CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
BIT SIZE (")	No Bit	0 0 0 0 0 0	0.00 Riser Length 87 m		HOLE	PITS	PUMP SIZE	CIRCULATION PRESS				
8.5					0	0	6 x 12 Inches	psi				
DRILL PIPE SIZE (")	TYPE	LENGTH	30 Conductor @ 113 m		TOTAL CIRCULATING VOL.		PUMP MODEL	% EFFICIENCY	SURFACE TO BIT			
7	tubing	1,733 m			0		National	97	0 min			
DRILL PIPE SIZE (")	TYPE	LENGTH	13.38 Surface @ 642 m		RESERVE PITS		BBL / STK	STK / MIN	BOTTOMS UP			
6.875	HW	0 m			0				0 min			
DRILL COLLAR SIZE (")		LENGTH	9.625 Intermediate @ 1,936 m		STORAGE TANKS		BBL / MIN	GAL / MIN	TOTAL CIRC TIME			
6.625	6.625	219 542 m			0				min			
MUD PROPERTIES					MUD PROPERTY SPECIFICATIONS							
SAMPLE FROM					MW 9.5 API FL <4 pH 8-9.5							
MUD TYPE					6 RPM 10-14 LGS <5 NaCl % wt 12.5							
TIME SAMPLE TAKEN					MUD COMMENTS							
FLOWLINE TEMPERATURE °F					Standing by for Rig Move.							
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) °F												
GEL STRENGTH (lb / 100FT @ 10sec/10min/30min												
n K (lb/100 ft)												
API FILTRATE (cm / 30 min.)												
HPHT FILTRATE (cm / 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)												
					Water Source Supply Boats							
					MUD ACCOUNTING (BBLs)				SUMMARY			
					FLUID BUILT		FLUID DISPOSED		Start Vol			
					Drill Water	0	S.C.E.	0	Boat Rcd			
					Chemical	0	Discharge	0	Boat Bk			
					Seawater	0	Downhole	0	Built			
					Other	0	Other	0	Lost su			
					RECEIVED	0	LOST	0	Lost srf			
					TOTAL MUD ON RIG (bbls)				0			
PRODUCT USAGE						SOLIDS CONTROL EQUIPMENT						
Product	UnitSize	Start	Received	Used	Close	Type			Hours	OF	UF	GPM Feed
						Desander	Cone Size	0	No.	0	0	0
						Desilter	Cone Size	0	No.	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		

Any opinion and/or recommendation, expressed orally or written herein, has been prepared carefully and may be used if the user so elects, however, no representation or warranty is made by ourselves or our agents as to its correctness or completeness, and no liability is assumed for any damages resulting from



RHEOCHEM

Date: 23/08/2008

Report No 22

DAILY MUD VOLUME ACCOUNT

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)			Comments
		Current	Capacity	MW (ppg)	
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

Operator : Santos
Well : Netherby-1 DW
Rig : Ocean Patriot
Spud : 15rd July 2008

10. DRILLING FLUIDS PROGRAM

				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												PRODUCTS				Concentrations (lbs/bbl)				VOLUMES			
Depth	MW	YP	PV	Gels	6 rpm	pH	API	API	Ca ++	KCl	PHPA	LGS	MBT	TYPE	Unit	Size	New	Maint	Tot Unit		bbl				
meters	ppg	lb/100sqft	cP	lb/100sqft			FL ml	In Reservoir	mg/l	% wt	ppb	% vol	ppb												
1400	9.0 - 11	6 rpm	alap	low and flat	12 - 16	8.0 - 8.5	< 8	< 4	< 400	8 - 10	1.5-2.0	< 5	< 10	Flowzan	kg	25	1.3	0.2	24	SURFACE	500				
		dependent	weight											Drispac SL	kg	22.7	1.5	0.3	32	RISER	107				
1895			dependent											Sodium Bicarbonate	kg	25	0.1	0.1	4	CASING	278				
				JK-261 LV	kg	25	1.0	0.6	32	OPEN HOLE	261														
	<p>COMMENTS:</p> <p>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%).</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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).</p> <p>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.</p> <p>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.</p>														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																			
495				Fracseal	kg	11.4				Max Angle, deg	75														
8 1/2		Section: Wellflow DIF												PRODUCTS				Concentrations (lbs/bbl)				VOLUMES			
Depth	MW	YP	PV	Gels	6 rpm	pH	API	Ca ++	NaCl	LGS				TYPE	Unit	Size	New	Maint	Tot Unit		bbl				
meters	ppg	lb/100sqft	cP	lb/100sqft			FL ml	mg/l	% wt	% vol															
1895	9.5	6 rpm	alap	non-progressive	10 - 14	8.5 - 9.5	< 4 ml	< 400	12.5	< 5				Caustic Soda	kg	25	0.1	0.1	7	SURFACE	500				
		dependent												NaCl	MT	1.2	48.0	30.0	53	RISER	107				
2504														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												PRODUCTS				Concentrations (lbs/bbl)				VOLUMES			
Depth	MW	NaCl	NTU											TYPE	Unit	Size	New	Maint	Tot Units		bbl				
meters	ppg	%																							
1841	1.18 S.G	24	<100											Caustic Soda	kg	25	0.1	0.0	3	SURFACE	500				
	9.3 - 9.6 ppg													NaCl	MT	1.2	76.0	0.0	40	RISER	107				
2504		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														
663																									

SECTION 10 : CASING & CEMENTING SUMMARY

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

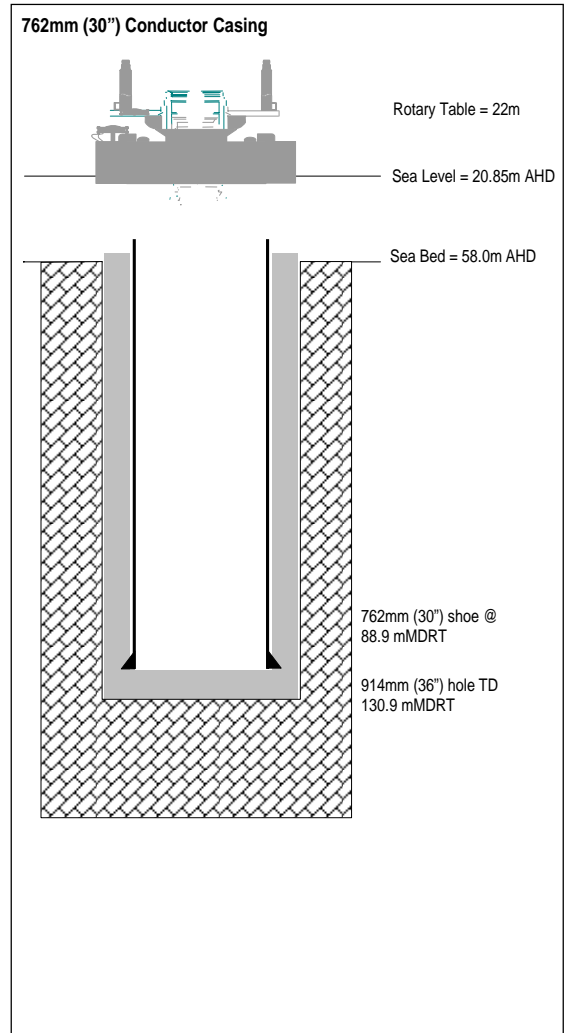
OD 762mm (30")
Grade X-52
Shoe Depth 130.9 mMDRT

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: 0.03m³/sx (1.19ft³/sx)
Volume: 27m³ (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

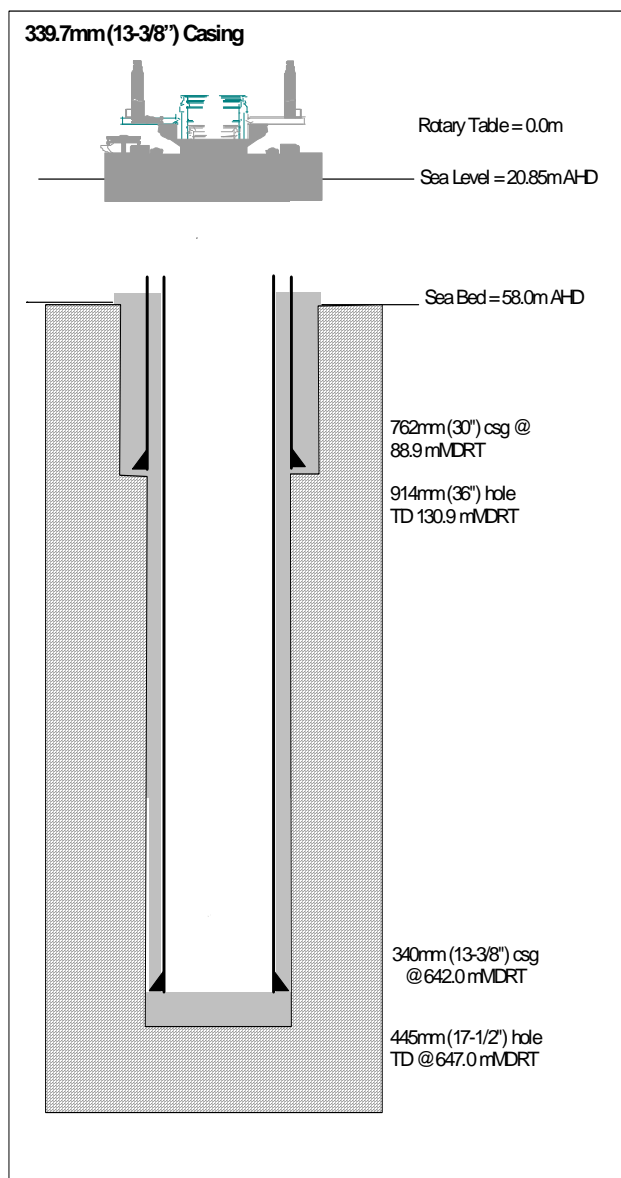
Sacks: 368Sx
Type Class G
Mix water: 18.28m³ (115bbbls) Drill water
Additives: D047 0.03 gal/sx
D075 0.45gal/sx
Weight: 1.50sg (12.0ppg)
Yield: 0.06m³/sx (2.23ft³/sx)
Volume: 146bbbls

Tail Slurry

Sacks: 422Sx
Type Class G
Mix water: 8.59m³ (54bbbls) 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: 0.03m³/sx (1.18ft³/sx)
Volume: 89bbbls

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 5bbbls of drill water to flush the lines, tested the lines to 3000psi, dropped the bottom dart and pumped with 30bbbls of seawater. Mixed and pumped 146 bbls of lead slurry, mixed and pumped 89 bbls of tail slurry, then dropped the top dart. Pumped 10bbbls 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:

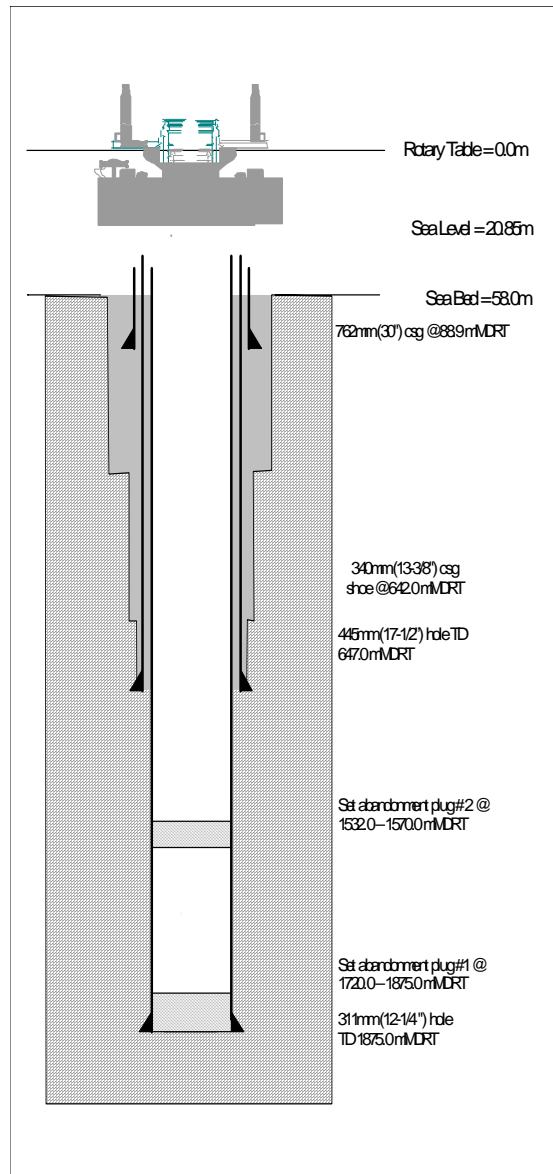
Plug # 1

Sacks: 417Sx
 Type Class "G"
 Mix water: 10.81m³ (68bbls) Drill water
 Additives: D081 10.4gal
 D193 125gal
 D 175 4.2gal
 D 145A 37.5gal
 Weight: 1.90sg (15.8ppg)
 Yield: 0.03m³/sx (1.16ft³/sx)
 Volume: 13.68m³ (86.10bbls)

Plug # 2

Sacks: 417Sx
 Type Class "G"
 Mix water: 7.95m³ (50bbls) Drill water
 Additives: D175 4.2 gal
 D193 125 gal
 D145A 37.5 gal
 Weight: 1.90sg (15.8ppg)
 Yield: 0.03m³/sx (1.16ft³/sx)
 Volume: 13.68m³ (86.10bbls)

Abandonment Plug#1: 1720.0 to 1875.0 mMDRT
 Abandonment Plug#2: 1532.0 to 1570.0 mMDRT



SECTION 11 : MUDLOGGING WELL REPORT
(Including Mudlog 1:500 & D-Exponent Log)

The Netherby 1 Mudlogging Well Report also incorporates Netherby 1DW1.
Only the Netherby 1 logs are enclosed.



Santos

END OF WELL REPORT

Santos Ltd

Netherby-1 / Netherby-1 DW1

15th July 2008 – 24th August 2008

by

BAKER HUGHES INTEQ

The information, interpretations, recommendations, or opinions contained herein are advisory only and may be rejected. Consultant does not warrant their accuracy or correctness. Nothing contained herein shall be deemed to be inconsistent with, nor expand, modify or alter consultant's obligation of performance as provided for in a written agreement between the parties, or, if none, in consultant's most recent price list.

Netherby – 1 / Netherby-1 DW1

Final Well Report

Section 1 Well Summary

- 1.1 Well Data Summary
- 1.2 Well Summary

Section 2 Drilling and Engineering

- 2.1 Bit Run Summary
- 2.2 Casing and Cementing Summary

Section 3 Geology and Shows

- 3.1 Geology Summary and Shows
- 3.2 Sampling Summary and Record of Distribution

Section 4 Pressure Evaluation

- 4.1 Pore Pressure Evaluation
- 4.2 Fracture Pressure Evaluation

Tables

- 1. Bit Run Summary
- 2. Bit Hydraulics Summary
- 3. Time Depth Curve
- 4. Pressure Summary Plot

Appendices

Formation Evaluation Log	1: 500
Drilling Data Plot	1: 1000
Pressure Data Plot	1: 2500
Gas Ratio Plot	1: 500

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:	15 th 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: 30 th July 2008 Netherby-1 DW1 : 11 th 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
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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.

BHA No.1 209.77m		
15 x 127mm (5-1/2") HWDP	140.23m	
Cross-over	1.09m	
3x 203mm (8") DC	28.29m	
Cross-over	1.09m	
2x241mm (9-1/2") DC	18.61m	
375mm (14-3/4") Stabiliser	2.43m	
1 x 203mm (8") NMDC	8.93m	
1x438mm(17-1/4") Stabiliser	2.43m	
1x241mm(9.5")Anderdrift	3.0m	
Bit Sub w/Solid Float	0.91m	
914mm (36") Hole Opener	2.11m	
914mm (36") Bit Y11C Jets: 3x24, 1x16" 0.65		

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

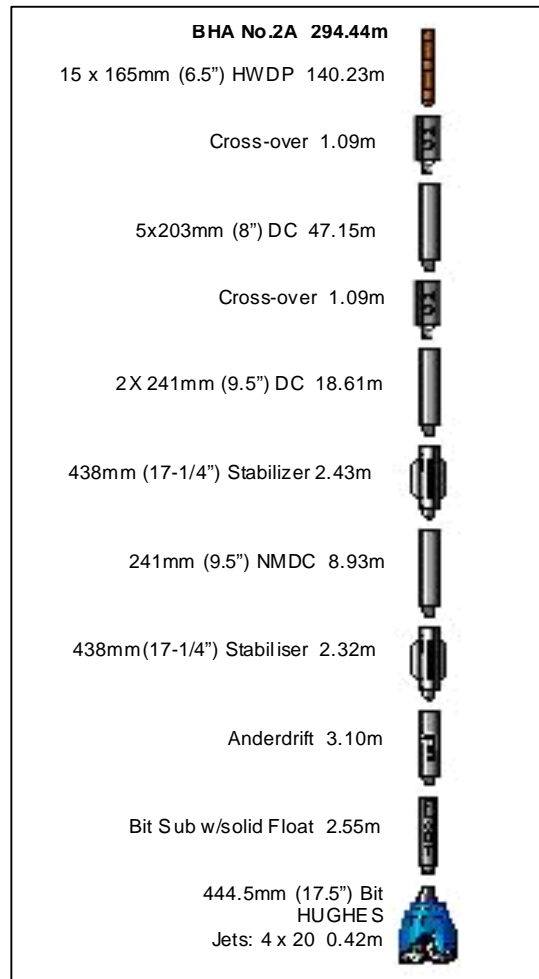
Seawater and PHG sweeps	1.05sg
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Lithology

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

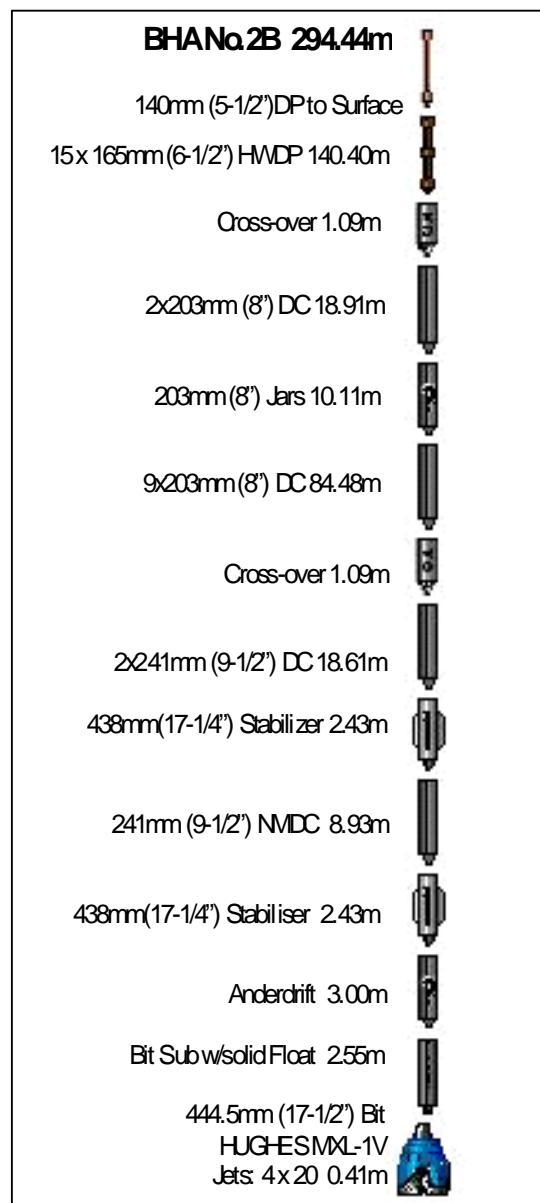
Sea water and PHG Sweeps	1.05sg
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Lithology

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
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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.

BHA No.3 271.62m		
127mm (5") DP to surface		
15x 127mm (5") HWDP	140.23m	
Crossover	1.09m	
2x203mm (8") DC	18.77m	
203mm(8") Jar	10.11m	
7x203mm(8") DC	65.76m	
311mm (12-1/4") IBS Stabilizer	2.34m	
1 x 209mm (8-1/4") DC	9.36m	
Upper Saver Sub	0.47m	
MWD - Power Pulse	7.68m	
Saver Sub	0.87m	
MWD - ARC-8	5.51m	
Lower Saver Sub	0.38m	
375mm (14-3/4") NB Stabiliser	2.44m	
209mm(8-1/4") Pony Collar	5.05m	
311mm(12-1/4") Float	1.26m	
311mm (12-1/4") Bit HUGHES MX-03DX Jets: 3 x 15, 1 x 16	0.30m	

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
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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	
127mm (5") DP to surface	
15x 127mm (5") HWDP 140.23m	
Crossover 1.09m	
2x203mm (8") DC 18.77m	
203mm(8") Jar 10.11m	
7x203mm(8") DC 65.76m	
311mm (12-1/4") IBS Stabilizer 2.34m	
1 x 209mm (8-1/4") DC 9.36m	
Upper Saver Sub 0.41m	
MWD – Power Pulse 7.56m	
Saver Sub 0.46m	
MWD – ARC-8 5.47m	
Lower Saver Sub 0.38m	
375mm (14-3/4") NB Stabiliser 2.44m	
209mm(8-1/4") Pony Collar 5.05m	
311mm(12-1/4") Float 1.26m	
311mm (12-1/4") Bit SMITH Si519 PDC Jets: 7 x 14 0.29m	

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
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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.

BHA No.5 213.23m	
127mm (5") DP to surface	
15x 127mm (5") HWDP 140.23m	
Crossover 1.09m	
2x203mm (8") DC 18.77m	
203mm(8") Jar 10.11m	
7x203mm(8") DC 65.76m	
311mm (12-1/4") IBS Stabilizer 2.34m	
1 x 209mm (8-1/4") DC 9.36m	
Upper Saver Sub 0.41m	
MWD – Power Pulse 7.56m	
Sub 0.46m	
MWD – ARC-8 5.47m	
Upper Saver Sub 0.38m	
209mm (8-3/8") Sethoscooper 9.58m	
209mm(8-3/8") Lower saver sub 0.36m	
203mm(8") Bit Sub 0.9m	
311mm (12-1/4") Bit SMITH Si519 PDC Jets: 3 x 20,1 X14 0.33m	

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

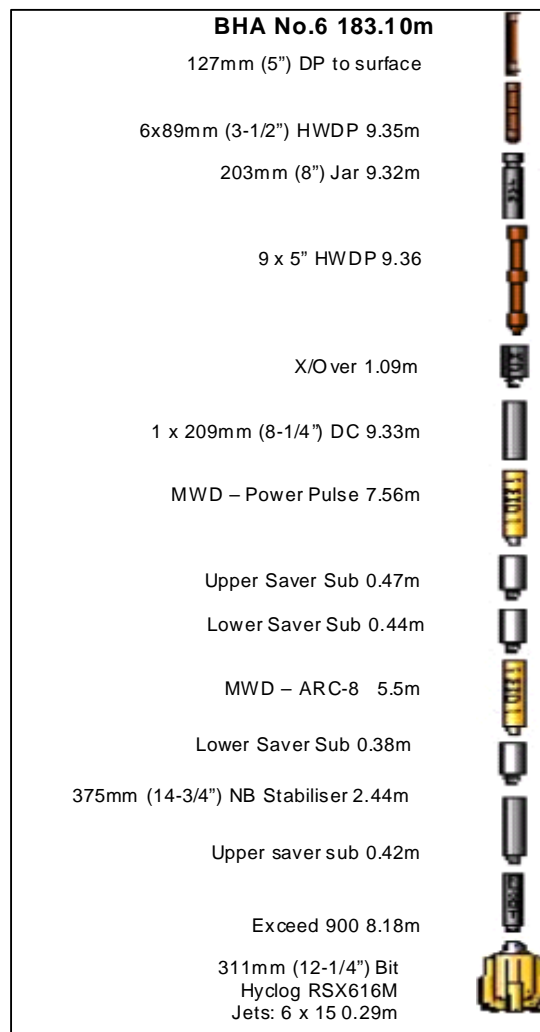
KGLY	1.32sg
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Lithology

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

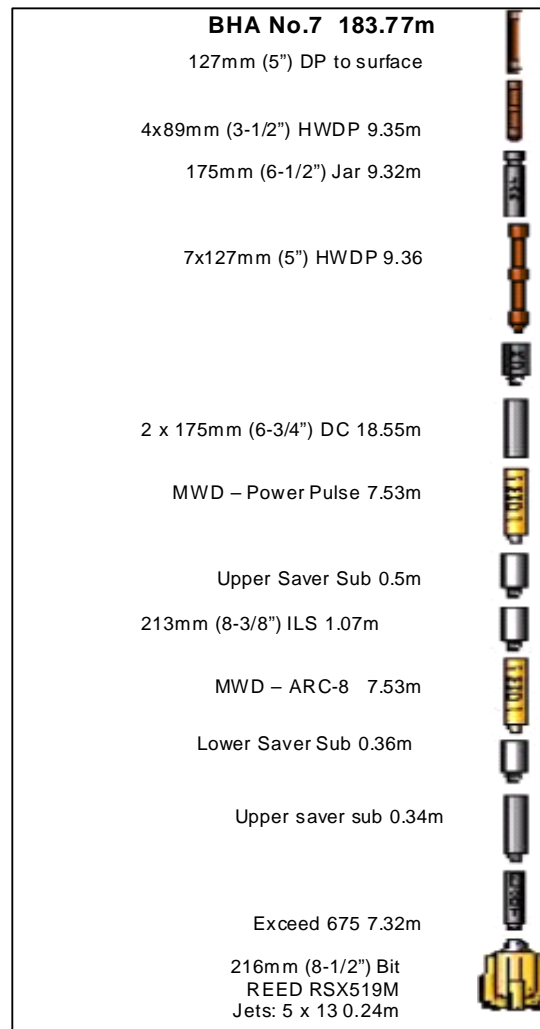
DIF mud and PHG Sweeps	1.15sg
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Lithology

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

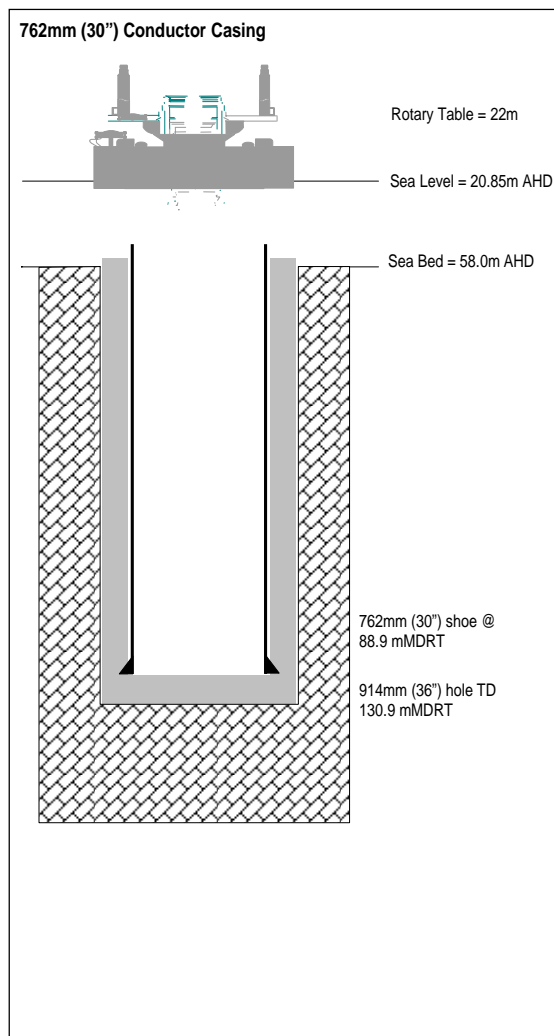
OD 762mm (30")
Grade X-52
Shoe Depth 130.9 mMDRT

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: 0.03m³/sx (1.19ft³/sx)
Volume: 27m³ (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

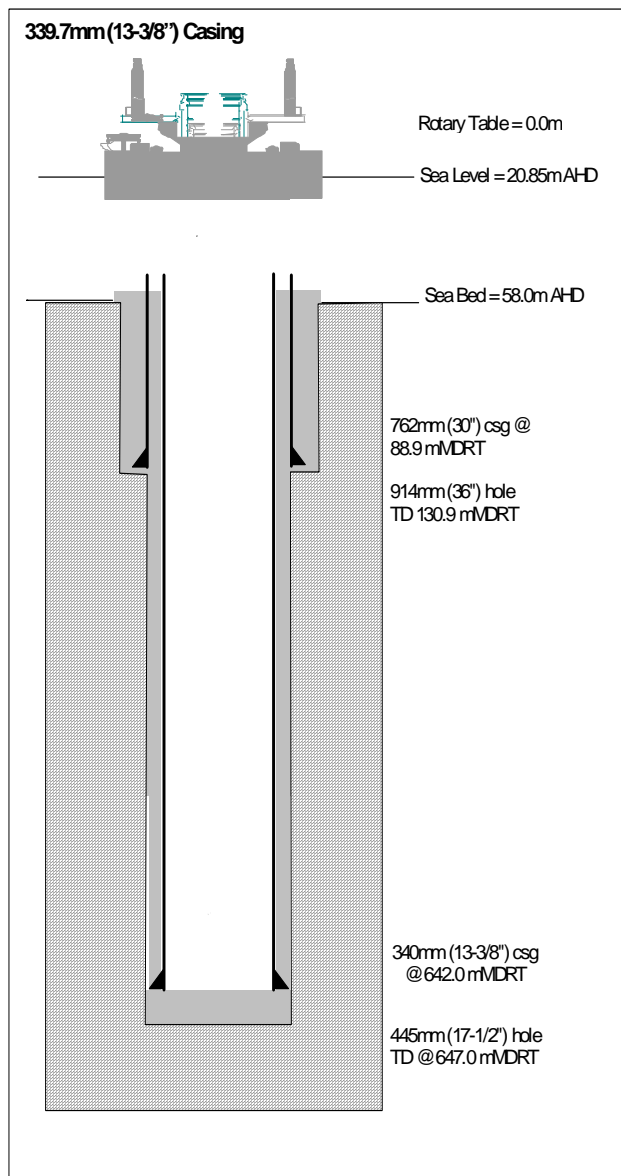
Sacks: 368Sx
Type Class G
Mix water: 18.28m³ (115bbbls) Drill water
Additives: D047 0.03 gal/sx
D075 0.45gal/sx
Weight: 1.50sg (12.0ppg)
Yield: 0.06m³/sx (2.23ft³/sx)
Volume: 146bbbls

Tail Slurry

Sacks: 422Sx
Type Class G
Mix water: 8.59m³ (54bbbls) 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: 0.03m³/sx (1.18ft³/sx)
Volume: 89bbbls

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 5bbbls of drill water to flush the lines, tested the lines to 3000psi, dropped the bottom dart and pumped with 30bbbls of seawater. Mixed and pumped 146 bbls of lead slurry, mixed and pumped 89 bbls of tail slurry, then dropped the top dart. Pumped 10bbbls 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:

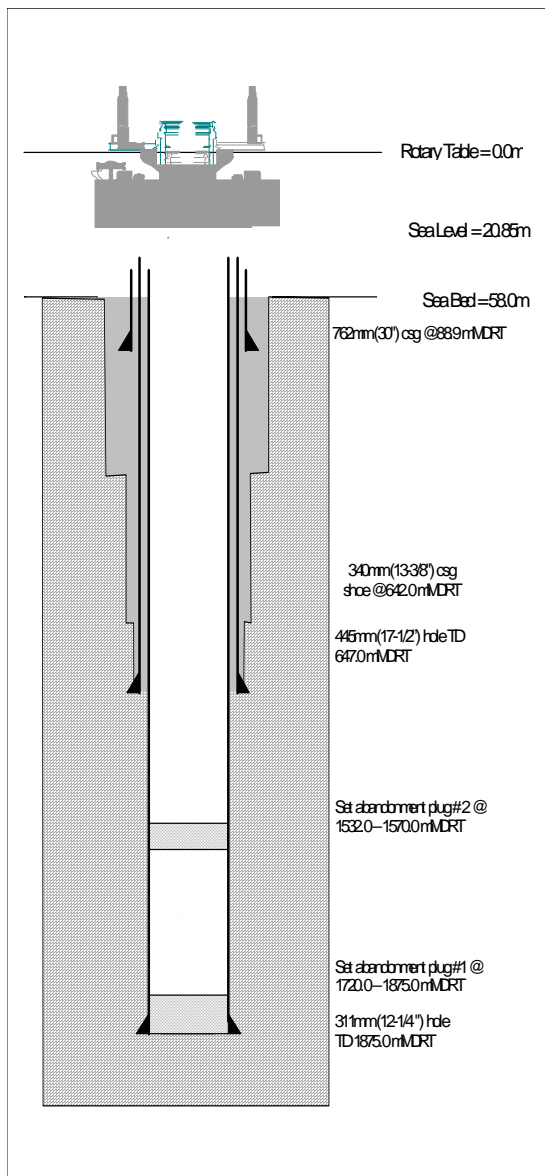
Plug # 1

Sacks: 417Sx
 Type Class "G"
 Mix water: 10.81m³ (68bbls) Drill water
 Additives:
 D081 10.4gal
 D193 125gal
 D 175 4.2gal
 D 145A 37.5gal
 Weight: 1.90sg (15.8ppg)
 Yield: 0.03m³/sx (1.16ft³/sx)
 Volume: 13.68m³ (86.10bbls)

Plug # 2

Sacks: 417Sx
 Type Class "G"
 Mix water: 7.95m³ (50bbls) Drill water
 Additives:
 D175 4.2 gal
 D193 125 gal
 D145A 37.5 gal
 Weight: 1.90sg (15.8ppg)
 Yield: 0.03m³/sx (1.16ft³/sx)
 Volume: 13.68m³ (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: 0.034m³/sx (1.19ft³/sx)
Volume: 76.89bbls

Tail Slurry

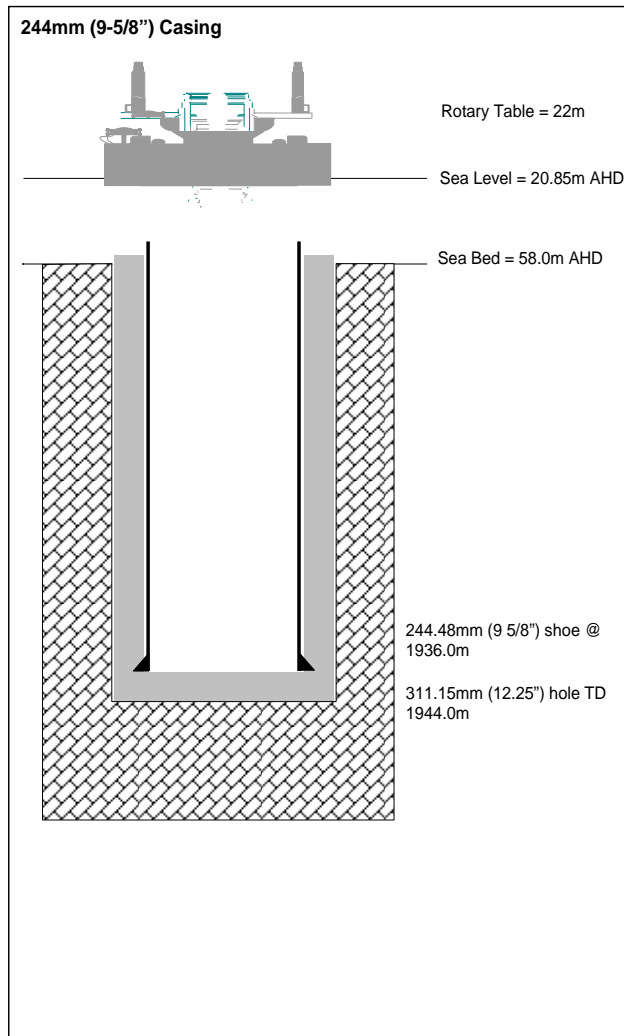
Sacks: 214Sx
Type "G"
Mix water: 4.001gal/sx
Additives: D 175 :0.010 D500 :1.100
D145A :0.050

Weight: 1.89sg (15.8ppg)
Yield: 0.045m³/sx (1.160ft³/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

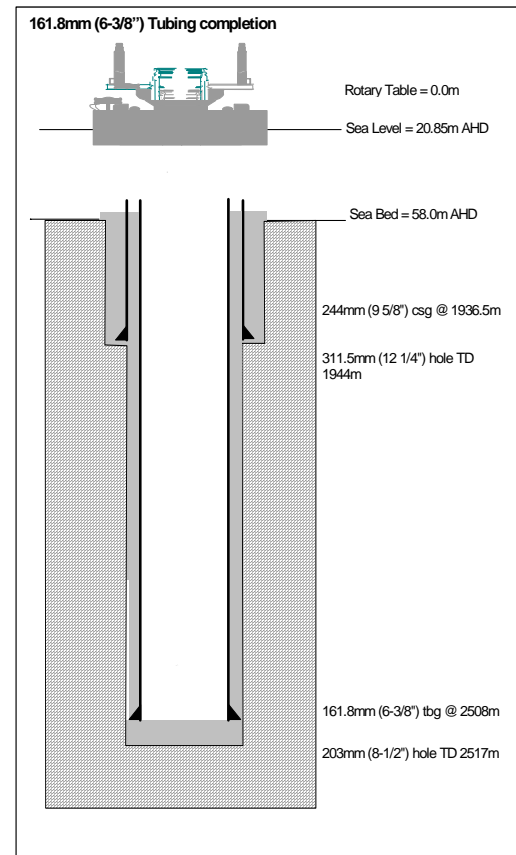
168.4mm (6-5/8") Casing

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-1 was 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

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

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

For Victorian DPI:
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

For Australian Geological Survey Organisation (AGSO)
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**)

$$Dxc = [\log (R/60N) / \log (12W/10^3B)] \times [N.FBG/ECD]$$

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:

$$P_f = \{(S - P_p) * \{u/1-u\} + \{(S - P_p) * B) + P_p$$

Where

P_f = Fracture pressure (psi)

P_p = 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 <i>EMW</i>	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

Table 1: Bit Run Summary

Tables

BIT SUMMARY


BIT SUMMARY																																												
OPERATOR					WELL NAME					LOCATION					CONTRACTOR							RIG																						
Santos Ltd					Netherby-1 & Netherby-1DW1					VIC /P44					Diamond Offshore General Company							Ocean Patriot																						
<div><div></div></div>					Mud Pump Data All Sections 165mm (6.0") Liners, 105mm (12") Stroke 97% Eff 0.1018bbi/stk					BIT DULL CHARACTERISTICS												REASONS PULLED																						
										BC - Broken Cone				CI - Cone Interference				JD - Junk Damage				PB - Pinched Bit				SS - Self-Sharpening				BHA - Bottomhole Assembly				LOG - Run Logs				FM - Formation Change				TD - Total / Clog depth		
										BT - Broken Teeth				CR - Cored				LC - Lost Cone				PN - Plugged Nozzle				TR - Tracking				DMF - Downhole Motor failure				RIG - Rig repair				HP - Hole Problems				TQ - Torque		
										BU - Balled Up				CT - Chipped Teeth				LN - Lost Nozzle				RG - Rounded Gauge				WO - Washed-Out Bit				DSF - Drill String failure				CM - Condition Mud				HR - Hours				TW - Twist-Off		
										CC - Cracked Cone				FC - Flat Crested Wear				LT - Lost Teeth				RO - Ring Out				WT - Worn Teeth				DST - Drill Stem Test				CP - Core Point				PP - Pump Pressure				WC - Weather Conditions		
CD - Cone Dragged				HC - Heat Checking				OC - Off-Center Wear				SD - Shrinked Damage				ND - No Drill Charactrs				DTF - Downhole Tool Failure				DP - Drill Plug				PR - Penetration rate				WD - 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								MW SG	REMARKS																	
																							I	O	D	L	B	G	O	R														
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	41-62 / 56-63	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																	

Table 2: Bit Hydraulics Summary

Tables


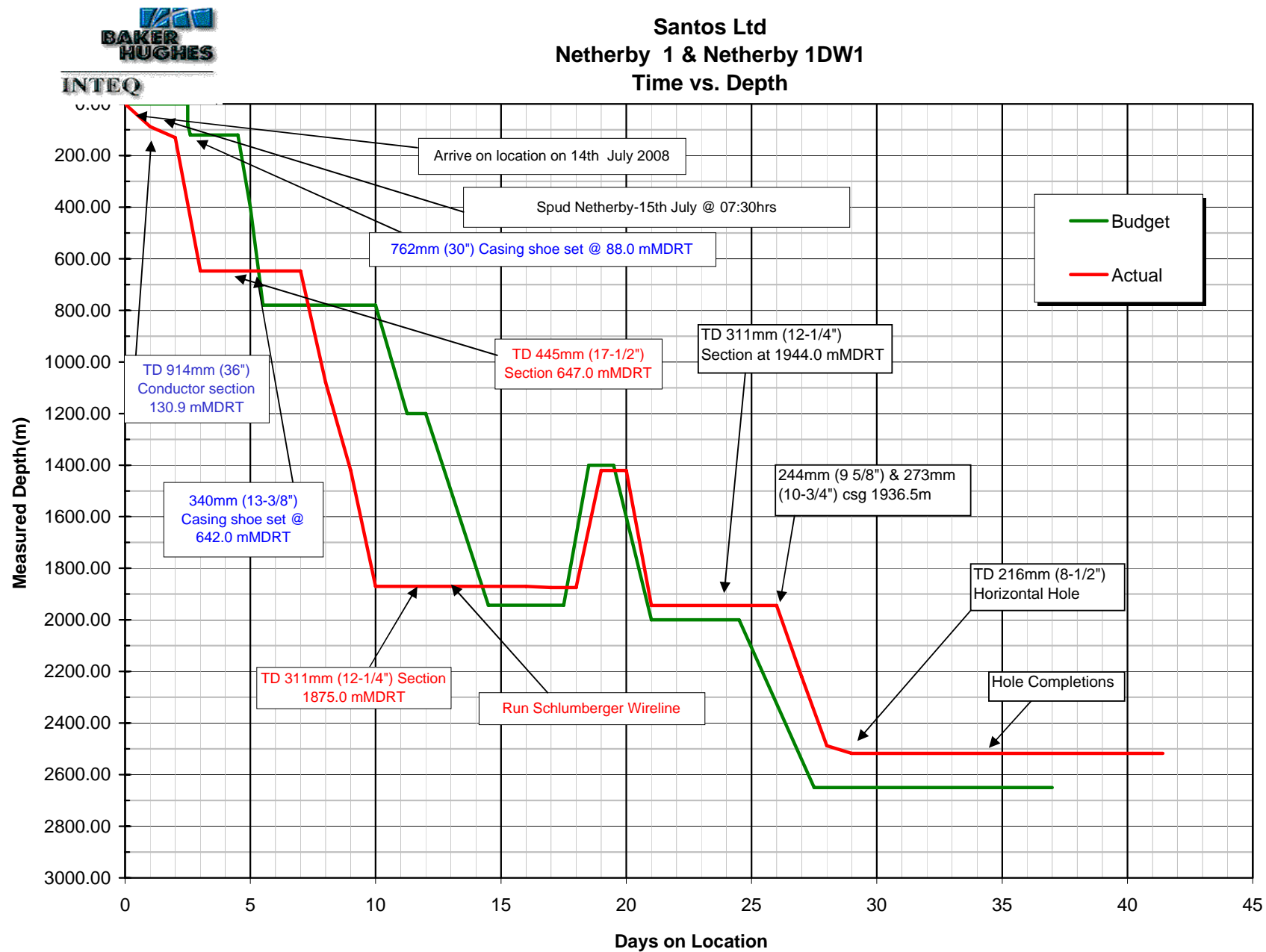
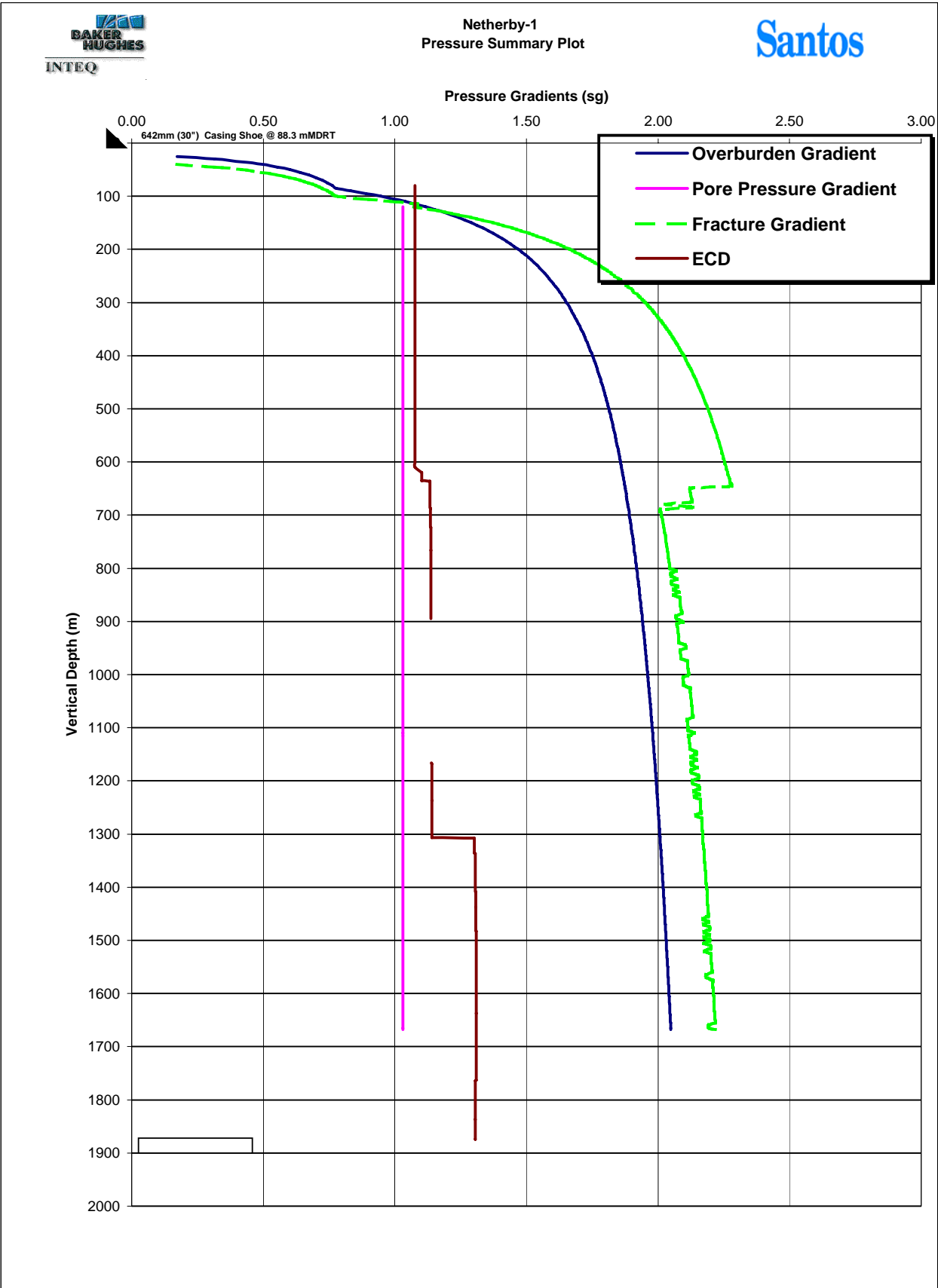
<div><div></div><div>INTEQ</div></div>										<div>Bit Hydraulics Summary</div>										<div>Santos</div>				
Operator Santos Ltd					Well Name Netherby-1 / Netherby-1 DW1					Location VIC/P44		Drilling Contractor Diamond Offshore GC					Rig Ocean Patriot							
Drillstring Abbreviations N Normal 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 DC OH m/min 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					

Table 3: Time vs Depth Curve

Tables







Santos

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 Resistivity
SWG	Swab Gas	TVD	True Vertical Depth

LITHOLOGY SYMBOLS



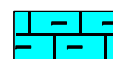
Limestone
Ls



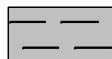
Dolomite
Dol



Marl
Mrl



Argillaceous
Limestone
Arg Lst



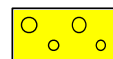
Claystone
Clyst



Siltstone
Siltst



Sandstone
Sst



Conglomerate
Cgl



Coal
C



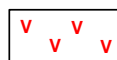
Fossil
Fragments
FF



No Returns
NR



Cement
Cmt



Volcanics
Volc



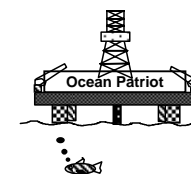
Glauconite
Glauc



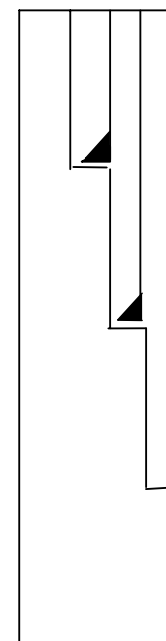
Pyrite
Pyr



Chert
Cht



RT- AHD 22.0m
W Depth 64.0m AHD



Seabed 80.5 mMDRT

Returns to Seafloor
Seawater and hi-vis sweeps

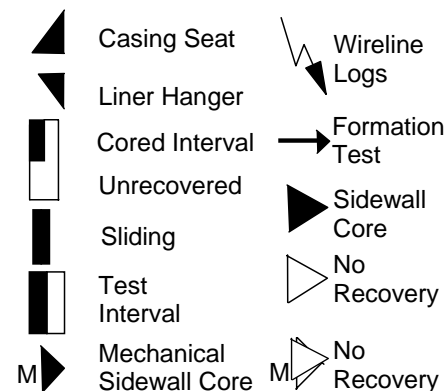
762mm (30") csg set @ 88.0 mMDRT
914mm (36") hole to 130.9 mMDRT

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



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 - 30 July 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 Formaggini, Chris Decoster

APPENDICES

Appendix - A

FORMATION EVALUATION LOG

Appendix - B

DRILLING DATA PLOT

Appendix - C

DRILLING DATA PRESSURE PLOT

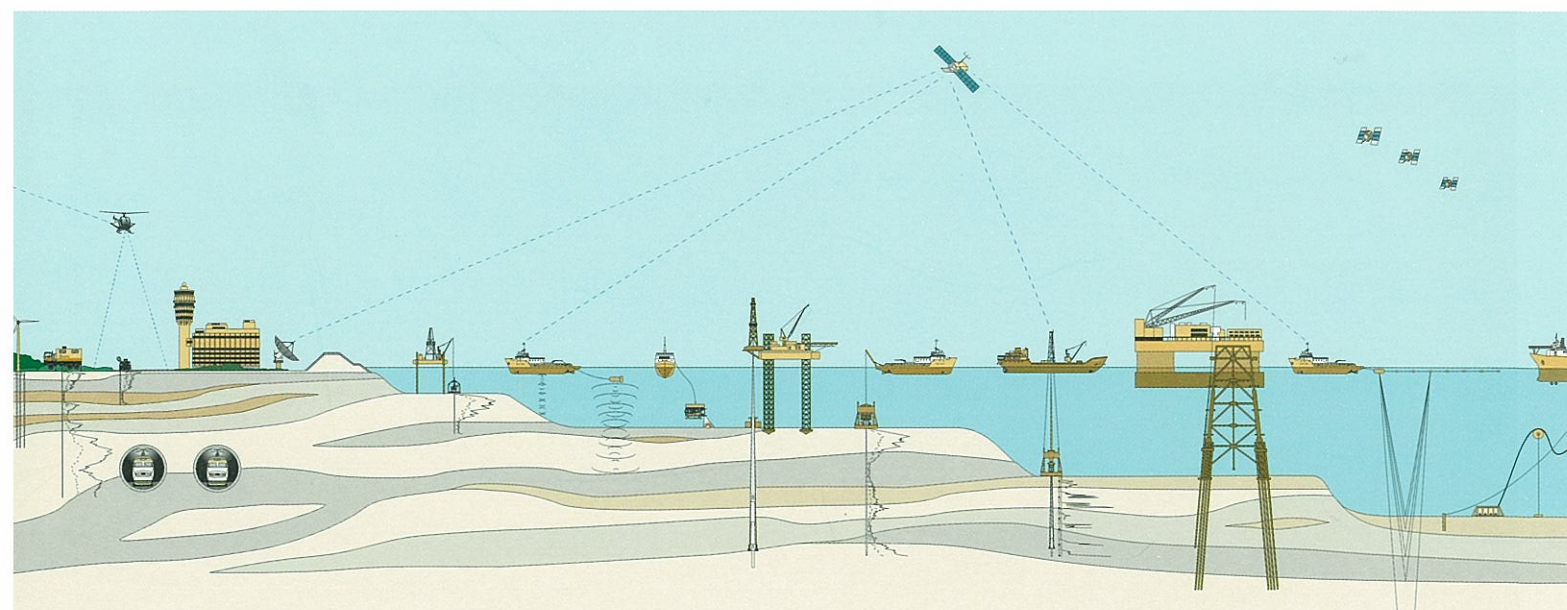
Appendix - D

GAS RATIO PLOT

SECTION 12 : RIG POSITIONING REPORT

FUGRO BTW LTD JOB NO. 08008

Date of Survey : July 2008



**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

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APPENDIX B : FINAL POSITIONING DATA
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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.

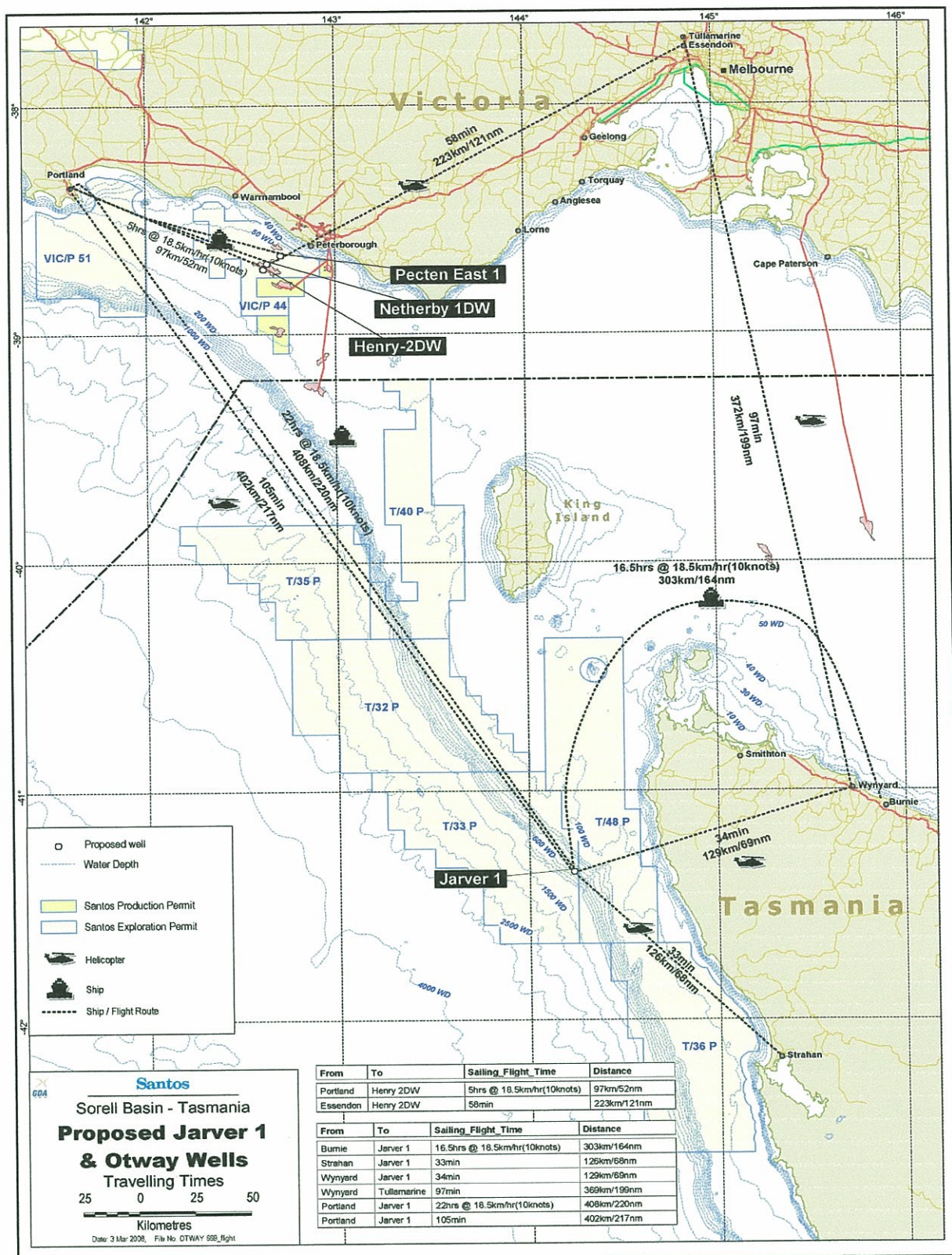


FIGURE 1-1 : GENERAL LOCATION DIAGRAM

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°	<i>Far Grip</i>
2	641265	5717570	274.2°	<i>Nor Captain</i>
3	642105	5718751	334.8°	<i>Nor Captain</i>
4	642845	5718841	005.1°	<i>Far Grip</i>
5	644025	5718010	065.7°	<i>Far Grip</i>
6	644146	5717289	094.8°	<i>Far Grip</i>
7	643251	5716086	156.6°	<i>Far Grip</i>
8	642542	5715979	184.9°	<i>Far Grip</i>

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	
<i>Ocean Patriot</i>	
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
<i>AHVs (complete system per vessel, plus one complete set of spares)</i>	
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

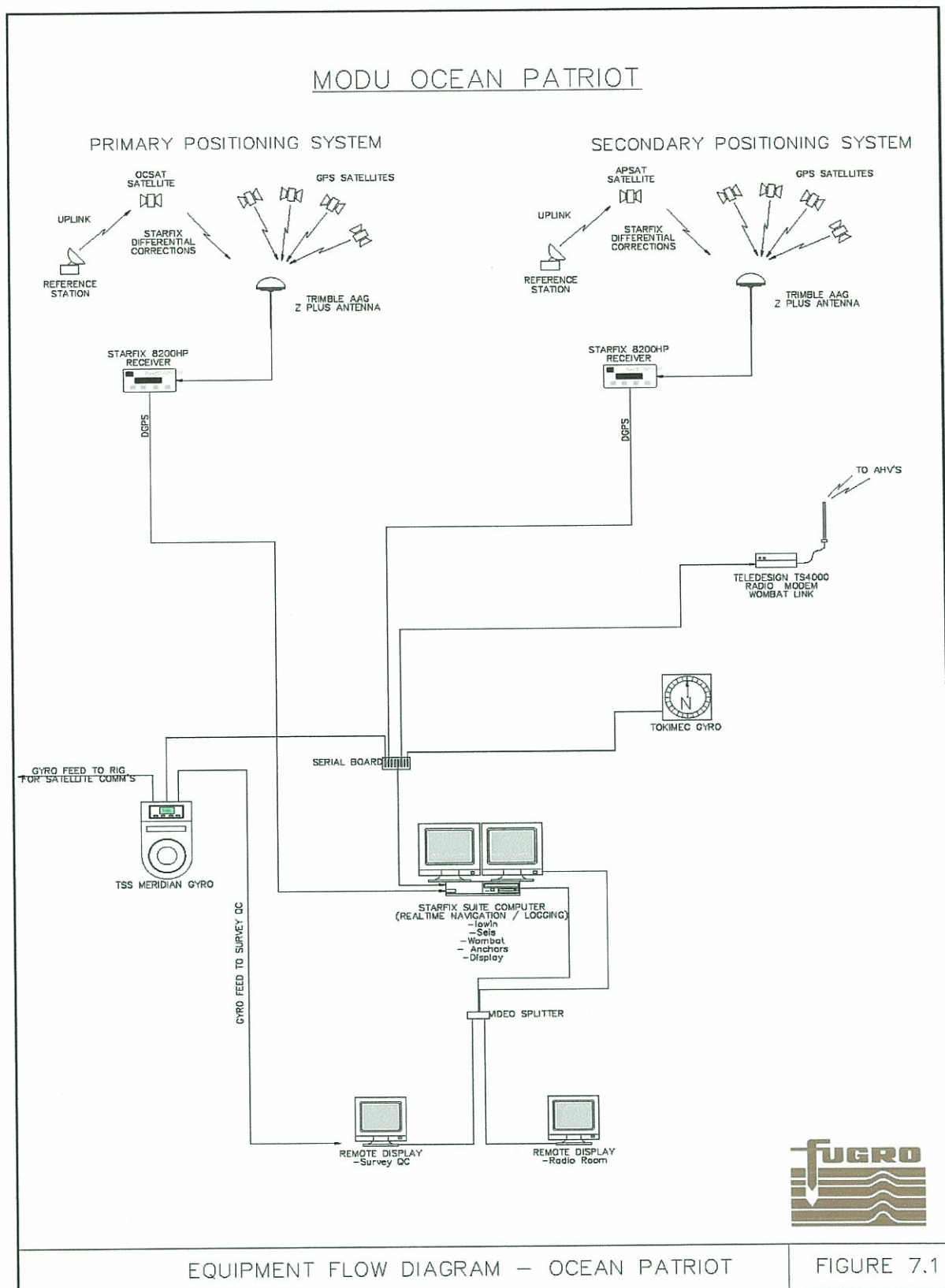


FIGURE 7-1 : EQUIPMENT FLOW DIAGRAM – MODU OCEAN PATRIOT

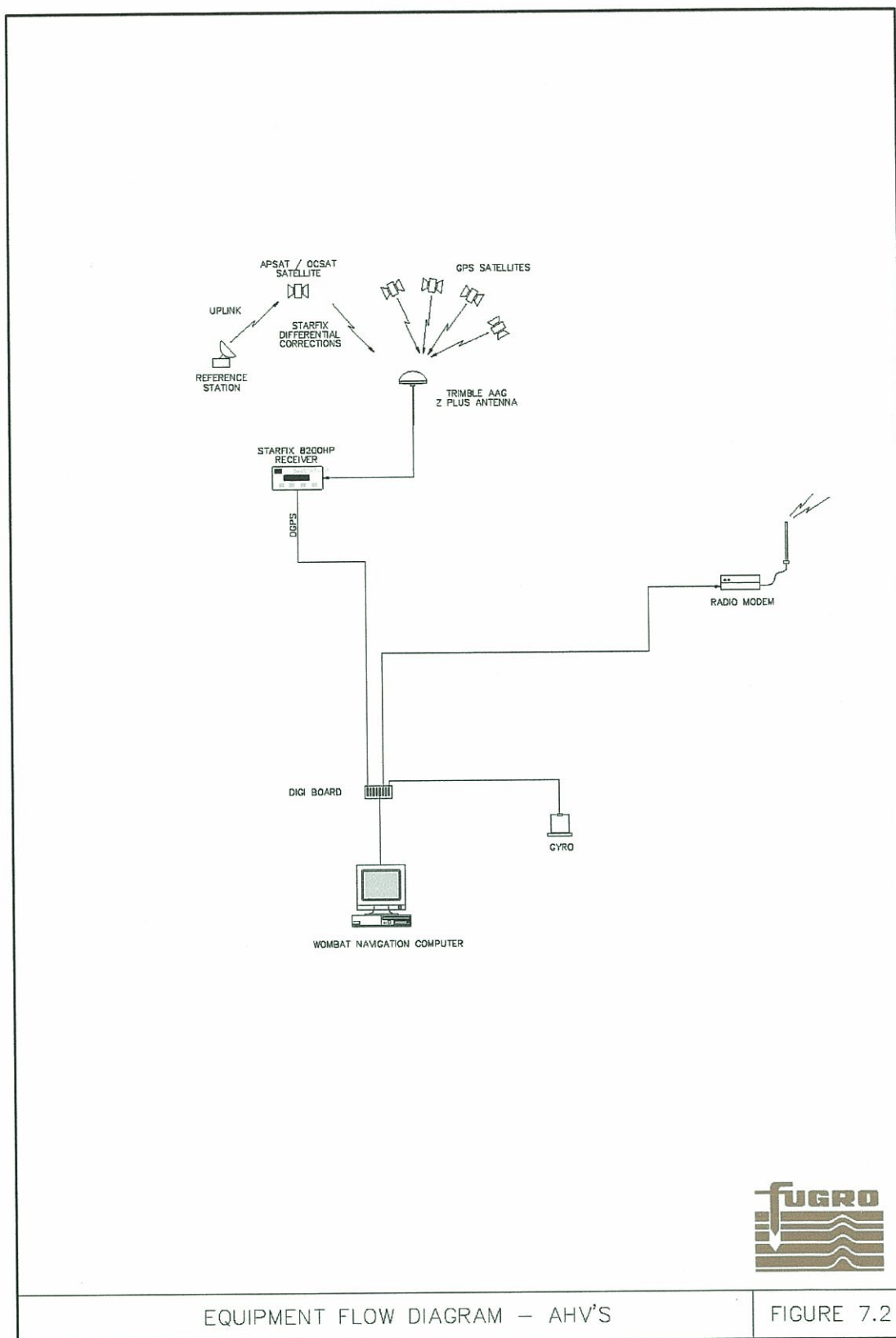


FIGURE 7-2 : EQUIPMENT FLOW DIAGRAM – AHVS

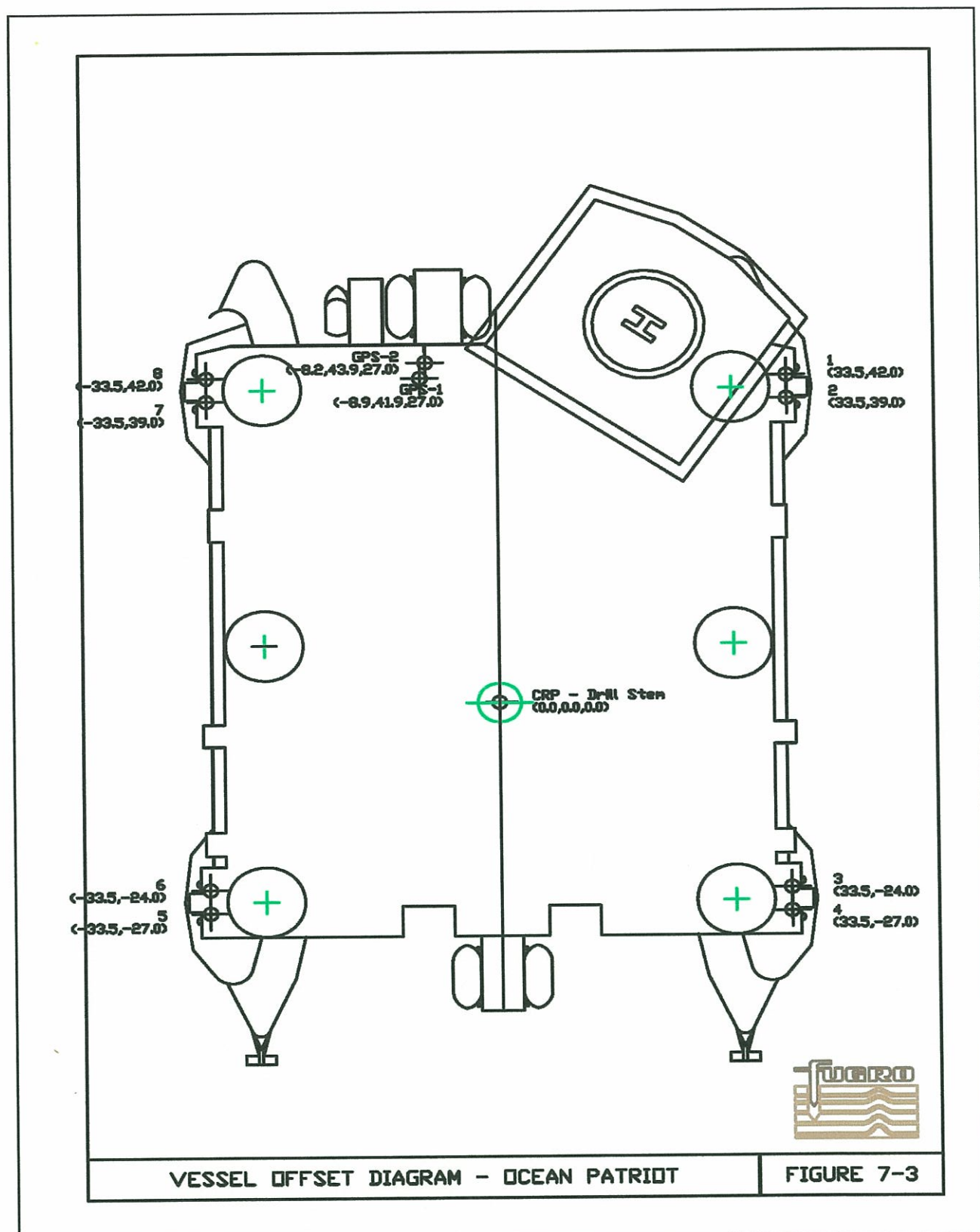


FIGURE 7-3 : RIG OFFSET DIAGRAM – MODU OCEAN PATRIOT

8.0 CONCLUSIONS AND RECOMMENDATIONS

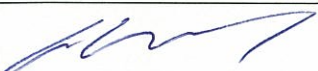

- The *Ocean Patriot* was successfully positioned during the recovery of anchors and the tow to Pecten East-1.
- The *Far Grip* and *Pacific Wrangler* were successfully positioned during the towing and anchoring operations.
- The surface position of the Pecten East-1 well was determined.
- Both Fugro 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

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		0			
Fire/Abandon					
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	0				
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	0				
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	

Approved by the Operations Manager – 12/05/04
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DAILY OPERATIONS REPORT



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	

Fugro-BTW
PM-F50
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.	

Approved by the Operations Manager – 12/05/04
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PM-F50
DAILY OPERATIONS REPORT





HSE DETAILS					
Emergency Muster	0				
Incidents	0				
Safety Drills	0				
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	

Approved by the Operations Manager – 12/05/04
Note – To ensure that this is the latest version check the Online BMS

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	0				
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	

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

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

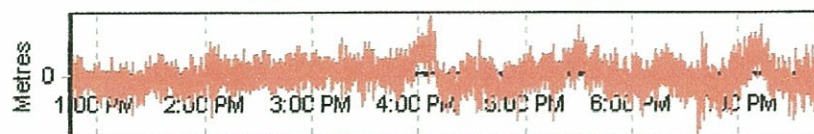
Mean

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

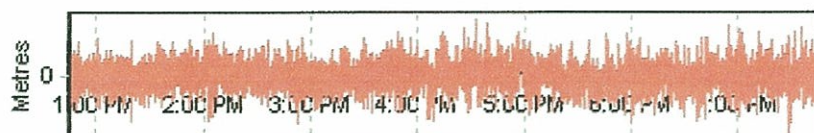
Latitude or Northing 0.17 m
 Longitude or Easting 0.16 m
 Spheroidal Height 0.28 m
 HDOP 0.20
 Heading 0.07 °T

Primary (NMEA GPS 1.GGA) - Delta Latitude



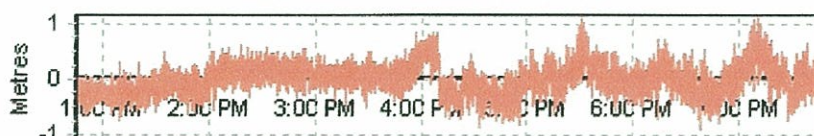
Time (UTC)

Primary (NMEA GPS 1.GGA) - Delta Longitude



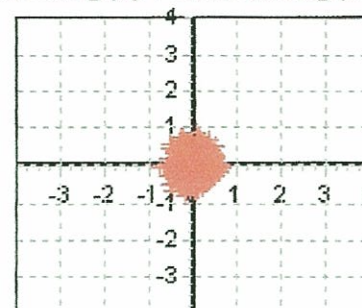
Time (UTC)

Primary (NMEA GPS 1.GGA) - Delta Height

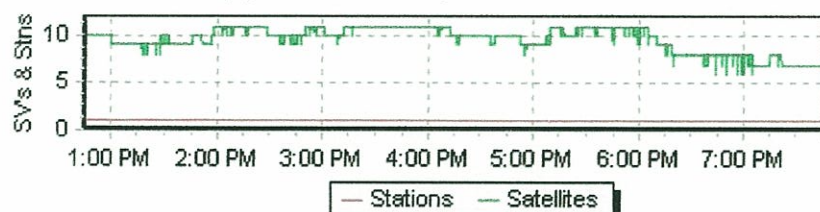


Time (UTC)

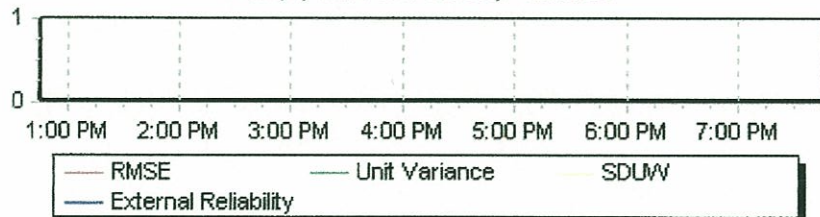
Delta Easting (m) V's Delta Northing (m)



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

Secondary Antenna Offset from CRP

Starboard	-9.750 m
Forward	42.010 m
Up	27.000 m

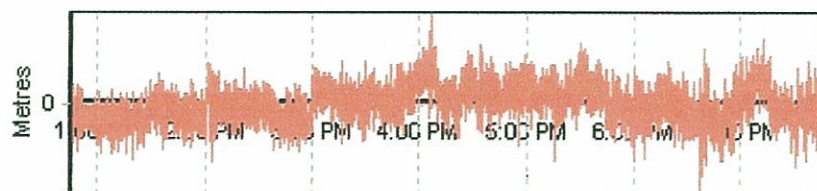
Mean

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

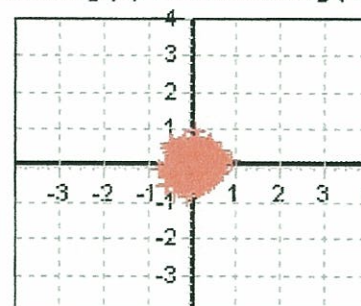
Latitude or Northing	0.20 m
Longitude or Easting	0.19 m
Spheroidal Height	0.32 m
HDOP	0.24

Secondary (NMEA GPS 2.GGA) - Delta Latitude

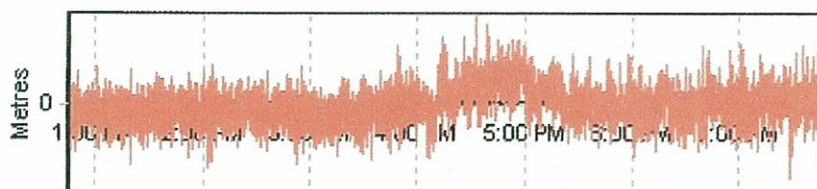


Time (UTC)

Delta Easting (m) V's Delta Northing (m)

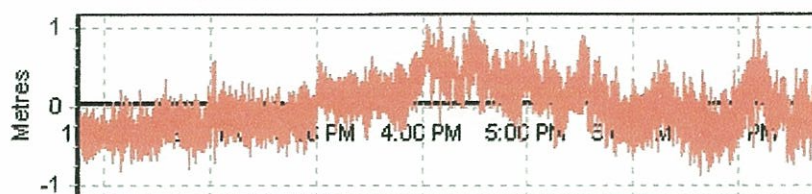


Secondary (NMEA GPS 2.GGA) - Delta Longitude



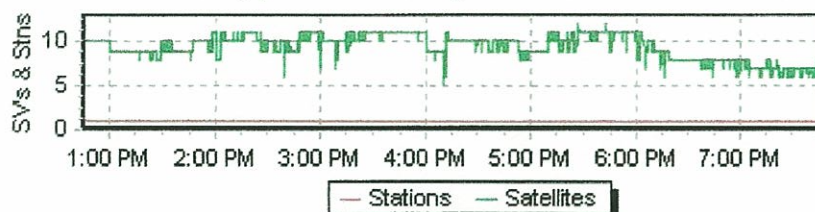
Time (UTC)

Secondary (NMEA GPS 2.GGA) - Delta Height

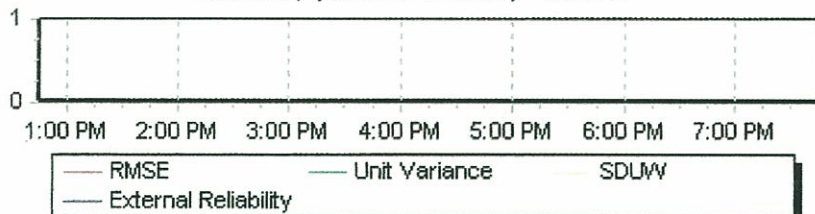


Time (UTC)

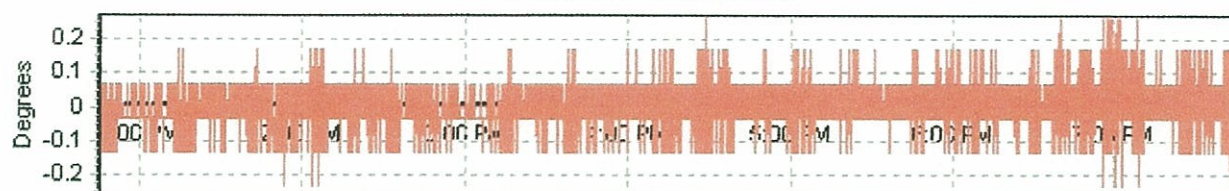
Secondary (NMEA GPS 2.GGA) - Satellites & Stations



Secondary (NMEA GPS 2.GGA) - Qualities



TSS Meridian.HDT - Delta Heading

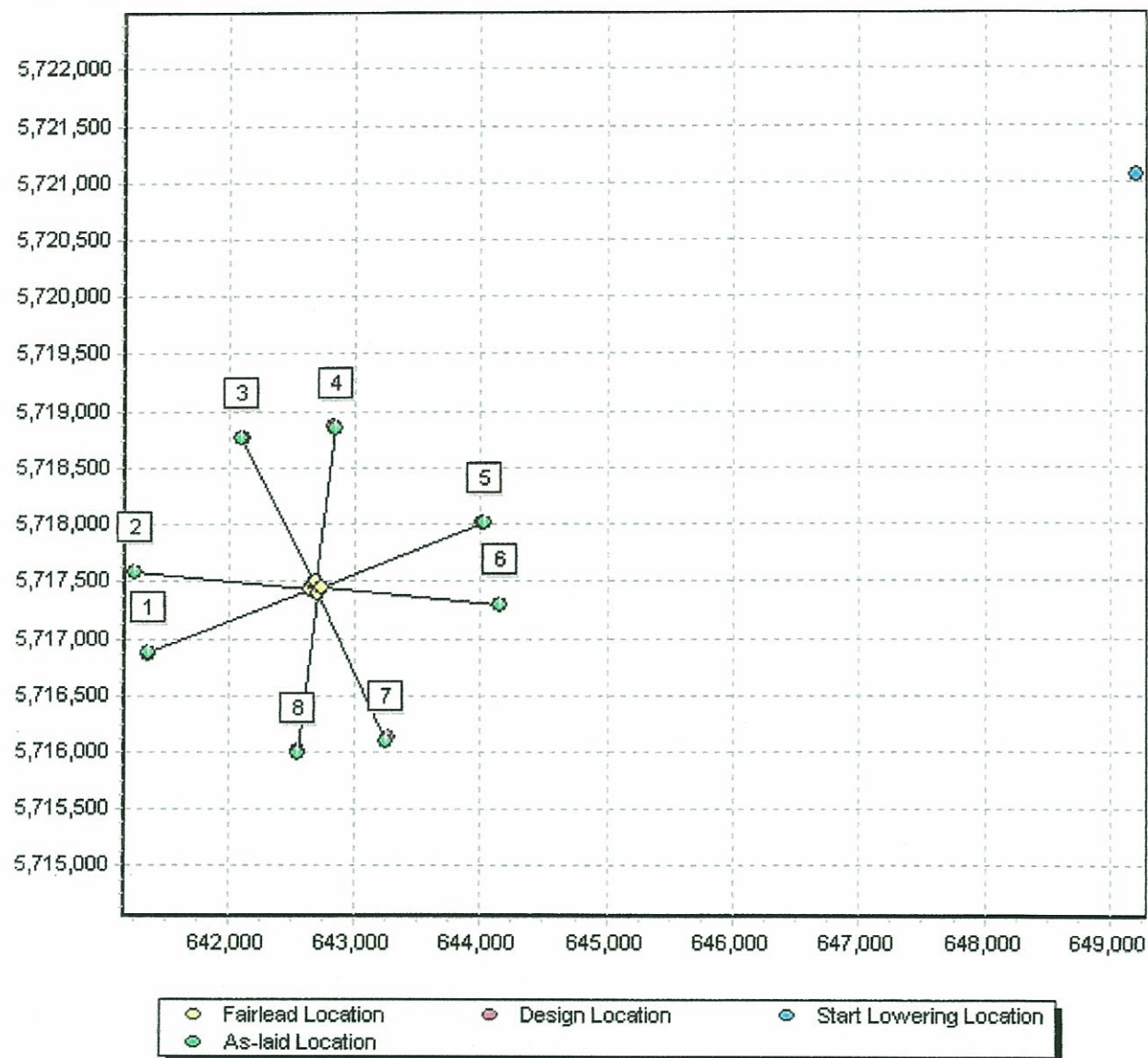


Time (UTC)

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)	

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 To System 2
	WGS84	GDA94-ITRF2008.50
dX	0.0174 m	0.0174 m
dY	-0.0484 m	-0.0484 m
dZ	-0.1035 m	-0.1035 m
rX	0.017554"	0.017554"
rY	0.015065"	0.015065"
rZ	0.018157"	0.018157"
dS	0.003362 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)




**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: 1000000.000m
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



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

Job Description: Rig Move from Pecten East-1 to Netherby-1

Client: SANTOS Ltd

Surveyor: G. Marshall

Gyro Compass (Serial No): TSS Meridian 5509

Vessel: Ocean Patriot

Instrument: Wild T1

Serial No: 131383

Date: July 12, 2008

Time Zone: 10

Vessel Details

Enter correction from RO to vessel centreline

D M S
299° 53' 15"

Enter approximate WGS84 position of instrument :

Latitude (φ) -38°
Longitude (λ) 142°
D M S
38' 43"
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

Job Description:

Rig Move from Pecten East-1 to Netherby-1

Client:

SANTOS Ltd

Surveyor:

G. Marshall

Gyro Compass (Serial No):

ANSCHUTZ

Vessel:

Ocean Patriot

Instrument:

Wild T1

Serial No:

5017

Date:

July 12, 2008

Time Zone :

10

Vessel Details

Enter correction from RO to vessel centreline

D M S
299° 53' 15"

Enter approximate WGS84 position of instrument :

Latitude (φ) Longitude (λ)
-38° 142°
38' 42'
" "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	UTC		Observed Direction to Sun									
					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 °			
<div><div></div><div>G. Marshall</div><div>SURVEYOR / PARTY CHIEF</div></div> <div>Ocean Patriot moored at Pecten East-1. 20 kt winds, 3-4m swell.</div>												Mean	0.38 °			
												Std. Deviation	0.05			
												Maximum	0.46 °			
												Minimum	0.29 °			
												Range	0.17			

Signature

G. Marshall

SURVEYOR / PARTY CHIEF

APPENDIX D
CLIENT SUPPLIED INFORMATION

1 WELL ENGINEERING

1.1 Well Summary

Well Name :	Netherby-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

Santos Ltd A.B.N. 80 007 550 923

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RIG MOVE PROCEDURES

OCEAN PATRIOT

From Pecten East-1
To
Netherby-1

INDEX

Introduction

Location details

Personnel responsibilities

General information regarding rig move

Anchor Handling Vessels

Unmooring operations

Mooring operations

Cross Tensioning

Anchor Slippage

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.

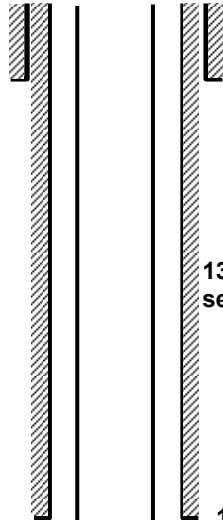
SECTION 13 : COMPLETION REPORT

Netherby 1 was plugged back and sidetracked.

The Completion Report incorporates the Netherby 1DW1 sidetrack.

Well: Netherby-1DW1 Well Status Diagram

RT – SL – 21.5m



13 3/8" TOC –at seabed

**13 3/8" Shoe at 642 mRT MD
17 1/2" TD 647.5 mRT MD**

Depth	mRT TVD	mRT MD
Top 18 3/4" Wellhead	84.6	84.6
Top 10 3/4" 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

TOC – 1540 mRT MD

Lower Completion Packer at 1736 mRT MD

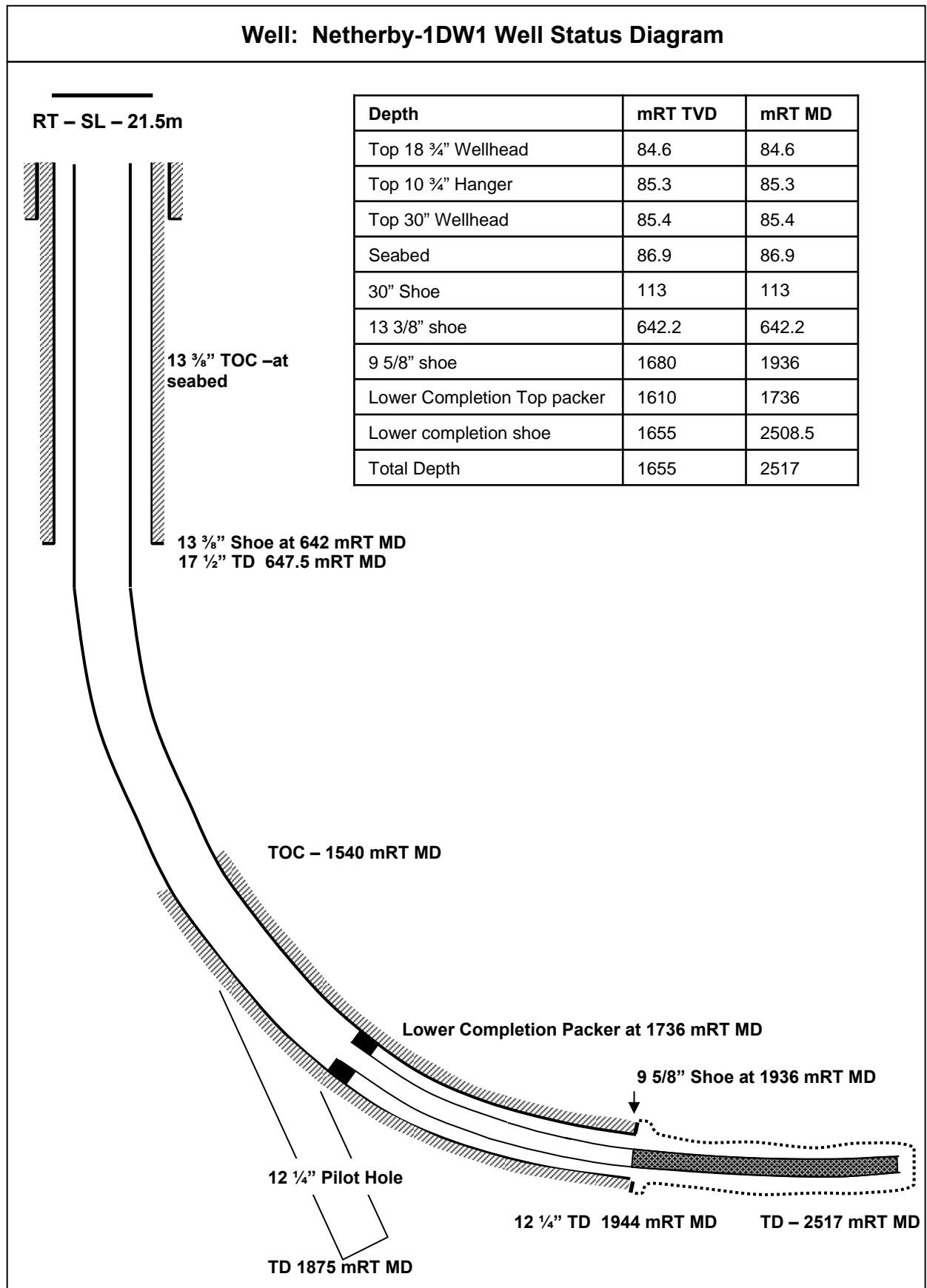
9 5/8" Shoe at 1936 mRT MD

12 1/4" Pilot Hole

TD 1875 mRT MD

12 1/4" TD 1944 mRT MD

TD – 2517 mRT MD



SECTION 14: DEVIATION SUMMARY

Surveys and schematics are presented overleaf.

Netherby-1 MWD Survey

Report Date: July 25, 2008
 Client: Santos Limited
 Field: Netherby
 Structure / Slot: Netherby / 1
 Well: Netherby-1DW
 Borehole: Netherby-1 DW
 UWI/API#:
 Survey Name / Date: Netherby-1 Pilot / July 18, 2008
 Tort / AHD / DDI / ERD ratio: 52.054° / 476.04 m / 4.940 / 0.273
 Grid Coordinate System: GDA94/MGA94 Zone 54
 Location Lat/Long: S 38 40 48.578, E 142 38 25.745
 Location Grid N/E Y/X: N 5717438.490 m, E 642694.060 m
 Grid Convergence Angle: -1.02543044°
 Grid Scale Factor: 0.99985074

Survey / DLS Computation Method: Minimum Curvature / Lubinski
 Vertical Section Azimuth: 118.740°
 Vertical Section Origin: N 0.000 m, E 0.000 m
 TVD Reference Datum: RKB
 TVD Reference Elevation: 22.0 m relative to MSL
 Sea Bed / Ground Level Elevation: -65.000 m relative to MSL
 Magnetic Declination: 10.777°
 Total Field Strength: 60759.563 nT
 Magnetic Dip: -69.865°
 Declination Date: July 18, 2008
 Magnetic Declination Model: BGGM 2007
 North Reference: Grid North
 Total Corr Mag North -> Grid North: +11.802°
 Local Coordinates Referenced To: Well Head

Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Sub-Sea TVD (m)	Vertical Section (m)	NS (m)	EW (m)	DLS (deg/30 m)	Northing (m)	Easting (m)
Tie-In	0.00	0.00	0.00	0.00	-22.00	0.00	0.00	0.00	0.00	5717438.49	642694.06
Sea Floor	87.00	0.00	0.00	87.00	65.00	0.00	0.00	0.00	0.00	5717438.49	642694.06
	110.29	0.34	228.85	110.29	88.29	-0.02	-0.05	-0.05	0.44	5717438.44	642694.01
	139.31	0.48	70.38	139.31	117.31	0.03	-0.06	0.00	0.83	5717438.43	642694.06
	168.50	0.56	302.02	168.50	146.50	-0.03	0.06	-0.01	0.96	5717438.55	642694.05
	196.58	0.62	250.43	196.58	174.58	-0.27	0.08	-0.27	0.55	5717438.57	642693.79
	224.66	0.70	303.64	224.66	202.66	-0.54	0.12	-0.55	0.64	5717438.61	642693.51
	252.74	0.64	294.72	252.73	230.73	-0.87	0.28	-0.84	0.13	5717438.77	642693.22
	280.80	0.72	298.73	280.79	258.79	-1.20	0.43	-1.14	0.10	5717438.92	642692.92
	309.51	0.65	287.17	309.50	287.50	-1.54	0.57	-1.45	0.16	5717439.06	642692.61
	337.98	0.69	292.15	337.97	315.97	-1.87	0.68	-1.76	0.07	5717439.17	642692.30
	366.89	0.70	359.25	366.88	344.88	-2.13	0.92	-1.93	0.80	5717439.41	642692.13
	395.80	0.92	12.26	395.78	373.78	-2.28	1.32	-1.88	0.30	5717439.81	642692.18
	424.75	0.87	19.30	424.73	402.73	-2.39	1.76	-1.76	0.13	5717440.25	642692.30
	453.68	0.56	88.31	453.66	431.66	-2.30	1.97	-1.54	0.88	5717440.46	642692.52
	482.49	0.59	96.35	482.47	460.47	-2.04	1.96	-1.26	0.09	5717440.45	642692.81
	511.36	0.65	96.56	511.34	489.34	-1.75	1.92	-0.94	0.06	5717440.41	642693.12
	540.27	0.70	100.87	540.24	518.24	-1.43	1.87	-0.61	0.07	5717440.36	642693.45
	569.05	0.71	112.99	569.02	547.02	-1.09	1.77	-0.27	0.16	5717440.26	642693.79
	597.90	0.69	128.34	597.87	575.87	-0.74	1.59	0.03	0.20	5717440.08	642694.09
	617.15	0.84	123.17	617.12	595.12	-0.48	1.44	0.24	0.26	5717439.93	642694.30
	634.46	0.94	124.68	634.43	612.43	-0.22	1.29	0.46	0.18	5717439.78	642694.52
Start 12.25" OH	660.03	0.52	130.06	659.99	637.99	0.11	1.10	0.72	0.50	5717439.59	642694.78
	745.23	2.31	160.81	745.16	723.16	1.76	-0.77	1.58	0.66	5717437.72	642695.64
	773.50	4.27	158.54	773.39	751.39	2.99	-2.29	2.16	2.08	5717436.20	642696.21
	801.23	5.89	157.85	801.01	779.01	4.89	-4.57	3.07	1.75	5717433.92	642697.13
	831.45	7.57	152.25	831.02	809.02	7.75	-7.77	4.58	1.79	5717430.72	642698.64
	859.94	9.31	137.33	859.20	837.20	11.50	-11.12	7.02	2.93	5717427.37	642701.08
	889.70	11.19	126.87	888.49	866.49	16.64	-14.63	10.96	2.66	5717423.87	642705.02
	919.19	12.15	123.94	917.37	895.37	22.57	-18.08	15.82	1.15	5717420.42	642709.88
	948.90	12.93	122.08	946.37	924.37	29.00	-21.59	21.23	0.89	5717416.91	642715.29
	979.41	13.44	120.85	976.07	954.07	35.95	-25.22	27.17	0.57	5717413.28	642721.23
	1007.51	14.16	120.45	1003.36	981.36	42.65	-28.63	32.94	0.78	5717409.86	642726.99
	1036.14	14.55	118.54	1031.10	1009.10	49.74	-32.13	39.12	0.64	5717406.37	642733.17
	1065.20	14.60	118.24	1059.22	1037.22	57.06	-35.60	45.55	0.09	5717402.89	642739.60
	1096.08	14.09	118.27	1089.14	1067.14	64.71	-39.23	52.29	0.50	5717399.27	642746.34
	1124.66	14.01	116.68	1116.87	1094.87	71.64	-42.43	58.44	0.41	5717396.07	642752.49
	1153.50	15.82	116.95	1144.73	1122.73	79.06	-45.78	65.07	1.88	5717392.72	642759.12
	1182.04	19.92	117.65	1171.89	1149.89	87.82	-49.80	72.84	4.32	5717388.70	642766.89
	1210.10	23.56	117.60	1197.95	1175.95	98.21	-54.62	82.05	3.89	5717383.88	642776.10
	1239.36	25.76	114.79	1224.54	1202.54	110.40	-59.99	93.01	2.56	5717378.51	642787.05
	1267.39	29.36	115.62	1249.39	1227.39	123.34	-65.52	104.74	3.87	5717372.98	642798.78
	1294.27	33.74	116.12	1272.29	1250.29	137.38	-71.66	117.39	4.90	5717366.84	642811.43
	1322.42	33.97	116.49	1295.67	1273.67	153.05	-78.61	131.45	0.33	5717359.89	642825.49

1350.13	34.69	115.42	1318.55	1296.55	168.66	-85.45	145.50	1.02	5717353.06	642839.54
1379.95	34.59	115.60	1343.08	1321.08	185.58	-92.75	160.79	0.14	5717345.76	642854.83
1408.27	35.05	116.50	1366.33	1344.33	201.73	-99.85	175.32	0.73	5717338.66	642869.36
1436.16	34.88	116.15	1389.19	1367.19	217.70	-106.94	189.65	0.28	5717331.57	642883.68
1465.63	35.16	116.10	1413.32	1391.32	234.60	-114.38	204.83	0.29	5717324.13	642898.86
1494.27	35.09	116.37	1436.75	1414.75	251.06	-121.67	219.61	0.18	5717316.84	642913.64
1523.47	35.39	116.22	1460.60	1438.60	267.89	-129.13	234.72	0.32	5717309.38	642928.74
1552.94	35.14	115.95	1484.66	1462.66	284.89	-136.61	250.00	0.30	5717301.90	642944.02
1581.55	35.10	115.95	1508.06	1486.06	301.33	-143.81	264.80	0.04	5717294.70	642958.82
1610.85	35.09	116.84	1532.03	1510.03	318.16	-151.30	279.89	0.52	5717287.21	642973.91
1639.13	35.01	117.96	1555.18	1533.18	334.40	-158.78	294.31	0.69	5717279.74	642988.32
1668.08	34.91	118.18	1578.91	1556.91	350.98	-166.58	308.94	0.17	5717271.93	643002.96
1695.83	34.89	119.39	1601.67	1579.67	366.86	-174.23	322.86	0.75	5717264.29	643016.87
1725.28	34.90	120.32	1625.83	1603.83	383.70	-182.61	337.47	0.54	5717255.90	643031.48
1753.73	34.99	120.90	1649.15	1627.15	399.99	-190.91	351.49	0.36	5717247.61	643045.50
1781.62	35.06	120.66	1671.98	1649.98	415.99	-199.10	365.25	0.17	5717239.42	643059.25
1811.05	35.22	120.21	1696.05	1674.05	432.92	-207.68	379.85	0.31	5717230.84	643073.85
1838.59	35.18	119.41	1718.56	1696.56	448.79	-215.57	393.63	0.50	5717222.95	643087.63
1870.00	35.38	119.23	1744.20	1722.20	466.93	-224.46	409.44	0.22	5717214.07	643103.44

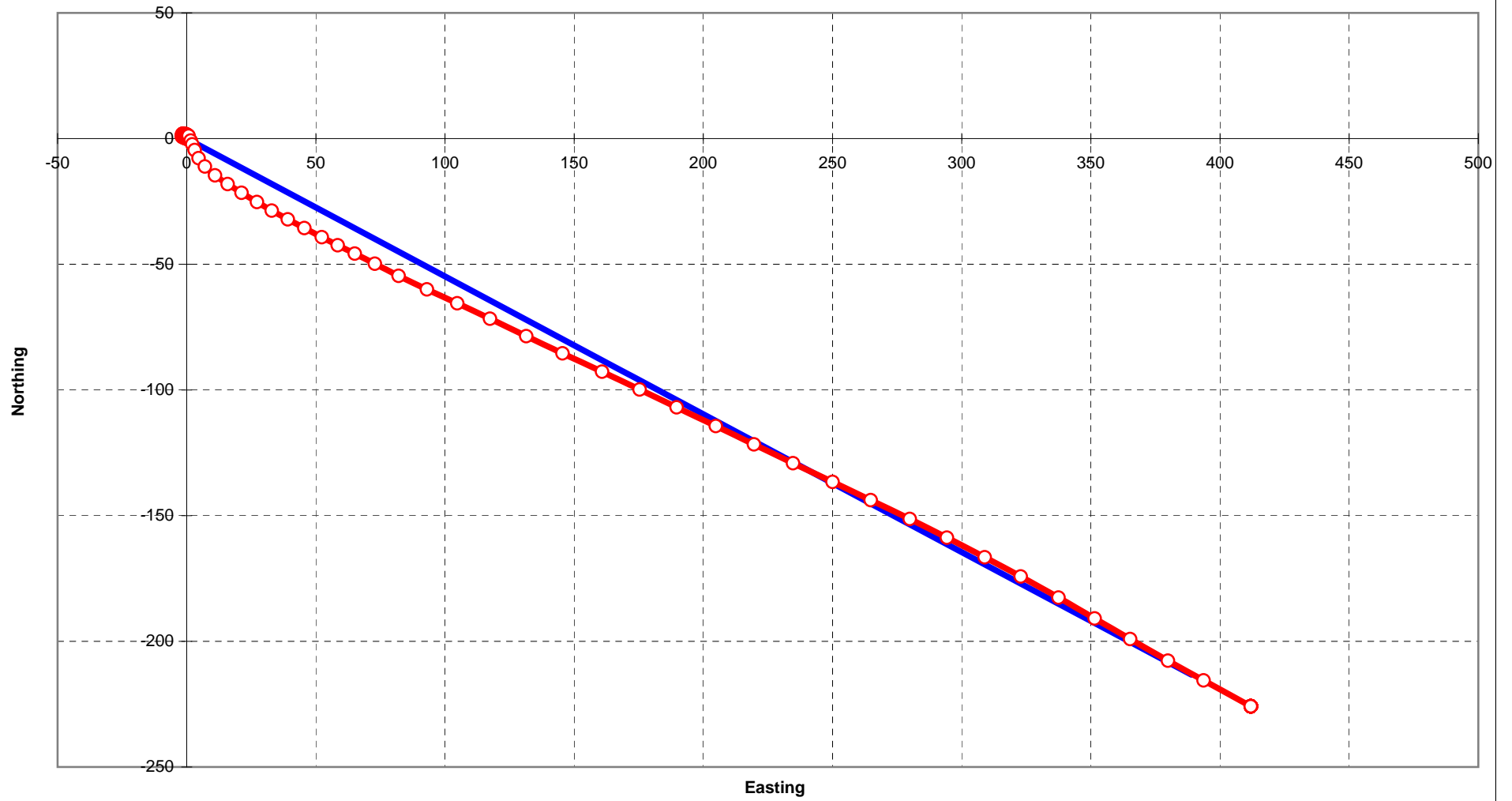
Survey Type: Non-Def Survey

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

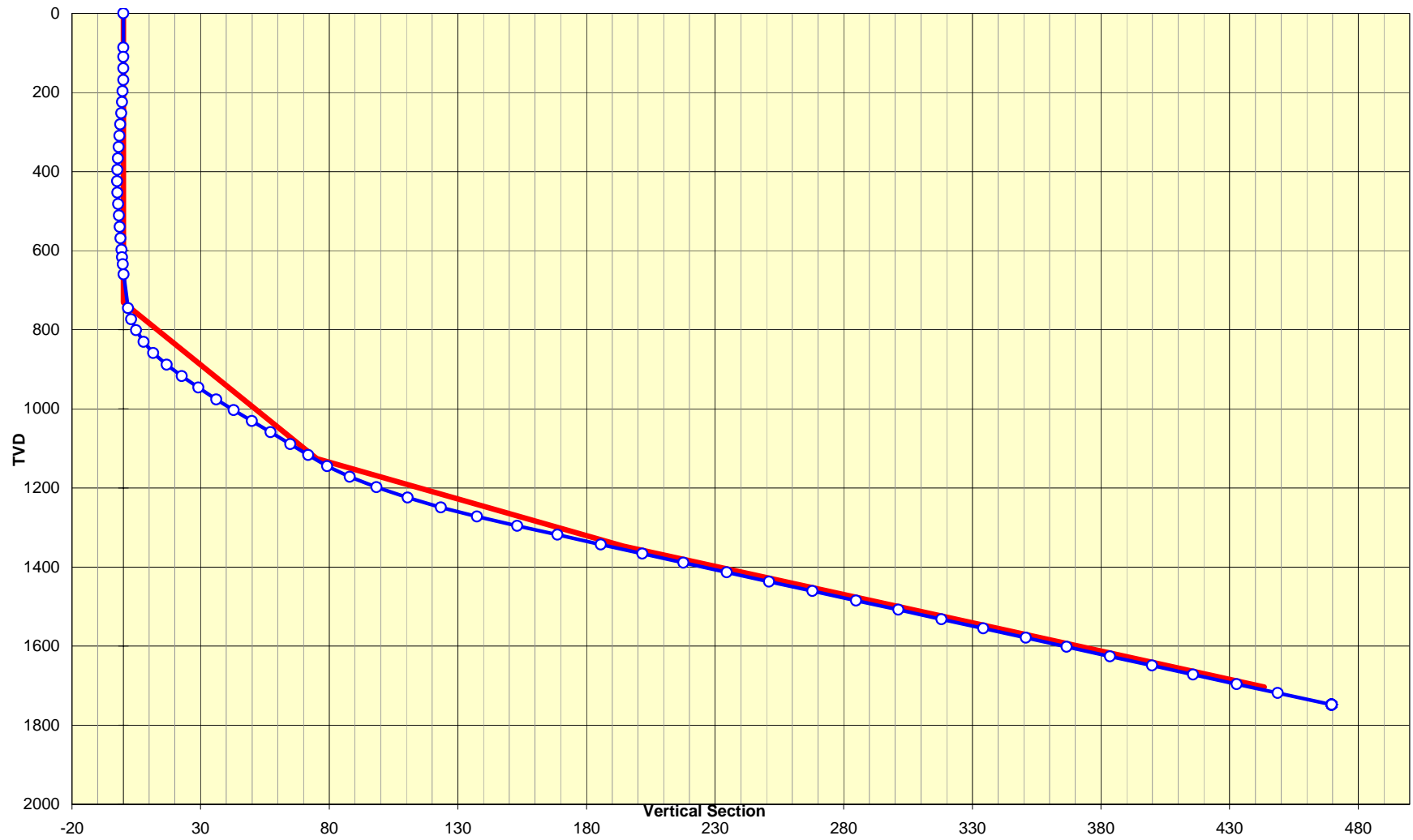
Surveying Prog:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>	<u>Borehole -> Survey</u>
0.00	87.00	Act-Stns	SLB_ZERO-Depth Only	Netherby-1 DW -> Netherby-1 Pilot
87.00	634.46	Act-Stns	SLB_EMS-STD	Netherby-1 DW -> Netherby-1 Pilot
634.46	1153.50	Act-Stns	SLB_MWD-STD	Netherby-1 DW -> Netherby-1 Pilot
1153.50	1267.39	Act-Stns	SLB_EMS-STD	Netherby-1 DW -> Netherby-1 Pilot
1267.39	1870.00	Act-Stns	SLB_MWD-STD	Netherby-1 DW -> Netherby-1 Pilot

Netherby 1 Plan View



Netherby 1 Vertical Section @ 120 Deg



SECTION 15: PRELIMINARY PALYNOLOGY REPORT

**SANTOS STRATIGRAPHIC SERVICES
EXPLORATION SERVICES DEPARTMENT**

Palynology Report No. 2008/38

Author: G.R. WOOD

Date: 13th March, 2009

PALYNOLOGICAL REPORT NO. 2008/38
PALYNOSTRATIGRAPHICAL ANALYSIS
NETHERBY NO. 1
BASIC REPORT

Santos Ltd
A.C.N. 007 550 923

Introduction

Eight cuttings samples from Netherby No. 1 located in the Otway Basin were examined palynologically so as to assess their palynostratigraphic position.

Range charts of the palynomorphs identified in this study are presented in Appendix 1.

WELL NAME	SAMP NAME NO	DEPTH	Sieve (µm)	Yield
Netherby 1	CUTTINGS	1775m	10	med
Netherby 1	CUTTINGS	1785m	10	med
Netherby 1	CUTTINGS	1790m	10	med
Netherby 1	CUTTINGS	1800m	10	med
Netherby 1	CUTTINGS	1810m	10	med
Netherby 1	CUTTINGS	1820m	10	med
Netherby 1	CUTTINGS	1835m	10	med
Netherby 1	CUTTINGS	1845m	10	med

G.R Wood

Well Name : Netherby 1

Interval : 1750m - 1870m

Scale : 1:750

Chart date: 13 March 2009

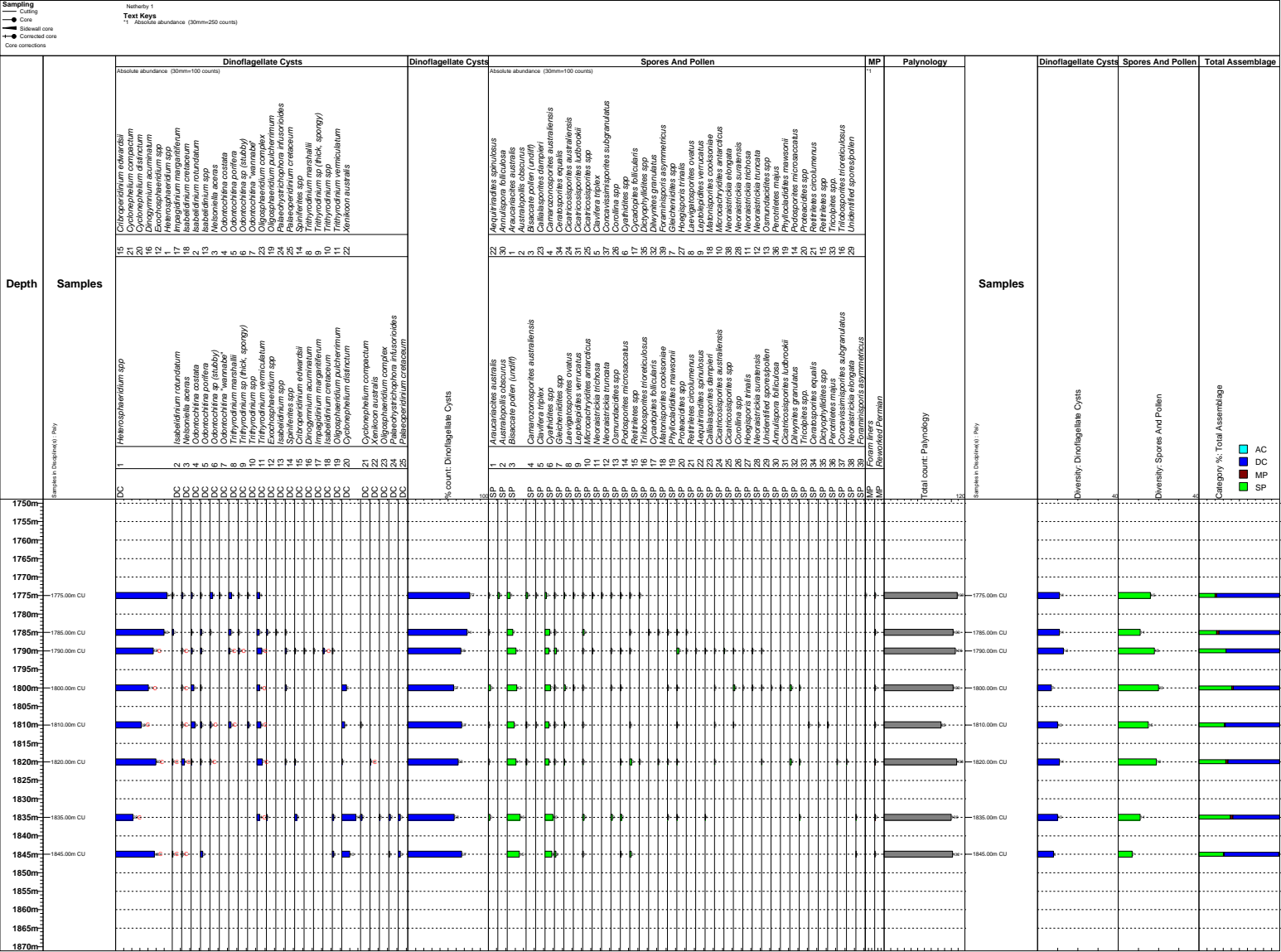
Geoff Wood

Santos Ltd

Adelaide

Netherby 1

Appendix 1



SECTION 16: PRODUCTION TEST REPORT

A production test was not conducted at Netherby 1.