## SANTOS – AWE – MITSUI

## **COMPILED FOR**

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

# **CASINO-4DW1 and CASINO-4DW2**

# **BASIC DATA REPORT**

# (Combined)

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### CASINO-4DW1 & CASINO-4DW2

### **BASIC DATA REPORT**

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# LOCATION MAP



### **GENERAL DATA CARD**

## CASINO-4DW1

WELL: CASINO-4DW1	WELL CATEGORY:	<b>SPUD:</b> 21-0	)5-05	TD REACHE	<b>D:</b> 22-05-05
	Offshore Gas Development Well	<b>RIG RELEA</b>	SED: 26-05-	05 CMPL	/T: -
	WELL INTENT: Gas	RIG: OCEA	N PATRIOT		
SURFACE LOCATION	: (GDA94)	STATUS:			
LAT: 38° 47' 13.03" S L	<b>ONG:</b> 142° 41' 54.49" E	Plugged back	& Sidetracke	ed to Casino-41	DW2 from
NORTHING: 5705495.28	8m EASTING: 647518.19m	1146m			
SEISMIC SURVEY: Cas	ino 3D Inline 6074 Xline 2742	<b>REMARKS</b> :			
<b>ELEVATION SEA FLO</b>	<b>OR</b> : -70.8m LAT <b>RT</b> +22.0m LAT				
BLOCK/LICENCE: Vict	oria – Otway Basin VIC/P44				
<b>TD</b> - m (Lo	gr Extrap) 1662 m (Drlr)		_		
PBTD m (Le	ogr) 1146 m (Drlr)	HOLE	CASING	SHOE	ТҮРЕ
		SIZE	SIZE	DEPTH	
TYPE STRUCTURE: TI	LTED FAULT BLOCK	914mm	762mm	137.4m	460 kg/m
		(Casino-4)			X56
<b>TYPE COMPLETION:</b>	NIL	445mm	340mm	727.8m	107 kg/m
		(Casino-4)			L80 BTC
ZONE(S): -					

TYPE OF LOG	FROM (m)	TO (m)	REPEAT SECTION	TIME SINCE LAST CIRC	BHT
<u>MWD 311mm (12.25")</u>	1308	1662			
Gamma Ray, Resistivity,					
Vibration, Surveys (2 runs)					

No Production tests were conducted at Casino-4DW1

## GENERAL DATA CARD

## CASINO-4DW2

WELL: CASINO-4DW2	WELL CATEGORY:	<b>SPUD:</b> 27-0	)5-05	TD REACHE	<b>D:</b> 04-06-05
	Offshore Gas Development Well	<b>RIG RELEA</b>	SED: 14-06-	05 CMPLT:	14-06-05
	WELL INTENT: Gas	RIG: OCEA	N PATRIOT		
SURFACE LOCATION: (	GDA94)	STATUS: SU	JSPENDED (	GAS WELL (S	UG)
LAT: 38° 47' 13.03" S LO	<b>NG:</b> 142° 41' 54.49" E				
NORTHING: 5705495.28n	h <b>EASTING:</b> 647518.19m				
SEISMIC SURVEY: Casin	o 3D Inline 6074 Xline 2742	REMARKS:			
<b>ELEVATION SEA FLOO</b>	<b>R</b> : -70.8m LAT <b>RT</b> +22.0m LAT	HOLE	CASING	SHOE	TYPE
BLOCK/LICENCE: Victor	ria – Otway Basin VIC/P44	SIZE	SIZE	DEPTH	
TD - m (Logr Ext	rap) 2404 m (Drlr)	914mm	762mm	137.4m	460 kg/m
<b>PBTD</b> - m (Logr)	1308 m (Drlr)	(Casino-4)			X56
TYPE STRUCTURE: TIL	FED FAULT BLOCK	445mm	340mm	727.8m	107 kg/m
TYPE COMPLETION: Su	b Horizontal Open Hole Sand	(Casino-4)			L80 BTC
Sc	reened Completion	311mm	244mm	1989.85m	70 kg/m
ZONE(S): WAARRE A SA	ANDSTONE				L80 VAM

TYPE OF LOG	FROM (m)	TO (m)	REPEAT SECTION	TIME SINCE LAST CIRC	BHT
MWD 311mm (12.25") Mud Motor, Gamma Ray, Resistivity, Vibration, Surveys (2 runs)	1146	1274			
MWD 311mm (12.25") GEOPILOT, Gamma Ray, Resistivity, Vibration, Surveys (1 run)	1274	1998			
MWD 216mm (8.5") Motor, Gamma Ray, Neutron- Density, Resistivity, Vibration, Surveys (1 run)	1998	2404			

Production testing was conducted at Casino-4DW2 (see Section 4: Production Test Reports)

### **SECTION 1: WELL HISTORY**

#### 1.1 INTRODUCTION

The Casino gas field is located in the southeast corner of the offshore Otway Basin. The field lies in 70m of water and is 29km southwest of Port Campbell and 250km southwest of Melbourne. The permit holders are: Santos Limited (50%) Operator, Peedamullah Petroleum Pty Ltd (AWE) (25%), Mittwell Energy Resources Pty Limited (Mitsui) (25%)

Casino-4DW1 / Casino-4DW2 were drilled in the Otway Basin in the Victoria Offshore VIC/P44 licence as sidetracks to the Casino-4 well. The Surface Location (Casino-4) is Latitude: 38° 47' 13.03" South, Longitude: 142° 41' 54.49" East (GDA94), Northing: 570549.5m, Easting: 647518.19m (MGA-94). The Seismic Reference is the Casino 3D Survey Inline 6074 Xline 2742. The surface location lies 220 m northwest of Casino-1.

Casino-4DW1 / Casino-4DW2 are located in 70.8m of water and was drilled by the semi-submersible drilling rig "Ocean Patriot".

The primary purpose of the Casino development drilling campaign was to drill and complete a production well in each of the Casino reservoirs thus developing the reserves of the Casino gas field. Casino-4 was the vertical pilot hole in the Waarre A reservoir well. Casino-4DW1 was the initial deviated well but was plugged back when the desired build was not achieved. Casino-4DW2 was the second sidetrack and was the Waarre A production well.

The reservoir modelling work carried out as part of development planning studies highlighted the uncertainty concerning the Waarre A reservoir properties, especially the intrinsic formation permeability. To address this uncertainty it was decided to drill, core and evaluate a vertical pilot hole in the Waarre A reservoir. This well was designated as Casino-4. A key objective of this well was to recover a full core which would be immediately subjected to routine core analysis for porosity and permeability and selected plugs would also be subjected to special core analysis for relative permeability and petrophysical properties. The data obtained from this well would be used to understand the subsequent production performance of the Waarre A reservoir at Casino and would also be important to justify future exploration surrounding Casino targeting potential Waarre A gas accumulations.

Following conclusion of evaluation operations on Casino-4 the well was to be plugged back and sidetracked to directionally drill and complete a Waarre A development well, Casino-4DW. The key objective of the directional well would be to develop the Waarre A gas reserves via a sub-horizontal completion in the Waarre A reservoir. The well path would be located so as to contact the full stratigraphic succession apart from the lowermost zone known as the calcite cemented zone.

#### 1.2 GENERAL DATA

Well Names:	CASINO-4DW1 and CASINO-4DW2			
Well Classification:	Offshore Gas Development			
Interest Holders:	Santos Ltd Mittsui AWE	50% 25% 25%		
Participating Interests:	Santos Ltd Mitsui AWE	50% 25% 25%		
Operator:	Santos Ltd.			
Location:	Offshore Victoria – Otway Basir	n VIC/P44		
Surveyed Location (GDA94)	Latitude: 38° 47' 13.03" S Longitude: 142° 41' 54.49" I Easting: 647518.19m Northing: 5705495.28m	South East		
Seismic Location:	Casino 3D 2001 Inline 6074 Xlin	ne 2742		
Elevations:	Sea Floor -70.8m LAT Rotary Table +22.0m LAT Rotary Table to Mud Line: 92.8r	n LAT		
Total Depth:	Casino-4DW1: Driller : 1662m Casino-4DW2: Driller : 2404m	RT RT		
Status:	Casino-4DW1: Plugged back & Casino-4DW2: Completed	Sidetracked		
License:	VIC/P44 Offshore Victoria			
Date Drilling Commenced: Date Drilling Completed: Date Rig Released: Total Well Time:	<u>CASINO-4DW1:</u> 09:30 hours on 21-05-05 17:30 hours on 22-05-05 24:00 hours on 26-05-05 4.6 days	CASINO-4DW2: 00:00 hours on 27-05-05 03:30 hours on 04-06-05 20:00 hours on 14-06-05 18.3 days		
Contractor:	Diamond Offshore			
Rig:	Ocean Patriot (semi-submersible	2)		

#### 1.3 DRILLING SUMMARY

#### (a) <u>Drilling Summary</u> (All Depths Driller's RT)

#### CASINO-4DW1 :

Casino-4DW1 was kicked of from 1308m from a cement plug at 09:30 hrs on 21-05-05.

Bit 6, a 311mm (12.25") Security-DBS FS2663 was run in hole along with MWD tools and the Sperry Sun GEOPILOT steerable unit. Cement was tagged at 1273m and the kick-off was initiated from 1308m. Directional hole was drilled from 1308m to 1599m where the bit was pulled up into the casing shoe to undertake repairs to the Top Drive System. After the repairs the bit was run to bottom and drilling continued from 1599m to 1662m. However, the required build rate was not being achieved. The drill string was pulled to surface and a motor assembly with a 1.5° bend was made and run in hole. However this assembly was not able to pass below the wellhead. Instructions were received to plug back to about 1200m and re-attempt the sidetrack. Total depth of Casino-4DW1 was reached at 17:30 hours on 22-05-05. The 311mm (12  $\frac{1}{4}$ ") section was logged while drilling with Sperry Sun MWD tools to record Gamma Ray, Resistivity, Vibration/Shock, Annular Pressure and Deviation Survey data.

Thereafter a kick-off plug was set in the interval 1200m-1350m. While waiting on cement, the Blowout Preventers were tested. From 1200m to 1265m attempts to kick-off from this plug failed and plug #3 was then set from 1100m to 1265m. A PDC was run in hole and used to initiate the sidetrack to Casino-4DW2 from 1146m. All activities on Casino-4DW1 ceased at 24:00 hrs on 26-05-05.

#### CASINO-4DW2:

Casino-4DW2 was kicked of from a cement plug from 1146m. Activities on the well commenced at 00:00 hrs on 27-05-05 after 90% formation was seen in the cuttings. A 311mm (12.25") PDC sidetrack bit along with MWD tools and mud-motor (1.15° bend) was used to kick-off and initiate the sidetrack from 1146m to 1157m where it was pulled out of hole due to slow penetration rates. A TCI bit was then run in hole along with the mud-motor and MWD tools and drilled directional hole from 1157m to 1274m. A PDC bit was then run in hole along with the GEOPILOT steering assembly and drilled directional hole from 1274m to the casing point of 1998m which was reached at 15:00 hours on 30-05-05. A wiper trip was performed to clean out tight hole and condition mud. A string of 244mm (9.625") casing was run and cemented with the shoe at 1989.85mMD (1740.8mTVD). The cementing assembly and the landing string were laid and the 216mm (8.5") directional assembly was run in hole with a Security FMF3553 PDC bit, GEOPILOT and LWD tools consisting of a Gamma Ray, Resistivity, Vibration, Pressure, Density-Neutron Porosity and Surveys were run in hole to drill out the shoe track. The 216mm (8.5") section was drilled from 1998m to 2404m where drilling was terminated at 03:30 hours on 04-06-05. A completions string was run and the well tested. The rig was released at 20:00 hours on 14-06-05.

#### (b) <u>Mudlogging Services</u>

Mudlogging services were provided by Geoservices Unit 170 with the following parameters monitored:

- 1. Total Gas (RESERVAL)
- 2. Chromatographic Gas Breakdown (RESERVAL)
- 3. Hydrogen Sulphide Levels (4 locations)
- 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)
- 14. Mud Weight In and Out
- 15. Mud Temperature In and Out
- 16. Carbon Dioxide

**<u>CASINO-4DW1</u>**: Ditch cuttings were collected at 6m intervals in the 311mm (12.25") phase from 1308m to 1662m.

<u>CASINO-4DW2</u>: Ditch cuttings were collected at 6m intervals from 1110m to 1842m and 3m intervals from 1650m to total depth of 1825m. However fast drilling rates required the sampling interval to be increased when necessary. In addition to microscopic examination of all drilled cuttings, samples were subjected to fluoroscope examination.

A catalogue of all wellsite samples is found in SECTION 2.3: CATALOGUE OF WELLSITE SAMPLES-CASINO-4DW1 and SECTION 2.4: CATALOGUE OF WELLSITE SAMPLES – CASINO-4DW2

#### (c) <u>MWD Data</u>

Measurement while drilling (MWD) was acquired by Sperry Sun in Casino-4DW1 / Casino-4DW2. In the 311mm (12.25") phase, Gamma Ray, Resistivity, Vibration, Pressure and Deviation Survey data were acquired in 3 runs from 1146m to the section Total Depth in Casino-4DW2 at 1998m. In the 216mm (8.5") phase, Gamma Ray, Resistivity, Density-Neutron Porosity, Vibration, Pressure and Deviation Survey data were acquired in 1 runs from 1998m to the Total Depth of 2404m. Sperry Sun's detailed report is attached in SECTION 3.3 MWD/LWD END OF WELL REPORT

#### (d) <u>Testing</u>

No production tests were conducted at the Casino-4DW1 location. Casino-4DW2 was completed and flow tested. The preliminary report is presented in SECTION 4: PRODUCTION TEST REPORTS.

#### (e) <u>Coring</u>

No cores were cut in Casino-4DW1 or Casino-4DW2.

#### (f) <u>Biostratigraphy</u>

No micro-palaeontology studies were conducted at the Casino-4DW1 / Casino-4DW2 location.

#### (g) <u>Electric Logging</u>

No wireline logs were recorded at the Casino-4DW1 / Casino-4DW2 location.

#### (h) <u>MDT Pressure Data</u>

No pressure survey was conducted at the Casino-4DW1 / Casino-4DW2 location.

#### (i) <u>Hole Deviation</u>

Casino-4DW1 was drilled as a deviated hole from the parent well Casino-4. The well was plugged back after the desired directional objectives were deemed unachievable. The well was re-drilled another sidetrack designated as Casino-4DW2. MWD survey data as well as a graphical representation of the wellpaths are presented in SECTION 15: DEVIATION SUMMARY.

#### (j) <u>Velocity Surveys</u>

No Velocity Survey was at the Casino-4DW1 / Casino-4DW2 location.

#### (k) Casing & Cementing Summary

The following Table-3 summarises casing sizes, depths and cementing details for Casino-4 and Casino-4DW2. The 914mm and 445mm casing strings were run in the parent hole Casino-4 and are included here for completeness. The 244mm casing was run in Casino-4DW2 and a completion string was run in the 216mm sub-horizontal section. Casing and Cementing Reports for each casing run are detailed in SECTION 11: CASING & CEMENTING SUMMARY.

HOLE SIZE	DEPTH	CASING SIZE	CASING DEPTH	JOINTS	CASING TYPE	CEMENT
914mm (36")	192m	762mm (30")	137.0m	3	460 kg/m X56	Primary: 32 m3 (202 bbl) 1.9sg (15.8 ppg) Class G slurry. Top up: 12.7 m3 (80 bbl) 1.9sg (15.8 ppg) Class G slurry using 2 7/8" stinger
445mm (17.5")	742m	340mm (13.375")	727.8m	54	107 kg/m L80 BTC	Lead: 53.4 m3 (336 bbl) 1.5sg (12.5 ppg) Class G Tail: 15.7 m3 (99 bbl) 1.9sg (15.8 ppg) Class G
311mm (12.25")	1998m	244mm (9.965")	1989.85m	160	70 kg/m L80 VAM	Lead: 12.7 m3 (80 bbl) 1.5sg (12.5ppg) Class G Tail: 7.15 m3 (45 bbl) 1.9sg (15.8 ppg) Class G

#### TABLE 3

# **SECTION 2: LITHOLOGICAL DESCRIPTIONS**

### **SECTION 2.1: CUTTINGS DESCRIPTIONS**

## CASINO-4DW1

### 2.1 CASINO-4DW1 - LITHOLOGICAL DESCRIPTIONS

### (Depths are referenced to Drillers' depth)

Depth From (m)	Depth To (m)	%	Descriptions
1308	1314	40	SILTSTONE: Medium brown to olive grey, dark brown to greyish black, arenaceous & grading to very fine Sandstone in part, trace carbonaceous, trace to minor carbonaceous specks, minor to locally common glauconite, common pyrite, firm to moderately hard, blocky to amorphous
		40	SANDSTONE: Clear to translucent to light grey, occasionally medium dark grey, medium to very coarse grained, subangular to subrounded, poorly sorted, weak siliceous cement, common glauconite, abundant pyrite nodules, predominantly loose, occasional aggregates with glauconite and pyrite inclusions, poor visual porosity, fair inferred porosity, no shows.
		20	Cement
1314	1320	80	SILTSTONE: Medium brown to brownish grey, trace carbonaceous matter, trace to minor glauconite, minor pyrite, firm to moderately hard, blocky to amorphous.
		20	SANDSTONE: Clear to translucent, light grey, occasionally medium dark grey, medium to very coarse grained, subangular to subrounded, poorly sorted, weak siliceous cement, common glauconite, abundant pyrite nodules, predominantly loose, occasional aggregates with glauconite and pyrite inclusions, poor visual porosity, fair inferred porosity, no shows.
1320	1326	100	SILTSTONE: Medium brown to brownish grey, trace carbonaceous matter, trace to minor glauconite, minor pyrite, firm to moderately hard, blocky to amorphous.
1326	1332	100	SILTSTONE: Medium brown to brownish grey, trace carbonaceous matter, trace to minor glauconite, minor pyrite, firm to moderately hard, blocky to amorphous.
1332	1338	100	SILTSTONE: Grey brown to moderately brown, predominantly arenaceous & grading to very fine Sandstone in part, minor argillaceous, rare to trace carbonaceous specks, trace glauconite specks, soft to firm, subblocky to amorphous.
1338	1344	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1344	1350	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
1350	1356	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1356	1362	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1362	1368	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1368	1374	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1374	1380	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1380	1386	100	SILTSTONE: Grey brown to moderately brown, arenaceous to argillaceous, rare to trace carbonaceous specks, minor glauconite specks, trace nodular pyrite, trace to minor coarse quartz grains, soft to firm, subblocky to amorphous.
1386	1392	100	SILTSTONE: Medium yellowish brown to greyish brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, rare to trace disseminated pyrite, minor coarse quartz grains, soft, firm in part, predominantly subblocky.
1392	1398	100	SILTSTONE: Medium yellowish brown to greyish brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, rare to trace disseminated pyrite, minor coarse quartz grains, soft, firm in part, predominantly subblocky.
1398	1404	100	SILTSTONE: Medium yellowish brown to greyish brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, rare to trace disseminated pyrite, minor coarse quartz grains, soft, firm in part, predominantly subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1404	1410	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1410	1416	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1416	1422	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1422	1428	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1428	1434	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1434	1440	100	SILTSTONE: Moderate yellow brown to grey brown, predominantly arenaceous & occasionally grading to very fine Sandstone, minor argillaceous, minor to locally common glauconite specks, trace carbonaceous specks, trace disseminated & nodular pyrite, minor to locally abundant coarse & very coarse quartz grains, soft, firm in part, predominantly subblocky.
1440	1446	100	SILTSTONE: Grey brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1446	1452	100	SILTSTONE: Grey brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
1452	1458	100	SILTSTONE: Grey brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1458	1464	100	SILTSTONE: Grey brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1464	1470	80	SILTSTONE: Grey brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
		20	SANDSTONE: Clear to translucent, off white, fine to coarse, predominantly fine to medium, moderately well sorted, subangular to subrounded, moderate siliceous cement, minor to locally abundant pale brown to off white argillaceous matrix, minor glauconite, common loose grains, friable to moderately hard aggregates, poor visual porosity, poor to fair inferred porosity, no hydrocarbon fluorescence.
1470	1476	70	SILTSTONE: Greyish brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
		30	SANDSTONE: Clear to translucent, off white, fine to coarse, predominantly fine to medium, moderately well sorted, subangular to subrounded, moderate siliceous cement, minor to locally abundant pale brown to off white argillaceous matrix, minor glauconite, common loose grains, friable to moderately hard aggregates, poor visual porosity, poor to fair inferred porosity, no hydrocarbon fluorescence.
1476	1482	60	SILTSTONE: Greyish brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
		40	SANDSTONE: Light brown to very light grey, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant white to very light brown argillaceous matrix, minor glauconite, minor very coarse quartz grains, commonly loose, friable to moderately hard aggregates, poor visual & inferred porosity, no hydrocarbon fluorescence.
1482	1488	70	SILTSTONE: Greyish brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
		30	SANDSTONE: Light brown to very light grey, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant white to very light brown argillaceous matrix, minor glauconite, minor very coarse quartz grains, commonly loose, friable to moderately hard aggregates, poor visual & inferred porosity, no hydrocarbon fluorescence.
1488	1494	80	SILTSTONE: Greyish brown to olive grey, very arenaceous & commonly grading to very fine Sandstone, trace to minor glauconite specks, rare to trace carbonaceous specks, trace disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
		20	SANDSTONE: Light brown to very light grey, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant white to very light brown argillaceous matrix, minor glauconite, minor very coarse quartz grains, commonly loose, friable to moderately hard aggregates, poor visual & inferred porosity, no hydrocarbon fluorescence.
1494	1500	90	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
		10	SANDSTONE: Light brown to very light grey, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant white to very light brown argillaceous matrix, minor glauconite, minor very coarse quartz grains, commonly loose, friable to moderately hard aggregates, poor visual & inferred porosity, no hydrocarbon fluorescence.
1500	1506	100	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
1506	1512	100	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
1512	1518	90	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
		10	SANDSTONE: Light brown to very light grey, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant white to very light brown argillaceous matrix, minor to locally abundant glauconite, minor very coarse quartz grains, commonly loose, friable to moderately hard aggregates, poor visual & inferred porosity, no hydrocarbon fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
1518	1524	90	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
		10	SANDSTONE: Light brown to very light grey, white, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, trace white to very light brown argillaceous matrix, minor to locally abundant glauconite, common coarse quartz grains, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1524	1530	90	SILTSTONE: Olive black to brownish grey, predominantly arenaceous, minor argillaceous, trace carbonaceous specks, trace to minor glauconite, trace disseminated pyrite, soft to firm, subblocky.
		10	SANDSTONE: Light brown to very light grey, white, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, trace white to very light brown argillaceous matrix, minor to locally abundant glauconite, common coarse quartz grains, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1530	1536	90	SILTSTONE: Olive black to brown grey, dominantly arenaceous, trace argillaceous, minor carbonaceous specks & laminations, trace glauconite specks, trace disseminated pyrite, minor coarse grains, soft to firm, occasionally moderately hard, subblocky.
		10	SANDSTONE: Light brown to very light grey, white, clear to translucent, fine to coarse, predominantly medium, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, trace white to very light brown argillaceous matrix, minor to locally abundant glauconite, common coarse quartz grains, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1536	1542	80	SILTSTONE: Olive black to brown grey, dominantly arenaceous, trace argillaceous, minor carbonaceous specks & laminations, trace glauconite specks, trace disseminated pyrite, minor coarse grains, soft to firm, occasionally moderately hard, subblocky.
		20	SANDSTONE: Clear to translucent, occasionally light brown, fine to coarse, predominantly medium, moderately well sorted, subrounded to subangular, moderately siliceous cement, trace white to very light brown argillaceous matrix, trace glauconite, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1542	1548	60	SILTSTONE: Olive black to brown grey, dominantly arenaceous, trace argillaceous, minor carbonaceous specks & laminations, trace glauconite specks, trace disseminated pyrite, minor coarse grains, soft to firm, occasionally moderately hard, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
		40	SANDSTONE: Clear to translucent, occasionally light brown, fine to coarse, predominantly medium, moderately well sorted, subrounded to subangular, moderately siliceous cement, trace white to very light brown argillaceous matrix, trace glauconite, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1548	1554	60	SILTSTONE: Olive black to brown grey, dominantly arenaceous, trace argillaceous, minor carbonaceous specks & laminations, trace glauconite specks, trace disseminated pyrite, minor coarse grains, soft to firm, occasionally moderately hard, subblocky.
		40	SANDSTONE: Clear to translucent, occasionally light brown, fine to coarse, predominantly medium, moderately well sorted, subrounded to subangular, moderately siliceous cement, trace white to very light brown argillaceous matrix, trace glauconite, predominantly loose, minor friable to moderately hard aggregates, poor to fair inferred porosity, no hydrocarbon fluorescence.
1554	1560	70	SILTSTONE: Olive black to brown grey, dominantly arenaceous, trace argillaceous, minor carbonaceous specks & laminations, trace glauconite specks, trace disseminated pyrite, minor coarse grains, soft to firm, occasionally moderately hard, subblocky.
		30	SANDSTONE: Clear to translucent, fine to coarse grained, predominantly medium to coarse, moderately well sorted, subangular to subrounded, trace weak to moderately firm white siliceous cement, trace white to very light brown argillaceous matrix, trace to common glauconite, friable to moderately hard aggregates, loose grains common, poor to fair inferred porosity, no hydrocarbon fluorescence.
1560	1566	80	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, trace coarse quartz grains, soft to firm, occasionally moderately hard, subblocky.
		20	SANDSTONE: Clear to translucent, very fine to coarse, predominantly fine to coarse, moderately well sorted, angular to subangular, generally weak siliceous cement occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor visual porosity, no hydrocarbon fluorescence.
1566	1572	30	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, trace coarse quartz grains, soft to firm, occasionally moderately hard, subblocky.
		70	SANDSTONE: Clear to translucent, very fine to coarse, predominantly fine to coarse, moderately well sorted, angular to subangular, generally weak siliceous cement occasionally moderately strong siliceous cement,

Depth From (m)	Depth To (m)	%	Descriptions
			occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor visual porosity, no hydrocarbon fluorescence.
1572	1578	40	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, trace coarse quartz grains, soft to firm, occasionally moderately hard, subblocky.
		60	SANDSTONE: Clear to translucent, very fine to coarse, predominantly fine to coarse, moderately well sorted, angular to subangular, generally weak siliceous cement occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor visual porosity, no hydrocarbon fluorescence.
1578	1584	90	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, trace coarse quartz grains, soft to firm, occasionally moderately hard, subblocky.
		10	SANDSTONE: Clear to translucent, very fine to coarse, predominantly fine to coarse, moderately well sorted, angular to subangular, generally weak siliceous cement occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor visual porosity, no hydrocarbon fluorescence.
1584	1590	90	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, soft to firm, occasionally moderately hard, subblocky.
		10	SANDSTONE: Clear to translucent, very fine to coarse, predominantly fine to coarse, moderately well sorted, angular to subangular, generally weak siliceous cement occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor visual porosity, no hydrocarbon fluorescence.
1590	1596	90	SILTSTONE: Medium brown to light brown, predominantly argillaceous, occasionally arenaceous, trace carbonaceous specks, trace lithics, locally common glauconite specks & inclusions, trace to minor nodular & disseminated pyrite, soft to firm, occasionally moderately hard, subblocky.
		10	SANDSTONE: Clear to translucent, very fine to coarse grained, predominantly fine to coarse grained, generally moderately well sorted, angular to subangular, generally weak to occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor inferred and visual porosity, no hydrocarbon fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
1596	1602	90	SILTSTONE: Olive grey to brownish grey, greyish black, arenaceous, common grading to very fine Sandstone, trace nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
		10	SANDSTONE: Clear to translucent, very fine to coarse grained, predominantly fine to coarse grained, generally moderately well sorted, angular to subangular, generally weak to occasionally moderately strong siliceous cement, occasional aggregates, common glauconite, trace light brown silty matrix, generally loose, fair to poor inferred and visual porosity, no hydrocarbon fluorescence.
1602	1608	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, common grading to very fine Sandstone, minor argillaceous, trace nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1608	1614	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, commonly grading to very fine Sandstone, minor argillaceous, trace nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1614	1620	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, commonly grading to very fine Sandstone, minor argillaceous, trace nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1620	1626	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, commonly grading to very fine Sandstone, minor argillaceous, trace nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1626	1632	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, occasionally grading to very fine Sandstone, minor argillaceous, rare nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1632	1638	100	SILTSTONE: Olive grey to brownish grey, greyish black, predominantly arenaceous, occasionally grading to very fine Sandstone, minor argillaceous, rare nodular and disseminated pyrite, minor glauconite, occasional carbonaceous laminations, firm to moderately hard, subblocky.
1638	1644	100	SILTSTONE: Olive grey to brownish grey, greyish black, arenaceous to argillaceous, rare nodular and disseminated pyrite, trace glauconite specks, trace to minor carbonaceous specks and laminations, firm to moderately hard, subblocky to blocky.

Depth From (m)	Depth To (m)	%	Descriptions
1644	1650	100	SILTSTONE: Olive grey to brownish grey, greyish black, arenaceous to argillaceous, rare nodular and disseminated pyrite, trace glauconite specks, trace to minor carbonaceous specks and laminations, firm to moderately hard, subblocky to blocky.
1650	1656	100	SILTSTONE: Olive grey to brownish grey, greyish black, argillaceous to arenaceous, rare nodular and disseminated pyrite, rare glauconite specks, trace to minor carbonaceous specks and laminations, firm to moderately hard, subblocky to blocky.
1656	1662	100	SILTSTONE: Olive grey to olive black, argillaceous to arenaceous, rare nodular and disseminated pyrite, rare glauconite specks, trace to minor carbonaceous specks and laminations, firm to moderately hard, subblocky to blocky.

TOTAL DEPTH DRILLER : 1662m TOTAL DEPTH LOGGER : Not logged

## **SECTION 2.2: CUTTINGS DESCRIPTIONS**

# CASINO-4DW2

#### 2.2 CASINO-4DW2 - LITHOLOGICAL DESCRIPTIONS

### (Depths are referenced to Drillers' depth)

1146 1152 80 SANDSTONE: Clear to translucent, medium grey in part, fine coarse grained, predominantly medium to coarse, subangular subrounded, moderately to well sorted, predominantly loose ar clean, occasionally moderately hard aggregates with moderatel hard siliceous cement, common brownish grey argillaceou matrix, trace glauconite, abundant disseminated and nodulated and nodulated by the second
pyrite, abundant pyrite cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
10 SILTSTONE: Brownish grey to olive grey, argillaceous arenaceous, trace carbonaceous specks, locally commo disseminated pyrite, occasional quartz inclusions, soft, dispersivin part, subblocky to amorphous.
10 Cement
1152 1158 80 SANDSTONE: Clear to translucent, medium grey in part, fine to coarse grained, predominantly medium to coarse grained subangular to subrounded, moderately to well sorted predominantly loose and clean, occasional moderately har aggregates with moderately hard siliceous cement, commo brownish grey argillaceous matrix, trace glauconite, abundat disseminated and nodular pyrite, abundant pyrite cement, poor fair visual and inferred porosity, no hydrocarbon fluorescence.
20 SILTSTONE: Brownish grey to olive grey, argillaceous arenaceous, trace carbonaceous specks, locally commo disseminated pyrite, occasional quartz inclusions, soft, dispersivin part, subblocky to amorphous.
1158 1164 60 SANDSTONE: Clear to translucent, fine to medium grained, trac coarse grains, subrounded to well rounded, moderately to we sorted, predominantly loose and clean, trace to common pyri nodules, trace aggregates with siliceous cement, trace pyrit cement, poor to fair visual and inferred porosity, no hydrocarbo fluorescence.
40 SILTSTONE: Medium to dark grey, predominantly arenaceou and grading to very fine Sandstone, occasionally argillaceous part, trace carbonaceous, trace disseminated pyrite, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1164	1170	50	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyritic cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		50	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1170	1176	70	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyritic cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		30	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1176	1182	70	SANDSTONE: Clear to translucent to light grey, fine to medium grained, trace coarse grains, subangular to subrounded, well sorted, abundant loose quartz, common moderately firm to moderately hard aggregates with white siliceous cement, trace glauconite, trace to common pyrite nodules and inclusions, trace lithic fragments, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		30	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1182	1188	40	SANDSTONE: Clear to translucent to light grey, fine to medium grained, trace coarse grains, subangular to subrounded, well sorted, abundant loose quartz, common moderately firm to moderately hard aggregates with white siliceous cement, trace glauconite, trace to common pyrite nodules and inclusions, trace lithic fragments, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		60	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1188	1194	50	SANDSTONE: Clear to translucent to light grey, fine to medium grained, trace coarse grains, subangular to subrounded, well sorted, abundant loose quartz, common moderately firm to moderately hard aggregates with white siliceous cement, trace glauconite, trace to common pyrite nodules and inclusions, trace lithic fragments, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		50	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1194	1200	90	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose quartz, trace to common pyrite nodules, rare glauconite, lithic fragments common, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		10	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1200	1206	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose quartz, trace to common pyrite nodules, rare glauconite, lithic fragments common, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
1206	1212	100	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyritic cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
1212	1218	60	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyrite cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		40	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1218	1224	80	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyrite cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence

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Depth From (m)	Depth To (m)	%	Descriptions
		20	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1224	1230	90	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded, moderately to well sorted, predominantly loose and clean, trace to common pyrite nodules, trace aggregates with siliceous cement, trace pyrite cement, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		10	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1230	1236	100	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
1236	1242	90	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		10	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1242	1248	80	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		20	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1248	1254	70	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.

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Depth From (m)	Depth To (m)	%	Descriptions
		30	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1254	1260	90	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		10	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1260	1266	90	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		10	SILTSTONE: Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in part, trace carbonaceous, trace disseminated pyrite, subblocky.
1266	1272	60	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		30	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, common disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1272	1278	70	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		30	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, common disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
1278	1284	70	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		30	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, common disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1284	1290	20	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		80	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1290	1296	10	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		90	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1296	1302	20	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		80	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.

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Depth From (m)	Depth To (m)	%	Descriptions
1302	1308	40	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		60	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1308	1314	40	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		60	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1314	1320	30	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		70	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1320	1326	30	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		70	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
1326	1332	20	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subrounded to well rounded becoming subangular to angular, poorly sorted, predominantly loose and clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		80	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1332	1338	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1338	1344	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1344	1350	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1350	1356	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1356	1362	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1362	1368	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
Depth From (m)	Depth To (m)	%	Descriptions
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1368	1374	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1374	1380	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1380	1386	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1386	1392	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1392	1398	10	SANDSTONE: Clear to translucent, fine to medium occasionally coarse-very coarse, subangular-subrounded, poorly sorted, loose, rare aggregates, trace glauconite grains, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		90	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1398	1404	10	SANDSTONE: Clear to translucent, fine to medium occasionally coarse-very coarse, subangular-subrounded, poorly sorted, loose, rare aggregates, trace glauconite grains, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.
		90	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1404	1410	90	SANDSTONE: Clear to translucent, fine to medium occasionally coarse-very coarse, subangular-subrounded, poorly sorted, loose, rare aggregates, trace glauconite grains, poor to fair visual and inferred porosity, no hydrocarbon fluorescence.

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Depth From (m)	Depth To (m)	%	Descriptions
		10	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1410	1416	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous & commonly grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, abundant disseminated pyrite, soft to firm, predominantly subblocky, minor amorphous.
1416	1422	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1422	1428	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1428	1434	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1434	1440	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1440	1446	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1446	1452	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1452	1458	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1458	1464	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.

Depth From (m)	Depth To (m)	%	Descriptions
1464	1470	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1470	1476	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1476	1482	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1482	1488	100	SILTSTONE: Medium olive brown to medium grey brown occasionally pale grey, arenaceous occasionally grading to very fine Sandstone, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominantly subblocky, minor amorphous.
1488	1494	60	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		40	SANDSTONE: Light to medium grey, white to very light grey in part, fine to coarse grained, predominantly fine to medium grained, moderately to poorly sorted, subangular to subrounded, predominantly loose, trace weak siliceous cement, minor pale brown to white silty matrix, friable to moderately hard aggregates, common glauconite, minor pyrite, poor to occasionally fair visual and inferred porosity, no hydrocarbon fluorescence.
1494	1500	80	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		20	SANDSTONE: Light grey, white to very light grey in part, fine to coarse grained, predominantly fine to medium grained, moderately to poorly sorted, subangular to subrounded, predominantly loose, trace weak siliceous cement, minor pale brown to white silty matrix, friable to moderately hard aggregates, common glauconite, minor pyrite, poor to occasionally fair visual and inferred porosity, no hydrocarbon fluorescence.
1500	1506	100	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.

Depth From (m)	Depth To (m)	%	Descriptions
1506	1512	100	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
1512	1518	100	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
1518	1524	90	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		10	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose and clean quartz, trace glauconite, trace aggregates with weak siliceous cement, poor visual and inferred porosity, no hydrocarbon fluorescence.
1524	1530	90	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		10	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose and clean quartz, trace glauconite, trace aggregates with weak siliceous cement, poor visual and inferred porosity, no hydrocarbon fluorescence.
1530	1536	80	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		20	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose and clean quartz, trace glauconite, trace aggregates with weak siliceous cement, poor visual and inferred porosity, no hydrocarbon fluorescence.
1536	1542	90	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		10	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, moderately to well sorted, predominantly loose and clean quartz, trace glauconite, trace aggregates with weak siliceous cement, poor visual and inferred porosity, no hydrocarbon fluorescence.

De Fr (1	epth rom m)	Depth To (m)	%	Descriptions
15	542	1548	100	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
1:	548	1554	40	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
			60	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
15	554	1560	70	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
			30	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1:	560	1566	60	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, occasionally grading to very fine Sandstone, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
			40	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1:	566	1572	80	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.

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Depth From (m)	Depth To (m)	%	Descriptions
		20	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1572	1578	50	SILTSTONE: Medium to brown grey to dark brown grey, trace very light grey, argillaceous to arenaceous, trace to common carbonaceous specks, trace to common glauconite, trace lithics, firm to moderately hard in part, amorphous to sub blocky.
		50	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to medium grained, subangular to subrounded, moderately sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1578	1584	70	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
		30	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1584	1590	70	SILTSTONE: Off white to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
		30	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1590	1596	80	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.

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Depth From (m)	Depth To (m)	%	Descriptions
		20	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1596	1602	90	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
		10	SANDSTONE: Clear to translucent to very light grey, light green in part, very fine to fine grained, subangular to subrounded, well sorted, predominantly loose quartz, abundant glauconite, trace pyrite nodules, common light grey to light green aggregates with moderately firm siliceous cement, glauconitic sandstone in part, trace pyrite, trace carbonaceous matter, poor visual and inferred porosity, no hydrocarbon fluorescence.
1602	1608	100	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
1608	1614	100	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
1614	1620	100	SILTSTONE: Light brownish grey to olive grey, predominantly arenaceous and grading to very fine Sandstone. Trace lithics, trace carbonaceous specks, soft to firm, occasionally dispersive, amorphous to subblocky.
1620	1626	100	SILTSTONE: Medium grey to olive grey to olive black, predominantly argillaceous, trace arenaceous, trace to common carbonaceous specks and streaks, trace glauconite, soft to firm, amorphous to subblocky.
1626	1632	100	SILTSTONE: Medium grey to olive grey to olive black, predominantly argillaceous, trace arenaceous, trace to common carbonaceous specks and streaks, trace glauconite, soft to firm, amorphous to subblocky.
1632	1638	100	SILTSTONE: Medium grey to olive grey to olive black, predominantly argillaceous, trace arenaceous, trace to common carbonaceous specks and streaks, trace glauconite, soft to firm, amorphous to subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1638	1644	100	SILTSTONE: Medium grey to olive grey to olive black, predominantly argillaceous, trace arenaceous, trace to common carbonaceous specks and streaks, trace glauconite, soft to firm, amorphous to subblocky.
1644	1650	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1650	1656	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1656	1662	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1662	1668	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1668	1674	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1674	1680	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1680	1686	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1686	1692	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1692	1698	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1698	1704	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1704	1710	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1710	1716	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1716	1722	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1722	1728	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1728	1734	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1734	1740	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1740	1746	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1746	1752	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1752	1758	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1758	1764	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1764	1770	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1770	1776	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1776	1782	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1782	1788	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1788	1794	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1794	1800	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace very coarse loose quartz grains, trace carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.
1800	1806	90	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, trace carbonaceous specks, trace glauconite, trace nodular pyrite firm to moderately hard, subblocky.
1806	1812	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, common carbonaceous specks, trace glauconite, trace nodular pyrite firm to moderately hard, subblocky.
1812	1818	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, common carbonaceous specks, trace glauconite, trace nodular pyrite firm to moderately hard, subblocky.
1818	1824	100	SILTSTONE: Brownish grey to olive black, predominantly argillaceous, trace arenaceous, common carbonaceous specks, trace glauconite, trace nodular pyrite firm to moderately hard, subblocky.
1824	1830	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1830	1836	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1836	1842	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1842	1845	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1845	1848	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1848	1851	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1851	1854	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.

Depth From (m)	Depth To (m)	%	Descriptions
1854	1857	100	SILTSTONE: Dark to medium grey brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1857	1860	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, firm, dispersive in part, subblocky to blocky.
1860	1866	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, dispersive in part, subblocky to blocky.
1866	1872	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, dispersive in part, subblocky to blocky.
1872	1875	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, dispersive in part, subblocky to blocky.
1875	1878	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1878	1881	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1881	1884	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1887	1890	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1890	1893	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1893	1896	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, trace lithics, firm, subblocky.
1896	1899	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1899	1902	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1902	1905	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1905	1908	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1905	1908	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1908	1911	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1911	1914	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, subblocky.
1914	1917	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
1917	1920	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
1920	1923	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
1923	1926	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, trace glauconite grains trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.

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De Fre (r	pth om n)	Depth To (m)	%	Descriptions
19	26	1929	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, common nodular glauconite, trace to common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
19	29	1932	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, abundant nodular glauconite, common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
19	932	1935	100	SILTSTONE: Dark to medium grey brown occasionally pale brown, argillaceous, abundant nodular glauconite, common nodular pyrite, common white to off white argillaceous material, trace lithics, firm, blocky.
19	935	1938	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	938	1941	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	941	1944	100	SILTSTONE: Olive grey to olive black, trace light olive grey, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	944	1947	100	SILTSTONE: Olive grey to olive black, trace light olive grey, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	47	1950	100	SILTSTONE: Olive grey to olive black, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	950	1953	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	953	1956	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally glauconitic in part, trace carbonaceous specks, firm to moderately hard, subblocky.
19	956	1959	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
19	959	1962	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.

Depth From (m)	Depth To (m)	%	Descriptions
1962	1965	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1965	1968	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1968	1971	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1971	1974	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1974	1977	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1977	1980	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, occasionally grading to very fine Sandstone, occasionally glauconitic in part, trace carbonaceous specks, trace pyrite, firm to moderately hard, subblocky.
1980	1983	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
1983	1986	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
1986	1989	100	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
1989	1992	95	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
		5	SANDSTONE: Clear to translucent, very fine –medium grained, trace coarse grains, angular to subangular, moderately sorted, predominantly loose quartz, trace pyrite, poor visual and inferred porosity, no hydrocarbon fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
1992	1995	80	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
		20	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, angular to subrounded, moderately sorted, predominantly loose quartz, trace pyrite, poor visual and inferred porosity, no hydrocarbon fluorescence.
1995	1998	60	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
		40	SANDSTONE: Clear to translucent, trace light grey, fine to coarse grained, predominantly fine to medium grained, angular to subrounded, moderately to poorly sorted, predominantly loose quartz, occasional aggregates with weak to firm white siliceous cement, poor visual porosity, fair inferred porosity, no hydrocarbon fluorescence.
1998	2001	90	SANDSTONE: Clear to translucent, trace light grey, fine to coarse grained, predominantly to medium fine grained, angular to subrounded, moderately to poorly sorted, predominantly loose quartz, occasional aggregates with weak to firm white siliceous cement, poor visual porosity, fair inferred porosity, no fluorescence.
		10	SILTSTONE: Medium grey to brown grey to olive black, argillaceous to arenaceous, trace glauconitic, trace carbonaceous specks, trace pyrite nodules, firm to moderately hard, subblocky.
2001	2004	90	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to coarse, moderately to poorly sorted, subangular to subrounded, locally common to abundant calcareous cement, white to off white argillaceous matrix, common rock flour, rare pyrite, trace lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2004	2007	90	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to coarse, moderately to poorly sorted, subangular to subrounded, locally common to abundant calcareous cement, white to off white argillaceous matrix, common rock flour, rare pyrite, trace lithics, trace quartz grains, friable to moderately hard, tight to poor visual porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
		10	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2007	2010	90	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to coarse, moderately to poorly sorted, subangular to subrounded, locally common calcareous cement, white to off white argillaceous matrix, rare pyrite, trace lithics, predominately friable to moderately hard, tight to poor visual porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2010	2013	80	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to coarse, moderately to poorly sorted, subangular to subrounded, locally common to abundant calcareous cement, white to off white argillaceous matrix, common rock flour, rare pyrite, trace lithics, trace quartz grains, predominately friable to moderately hard, tight to poor visual porosity, no fluorescence.
		20	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile.
2013	2016	70	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to coarse, moderately to poorly sorted, subangular to subrounded, locally common to abundant calcareous cement, white to off white argillaceous matrix, common rock flour, rare pyrite, trace lithics, trace quartz grains, predominately friable to moderately hard, tight to poor visual porosity, no fluorescence.
		30	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2016	2019	90	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, moderately sorted, subangular to subrounded, common aggregates, common to abundant calcareous cement, white to off white argillaceous/ silty matrix, rare pyrite, trace lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey, arenaceous, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile

Depth From (m)	Depth To (m)	%	Descriptions
2019	2022	100	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, moderately sorted, subangular to subrounded, common aggregates, common to abundant calcareous cement, white to off white argillaceous to silty matrix, rare pyrite, trace lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
2022	2025	100	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, moderately sorted, subangular to subrounded, common aggregates, common to abundant calcareous cement, white to off white argillaceous to silty matrix, rare pyrite, trace lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
2025	2028	20	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, poorly sorted, subangular to subrounded, common very fine to medium aggregates, common to abundant calcareous cement, white to off white argillaceous to silty matrix, rare pyrite, trace lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		80	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2028	2031	70	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, mod sorted, subangular to subrounded, very fine to medium aggregates, abundant calcareous cement, white to off white argillaceous to silty matrix, rare pyrite, occasionally carbonaceous inc, common lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		30	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2031	2034	50	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, mod sorted, subangular to subrounded, very fine to medium aggregates, abundant calcareous cement, white to off white argillaceous to silty matrix, rare pyrite, occasionally carbonaceous inc, common lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		50	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile

Depth From (m)	Depth To (m)	%	Descriptions
2034	2037	70	SANDSTONE: Clear to translucent, white to off white, very light grey, fine to medium, mod sorted, subangular to subrounded, very fine to medium aggregates, abundant calcareous cement, white to off white argillaceous/ silty matrix, rare pyrite, occasionally carbonaceous inc, common lithics, friable to moderately hard, tight to poor visual porosity, no fluorescence.
		30	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations & specks, firm, subblocky to subfissile
2037	2040	80	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, trace pyrite, fair inferred porosity, poor visual porosity, no fluorescence.
		20	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, locally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2040	2043	40	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, trace pyrite, fair inferred porosity, poor visual porosity, no fluorescence.
		60	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, occasionally glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2043	2046	50	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, trace pyrite, fair inferred porosity, poor visual porosity, no fluorescence.
		50	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, occasionally common pyrite, rare glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2046	2049	70	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		30	SILTSTONE: Medium to dark grey, arenaceous, very fine

Depth From (m)	Depth To (m)	%	Descriptions
			sandstone laminations, occasionally common pyrite, rare glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2049	2052	60	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, rare glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2052	2055	60	SANDSTONE: Clear to translucent, off white to occasionally tan, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose medium to coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, rare glauconite grains, common carbonaceous laminations and specks, firm, subblocky to subfissile
2055	2058	60	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates, occasionally loose medium to coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2058	2061	60	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with common loose medium to coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile

Depth From (m)	Depth To (m)	%	Descriptions
2061	2064	50	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with abundant loose medium and common coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		50	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2064	2067	60	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with abundant loose medium and common coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2067	2070	60	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with abundant loose medium and common coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2070	2073	70	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with abundant loose medium and common coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		30	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2073	2076	70	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately aggregates with abundant loose medium and common coarse grains, moderately calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
		30	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2076	2079	90	SANDSTONE: Clear to translucent, off white to occasionally tan with common translucent brown,, fine to medium, subangular to subrounded, predominately loose with common aggregates, weak calcareous cement, common argillaceous silty matrix, common lithics, fair inferred porosity, poor visual porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey, arenaceous, very fine sandstone laminations, common carbonaceous laminations and specks, firm, subblocky to subfissile
2079	2082	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, fair to good inferred and visual porosity, no fluorescence.
2082	2085	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and fair visual porosity, no fluorescence.
2085	2088	100	SANDSTONE: Clear to translucent, fine-very coarse subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, fair to good inferred and visual porosity, no fluorescence.
2088	2091	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, fair to good inferred and visual porosity, no fluorescence.
2091	2094	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and visual porosity, no fluorescence.
2094	2097	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and visual porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2097	2100	100	SANDSTONE: Clear to translucent, fine-very coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and visual porosity, no fluorescence.
2100	2103	100	SANDSTONE: Clear to translucent, med to very coarse, subangular to subrounded, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and visual porosity, no fluorescence.
2103	2106	100	SANDSTONE: Clear to translucent, med -very coarse, subangular to subrounded, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred and visual porosity, no fluorescence.
2106	2109	100	SANDSTONE: Clear to translucent, med to coarse, subangular to subrounded, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous specks, good inferred and visual porosity, no fluorescence.
2109	2112	100	SANDSTONE: Clear to translucent, med to coarse, subangular to subrounded, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous specks, good inferred and visual porosity, no fluorescence.
2112	2115	100	SANDSTONE: Clear to translucent, fine to med rare coarse, subrounded to subangular, moderately sorted, trace weak occasionally moderately strong siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2115	2118	100	SANDSTONE: Clear to translucent, fine to med rare coarse, subrounded to subangular, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2118	2121	100	SANDSTONE: Clear to translucent, fine to med rare coarse, subrounded to subangular, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2121	2124	100	SANDSTONE: Clear to translucent, fine to med rare coarse, subrounded to subangular, moderately sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2124	2127	100	SANDSTONE: Clear to translucent, fine to medium with common coarse, rare overgrowths, subrounded to subangular, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2127	2130	100	SANDSTONE: Clear to translucent, fine to medium with common coarse, rare overgrowths, subrounded to subangular, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2130	2133	100	SANDSTONE: Clear to translucent, fine to medium with common coarse, rare overgrowths, subrounded to subangular, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2133	2136	100	SANDSTONE: Clear to translucent, fine to medium with occasional coarse, rare overgrowths, subrounded to subangular, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2136	2139	100	SANDSTONE: Clear to translucent, fine to medium with occasional coarse, subrounded to subangular, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, common carbonaceous detritus, good inferred and visual porosity, no fluorescence.
2139	2142	100	SANDSTONE: Clear to translucent, fine to medium with occasional coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, loose predominately clean with trace light grey argillaceous matrix, trace lithics, trace nodular pyrite common carbonaceous detritus, good inferred and visual porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2142	2145	100	SANDSTONE: Clear to translucent, fine to medium with common coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, predominately loose with abundant aggregates and light grey argillaceous matrix, trace lithics, trace nodular pyrite common carbonaceous detritus, trace arenaceous siltstone, fair to poor inferred and visual porosity, no fluorescence.
2145	2148	100	SANDSTONE: Clear to translucent, fine to medium with common coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, predominately loose with abundant aggregates and light grey argillaceous matrix, trace lithics, trace nodular pyrite common carbonaceous detritus, trace arenaceous siltstone, fair to poor inferred and visual porosity, no fluorescence.
2148	2151	100	SANDSTONE: Clear to translucent, fine to medium with occasional coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, predominately loose with abundant aggregates and light grey argillaceous matrix, trace lithics, trace nodular pyrite common carbonaceous detritus, trace arenaceous siltstone, fair to poor inferred and visual porosity, no fluorescence.
2151	2154	100	SANDSTONE: Clear to translucent, fine to medium with occasional coarse, subangular to subrounded, poorly sorted, trace weak siliceous cement, predominately loose with abundant aggregates and light grey argillaceous matrix, trace lithics, trace nodular pyrite common carbonaceous detritus, trace arenaceous siltstone, fair to poor inferred and visual porosity, no fluorescence.
2154	2157	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with rare aggregates and light grey argillaceous matrix, trace lithics, trace arenaceous siltstone, fair to good inferred porosity, no fluorescence.
2157	2160	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with rare aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.
2160	2163	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with rare aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2163	2166	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with occasional aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.
2166	2169	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with occasional aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.
2169	2172	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with occasional aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.
2172	2175	100	SANDSTONE: Clear to translucent, very fine to medium, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately loose with occasional aggregates and light grey argillaceous matrix, trace lithics, fair to good inferred porosity, no fluorescence.
2175	2178	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, well sorted, abundant loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2178	2181	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, well sorted, abundant loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2181	2184	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, well sorted, abundant loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2184	2187	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded well sorted, abundant loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2190	2193	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, well sorted, abundant loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2193	2196	100	SANDSTONE: Clear to translucent, fine to medium, subangular to subrounded, well sorted, common loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2196	2199	100	SANDSTONE: Clear to translucent, fine to medium, trace loose coarse grains, subangular to subrounded, well sorted, common loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace lithics and carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2199	2202	100	SANDSTONE: Clear to translucent, fine to medium, rare loose coarse grains, subangular to subrounded, well sorted, common loose, weak to firm siliceous cement, white to light grey argillaceous matrix, trace to common black lithic fragments, trace carbonaceous inclusions, fair visual porosity, fair to good inferred porosity, no fluorescence.
2202	2205	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2205	2208	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2208	2211	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2211	2214	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.

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Depth From (m)	Depth To (m)	%	Descriptions
2214 2217	2217 2220	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence. SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2220	2223	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2223	2226	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2226	2229	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2229	2232	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2232	2235	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2235	2238	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2238	2241	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.
2241	2244	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, trace carbonaceous fragments, fair to good visual and inferred porosity, no fluorescence.
2244	2247	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, trace to common coarse angular siliceous overgrowths, common black lithic grains, trace dark grey chert fragments, trace carbonaceous fragments, fair to good visual and inferred porosity, no fluorescence.
2247	2250	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, trace carbonaceous fragments, fair to good visual and inferred porosity, no fluorescence.
2250	2253	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, trace carbonaceous fragments, fair to good visual and inferred porosity, no fluorescence.
2256	2259	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2259	2262	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium

Depth From (m)	Depth To (m)	%	Descriptions
			grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2262	2265	100	SANDSTONE: Clear to translucent, trace yellow, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2265	2268	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common to abundant black lithic grains, trace dark grey chert fragments, fair to good visual and inferred porosity, no fluorescence.
2268	2271	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common to abundant black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2271	2274	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common to abundant black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2274	2277	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common to abundant black lithic grains, fair to good visual and inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2277	2280	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common to abundant black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2280	2283	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2283	2286	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2286	2289	100	SANDSTONE: Clear to translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, rare aggregates with weak siliceous cement, light grey argillaceous matrix, trace coarse angular siliceous overgrowths, common black lithic grains, fair to good visual and inferred porosity, no fluorescence.
2289	2292	100	SANDSTONE: Clear to translucent, fine to coarse grained, subangular to subrounded, poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2292	2295	100	SANDSTONE: Clear to translucent, fine to coarse grained, subangular to subrounded, poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2295	2298	100	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grained, subangular to subrounded, moderately to poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, trace to common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2298	2301	100	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subangular to subrounded, moderately to well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, trace very coarse angular to subangular siliceous fragments, abundant pyrite nodules (also cement), common black lithic grains, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2301	2304	100	SANDSTONE: Clear to translucent, fine to coarse grained, subangular to subrounded, poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, trace to common pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2304	2307	100	SANDSTONE: Clear to translucent, fine to coarse grained, subangular to subrounded, poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2307	2310	100	SANDSTONE: Clear to translucent, fine to coarse grained, subangular to subrounded, poorly sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, common coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2310	2313	100	SANDSTONE: Clear to translucent, fine to coarse grained, predominantly fine to medium grained, subangular to subrounded, moderately sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, trace coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, trace to common pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2313	2316	100	SANDSTONE: Clear to translucent, fine to coarse grained, predominantly fine to medium grained, subangular to subrounded, moderately sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white slightly calcareous matrix, trace coarse to very coarse angular to subangular siliceous fragments, common black lithic grains, trace to common pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2316	2319	100	SANDSTONE: Clear to translucent, fine to medium grained, trace coarse grains, subangular to subrounded, moderately to well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, white moderately calcareous matrix, rare to trace coarse to very coarse angular to subangular siliceous fragments, trace black lithic grains, rare pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2319	2322	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, trace white weakly calcareous matrix, trace black lithic grains, rare pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2322	2325	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, trace white weakly calcareous matrix, trace black lithic grains, rare pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2325	2328	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, trace white weakly calcareous matrix, trace black lithic grains, rare pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2328	2331	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, trace aggregates with firm siliceous cement, trace white weakly calcareous matrix, trace black lithic grains, rare pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2331	2334	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, rare aggregates with firm white siliceous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2334	2337	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, rare aggregates with firm white siliceous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.

Depth From (m)	Depth To (m)	%	Descriptions
2337	2340	100	SANDSTONE: Clear to translucent, fine to medium grained, subangular to subrounded, well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2340	2343	100	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2343	2346	100	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2346	2349	100	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2349	2352	100	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2352	2355	100	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
2355	2358	90	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey to olive brown, arenaceous, carbonaceous inclusions, firm to hard, sub-blocky.

Depth From (m)	Depth To (m)	%	Descriptions
2358	2361	90	SANDSTONE: Clear to translucent, fine to medium grained, rare coarse, subangular to subrounded, moderately well sorted, predominantly loose quartz, rare aggregates with firm white calcareous cement, trace white moderately calcareous matrix, trace black lithic grains, trace pyrite nodules, fair to poor visual porosity, fair to good inferred porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey to olive brown, arenaceous, carbonaceous inclusions, firm to hard, sub-blocky.
2361	2364	90	SANDSTONE: Clear to translucent pale grey-white, very fine- very coarse predominately fine to coarse, subangular to angular, very poorly sorted, abundant aggregates, common loose grains, moderately to strong siliceous/calcareous cement, white argillaceous matrix, common carbonaceous inc, common lithic fragments, trace glauconite grains/inc, occasionally pale brown, hard, blocky, calcite, friable to hard, poorly visual and inferred porosity, no fluorescence.
		10	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2364	2367	80	SANDSTONE: Clear to translucent pale grey-white, very fine- very coarse predominately fine to coarse, subangular to angular, very poorly sorted, abundant aggregates, common loose grains, moderately to strong siliceous/calcareous cement, white argillaceous matrix, common carbonaceous inc, common lithic fragments, trace glauconite grains/inc, occasionally pale brown, hard, blocky, calcite, friable to hard, poorly visual and inferred porosity, no fluorescence.
		20	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2367	2370	40	SANDSTONE: Clear to translucent pale grey-white, very fine- very coarse predominately fine to coarse, subangular to angular, very poorly sorted, abundant aggregates, common loose grains, moderately to strong siliceous/calcareous cement, white argillaceous matrix, common carbonaceous inc, common lithic fragments, trace glauconite grains/inc, occasionally pale brown, hard, blocky, calcite, friable to hard, poorly visual and inferred porosity, no fluorescence.
		60	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.

Depth From (m)	Depth To (m)	%	Descriptions
2370	2373	20	SANDSTONE: Clear to translucent pale grey-white, very fine- very coarse predominately fine to coarse, subangular to angular, very poorly sorted, abundant aggregates, common loose grains, moderately to strong siliceous/calcareous cement, white argillaceous matrix, common carbonaceous inc, common lithic fragments, trace glauconite grains/inc, occasionally pale brown, hard, blocky, calcite, friable to hard, poorly visual and inferred porosity, no fluorescence.
		80	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2373	2376	30	SANDSTONE: Clear to translucent pale grey-white, very fine- very coarse predominately fine to coarse, subangular to angular, very poorly sorted, abundant aggregates, common loose grains, moderately to strong siliceous/calcareous cement, white argillaceous matrix, common carbonaceous inc, common lithic fragments, trace glauconite grains/inc, occasionally pale brown, hard, blocky, calcite, friable to hard, poorly visual and inferred porosity, no fluorescence.
		70	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2376	2379	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2379	2382	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.

Depth From (m)	Depth To (m)	%	Descriptions
2382	2385	50	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		50	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2385	2388	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2388	2391	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2391	2394	40	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		60	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2394	2397	40	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
Santos

Depth From (m)	Depth To (m)	%	Descriptions
		60	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2397	2400	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.
2400	2404	60	SANDSTONE: Light grey to white, dominantly very fine to medium with locally common coarse grains, subrounded to angular, poorly sorted, weak to moderately siliceous cement, abundant fine grained aggregates, abundant white argillaceous matrix, common carbonaceous inclusions, friable to hard, poor visual inferred porosity, no fluorescence.
		40	SILTSTONE: Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.

#### TOTAL DEPTH DRILLER : 2404 m

#### **SECTION 2.3: CATALOGUE OF WELLSITE SAMPLES**

#### **CASINO-4DW1**

#### **SAMPLE MANIFEST**

CLIENT: SANTOS WELL: CASINO 4DW1 TD: 1662m MD CONTAINER:

#### WASHED & DRIED CUTTINGS – 6 SETS IN PLASTIC BAGS

- 2 SETS : SANTOS (100 grams)
- 1 SET : A.W.E (100grams)
- 1 SET : MITSUI (100grams)
- 1 SET : DNRE ( 200grams )
- 1 SET : GEOSCIENCE (200 grams)

FREQUENCY 6m SAMPLES 1308m – 1662m

SANTOS (2 SETS)----- 2 small boxes taped together

Box	#	From (m)	To (m)
	1	1308	1566
1	2	1556	1662
1			

A.W.E.----- 2 small boxes taped together

Box	#	From (m)	To (m)
	1 2	1308 1556	1566 1662
1			

#### MITSUI-----2 small boxes taped together

Box	#	From (m)	To (m)
	1	1308	1566
1	2	1556	1662
1			

#### DNRE-----2 small boxes taped together

Box	#	From (m)	To (m)
	1	1308	1566
1	2	1556	1662
1			

#### GEOSCIENCE-----2 small boxes taped together

Box	#	From (m)	To (m)
1	1 2	1308 1556	1566 1662
1			

#### SAMPLEX TRAYS - 3 SETS FOR SANTOS 1 Box : 1308m to 1662m TD

SUMMARY: NUMBER OF BOXES: WASHED & DRIED: 6 SAMPLEX TRAYS : 1

TOTAL NUMBER OF BOXES : 7

### **SECTION 2.3: CATALOGUE OF WELLSITE SAMPLES**

### CASINO-4DW2

#### **SAMPLE MANIFEST**

CLIENT:SANTOSWELL:CASINO 4DW2TD:2404m MDCONTAINER:266

#### WASHED & DRIED CUTTINGS - 6 SETS IN PLASTIC BAGS

2 SETS :	SANTOS (100 grams)
----------	--------------------

- 1 SET :A.W.E (100grams)1 SET :MITSUI (100grams)
- 1 SET : DNRE (200grams)
- 1 SET : GEOSCIENCE (200 grams)

FREQUENCY 6m SAMPLES 1110m – 1842m 3m SAMPLES 1842m – 2404m

SANTOS (2 SETS)----- 4 boxes

Box	#	From (m)	To (m)
	1	1110	1512
1	2	1512	1881
1	3	1881	2031
	4	2031	2187

Box	#	From (m)	To (m)
	5	2187	2352
2	6	2352	2404
2			

#### A.W.E.----- 2 boxes

Box	#	From (m)	To (m)
	1	1110	1512
1	2	1512	1881
1	3	1881	2031
	4	2031	2187

Box	#	From (m)	To (m)
	5	2187	2352
2	6	2352	2404
L			

#### MITSUI-----2 boxes

Box	#	From (m)	To (m)
	1	1110	1512
1	2	1512	1881
1	3	1881	2031
	4	2031	2187

Box	#	From (m)	To (m)
	5	2187	2352
2	6	2352	2404
2			

DNRE-----2 boxes

Box	#	From (m)	To (m)
	1	1110	1344
1	2	1344	1578
	3	1578	1796
	4	1796	1944

Box	#	From (m)	To (m)
	5	1944	2079
2	6	2079	2214
2	7	2214	2343
	8	2343	2404

#### GEOSCIENCE-----2 boxes

Box	#	From (m)	To (m)
	1	1110	1344
1	2	1344	1578
1	3	1578	1796
	4	1796	1944

Box	#	From (m)	To (m)
	5	1944	2079
2	6	2079	2214
2	7	2214	2343
	8	2343	2404

#### SAMPLEX TRAYS - 3 SETS FOR SANTOS 3 Boxes : 1100m to 2404m TD

#### MUD SAMPLES FOR SANTOS

1Box: Contains 7 1L Samples

#### SUMMARY:

NUMBER OF BOXES:	WASHED & DRIED:	12
	SAMPLEX TRAYS :	3
	MUD SAMPLES:	1
TOTAL NUMBER OF BOXES :		16

### **SECTION 3.1: WIRELINE LOGGING REPORTS**

Wireline logs were not run on Casino-4DW1 or Casino-4DW2

#### SECTION 3.2: MWD / LWD END OF WELL REPORT (Sperry Sun)



### **Sperry Drilling Services**

**End of Well Report** 

for

Santos Ltd

### Casino-4DW1 & DW2

Rig:	Ocean Patriot
Field:	Casino
Country:	Australia
Job No:	AU-FE -0003530356
	& AU-FE -0003735541

Date: 21<sup>st</sup> May 2005

## HALLIBURTON

## **Sperry Drilling Services**

## **Table of Contents**

- 1. General Information
- 2. Operational Overview
- 3. Summary of MWD Runs
- 4. Bitrun Summary
- 5. Directional Survey Data
- 6. Service Interrupt Report

# **Sperry Drilling Services**

### **General Information**

Company:	Santos Ltd			
Rig:	Ocean Patriot			
Well:	Casino-4 DW1 a	and DW2		
Field:	Casino			
Country:	Australia			
API Number:				
Sperry-Sun Job Number:	AU-FE-3530356	and 3735541		
Job start date:	21-May-05			
Job end date:	04-Jun-05			
North reference:	Grid			
Declination:	10.942	deg		
Dip angle:	-69.993	deg		
Total magnetic field:	60916	nT		
Date of magnetic data:	08-May-05			
Wellhead coordinates N:	38 deg. 47 min 1	13.030 sec South	1	
Wellhead coordinates E:	142 deg. 41 min 54.490 sec East			
Vertical section direction:	289.9	deg		
MWD Engineers:	A.Rule		J.Nicolson	
	M.Saunders		B.Cooper	

Company Representatives:	C.Wise				
	R.King				
Company Geologist:	R. Subramanian				
Lease Name:	Vic P-44				
Unit Number:	197				
State:	Victoria				
County:					

### **Operational Overview**

Sperry Drilling Services, a division of Halliburton, was contracted by Santos Ltd to provide Surveying and Logging While Drilling (LWD) services on the wells, Casino-4DW1 and Casino-4DW2, located in the Bass Strait, offshore Victoria.

The development well was kicked off from the pilot hole Casino-4.

#### Casino-4DW1 12 1/4" Hole Section

The hole section was drilled with a rotary steerable assembly and a logging while drilling (LWD) tool was used to provide realtime and recorded drilling and formation evaluation data. The tool incorporated a positive pulser, Geo-Pilot Rotary Steerable Tool, Directional Module (DM), Dual Gamma Ray (DGR), Electromagnetic Wave Resistivity (EWR) and a Pressure While Drilling (PWD) tool to enable communications with the Geopilot.

The well was drilled to 1662.0 mMDRT using the Geo-Pilot rotary steerable tool but the required hole angle could not be built. The rotary steerable assembly was changed out for a mud motor with a 1.5° bend. The new BHA was unable to go down the casing and the well was plugged back and a new sidetrack drilled.

#### Casino-4DW2 12 1/4" Hole Section

The hole section was kicked off with two mud motor runs and then a Geo-Pilot rotary steerable assembly was used to build hole angle to 78° at the top of the reservoir. The hole was logged with the same LWD tool as DW1 with the addition of Gamma Ray at Bit (GABI) to provide realtime and recorded drilling and formation evaluation data. This section was drilled to 1998.0 mMDRT.

#### Casino-4DW2 8 1/2" Hole Section

The section was drilled in one bit run using a Geo-Pilot rotary steerable assembly to build hole angle and steer through the reservoir. The hole was logged with a LWD tool that incorporated a positive pulser, DGR, EWR, PWD, DM, Stabilised Litho-Density (SLD) and Compensated Neutron Porosity (CNP).

The well was drilled to a total depth of 2404.0 mMDRT.

### **Sperry Drilling Services**

### Summary of MVD runs

Run No.	Bit No.	Hole M Size S (mm)	WWD Service	Start E Depth E (m)	End Drill, Depth Dist (m)	Wipe ance (m)	Run Start Date Time	Run End Date Time	BRT ( Hrs.	Oper. Cir Hrs. Hr	°C. S.	Max. Temp. (degC)	Serv. Tri Int. M	pfor Fail MD Typ	lure De
0500	7	311.00	DIR-FE	1308.00	1662.00	354.00	20-May-05 19:36	23-May-05 00:33	52.94	52.94	30.30	67.00	No	No	
0600	8	311.00	DIR-FE	1662.00	1662.00	0.00	23-May-05 05:00	23-May-05 08:35	3.58	3.58	0.00	0.00	No	No	
0700	10	311.00	DIR-FE	1200.00	1265.00	65.00	24-May-05 15:01	25-May-05 16:35	25.55	25.55	7.37	22.00	Yes	No	RLL
0800	12	311.00	DIR-FE	1146.00	1157.00	11.00	26-May-05 12:47	27-May-05 10:26	21.65	21.65	13.27	57.00	No	No	
0900	13	311.00	DIR-FE	1157.00	1274.00	117.00	27-May-05 11:09	28-May-05 15:49	28.67	28.67	15.58	58.00	No	No	
1000	14	311.00	DIR-FE	1274.00	1998.00	724.00	28-May-05 18:30	31-May-05 23:02	76.54	76.54	52.30	76.00	No	No	
1100	15	216.00	DIR-FE-NUKE	1998.00	2404.00	406.00	02-Jun-05 09:17	04-Jun-05 15:29	54.20	54.20	35.80	78.00	Yes	No	SLD+
												_			
				TOTALS =	<b>⇒</b>	1677.00			263.13	263.13	154.62		2	0	

# **Sperry Drilling Services**

R	tun Time Data	Drilling Data			Mud Data				
MWD Run :	0500	Start Depth :	1308.00	m	Mud Type :	KCI/Pc	lymer		
Rig Bit No:	7	End Depth :	1662.00	m	Weight / Visc :	1.29	sg /	58.00	spqt
Hole Size :	311.00 mm	Footage :	354.00	m	Chlorides :	47000	ppm		
Run Start :	20-May-05 19:36	Avg. Flow Rate :	965	gpm	PV / YP :	22.00	ср /	38.00	lhf2
Run End :	23-May-05 00:33	Avg. RPM :	147	rpm	Solids/Sand :	13	% /	0.01	%
BRT Hrs :	52.94	Avg. WOB :	16.40	klb	%Oil / O:W:	N/A	% /	N/A	
Circ. Hrs :	30.30	Avg. ROP :	17.28	m/hr	pH/Fluid Loss:	9.20	pH /	3.80	mptm
Oper. Hrs :	52.94	Avg. SPP :	3036	psig	Max. Temp. :	67.00	degC		
MW	D Schematics				BHA Schema	atics			
(7)			Compo	nent			Length	0.D.	I.D.
(7)		(8)					(m)	(mm)	(mm)
(6)									
	7. Mk8 Pulser 1200 system	(7)							
	SN: 8270	(6)							
(5)		(0)							
	6. DM								
(4)	SN: 10581139								
( ')									
	SN 110349	(5)							
		1							
(3)	4. PWD								
	SN: 104432		08 11/1	סחו			15 50	127 000	70 /00
	15.98 m From Bit	(4)	00. 110	-			40.00	127.000	79.400
	3. EWR-P4		07. Cro	oss Ove	er Sub		1.02	190.500	73.025
(2)	SN: 123048	(3)	06. Dri	lling Ja	rs		9.67	206.375	76.200
	13.4/ m From Bit	(2)	05. HV	/DP			84.30	127.000	77.756
	2. DGR SN · 084171		04. Cro	oss Ove	er Sub		1.09	203.200	71.438
(1)	11.14 m From Bit		03. Flo	at Sub			1.05	203.200	76.200
	1. GeoPilot		02 MV	VD			23 67	206 829	75 473
	SN: GP1225TL062	(1)	01 50	curity F	NBS ES2663 (DD)	<b>^</b> )	0.64	311 000	76 200
		mmonto	01. 00			ο) Ν //\ Λ //	D Darfa		70.200
	Co								
Kicked off w	vith Geopilot at 1308.0 mMDR	F. Unable to build a	ngle with t	the	Tool OD / Type	: 20	3.00 m	m / P4I	М
Geo-Pliot. P	Pulled out to pick up a motor.				NIVUD Real-time	:%: 99.	.00 %	)	
					IVIVU Recorded	100 r	v.uu %		0.55
					IVIIN. INC. :	5.6	by de	eg/ 131	10.55 M
					IVIAX. INC. :	39	.79 de	eg/ 160	ס. <i>וו</i> m
						31	ວ.∪∪ 06 ດວ	≠y	
					Iviax Op. Press.	. 29	os pe	ыу	

# **Sperry Drilling Services**

R	Run Time Data	Drilling Data			Mud Data				
MWD Run :	0600	Start Depth :	1662.00	m	Mud Type :	KCI/Pol	ymer		
Rig Bit No:	8	End Depth :	1662.00	m	Weight / Visc :	1.29	sg /	65.00	spqt
Hole Size :	311.00 mm	Footage :	0.00	m	Chlorides :	48000	ppm		
Run Start :	23-May-05 05:00	Avg. Flow Rate :	N/A	gpm	PV / YP :	19.00	ср /	37.00	lhf2
Run End :	23-May-05 08:35	Avg. RPM :	N/A	rpm	Solids/Sand :	13	% /	0.1	%
BRT Hrs :	3.58	Avg. WOB :	N/A	klb	%Oil / O:W:	N/A	% /	N/A	
Circ. Hrs :	0.00	Avg. ROP :	N/A	m/hr	pH/Fluid Loss:	9.00	рН /	3.20	mptm
Oper. Hrs :	3.58	Avg. SPP :	N/A	psig	Max. Temp. :	N/A	degC		
MW	D Schematics				BHA Schema	atics			
(7)		(10)	Comp	onent			Length	0.D.	I.D.
(7) (6)	<ol> <li>7. Mk8 Pulser 1200 system SN : 8270</li> <li>6. DM SN : 10581139</li> </ol>	(10) (9) (8)					(m)	(mm)	(mm)
(4)	24.24 m From Bit 5. HCIM SN : 163155	(7)	10 -				15 50	127 000	76 200
(3)			10. 1				40.00	127.000	70.200
(0)	4. PWD		09. L	rilling Ja	rs		9.87	165.100	73.025
	19.06 m From Bit		08. H	WDP			83.17	127.000	79.375
	3. EWR-P4	(5)	07. C	ross Ove	er Sub		1.09	165.100	71.438
(2)	SN: 45162	(4)	06. N	IWD			14.32	203.200	81.679
	16.54 m From Bit		05 C	ross Ove	er Sub		1 22	203 200	100 013
	2. DGR		04		ode Otobilizer		1.00	202.200	70.000
(1)	SN : 151078 14 20 m From Bit	(2)	04. 11	педгагы			1.90	203.200	76.200
	1. DDS		03. F	loat Sud			1.05	215.900	76.200
	SN: 151078		02. 9	-5/8" Spe	erryDrill Lobe 3/4		8.56	244.602	76.200
	0.00 m From Bit	(1)	01. S	mith MA	89PX (PDC)		0.38	311.000	25.400
	Сс	mments				MWD	Perfo	rmance	
Picked up a racked in de	nmud motor and RIH. Unable errick. Picked up cement sting	to go down casing. er and plugged bac	POOH a	nd	Tool OD / Type : MWD Real-time MWD Recorded Min. Inc. : Max. Inc. : Final Az. : Max Op. Press.	: 203 %: N/A %: N/A N/A N/A N/A : 181	.00 m % % di di di 3 ps	m / P4 , , eg / N/A eg / N/A eg , sig	M . m . m

# **Sperry Drilling Services**

R	un Time Data	Drillin	g Data			М	ud Data		
MWD Run :	0700	Start Depth :	1200.00	m	Mud Type :	KCI/Pc	olymer		
Rig Bit No:	10	End Depth :	1265.00	m	Weight / Visc :	1.27	sg /	60.00	spqt
Hole Size :	311.00 mm	Footage :	65.00	m	Chlorides :	47000	ppm		
Run Start :	24-May-05 15:01	Avg. Flow Rate :	826	gpm	PV / YP :	16.00	ср /	35.00	lhf2
Run End :	25-May-05 16:35	Avg. RPM :	76	rpm	Solids/Sand :	12	% /	0.1	%
BRT Hrs :	25.55	Avg. WOB :	4.10	klb	%0il / 0:W:	N/A	% /	N/A	
Circ. Hrs :	7.37	Avg. ROP :	17.40	m/hr	pH/Fluid Loss:	10.50	pH /	3.40	mptm
Oper. Hrs :	25.55	Avg. SPP :	2276	psig	Max. Temp. :	22.00	degC		
MW	D Schematics				BHA Schem	atics			
			Compo	nent			Length	0.D.	I.D.
<ul> <li>(7)</li> <li>(6)</li> <li>(5)</li> <li>(4)</li> </ul>	<ol> <li>7. Mk8 Pulser 1200 System SN : 8270</li> <li>6. DM SN : 581139 20.13 m From Bit</li> </ol>	(8)					(m)	(mm)	(mm)
(3)	<ul> <li>5. HCIM</li> <li>SN : 163155</li> <li>4. PWD</li> <li>SN : 161846</li> </ul>	(5)	08. HV	VDP			46.07	127.000	79.400
	16.17 m From Bit	(4)	07 Dri	illing la	rs		9.87	203 200	76 200
(2)	3. EWR-P4	(3)	00. 11				0.01	407.000	77,700
(-/	13.65 m From Bit		06. HV	VDP			82.69	127.000	//./88
	2. DGR		05. Cr	oss Ove	er Sub		1.09	203.200	76.200
	SN: 151078		04. Flo	oat Sub			1.05	203.200	76.200
(1)	11.31 m From Bit	(2)	03. MV	ND			23.74	206.829	75.473
	1. GeoPilot		02. Int	egral Bl	lade Stabilizer		0.46	203.200	76.200
	6.23 m From Bit	(1)	01. TC		503		0.34	311.000	76.200
	Co	mments				MW	D Perfor	mance	
	ilad nua nun confidence test				Tool OD / Type	· 20	<u>3 00 m</u>	m / P/	M
unable to ki	ck off from 1200.0 mMDRT. I	PICKED UP DACKUP TO POOH at 1265.0 ml	MDRT to s	et	MWD Real-time MWD Recorded Min. Inc. : Max. Inc. :	. 20 e%: 98 d%: 10 4.4 4.4	.50 % 0.00 % 10 de 14 de	eg / 12	30.61 m 02.14 m
					Final Az. :	20	5.11 de	eg	
					Max Op. Press.	.: 23	20 ps	sig	

# **Sperry Drilling Services**

Run Time Data		Drilling Dat	a	Mud Data			
MWD Run : 0800	Start De	epth : 1146	6.00 m	Mud Type :	KCI/Polyme	r	
Rig Bit No: 12	End Dep	pth : 115	7.00 m	Weight / Visc :	1.27 s	sg / 6	8.00 spqt
Hole Size : 311.00 mm	Footage	e: 11.0	0 m	Chlorides :	46000 p	pm	
Run Start : 26-May-05 12:	17 Avg. Flo	ow Rate : 866	gpm	PV / YP :	18.00 c	хр/ 42	2.00 lhf2
Run End : 27-May-05 10:	26 Avg. RP	PM: 167	rpm	Solids/Sand :	12 %	% / 0.	.01 %
BRT Hrs : 21.65	Avg. Wo	OB: 6.00	klb	%0il / 0:W:	N/A %	%/N	/A
Circ. Hrs : 13.27	Avg. RC	OP: 1.10	m/hr	pH/Fluid Loss:	11.00 p	oH / 4	.40 mptm
Oper. Hrs : 21.65	Avg. SP	PP: 268	psig	Max. Temp. :	57.00 c	legC	
MWD Schematics				BHA Schema	tics		
	(10)	Co	omponent		Len	gth O	.D. I.D.
(6)	(10)				(m)	(n	nm) (mm)
(5) 6. M/r8 Pulsor 1200 S	(8)						
(4) SN · 8270	ystem	H					
0.00 m From Bi	t L						
5. DM	(7)						
(3) SN: 581139	(6)						
20.91 m From Bi	t	10.	HWDP		46	5.12 127	.000 79.400
4. HCIM		09.	Drilling Ja	rs	ç	9.87 203	.200 76.200
SN: 163155	(5)	08.	HWDP		138	8.37 127	.000 79.400
(2) 3 PWD		07.	Cross Ove	er Sub	1	.09 203	.200 70.000
SN: 161846		06	Drill Collar		26	59 203	200 76 200
16.95 m From Bi	t <sup>(4)</sup>	05			47	7.04 000	200 70 200
2. EWR-P4	(3)	05.			17	.31 203	.200 70.390
(1) SN: 45162	(2)	04.	Cross Ove	er Sub	1	.22 203	.200 70.000
14.43 m From Bi	t	03.	Float Sub		1	.05 203	.200 70.000
1. DGR SN · 151078		02.	9-5/8" Spe	erryDrill Lobe 3/4	8	8.56 244	.602 70.000
12.09 m From Bi	t (1)	<b>01</b> .	HYCALOO	G DS43GTS (PDC	) (	).17 311	.000 76.200
	Comments	S			MWD Pe	erforma	nce
Kicked off 1146.0 mMDRT. POC	H at 1157.0 mMD	ORT to change th	e bit.	Tool OD / Type :	203.00	mm /	P4M
				MWD Real-time%	6: 99.25	%	
				MWD Recorded%	%: 100.00	%	
				Min. Inc. :	3.91	deg /	1133.97 m
				Max. Inc. :	3.91	deg /	1133.97 m
				Final Az. :	191.68	deg	
				Max Op. Press. :	2086	psig	

# **Sperry Drilling Services**

R	un Time Data	Drilling	g Data			Mu	ud Data		
MWD Run :	0900	Start Depth :	1157.00	m	Mud Type :	KCI/Pol	ymer		
Rig Bit No:	13	End Depth :	1274.00	m	Weight / Visc :	1.27	sg /	60.00	spqt
Hole Size :	311.00 mm	Footage :	117.00	m	Chlorides :	46000	ppm		
Run Start :	27-May-05 11:09	Avg. Flow Rate :	843	gpm	PV / YP :	16.00	ср /	37.00	lhf2
Run End :	28-May-05 15:49	Avg. RPM :	72	rpm	Solids/Sand :	13	% /	0.1	%
BRT Hrs :	28.67	Avg. WOB :	19.20	klb	%Oil / O:W:	N/A	% /	N/A	
Circ. Hrs :	15.58	Avg. ROP :	8.80	m/hr	pH/Fluid Loss:	10.80	рН /	4.20	mptm
Oper. Hrs :	28.67	Avg. SPP :	2625	psig	Max. Temp. :	58.00	degC		
MW	D Schematics				BHA Schema	tics			
(6)		(11)	Compo	nent			Length	0.D.	I.D.
(0)							(m)	(mm)	(mm)
		(10)							
(5)									
(3)									
		(9)							
1									
(4)	6. Mk8 Pulser 1200 System	Ш							
	0.00 m From Bit	(8)							
	5. DM	(7)	44 1.154				40.40	407 000	70 400
(3)	SN: 581139	(.,	11. HV	VDP			46.12	127.000	79.400
(0)	22.98 m From Bit		10. Dri	lling Ja	rs		9.87	203.200	76.200
	4. HCIM	(6)	09. HV	VDP			138.37	127.000	79.400
	SN: 163155		08. Cro	oss Ove	er Sub		1.09	203.200	70.000
(2)			07 Dri				26 50	203 200	76 200
(-/	3. PWD	(5)					20.00	200.200	70.200
000000	3N. 101040 19.02 m From Bit	(4)	06. MV	VD			14.31	203.200	76.396
	2. EWR-P4		05. Cro	oss Ove	er Sub		1.22	203.200	70.000
(1)	SN: 45162	(3)	04. Inte	egral Bl	ade Stabilizer		1.90	203.200	70.000
(.,	16.50 m From Bit	(2)	03. Flo	at Sub			1.05	203.200	70.000
	1. DGR		02 9-5	5/8" Spe	erryDrill Lobe 3/4		8 56	244 602	70 000
	SN : 151078		01 01			)	0.04	044.000	50.000
	14.16 m From Bit		01. 50	CURITY L	BS XL12D (Tricor	ne)	0.34	311.000	50.800
	Co	mments				MWD	Perto	mance	18.4
Completed k	kick-off program with mud mo	tor. Pulled out at 12	74.0 mME	DRT	1001 OD / Type :	203	0.00 m	M/ P4	HVI
TO PICK UP IN	le Geophol.				NIVD Real-time	/0: 98.4	20 %		
						/0. 100 E 04	יע ייעט.ע ע סע.י	) ng / 14	66.30 ~~
					Max Inc. :	5.00 10 1	ידי עכ מיס ס	-y/ 11 og/ 10	50.01 ~
					Final Az	10.4	د <del>،</del> 10.0	-y/ IZ ⊃a	
					Max On Proce	120 225	3 na	-9 sia	
					Mar Up. 17633.	200	o h	'ny	

# **Sperry Drilling Services**

R	un Time Data	Drilling	g Data			М	ud Data		
MWD Run :	1000	Start Depth :	1274.00	m	Mud Type :	KCI/Pc	olymer		
Rig Bit No:	14	End Depth :	1998.00	m	Weight / Visc :	1.28	sg /	69.00	spqt
Hole Size :	311.00 mm	Footage :	724.00	m	Chlorides :	46000	ppm		
Run Start :	28-May-05 18:30	Avg. Flow Rate :	960	gpm	PV / YP :	20.00	ср /	43.00	lhf2
Run End :	31-May-05 23:02	Avg. RPM :	140	rpm	Solids/Sand :	14	% /	0.1	%
BRT Hrs :	76.54	Avg. WOB :	24.00	klb	%Oil / O:W:	N/A	% /	N/A	
Circ. Hrs :	52.30	Avg. ROP :	24.96	m/hr	pH/Fluid Loss:	8.50	рН /	4.60	mptm
Oper. Hrs :	76.54	Avg. SPP :	3230	psig	Max. Temp. :	76.00	degC		
MW	D Schematics				BHA Schema	atics			
<ul> <li>(7)</li> <li>(6)</li> <li>(5)</li> <li>(4)</li> </ul>	<ol> <li>7. Mk8 Pulser 1200 System SN : 8270 0.00 m From Bit</li> <li>6. DM SN : 581139 19.97 m From Bit</li> <li>5. HCIM SN : 162155</li> </ol>	<ul> <li>(7)</li> <li>(6)</li> <li>(5)</li> <li>(4)</li> </ul>	Compo	nent			Length (m)	O.D. (mm)	I.D. (mm)
(3)	<ul> <li>4. PWD</li> <li>SN: 161846</li> <li>16.01 m From Bit</li> <li>3. EWR-P4</li> <li>SN: 45162</li> <li>12.40 m From Bit</li> </ul>	(3)	07. HV 06. Dri	VDP II Collar			138.06 27.81	127.000 171.450	79.400 76.200
	2 DGR	(2)	05. Cro	oss Ove	er Sub		1.09	203.200	76.200
	SN: 151078		04. Dri	lling Ja	rs		9.67	203.200	76.200
(1)	11.15 m From Bit		03. Dri	ll Collai			88.33	203.200	76.200
	1. GeoPilot		02 MV	νn			23 63	207 /33	76 364
	SN: GP1225TL062	(1)	02. 1010	vD			20.00	201.400	70.004
	5.71 m From Bit		01. Se	curity D	DBS FS2663 (PD0	C)	0.64	311.000	50.800
	Со	mments				MW	D Perfo	rmance	
Steered with	n Geopilot to section TD at 19	98.0 mMDRT.			Tool OD / Type : MWD Real-time MWD Recorded Min. Inc. : Max. Inc. : Final Az. : Max Op. Press.	: 20 %: 98 %: 67 10 76 28 : 31	3.00 m .00 % .53 du .28 du 7.89 du 95 p:	ım / P4 	M 87.27 m 75.04 m

# **Sperry Drilling Services**

Run Time Data	Drilling	g Data			М	ud Data		
MWD Run : 1100	Start Depth :	1998.00	m	Mud Type :	Flo Pro			
Rig Bit No: 15	End Depth :	2404.00	m	Weight / Visc :	1.27	sg /	57.00	spqt
Hole Size : 216.00 mm	Footage :	406.00	m	Chlorides :	120000	) ppm		
Run Start : 02-Jun-05 09:17	Avg. Flow Rate :	745	gpm	PV / YP :	17.00	ср /	41.00	lhf2
Run End : 04-Jun-05 15:29	Avg. RPM :	92	rpm	Solids/Sand :	15	% /	0.25	%
BRT Hrs : 54.20	Avg. WOB :	16.50	klb	%0il / 0:W:	N/A	% /	N/A	
Circ. Hrs : 35.80	Avg. ROP :	18.10	m/hr	pH/Fluid Loss:	9.70	pH /	3.80	mptm
Oper. Hrs : 54.20	Avg. SPP :	3220	psig	Max. Temp. :	78.00	degC		
MWD Schematics				BHA Schema	atics			
(0)	(0)	Compor	nent			Length	0.D.	I.D.
(9) (8)						(m)	(mm)	(mm)
	(5)							
(6) 9. Mk8 Pulser 650 System SN: 8047 0.00 m From Bit	н							
(5) SN: 74044 24.52 m FromBit 7. SLD SN: 121808 21.05 m FromBit	(4)							
(4) 6. HCIM SN: 093281	Ц							
(3) 5. FWD SN: 159816 16.31 m FromBit	(3)							
4. EWR-P4 SN: 138389 13.78 m From Bit	(2)	06. HW	/DP			46.12	127.000	79.400
(2) 3. DGR SNit 120021		05. Dril	ling Ja	rs		9.24	171.450	76.200
11.44 m FromBit		04. HW	/DP			55.28	139.700	76.200
2. DM SN: 149865		03. Flo	at Sub			0.79	165.100	76.200
(1) 8.97 m FromBit		02. MV	VD			28.67	174.228	75.152
SN: GP0850TL084 4.66 m From Bit		01. Sec	curity D	DBS FMF3553 (PI	DC)	0.42	216.000	50.800
Co	mments				MWE	) Perfor	mance	
Built hole angle with Geopilot and drilled h	orizontal hole along	reservoir	to	Tool OD / Type	: 171	l.00 m	m / P4	M
2404.0 mMDRT.		10001 1011	.0	MWD Real-time	%: 95.	60 %	1	
				MWD Recorded	%: 100	).00 %	1	
				Min. Inc. :	76.	66 de	eg / 202	20.94 m
				Max. Inc. :	87.	78 de	eg / 219	)3.21 m
				Final Az. :	287	7.71 de	eg	
				Max Op. Press.	: 317	76 ps	sig	

# **Sperry Drilling Services**

## **Directional Survey Data**

Measured	Inclination	Direction	Vertical	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/30m)
1146.00	4.50	204.71	1145.63	2.70 S	1.75 E	-2.56	TIE-IN
1166.38	5.08	197.94	1165.94	4.28 S	1.14 E	-2.53	1.19
1196.52	6.90	204.40	1195.91	7.20 S	0.02 W	-2.43	1.93
1225.28	9.13	213.00	1224.39	10.69 S	1.98 W	-1.78	2.63
1250.01	10.24	216.17	1248.77	14.11 S	4.34 W	-0.72	1.49
1257.46	10.16	218.79	1256.10	15.16 S	5.15 W	-0.32	1.90
1287.27	10.53	234.54	1285.43	18.79 S	9.01 W	2.08	2.86
1314.96	11.47	254.15	1312.62	21.01 S	13.72 W	5.75	4.16
1342.92	12.82	274.39	1339.97	21.53 S	19.49 W	11.00	4.76
1371.81	14.63	289.92	1368.04	20.04 S	26.12 W	17.74	4.25
1403.35	16.96	298.16	1398.39	16.51 S	33.93 W	26.28	3.07
1430.21	19.64	303.85	1423.89	12.15 S	41.13 W	34.54	3.59
1460.58	23.39	309.06	1452.15	5.50 S	50.05 W	45.19	4.15
1487.44	26.26	311.42	1476.52	1.79 N	58.65 W	55.76	3.39
1515.92	30.69	310.65	1501.55	10.70 N	68.90 W	68.42	4.68
1544.45	35.01	308.80	1525.51	20.57 N	80.80 W	82.98	4.66
1574.02	39.48	307.90	1549.05	31.67 N	94.84 W	99.95	4.57
1601.66	43.46	306.39	1569.75	42.71 N	109.43 W	117.43	4.45
1630.50	47.12	305.12	1590.04	54.68 N	126.06 W	137.15	3.92
1659.47	51.07	302.67	1609.01	66.87 N	144.24 W	158.39	4.52
1688.15	54.91	300.23	1626.27	78.81 N	163.78 W	180.82	4.50
1716.83	59.06	298.06	1641.90	90.51 N	184.78 W	204.55	4.74
1745.43	62.89	296.17	1655.77	101.90 N	207.04 W	229.36	4.38
1775.14	65.13	291.82	1668.79	112.74 N	231.43 W	255.99	4.55
1803.18	66.82	288.55	1680.21	121.57 N	255.46 W	281.59	3.67
1832.10	67.00	288.55	1691.55	130.04 N	280.69 W	308.19	0.19
1861.05	70.00	287.81	1702.16	138.44 N	306.27 W	335.11	3.19
1889.71	70.27	288.54	1711.90	146.85 N	331.88 W	362.05	0.77
1918.35	71.02	288.14	1721.39	155.35 N	357.53 W	389.06	0.88
1946.76	73.24	288.85	1730.11	163.93 N	383.17 W	416.09	2.45
1975.04	76.28	287.89	1737.54	172.52 N	409.07 W	443.36	3.37
2020.94	76.66	287.87	1748.28	186.22 N	451.54 W	487.96	0.25
2049.61	78.96	288.67	1754.34	195.01 N	478.14 W	515.97	2.54
2078.36	82.52	288.53	1758.96	204.06 N	505.03 W	544.33	3.72
2107.04	86.73	289.13	1761.65	213.27 N	532.05 W	572.88	4.45
2135.83	87.47	289.13	1763.10	222.70 N	559.22 W	601.63	0.77
2164.51	87.78	290.18	1764.29	232.33 N	586.20 W	630.28	1.14
2193.21	87.78	290.62	1765.40	242.33 N	613.08 W	658.96	0.46
2221.71	87.29	289.70	1766.63	252.14 N	639.81 W	687.43	1.10
2250.28	85.93	289.24	1768.32	261.65 N	666.70 W	715.95	1.51

# **Sperry Drilling Services**

## **Directional Survey Data**

Measured Depth		Direction	Vertical Depth	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/som)
2279.03	86.30	289.25	1770.27	271.10 N	693.78 W	744.63	0.39
2307.85	85.37	288.38	1772.36	280.37 N	720.99 W	773.37	1.32
2336.65	82.20	287.82	1775.48	289.27 N	748.20 W	801.98	3.35
2365.23	80.01	287.52	1779.90	297.84 N	775.10 W	830.20	2.32
2394.21	79.83	287.71	1784.97	306.47 N	802.30 W	858.71	0.27
2404.00	79.83	287.71	1786.70	309.40 N	811.48 W	868.34	0.00



## **Sperry Drilling Services**

### **Directional Survey Data**

CALCULATION BASED ON Minimum Curvature METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 289.90 DEGREES (GRID) A TOTAL CORRECTION OF 12.01 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

> HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD. HORIZONTAL DISPLACEMENT(CLOSURE) AT 2404.00 METRES IS 868.46 METRES ALONG 290.87 DEGREES (GRID)

> > RT to LAT = 22.0 m. Surveys are corrected for BHA sag. Final Survey Projected to TD.



# **Sperry Drilling Services**

## Service Interrupt Report

MWD run number :	0700	Time/Date of Failure :	28-May-05 02:24
Rig Bit Number :		Depth at time of Failure :	0.00 m
MWD Run start time/date :	24-May-05 15:01	Lost Rig Hours :	3.00
MWD Run end time/date :	25-May-05 16:35		
Rig Activity			
Changing out BHA.			
Description of Failure			
Tool failed confidence test. Sul	bsequent attempts to communica	te with the tool failed.	
Action Taken			
Changed out RLL and RIH. Cha	anged out the HCIM insert on fail	ed tool after it was laid out but g	ot the same problem.
Operation Impact			
Lost 3 hours of rig time.			
<u>.</u>			
Reason for Failure			
Unknown.			



# **Sperry Drilling Services**

## Service Interrupt Report

MWD run number :	1100	Time/Date of Failure :	04-Jun-05	16:00
Rig Bit Number :	15	Depth at time of Failure :	0.00	m
MWD Run start time/date :	02-Jun-05 09:17	Lost Rig Hours :	0.00	
MWD Run end time/date :	04-Jun-05 15:29			
RIG ACTIVITY				
Running production liner.				
Description of Foilure				
Description of Failure	fter europeefulluire de line teol			
Unable to process SLD+ data a	itter successfully reading tool.			
A ation Talian				
Action Taken		·····		
Repeated tool read but with sa	me outcome. The data was later	processed in the office.		
Operation Impact				
Delivery of recorded SLD data	delayed by three days			
	uciayed by three days.			
Reason for Failure				
Surface computer error.				
Surface computer error.				

#### **SECTION 4: PRODUCTION TEST REPORTS**

- <u>Casino-4DW1</u>: No production tests were conducted.
- <u>Casino-4DW2</u>: The well was production tested and completed. The preliminary report is presented overleaf.

#### **CASINO-4DW2 SUMMARY:**

Casino 4DW2 was drilled to TD in the Waarre A sand at 2404m MD RT. The lower completion Weatherford sandscreens were conveyed on 6 5/8" 13 chrome tubing and set in open hole (1998.75m to 2397.73m). The lower completion was suspended from a Weatherford Blackcat packer set at 1690.49m.

The upper completion was run on 7" 13-chrome tubing with a Halliburton HHT packer set at 1633.95m. The Upper completion also comprised a QN nipple and mule shoe below the packer, a chemical cut sub above the packer and a SSSV below the tubing hanger.

The landing string of 9 5/8" tubing included an Expro 7" SSTT and lubricator valve and a 7" surface Flowhead.

A diesel underbalance was displaced to the completion string before setting the packer. The well was cleaned up and a well test performed with an Expro surface well test package. The clean up and well test duration was 48.25 hrs. The total duration for the completion including the well test was 7 days.





# Well Site Test Report

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Report Approved By (CHS) :	Date :
Report Approved By (Welltest) :	Date :





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	EDGE Data
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	Gauge Data
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### Introduction

Expro Cased Hole Services (Electrical) provided the surface data acquisition package for the completion welltest of well Casino 4 DW2 on the Ocean Patriot from the 8th to 11th of June 2005.

The Objectives of the Casino Completion programme were:

- 1. Install lower completion comprising packer, tubing and sand screens in 8 1/2" horizontal hole.
- 2. Install upper completion and tubing hanger using landing string.
- 3. Clean Up and Well Test.
- 4. Suspend Well.

The Well Test consisted of flowing the well to clean up for approximately 12 hours, closing the well in for one hour and then performing a 3 step rate test. Each step flow rate was of 6 hours duration. The well was then Shut-In for a 24 Hour buildup prior to suspension operations.

Prior to conducting the welltest three Expro gauges were run on slickline for measuring bottomhole pressure and temperature during the test and build up.

All operations were conducted safely and in accordance with Santos and Expro safe operating procedures and guidelines.

Gas specific gravity of 0.61 used for rate calculations based on PVT analysis performed on gas samples. This over rides the estimate gas specific gravity of 0.68 reported during the test.





## Sequence of Events

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Client Sa	ntos Ltd
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Exal Engineer M. Hall / B. Tupman

Well No.Casino 4 DW2LocationOcean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

Time Comment

08/06/05

- 03:55:00 Opened Master Valve (MV), Kill Wing Valve(KWV) and Flow Wing Valve(FWV) on 7" Flowhead Hydraulic Master Valve.
- 03:57:00 Closed Sub Sea Lubricator Valve (SSLV).
- 04:10:00 Commenced pressure testing 7" Flowhead and surface lines to 300 psi.
- 04:15:00 Increased pressure to 5000 psi.
- 04:20:00 Leak observed on co-flexip connection, bled pressure to zero.
- 04:44:00 Closed choke manifold.
- 04:50:00 Commenced pressure testing 7" Flowhead and surface lines to 5000 psi.
- 05:08:00 Good test, bled surface pressure to zero.
- 05:25:00 Opened SSLV.
- 05:27:00 Opened Sub Sea Annular Access Valve (SSAAV).
- 05:28:00 Opened Sub Sea Annulus Master Valve (SSAMV).
- 05:29:00 Opened Sub Sea Production Master Valve (SSPMV).
- 05:30:00 Opened Sub Sea Crossover Valve (SSXOV).
- 06:00:00 Commenced landing tubing hanger as per completion programme.
- 08:00:00 Opened SSAAV.
- 08:10:00 Pressure tested choke and kill lines below closed Middle Pipe Rams.
- 08:35:00 Expro wireline commenced rigging up.
- 09:10:00 Closed 7" Flowhead Hydraulic Master Valve.
- 10:25:00 Completed lock testing tubing hanger.
- 10:30:00 Commenced rigging up 2.0" drain line hose.
- 11:00:00 Closed Lo-torque valves and removed flow line actuator cap.
- 11:50:00 Flushed choke manifold prior pressure to testing wireline lubricator to 3500 psi.
- 12:00:00 Bled off surface pressure to zero.
- 12:05:00 Wireline commenced running in hole (RIH) to retrieve Tubing Hanger (TH) isolation sleeve.
- 12:30:00 Wireline at surface, closed 7" Flowhead Hydraulic Master Valve.
- 13:00:00 Flushed surface lines through choke manifold.
- 13:05:00 Commenced pressure testing above 7" Flowhead Hydraulic Master Valve to 3500 psi.
- 13:10:00 Bled off surface pressure to zero.
- 13:15:00 Wireline commenced RIH to set short protection sleeve in Tubing Hanger.
- 14:05:00 Wireline at surface, closed 7" Flowhead Hydraulic Master Valve.
- 14:29:00 Closed in at choke manifold for pressure test to 5000psi.
- 14:56:00 Bled off surface pressure to zero at choke manifold.
- 15:00:00 Hold JSA prior to to displacing string with diesel.
- 15:13:00 Opened 7" Flowhead Hydraulic Master Valve and close Swab valve.
- 15:15:00 Closed choke manifold and rigged in line to pump diesel from cement pump unit.
- 15:20:00 Commenced pumping diesel.
- 15:26:00 Initial reading on rig tank volume 214bbls water.
- 15:36:00 Rig tank volume 241 bbls water.
- 15:42:00 Diesel pumping in hole from cement unit 41bbls at 338psi tubing head pressure.
- 15:51:00 Rig tank volume 281bbls water.
- 15:53:00 Diesel pumping in hole from cement unit 75bbls at 370psi tubing head pressure.
- 16:04:00 Diesel pumping in hole from cement unit 108bbls at 502psi tubing head pressure. 16:05:00 Rig tank volume 316bbls water.
- 16:05:00 Rig tank volume 316bbls water.
- 16:18:00 Diesel pumping in hole from cement unit 145bbls at 660psi tubing head pressure.
- 16:18:00 Rig tank volume 352bbls water.
- 16:18:00 Diesel pumping in hole from cement unit 175bbls at 802psi tubing head pressure.
- 16:33:00 Rig tank volume 395bbls water.
- 16:38:00 Diesel pumping in hole from cement unit 200bbls at 872psi tubing head pressure.
- 16:41:00 Diesel pumping in hole from cement unit 207bbls at 827psi tubing head pressure.
- 16:41:00 Stopped pumping diesel and bled off surface pressure via choke manifold to surge tank.
- 16:45:00 Rigged up wireline toolstring to run standing valve.

|--|

Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

#### Time Comment

#### 08/06/05

- 17:06:00 Equalized pressure above master valve to prior to opening.
- 17:10:00 Opened master valve RIH to set standing valve.
- 17:40:00 Lined up Gas and Oil lines to port side.
- 17:40:00 Lined up downstream choke to surge tank.
- 18:29:00 Wireline at surface, closed 7" Flowhead Hydraulic Master Valve.
- 18:30:00 Bled off surface pressure via choke manifold to surge tank.
- 18:32:00 Closed choke manifold.
- 19:12:00 Equalized pressure above master valve to prior to opening.
- 19:15:00 Closed kill wing valve, opened master valve.
- 19:18:00 Held safety meeting prior to setting packer.
- 19:31:00 Kill wing valve opened.
- 19:32:00 Commence setting packer, pressured up tubing to 4000psi.
- 20:20:00 Packer set complete.
- 20:24:00 Closed SSSV.
- 20:25:00 Cameron SSSV closed.
- 20:27:00 Bled off pressure to 1500psi at choke manifold.
- 20:29:00 Closed in choke manifold.
- 20:35:00 Increased tubing pressure to 3500psi above SSSV.
- 20:45:00 Opened SSSV.
- 20:50:00 Bled tubing pressure to 850psi at choke manifold.
- 21:06:00 Commenced pressuring up annulus to 3500psi.
- 21:12:00 Annulus pressure of 3596psi obtained and held, tubing head pressure up to 1329psi.
- 21:29:00 Closed Sub Sea Annular Access Valve.
- 21:33:00 Bled off pressure to 250psi from cement unit to inflow test SSAAV, held for 10 min.
- 21:43:00 Good test, equalized pressure across SSAAV to 3500psi and opened SSAAV.
- 21:45:00 Closed Sub Sea Annulus Master Valve.
- 21:46:00 Bled off pressure to 250psi from cement unit to inflow test SSAMV, held for 10 min.
- 21:55:00 Good test, equalized pressure across SSAMV and opened SSAMV.
- 22:00:00 Closed Sub Sea Production Master Valve.
- 22:01:00 Opened Sub Sea Production Master Valve in order to correctly follow programme.
- 22:06:00 Bled pressure from annulus to 100psi via rig choke/kill line.
- 22:12:00 Closed Sub Sea Production Master Valve.
- 22:18:00 Opened Sub Sea Crossover Valve.
- 22:19:00 Closed Sub Sea Crossover Valve.
- 22:20:00 Closed 7" Flowhead Hydraulic Master Valve.
- 22:25:00 Bled surface pressure to 0psi via choke manifold and closed choke manifold.
- 22:28:00 Opened 7" Flowhead Swab Valve.
- 22:30:00 Opened 7" Flowhead Kill Wing Valve.
- 22:31:00 Equalized pressure above 7" Flowhead Hydraulic Master valve prior to opening.
- 22:34:00 Opened 7" Flowhead Hydraulic Master Valve.
- 22:36:00 Closed 7" Flowhead Kill Wing Valve.
- 22:37:00 RIH with wireline to retrieve standing valve.
- 23:22:00 Latched and pulled standing valve, POOH.
- 23:56:00 Wireline at surface, shut Sub Sea Upper Ball Valve.

#### <u>09/06/05</u>

- 00:00:00 Attempted bleed back to 100psi via choke manifold.
- 00:04:00 Not bleeding down properly, shut in choke manifold and applied pressure to assist close on Sub Sea Upper Ball Valve to 2500psi.
- 00:08:00 Bled back to 100psi via choke manifold and held for 10min.
- 00:20:00 Test good, bled pressure down to 0psi at choke manifold and closed choke manifold.
- 00:24:00 Closed Sub Sea Lubricator Valve.

|--|

**Exal Engineer** M. Hall / B. Tupman

Well No. Casino 4 DW2

Location **Ocean Patriot** 

Completion Test No.

Comment

intervals.

Time

09/06/05

01:27:00

Dates From/To 08/06/05-11/06/05

Started top gauge MP2CH042-51084 by connecting to battery 20466, gauge sampling at 1 second

01:29:00	Started middle gauge MP2CH228-51248 by connecting to battery FC15708, gauge sampling at 1 second intervals
01:32:00	Started bottom gauge MP2CH185-40586 by connecting to battery FC15692, gauge sampling at 2
	second intervals.
01:40:00	Installed gauge toolstring in lubricator, stabbed on.
01:56:00	Opened Sub Sea Lubricator Valve.
02:00:00	Equalized above Sub Sea Upper Ball Valve.
02:03:00	Opened Sub Sea Upper Ball Valve.
02:08:00	Wireline commenced running in hole with pressure/temperature guages.
02:15:00	Pressure detected in Sub Sea assist close line, operations halted.
02:18:00	Issue resolved, operations recommenced.
03:37:00	Wireline at surface, shut Sub Sea Upper Ball Valve.
03:41:00	Bled surface pressure down to 74psi at choke manifold and held for 10min.
03:52:00	Test good, bled surface pressure down to Opsi at choke manifold and closed choke manifold.
03:55:00	Closed Sub Sea Lubricator Valve.
04:00:00	Opened 7" Flowhead Kill Wing Valve.
04:06:00	Closed 7" Flowhead Swab Valve and made up downhole gauge recovery toolstring.
04:12:00	Opened Sub Sea Lubricator Valve.
04:14:00	Equalized pressure in order to open Sub Sea Upper Ball Valve.
04:16:00	Closed 7" Flowhead Kill Wing Valve.
04:17:00	Opened Sub Sea Upper Ball Valve.
04:21:00	Conducted Safety meeting prior to flowing well.
04:59:00	Commenced pumping pilot diesel to flare, set one compressor on half load to bring flare ignition
	system online.
05:12:00	Opened well to surge tank via 16/64 adjustable choke.
05:13:00	Increased to 20/64 adjustable choke.
05:15:00	Increased to 24/64 adjustable choke.
05:16:00	Increased to 28/64 adjustable choke.
05:18:00	11.4 bbls cumulative recovered at surge tank.
05:20:00	13.9 bbls cumulative recovered at surge tank.
05:21:00	Increased to 32/64 adjustable choke.
05:25:00	20.7 bbls cumulative recovered at surge tank.
05:30:00	28 bbls cumulative recovered at surge tank.
05:35:00	35 bbls cumulative recovered at surge tank.
05:40:00	Diverted flow to port flareboom.
05:41:00	Increased to 36/64 adjustable choke.
05:49:00	Increased to 40/64 adjustable choke.
05:55:00	Increased to 44/64 adjustable choke.
05:58:00	Increased to 48/64 adjustable choke.
06:01:00	Increased to 52/64 adjustable choke.
06:12:00	Brine at surface, port flareboom extinguished, diverted flow via gas line to flare boom.
06:15:00	BS&W at choke manifold 100% mud.
06:17:00	Gas at surface.
06:18:00	Lo-pilot upstream safety valve armed, set at 150psi.
06:21:00	Increased to 56/64 adjustable choke.
06:22:00	Increased to 60/64 adjustable choke
06:24:00	Increased to 64/64 adjustable choke.
06:30.00	BS&W at choke manifold 100% mud
06:57:00	Decreased to 56/64 adjustable choke
07:00:00	BS&W at choke manifold 100% mud.
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Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

#### Time Comment

#### 09/06/05

- 07:00:00 Draeger indicated 0.7% C02 and 0.3 ppm H2S.
- 07:05:00 Flare ignited on port flareboom.
- 07:09:00 Increased to 64/64 adjustable choke.
- 07:15:00 Draeger indicated 0.7% C02 and 0.3 ppm H2S.
- 07:30:00 BS&W at choke 100% mud.
- 07:30:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 07:45:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 08:00:00 BS&W at choke 100% mud.
- 08:00:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 08:15:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 08:30:00 BS&W at choke 100% mud.
- 08:30:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 08:43:00 Annulus transducer producing spurious data, drillfloor monitoring.
- 08:45:00 Draeger indicated 1.0% C02 and 0.3 ppm H2S.
- 09:00:00 BS&W at choke 100% mud.
- 09:00:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 09:15:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 09:16:00 Increased to 72/64 adjustable choke.
- 09:20:00 Annulus transducer back on line.
- 09:26:00 Increased to 76/64 adjustable choke.
- 09:30:00 BS&W at choke 100% mud.
- 09:30:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 09:31:00 Increased to 96/64 adjustable choke.
- 09:45:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 10:00:00 BS&W at choke 100% mud.
- 10:00:00 Draeger indicated 0.5% C02 and 0.1 ppm H2S.
- 10:30:00 BS&W at choke 100% mud.
- 10:30:00 Draeger indicated 0.5% C02 and 0.1 ppm H2S.
- 11:00:00 BS&W at choke 100% mud.
- 11:00:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 11:30:00 BS&W at choke 100% mud.
- 11:30:00 Draeger indicated 1.0% C02 and 0.1 ppm H2S.
- 12:00:00 BS&W at choke 100% mud.
- 12:00:00 Draeger indicated 0.3% C02 and 0.0 ppm H2S.
- 12:30:00 BS&W at choke 100% mud.
- 13:00:00 Unable obtain BS&W due to plugging in sampling lines.
- 13:47:00 Diverted flow through 64/64" fixed choke.
- 13:50:00 No liquids at surface.
- 14:00:00 Draeger indicated 0.6% C02 and 0.1 ppm H2S.
- 14:23:00 Diverted flow through test separator.
- 14:39:00 Installed 4.50" orifice plate in test separator gas meter run.
- 14:45:00 Draeger indicated 0.6% C02 and 0.1 ppm H2S.
- 14:45:00 Gas SG 0.716.
- 15:00:00 Draeger indicated 0.6% C02 and 0.1 ppm H2S.
- 15:00:00 Gas SG 0.692.
- 15:00:00 Mercury: 0.94 micrograms/m3.
- 15:07:00 Removed orifice plate.
- 15:10:00 Radon: 381 Bq/m3.
- 15:11:00 Lowered pressure in test separator.
- 15:17:00 Installed 4.50" orifice plate in test separator gas meter run.
- 15:30:00 Draeger indicated 0.6% C02 and 0.1 ppm H2S.
- 15:30:00 Gas SG 0.684.
Client Santos Ltd

Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

## Time Comment

## 09/06/05

- 15:50:00 Mercury: 0.59 micrograms/m3.
- 15:50:00 Lowered pressure in test separator.
- 16:00:00 Draeger indicated 0.5% C02 and 0.1 ppm H2S.
- 16:00:00 Oil SG 0.773 @ 60 degF.
- 16:00:00 Well Test sample attained by Geoservices 0.6% C02 and <0.5ppm H2S.
- 16:15:00 Petrotech commenced taking gas sample 1.01 : s/n A4786.
- 16:30:00 Completed taking gas sample.
- 16:45:00 Total liquid returns; 3 bbls Estimated LGR 0.65 bbl/MMscf.
- 17:00:00 Draeger indicated 0.6% C02 and 0.1 ppm H2S.
- 17:00:00 Gas SG 0.693.
- 17:05:00 Clean-up criteria established: 1: BS&W <3% not measurable, 2: Stable THP <10 psi/5 min change over 2 hours 15 psi stable increase over 2 hours, 3: Stable gas rate 47.3 MMscf/d, 4: WGR < 1 bbl/MMscf Estimated LGR<0.65 bbl/MMscf
- 17:08:00 Raised orifice plate and bypassed test separator.
- 17:09:00 Closed in well at choke manifold.
- 18:38:00 Commenced methanol injection upstream of surface safety valve.
- 18:39:00 Opened well up to port flareboom on 16/64 adjustable choke through heat exchanger and separator.
- 18:40:00 Increased to 24/64 adjustable choke.
- 18:41:00 Increased to 32/64 adjustable choke.
- 18:41:00 Gas flare lit.
- 18:45:00 Well shut in due to burst steam hose.
- 19:03:00 Commenced methanol injection upstream of surface safety valve.
- 19:03:00 Opened well up to port flareboom on 16/64 adjustable choke through heat exchanger and separator.
- 19:04:00 Increased to 32/64 adjustable choke.
- 19:05:00 Diverted flow through 32/64 fixed choke.
- 19:06:00 Gas flare lit.
- 19:07:00 Shut in due to leak on Weco seal downstream of choke manifold caused by hydrating.
- 19:10:00 Opened well up to port flareboom on 24/64 adjustable choke through heat exchanger and separator.
- 19:11:00 Increased to 32/64 adjustable choke.
- 19:12:00 Diverted flow through 32/64 fixed choke.
- 19:13:00 Steam delivery to heat exchanger halted to fix minor leak in union.
- 19:13:00 Gas flare lit.
- 19:13:00 Recommenced steam delivery to heat exchanger.
- 19:19:00 Ceased methanol injection upstream of surface safety valve.
- 19:37:00 Installed 2.75" orifice plate in test separator gas meter run.
- 19:38:00 Gas SG 0.684.
- 19:52:00 Draeger indicated 1% C02 and 0.1 ppm H2S, 0% mercaptan.
- 20:32:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 21:10:00 Radon: 396 Bq/m3.
- 21:28:00 Gas SG 0.682.
- 21:29:00 Flushed line to downstream choke pressure transducer.
- 21:30:00 Draeger indicated 1% C02 and 0.1 ppm H2S, 0% mercaptan.
- 21:36:00 Adjusted separator pressure control.
- 22:10:00 Commenced pumping methanol upstream of SSV to eliminate hydrates across heater choke.
- 22:30:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 22:40:00 Mercury: 0.24 micrograms/m3.
- 23:23:00 Gas SG 0.683.
- 23:30:00 Mercury: 0.35 micrograms/m3.
- 23:50:00 Chlorides 45,000 mg/L.
- 23:50:00 Water density: 1.054 g/cm3 @ 17.1 degC.

Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Dates From/To 08/06/05-11/06/05

Time Comment

## 10/06/05

Test No.

- 00:30:00 Petrotech commenced taking gas sample 1.02 : s/n A2006.
- 00:45:00 Completed taking sample.

Completion

- 01:00:00 Draeger indicated 1.2% C02 and 0.1 ppm H2S.
- 01:07:00 Removed orifice plate.
- 01:08:00 Heater and separator bypass opened.
- 01:09:00 Increased to 48/64 fixed choke.
- 01:11:00 Diverted flow back through heat exchanger.
- 01:14:00 Diverted flow back though separator.
- 01:16:00 Closed separator bypass.
- 01:55:00 Opened separator bypass.
- 02:00:00 Draeger indicated 1.1% C02 and 0.1 ppm H2S.
- 02:00:00 Mercury: 0.27 micrograms/m3.
- 02:00:00 Drained 4 bbl's of fluid from seperator to surge tank.
- 02:13:00 Closed separator bypass.
- 02:14:00 Surface Safety Valve tripped, well shut in.
- 02:29:00 Closed in well at choke manifold.
- 02:29:00 Opened Surface Safety Valve.
- 02:32:00 Commenced pumping methanol upstream of SSV.
- 02:35:00 Opened well up to port flareboom on 24/64 adjustable choke through heat exchanger and separator.
- 02:37:00 Gas flare lit.
- 02:37:00 Increased to 32/64 adjustable choke.
- 02:42:00 Increased to 48/64 adjustable choke.
- 02:48:00 Diverted flow through 48/64 fixed choke.
- 02:52:00 Attempted to increase separator pressure to 750psi.
- 02:54:00 Lowered 3.75 orifice plate.
- 03:00:00 Lowered 4.25 orifice plate.
- 03:02:00 Gas SG 0.684.
- 03:05:00 Draeger indicated 0.7% C02 and 0.1 ppm H2S.
- 03:10:00 Ceased methanol injection upstream of SSV.
- 03:10:00 Radon: 285 Bq/m3.
- 04:00:00 Commenced dumping fluid from separator to surge tank, established level on surge tank.
- 04:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 04:00:00 Mercury: 0.47 micrograms/m3.
- 05:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 05:00:00 Liquid returns at surge tank 0.8 bbls.
- 05:00:00 Tank Liquid Rate: 14.4 bbls/d.
- 05:05:00 Chlorides 21,000 mg/L.
- 05:05:00 Water density: 1.026 g/cm3 @ 15.7 degC.
- 05:11:00 Water SG 1.03 at 55 Deg F.
- 06:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 06:00:00 Liquid returns at surge tank 1.30 bbls.
- 06:00:00 Tank Liquid Rate: 9.60 bbls/d.
- 06:30:00 Petrotech commenced taking gas sample 1.03 : s/n A-5768.
- 06:45:00 Completed taking sample.
- 07:00:00 Liquid returns at surge tank 1.80 bbls.
- 07:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 07:02:00 Raised orifice plate.
- 07:06:00 Opened separator bypass.
- 07:10:00 Diverted flow through 48/64" adjustable choke.
- 07:12:00 Increased adjustable choke to 52/64".
- 07:15:00 Increased adjustable choke to 64/64".
- 07:19:00 Diverted flow through 64/64" fixed choke.

Client Sa	antos Ltd	
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Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

## Time Comment

## 10/06/05

- 07:21:00 Closed separator bypass.
- 07:24:00 Installed 4.50" orifice plate in test separator gas meter run.
- 07:45:00 Gas SG 0.698.
- 08:00:00 Water SG 1.022 @ 60 degF.
- 08:00:00 Liquid returns at surge tank 2.00 bbls.
- 08:00:00 Tank Liquid Rate: 9.60 bbls/d.
- 08:15:00 Draeger indicated 0.7% C02 and 0.1 ppm H2S.
- 08:30:00 Chlorides 15,000 mg/L.
- 08:30:00 Water density: 1.018 g/cm3 @ 16.1 degC.
- 08:30:00 pH: 6.69 @ 15.3 degC, Conductivity 35.8 mS/cm @ 15.3 degC, Resistivity 0.028 Ohm-m @ 15.3 degC.
- 09:00:00 Liquid returns at surge tank 2.70 bbls.
- 09:00:00 Tank Liquid Rate: 43.30 bbls/d.
- 09:30:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 10:00:00 Liquid returns at surge tank 4.60 bbls.
- 10:00:00 Tank Liquid Rate: 57.60 bbls/d.
- 10:00:00 Gas SG 0.703.
- 10:20:00 Petrotech obtained water samples: 1.04, 1.05, 1.06, 1.07.
- 10:45:00 Chlorides 45,000 mg/L.
- 10:45:00 Water density: 1.051 g/cm3 @ 16.5 degC.
- 10:45:00 pH: 6.62 @ 19.0 degC, Conductivity 97.6 mS/cm @ 19.0 degC, Resistivity 0.010 Ohm-m @ 19.0 degC.
- 11:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 11:00:00 Liquid returns at surge tank 6.80 bbls.
- 11:00:00 Tank Liquid Rate: 48.00 bbls/d.
- 11:00:00 Draeger indicated 1% C02 and 0.1 ppm H2S.
- 12:00:00 Liquid returns at surge tank 8.30 bbls.
- 12:00:00 Tank Liquid Rate: 24.00 bbls/d.
- 12:35:00 Petrotech commenced taking gas sample 1.08 : s/n A-1984.
- 12:45:00 Completed taking sample.
- 13:00:00 Petrotech commenced taking gas sample 1.13 : s/n A-1979.
- 13:00:00 Petrotech obtained water samples: 1.09, 1.10, 1.11, 1.12.
- 13:00:00 Liquid returns at surge tank 9.40 bbls.
- 13:00:00 Tank Liquid Rate: 24.00 bbls/d.
- 13:15:00 Completed taking sample.
- 13:25:00 Closed Annulus Master Valve.
- 13:26:00 Opened separator bypass valve.
- 13:31:00 Closed in well at choke manifold. Commenced build up survey.

## <u>11/06/05</u>

- 04:30:00 Closed 7" Flowhead Master Valve.
- 04:35:00 Bled surface pressure to 0psi via choke manifold.
- 04:35:00 Opened 7" Flowhead Swab Valve.
- 04:37:00 ESD Tripped closing 7" Flowhead Flow Wing Valve.
- 04:47:00 Opened 7" Flowhead Wing Valve.
- 04:48:00 Opened Opened 7" Flowhead Swab Valve.
- 04:48:00 Closed in at choke manifold.
- 04:49:00 Opened 7" Flowhead Kill Wing Valve.
- 04:52:00 Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.
- 05:01:00 Opened 7" Flowhead Master Valve.
- 05:02:00 Closed 7" Flowhead Kill Wing Valve.
- 05:03:00 Commenced RIH with wireline to retrieve pressure temperature gauges.

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Exal Engineer M. Hall / B. Tupman

Well No. Casino 4 DW2

Location Ocean Patriot

Test No. Completion

Dates From/To 08/06/05-11/06/05

#### Time Comment

#### 11/06/05

- 05:30:00 Wireline at depth.
- 05:33:00 Wireline latched pressure temperature gauges, POOH.
- 06:30:00 Wireline at surface.
- 06:50:00 Closed Lower Ball Valve(LBV) on SST.
- 06:55:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.
- 07:00:00 Closed choke manifold, LBV on STT not closed.
- 07:07:00 Closed Upper Ball Valve(UBV) on SSTT.
- 07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.
- 07:13:00 Closed choke manifold, commenced inflow test on UBV.
- 07:24:00 Good test, closed SSLV.
- 07:27:00 Bled off surface pressure, broke out and retrieved gauges.
- 08:25:00 Opened SSLV.
- 08:28:00 Bled off surface pressure to zero, closed choke manifold.
- 08:30:00 Opened KWV on 7" Flowhead.
- 08:45:00 Pressured up to 2100 psi to equalise above.
- 08:53:00 Opened UBV on SSTT.
- 08:54:00 Closed SSSV.
- 08:55:00 Commenced bleeding off surface pressure to 100psi.
- 09:35:00 Commenced inflow test on SSSV.
- 09:55:00 Good test, bled off surface pressure to zero.
- 10:00:00 Opened Swab Valve on 7" Flowhead.
- 10:02:00 Wireline commenced running in hole to pull short protection sleeve.
- 10:30:00 Wireline at surface, broke out toolstring.
- 10:50:00 Closed 7" Flowhead Hydraulic Master Valve.
- 10:52:00 Commenced pressure testing above 7" Flowhead Hydraulic Master Valve to 5000 psi.
- 11:03:00 Good test, bled off surface pressure to 100 psi.
- 11:05:00 Wireline commenced running in hole to set 6.71" crown plug.
- 11:30:00 Pressured up to 3000 psi to set plug.
- 11:54:00 Increased tubing pressure to 5000 psi for pressure test.
- 12:16:00 Good test, wireline commenced pulling out of hole.
- 12:21:00 Wireline at surface, closed 7" Flowhead Hydraulic Master Valve to 5000 psi.
- 12:22:00 Closed Swab Valve on 7" Flowhead.
- 12:50:00 Commenced pressure testing below 6.71" plug to 1000 psi.
- 14:45:00 Good test, bled off pressure.
- 15:20:00 Opened 7" Flowhead Hydraulic Master Valve, commenced inflow test on 6.71" crown plug.
- 15:30:00 Good test, commenced landing string retrieval operations.
- 15:30:00 End of Test.





# **Cleanup Data Listing**

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Gas specific gravity of 0.61 used for rate calculations based on PVT analysis performed on gas samples. This over rides the estimate gas specific gravity of 0.68 reported during the test.

Client	Santos	Ltd					E	xal Engi	neer	M. Hall / B. Tupman							
Well No	. Casino	4 DW2					Le	ocation		Ocean Pa	atriot						
Test No	. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5					
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm		
<u>09/06/05</u>	2550	160 79	0.00	619.0	E7 E	26	57 A	27.2	0.0	E7 0	0.0	0.000	0.000	0.00	0.00		
05:10:00	2559 Opened well	102.70 to surgo ta	0.00 ank via 16/	010.9 Actauiue 10	57.5 la choka	3.0	57.4	37.3	0.0	57.0	0.0	0.000	0.000	0.00	0.00		
05:12:00	Increased to	20/64 adiu	stable cho	ke	ie clioke.												
05:15:00	2527	162.81	24.00	586.0	57.5	12.2	57.4	33.9	0.0	57.8	0.0	0.000	0.800	0.00	0.00		
05:15:00	Increased to	24/64 adiu	stable cho	ke.	•		•		010	•			01000	0.00	0.00		
05:16:00	Increased to	28/64 adju	stable cho	ke.													
05:18:00	11.4 bbls cu	, mulative re	covered at	t surge tank													
05:20:00	2533	164.43	28.00	567.8	59.3	20.2	57.8	33.9	0.0	57.8	0.0	0.000	2.450	0.00	0.00		
05:20:00	13.9 bbls cu	mulative re	covered at	t surge tank													
05:21:00	Increased to	o 32/64 adju	stable cho	ke.													
05:25:00	2545	166.83	32.00	549.6	59.4	26.9	58.6	32.4	0.0	57.9	0.0	0.000	3.100	0.00	0.00		
05:25:00	20.7 bbls cu	mulative re	covered at	t surge tank													
05:30:00	2557	168.00	32.00	542.1	59.2	30.8	59.1	38.4	0.0	58.0	0.0	0.000	3.170	0.00	0.00		
05:30:00	28 bbls cum	ulative reco	overed at s	urge tank.													
05:35:00	2571	168.73	32.00	547.0	60.6	31.2	59.5	40.8	0.0	58.0	0.0	0.000	3.160	0.00	0.00		
05:35:00	35 bbls cum	ulative reco	overed at s	urge tank.													
05:40:00	2583	169.17	32.00	564.4	64.1	27.7	60.3	57.0	0.0	57.9	0.0	0.000	3.230	0.00	0.00		
05:40:00	Diverted flow	w to port fla	reboom.														
05:41:00	Increased to	o 36/64 adju	stable cho	ke.													
05:45:00	2602	169.64	36.00	592.8	67.3	26.7	61.6	62.3	0.0	58.0	0.0	0.000	4.020	0.00	0.00		
05:49:00	Increased to	40/64 adju	stable cho	Ke.		40.0	<u> </u>				• •		. =				
05:50:00	2597	1/0.12	40.00	645.9	70.0	40.2	63.0	/8.8	0.0	58.0	0.0	0.000	4.740	0.00	0.00		
05:55:00	2604	1/0.55	44.00	/25.6	72.3	21.4	64.6	102.3	0.0	58.0	0.0	0.000	6.160	0.00	0.00		
05:55:00	Increased to	0 44/64 adju	stable cho	ke.													
05.50.00	2602	40/04 auju 171 19		915 2	74 7	45 7	66.2	111 2	0.0	59.1	0.0	0 000	8 8 4 0	0.00	0.00		
00.00.00	2005	52/64 adiu	40.00 stable cho	015.Z	/4./	43.7	00.2	141.2	0.0	50.1	0.0	0.000	0.040	0.00	0.00		
00.01.00	2600	172 04 auju	510010 CIIU	017 2	80 4	287 1	67 9	237 0	0.0	58 1	0.0	0 000	12 170	0 00	0 00		
06.10.00	2000	173 /0	52.00	1168 3	88.5	350 5	70 R	368 1	0.0	50.1	0.0	0.000	15 640	0.00	0.00		
06.12.00	Brine at sur	face port fl	arehoom e	xtinguishor	hatravih h	flow via na	s line to fl	are hoom	0.0	50.1	0.0	0.000	10.040	0.00	0.00		
06:15:00	2649	174 54	52 00	1189 9	89 2	491 0	73.0	477 1	0 0	58 1	0.0	0 000	18 140	0 00	0.00		
	2073	11-110-1	02.00	1100.0	00.2		Page 2		0.0	00.1	0.0	0.000	10.140	0.00	5.00		

Client	Santos	Ltd					E	xal Engi	neer	M. Hall / B. Tupman						
Well No	. Casino	4 DW2					L	ocation		Ocean Pa	triot					
Test No	. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5				
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm	
<u>09/06/05</u>																
06:15:00	BS&W at ch	oke manifo	ld 100% m	ud.												
06:17:00	Gas at surfa	ce.														
06:18:00	Lo-pilot ups	tream satet	y valve ar	med, set at	150psi.	<b>557 0</b>	70.0	400.0	• •	50.0	• •	0.000	40 700	0.00	0.00	
06:20:00	268/	1/5.04	52.00	1462.4	92.8	557.0	73.8	480.9	0.0	58.3	0.0	0.000	19.720	0.00	0.00	
06:21:00	Increased to	0 50/04 auju 0 60/64 adiu	stable cho	ke.												
00.22.00	Increased to	64/64 adju	stable cho	ko												
06.24.00	2668	175 08	64 00	1663 A	102 9	1007 1	76.6	463.8	0.0	58 3	0.0	0 000	32 180	0 00	0 00	
06:30:00	2649	175.00	64 00	1897.3	102.5	1184 0	80.1	512 6	0.0	58.3	0.0	0.000	40 580	0.00	0.00	
06:30:00	BS&W at ch	oke manifo	Id 100% m	ud.	100.2	1104.0	00.1	012.0	0.0	00.0	0.0	0.000	40.000	0.00	0.00	
06:35:00	2634	175.72	64.00	1927.1	107.4	1183.2	81.9	452.7	0.0	58.3	0.0	0.000	42.890	0.00	0.00	
06:40:00	2636	176.08	64.00	2033.2	108.7	1251.2	81.8	520.0	0.0	58.4	0.0	0.000	44.580	0.00	0.00	
06:45:00	2624	176.27	64.00	2058.3	108.9	1253.5	81.2	440.7	0.0	58.4	0.0	0.000	45.440	0.00	0.00	
06:50:00	2609	176.41	64.00	2052.6	108.2	1230.8	79.7	476.7	0.0	58.4	0.0	0.000	45.720	0.00	0.00	
06:55:00	2603	176.55	64.00	2067.3	107.5	1246.3	77.8	507.3	0.0	58.5	0.0	0.000	45.760	0.00	0.00	
06:57:00	Decreased t	o 56/64 adjı	ustable ch	oke.												
07:00:00	2614	176.73	56.00	2140.9	107.3	1045.4	75.7	429.4	0.0	58.5	0.0	0.000	38.380	0.70	0.30	
07:00:00	BS&W at ch	oke manifo	ld 100% m	ud.												
07:00:00	Draeger indi	cated 0.7%	C02 and 0	.3 ppm H29	S.											
07:05:00	2611	176.86	56.00	2139.5	106.7	1042.3	72.8	441.3	0.0	58.6	0.0	0.000	36.630	0.70	0.30	
07:05:00	Flare ignited	l on port fla	reboom.													
07:09:00	Increased to	64/64 adju	stable cho	ke.												
07:10:00	2591	176.92	64.00	2069.8	106.6	1211.4	70.3	451.5	0.0	58.7	0.0	0.000	40.420	0.70	0.30	
07:15:00	2581	176.92	64.00	2069.2	108.0	1223.8	69.8	476.7	0.0	58.7	0.0	0.000	45.910	0.70	0.30	
07:15:00	Draeger indi	cated 0.7%	C02 and 0	).3 ppm H2S	S.											
07:20:00	2575	176.97	64.00	2069.8	108.9	1217.5	70.3	511.2	0.0	58.8	0.0	0.000	45.930	0.70	0.30	
07:25:00	2569	177.04	64.00	2070.0	109.6	1213.0	71.0	533.3	0.0	58.8	0.0	0.000	45.940	0.70	0.30	
07:30:00	2563	177.09	64.00	2067.7	110.3	1206.9	71.5	556.0	0.0	59.0	0.0	0.000	45.900	1.00	0.30	
07:30:00	BS&W at ch	oke 100% n	nud.													
07:30:00	Draeger ind	cated 1.0%	C02 and 0	).3 ppm H29	S.											
07:35:00	2558	177.14	64.00	2066.7	111.0	1204.4	<b>71.9</b> Page 3	<b>539.8</b>	0.0	59.0	0.0	0.000	45.870	1.00	0.30	

Client	Santo	Santos Ltd						Exal Engineer M				M. Hall / B. Tupman							
Well No	o. Casino	o 4 DW2					L	ocation		Ocean Pa	itriot								
Test No	o. Comp	letion					D	ates Fro	m/To	08/06/05-	11/06/0	5							
Time hh:mm:ss	40586P PSIA	40586Т °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm				
<u>09/06/05</u>																			
07:40:00	2554	177.18	64.00	2066.3	111.7	1199.3	72.3	486.1	0.0	59.1	0.0	0.000	45.850	1.00	0.30				
07:45:00	2551	177.22	64.00	2067.5	112.2	1190.5	72.6	493.2	0.0	59.3	0.0	0.000	45.880	1.00	0.30				
07:45:00	Draeger inc	dicated 1.0%	6 C02 and (	0.3 ppm H28	S.														
07:50:00	2547	177.25	64.00	2066.1	112.7	1187.5	72.9	504.7	0.0	59.4	0.0	0.000	45.860	1.00	0.30				
07:55:00	2544	177.29	64.00	2064.5	113.2	1184.6	73.2	538.2	0.0	59.5	0.0	0.000	45.820	1.00	0.30				
08:00:00	2541	1/7.31	64.00	2064.5	113.5	1185.0	/3.5	509.0	0.0	59.5	0.0	0.000	45.810	1.00	0.30				
08:00:00	BS&W at cl	noke 100% r	nua.																
08:00:00	Draeger Inc	11Cated 1.0%		J.3 ppm н2с	). 442 0	4492.6	72.0	E 4 2 7	0.0	<b>50 4</b>	0.0	0 000	45 900	4 00	0.20				
00.05.00	2530	177.35	64.00 64.00	2063.4	113.9	1102.0	73.0	543.7 549.6	0.0	59.4	0.0	0.000	45.000	1.00	0.30				
08.10.00	2535	177.33	64.00	2003.4	114.2	1175.5	74.0	578 9	0.0	59.5	0.0	0.000	45.790	1.00	0.30				
00.15.00	Dragger in	licatod 1 0%	00.+0 ( CO2 and (	2002.4 ] 3 nnm H29	2	1177.0	/4.2	570.5	0.0	55.5	0.0	0.000	45.770	1.00	0.50				
00.13.00	2529	177 39	64 00	2061 4	). 114 Q	1176 0	7 <i>4 4</i>	590 7	0.0	59.5	0.0	0 000	45 750	1 00	0 30				
08:25:00	2523	177.33	64.00	2061.4	115.2	1174.0	74.6	590.7	0.0	59.7	0.0	0.000	45.730	1.00	0.30				
08:30:00	2524	177.41	64.00	2060.6	115.5	1172.1	74.8	598 7	699.0	59.7	0.0	0.000	45 730	1.00	0.30				
08:30:00	BS&W at cl	hoke 100% r	nud	2000.0	110.0	11/2.1	74.0	000.7	000.0	00.1	0.0	0.000	40.700	1.00	0.00				
08:30:00	Draeger inc	dicated 1.0%	C02 and (	0.3 ppm H25	5.														
08:35:00	2521	177.43	64.00	2059.8	115.8	1171.1	75.1	633.0	699.0	59.8	0.0	0.000	45.710	1.00	0.30				
08:40:00	2519	177.44	64.00	2058.8	116.0	1169.5	75.5	663.3	0.0	59.9	0.0	0.000	45.690	1.00	0.30				
08:43:00	Annulus tra	ansducer pi	roducing s	purious dat	a, drillfloo	or monitorin	g.												
08:45:00	2517	177.46	64.00	2058.3	116.1	1166.6	75.5	659.0	0.0	60.0	0.0	0.000	45.680	1.00	0.30				
08:45:00	Draeger ind	dicated 1.0%	6 C02 and 0	0.3 ppm H2S	S.														
08:50:00	2515	177.47	64.00	2057.5	116.3	1166.2	75.6	784.7	0.0	60.0	0.0	0.000	45.660	1.00	0.30				
08:55:00	2513	177.48	64.00	2057.1	116.5	1165.0	75.7	1059.1	0.0	60.1	0.0	0.000	45.650	1.00	0.30				
09:00:00	2511	177.49	64.00	2056.9	116.8	1163.8	75.9	846.5	0.0	60.3	0.0	0.000	45.640	1.00	0.10				
09:00:00	BS&W at c	hoke 100% r	nud.																
09:00:00	Draeger inc	dicated 1.0%	6 C02 and 0	0.1 ppm H2S	S.														
09:05:00	2509	177.50	64.00	2056.1	117.0	1162.5	76.2	1255.1	0.0	60.3	0.0	0.000	45.630	1.00	0.10				
09:10:00	2507	177.51	64.00	2055.9	117.3	1162.7	76.5	1136.0	0.0	60.5	0.0	0.000	45.620	1.00	0.10				
09:15:00	2504	177.52	64.00	2055.1	117.5	1159.9	76.8	1458.1	0.0	60.6	0.0	0.000	45.600	1.00	0.10				
09:15:00	Draeger inc	dicated 1.0%	6 C02 and 0	0.1 ppm H2S	6.														

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Client	Santos	Ltd					E	xal Engi	neer	M. Hall / B. Tupman						
Well No	o. Casino	4 DW2					L	ocation		Ocean Pa	triot					
Test No	o. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5				
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm	
<u>09/06/05</u>																
09:16:00	Increased to	72/64 adju	stable cho	ke.												
09:20:00	2479	177.44	72.00	1968.8	117.9	1383.7	77.7	0.0	0.0	60.8	0.0	0.000	55.720	1.00	0.10	
09:20:00	Annulus tra	nsducer ba	ck on line.													
09:25:00	2472	177.36	72.00	1968.4	118.9	1375.3	79.5	453.4	0.0	60.9	0.0	0.000	54.860	1.00	0.10	
09:26:00	Increased to	76/64 adju	stable cho	ke.												
09:30:00	2457	177.31	76.00	1932.0	119.2	1456.7	81.3	451.1	0.0	60.9	0.0	0.000	59.860	1.00	0.10	
09:30:00	BS&W at ch	oke 100% n	nud.													
09:30:00	Draeger indi	cated 1.0%	C02 and 0	0.1 ppm H28	6.											
09:31:00	Increased to	96/64 adju	stable cho	ke.												
09:35:00	2433	177.21	96.00	1874.3	119.3	1568.9	83.3	445.4	0.0	61.0	0.0	0.000	91.890	1.00	0.10	
09:40:00	2425	177.13	96.00	1866.0	119.7	1562.6	85.2	445.2	0.0	61.0	0.0	0.000	90.810	1.00	0.10	
09:45:00	2418	177.10	96.00	1859.2	119.9	1557.1	86.6	444.6	0.2	61.1	0.0	0.000	90.460	1.00	0.10	
09:45:00	Draeger indi	cated 1.0%	C02 and 0	0.1 ppm H28	S.											
09:50:00	2413	177.08	96.00	1856.2	120.2	1554.6	87.8	442.1	0.2	61.4	0.0	0.000	90.250	1.00	0.10	
09:55:00	2410	177.07	96.00	1852.5	120.3	1551.6	88.7	439.6	0.0	61.3	0.0	0.000	90.070	1.00	0.10	
10:00:00	2407	177.07	96.00	1850.0	120.5	1548.7	89.6	436.0	0.0	61.5	0.0	0.000	89.930	0.50	0.10	
10:00:00	BS&W at ch	oke 100% n	nud.		_											
10:00:00	Draeger indi	cated 0.5%	C02 and 0	0.1 ppm H28	5.											
10:05:00	2404	177.08	96.00	1848.2	120.6	1547.1	90.5	432.1	0.0	61.5	0.0	0.000	89.840	0.50	0.10	
10:10:00	2400	177.08	96.00	1845.1	120.8	1544.8	91.1	427.6	0.0	61.5	0.0	0.000	89.720	0.50	0.10	
10:15:00	2397	177.08	96.00	1843.5	121.3	1543.8	91.7	423.3	0.0	61.6	0.0	0.000	89.580	0.50	0.10	
10:20:00	2394	177.08	96.00	1843.9	121.6	1543.6	92.3	418.4	0.0	61.6	0.0	0.000	89.580	0.50	0.10	
10:25:00	2391	177.09	96.00	1843.3	121.7	1543.2	92.5	413.1	0.0	61.9	0.0	0.000	89.570	0.50	0.10	
10:30:00	2388	1//.08	96.00	1842.3	121.8	1542.0	92.8	408.4	0.0	62.0	0.0	0.000	89.520	0.50	0.10	
10:30:00	BS&W at ch	OKE 100% n	nua.	4												
10:30:00	Draeger Indi	cated 0.5%		0.1 ppm H23	<b>).</b>	4540.0	00.0	400.0	• •	<b>60</b> 4	• •	0 000	00.440	0.50	0.40	
10:35:00	2385	1//.08	96.00	1840.6	121.9	1540.9	92.9	402.9	0.0	62.1	0.0	0.000	89.440	0.50	0.10	
10:40:00	2383	1//.08	90.00	1040.4	121.9	1540.1	93.0	397.0 202.0	0.0	62.1	0.0	0.000	89.420 90.270	0.50	0.10	
10:45:00	∠38U 2277	1//.UO	30.00	1039.0	122.0	1539.3	93.1 02 2	333.U 207 2	0.0	02.2 62.4	0.0	0.000	03.370	0.50	0.10	
10:50:00	2311	177.07	90.00	103/.1	122.0	153/./	93.3 02 c	301.3 201 0	0.0	02.4 62 F	0.0	0.000	09.310	0.50	0.10	
10.55:00	2314	177.07	50.00	1030./	122.1	1990.0	JJ.O Page f	<b>301.0</b>	0.0	02.3	0.0	0.000	03.240	0.50	0.10	

Client	Santos	Ltd					E	xal Engi	neer	M. Hall / E	3. Tupm	an			
Well No	. Casino	4 DW2					L	ocation		Ocean Pa	triot				
Test No	. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5			
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm
<u>09/06/05</u> 11:00:00	2372	177.07	96.00	1835.5	122.3	1536.0	93.8	375.7	0.0	62.6	0.0	0.000	89.190	1.00	0.10
11:00:00	BS&W at ch	oke 100% n	nud.												
11:00:00	Draeger ind	icated 1.0%	6 C02 and 0	).1 ppm H29	S.										
11:05:00	2369	177.06	96.00	1834.1	122.4	1535.4	93.9	369.3	0.0	62.8	0.0	0.000	89.140	1.00	0.10
11:10:00	2366	177.06	96.00	1833.0	122.4	1535.0	94.0	363.6	0.0	62.9	0.0	0.000	89.090	1.00	0.10
11:15:00	2364	177.05	96.00	1832.0	122.5	1534.6	93.9	356.9	0.0	62.9	0.0	0.000	89.040	1.00	0.10
11:20:00	2361	177.05	96.00	1830.2	122.6	1533.4	94.0	350.9	0.0	63.0	0.0	0.000	88.960	1.00	0.10
11:25:00	2359	177.04	96.00	1829.2	122.7	1532.8	94.2	346.0	0.0	63.1	0.0	0.000	88.900	1.00	0.10
11:30:00	2357	177.04	96.00	1827.7	122.8	1531.3	94.6	340.5	0.0	63.2	0.0	0.000	88.840	1.00	0.10
11:30:00	BS&W at ch	oke 100% n	nud.		•										
11:30:00	Draeger ind	Icated 1.0%		0.1 ppm H2:	5.	4500 5	<b>AF</b> 4				• •		~~ ~~~	4 00	
11:35:00	2355	177.04	96.00	1827.1	123.0	1530.5	95.1	335.4	0.0	63.5	0.0	0.000	88.790	1.00	0.10
11:40:00	2303	177.03	96.00	1020.7	123.1	1529.5	95.4	330.1	0.0	63.6 62.7	0.0	0.000	88.750	1.00	0.10
11:45:00	2351	177.03	90.00	1025.5	123.3	1520.3	95.0	323.3 217 2	0.0	64.0	0.0	0.000	00.720	1.00	0.10
11.50.00	2343	177.03	90.00	1823.2	123.3	1527.0	95.9	317.2	0.0	64.0	0.0	0.000	88 600	1.00	0.10
12.00.00	2347	177.03	96.00	1822.2	123.4	1525.0	96.1	305.6	0.0	64.3	0.0	0.000	88 550	0.30	0.10
12:00:00	BS&W at ch	oke 100% n	mud	1022.2	120.0	1525.0	50.4	505.0	0.0	04.5	0.0	0.000	00.000	0.50	0.00
12:00:00	Draeger ind	icated 0.3%	C02 and (	).0 ppm H29	S.										
12:05:00	2343	177.02	96.00	1821.4	123.7	1524.2	96.6	299.4	0.0	64.5	0.0	0.000	88.530	0.30	0.00
12:10:00	2341	177.02	96.00	1820.6	123.7	1524.0	96.7	293.9	0.0	64.5	0.0	0.000	88.480	0.30	0.00
12:15:00	2339	177.02	96.00	1819.8	123.8	1523.1	97.0	288.8	0.0	64.8	0.0	0.000	88.440	0.30	0.00
12:20:00	2337	177.01	96.00	1819.2	123.8	1522.7	97.3	283.1	0.0	64.9	0.0	0.000	88.400	0.30	0.00
12:25:00	2336	177.01	96.00	1818.5	123.9	1522.3	97.6	278.6	0.1	65.1	0.0	0.000	88.370	0.30	0.00
12:30:00	2334	177.00	96.00	1817.9	123.9	1521.7	97.8	273.4	0.0	65.2	0.0	0.000	88.350	0.30	0.00
12:30:00	BS&W at ch	oke 100% n	nud.												
12:35:00	2332	177.00	96.00	1817.1	124.0	1520.5	98.1	268.1	0.0	65.6	0.0	0.000	88.310	0.30	0.00
12:40:00	2330	177.00	96.00	1815.3	124.0	1519.7	98.4	262.2	0.0	65.9	0.0	0.000	88.250	0.30	0.00
12:45:00	2329	176.99	96.00	1815.1	124.0	1519.7	98.6	257.1	0.0	66.0	0.0	0.000	88.230	0.30	0.00
12:50:00	2328	176.99	96.00	1814.9	124.1	1518.4	98.7	252.4	0.0	66.2	0.0	0.000	88.190	0.30	0.00
12:55:00	2326	176.99	96.00	1814.3	124.2	1517.6	98.8	247.9	0.0	66.6	0.0	0.000	88.150	0.30	0.00

Client	Santos	Santos Ltd					E	xal Engi	neer	M. Hall / B. Tupman						
Well No	. Casino	4 DW2					L	ocation		Ocean Pa	atriot					
Test No	o. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5				
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm	
<u>09/06/05</u>																
13:00:00	2324	176.99	96.00	1812.8	124.2	1517.4	98.9	242.8	0.0	66.9	0.0	0.000	88.100	0.30	0.00	
13:00:00	Unable obta	in BS&W d	ue to plug	ging in sam	pling lines	5.										
13:05:00	2323	176.98	96.00	1812.2	124.3	1517.0	99.2	237.5	0.0	67.1	0.0	0.000	88.070	0.30	0.00	
13:10:00	2321	176.98	96.00	1811.4	124.3	1516.2	99.6	231.9	0.0	67.3	0.0	0.000	88.040	0.30	0.00	
13:15:00	2320	176.98	96.00	1810.4	124.3	1514.5	100.0	226.4	0.0	67.2	0.0	0.000	87.980	0.30	0.00	
13:20:00	2318	176.98	96.00	1809.8	124.4	1513.1	100.2	221.5	0.0	67.1	0.0	0.000	87.940	0.30	0.00	
13:25:00	2317	176.97	96.00	1808.7	124.5	1513.3	100.3	216.0	0.0	67.2	0.0	0.000	87.900	0.30	0.00	
13:30:00	2316	176.97	96.00	1808.1	124.6	1512.3	100.4	211.1	0.0	67.3	0.0	0.000	87.870	0.30	0.00	
13:35:00	2314	176.97	96.00	1807.5	124.7	1511.9	100.4	207.0	0.0	67.4	0.0	0.000	87.840	0.30	0.00	
13:40:00	2313	176.97	96.00	1806.7	124.7	1511.5	100.1	201.9	0.0	67.4	0.0	0.000	87.800	0.30	0.00	
13:45:00	2311	176.97	96.00	1806.3	124.6	1510.9	100.0	197.4	0.0	67.4	0.0	0.000	87.770	0.30	0.00	
13:47:00	Diverted flow	w through 6	64/64" fixe	d choke.												
13:50:00	2362	177.13	64.00	2004.8	125.7	980.2	98.7	214.4	0.0	67.4	0.0	0.000	52.000	0.30	0.00	
13:50:00	No liquids a	t surface.														
13:55:00	2374	177.39	64.00	2014.4	124.2	990.2	93.7	206.6	0.0	67.3	0.0	0.000	44.650	0.30	0.00	
14:00:00	2381	177.46	64.00	2016.0	123.4	1002.5	89.4	197.4	0.0	67.3	0.0	0.000	44.720	0.30	0.00	
14:00:00	Draeger ind	icated 0.6%	C02 and (	).1 ppm H2	S.											
14:05:00	2386	177.48	64.00	2017.0	123.0	1002.3	86.3	188.8	0.0	67.2	0.0	0.000	44.750	0.30	0.00	
14:10:00	2390	177.48	64.00	2018.5	122.9	1023.5	84.2	181.3	0.0	67.0	0.0	0.000	44.790	0.30	0.00	
14:15:00	2393	177.49	64.00	2021.3	122.7	1023.3	82.9	174.9	0.0	66.9	0.0	0.000	44.830	0.30	0.00	
14:20:00	2395	177.49	64.00	2024.0	122.5	1020.4	82.1	169.0	0.0	66.7	0.0	0.000	44.890	0.30	0.00	
14:23:00	Diverted flo	w through t	est separa	itor.												
14:25:00	2397	177.50	64.00	2026.0	122.3	1003.3	81.5	163.9	130.6	84.9	0.0	0.000	44.930	0.30	0.00	
14:30:00	2400	177.50	64.00	2027.3	122.2	1038.8	80.9	159.2	709.1	76.2	0.0	0.000	44.980	0.30	0.00	
14:35:00	2402	177.52	64.00	2029.7	121.9	1038.6	80.7	154.7	710.0	76.0	170.8	0.000	45.020	0.30	0.00	
14:39:00	Installed 4.5	0" orifice p	late in test	t separator	gas meter	run.										
14:40:00	2402	177.52	64.00	2031.6	121.7	1170.3	80.7	149.8	890.8	83.4	90.5	9.446	45.060	0.30	0.00	
14:45:00	2404	177.52	64.00	2032.8	121.5	1202.6	81.5	145.1	933.2	85.5	86.2	47.164	45.100	0.60	0.10	
14:45:00	Draeger ind	icated 0.6%	C02 and (	0.1 ppm H2	S.											
14:45:00	Gas SG 0.71	6.														
14:50:00	2405	177.53	64.00	2033.6	121.4	1224.1	<b>82.4</b> Page 7	<b>141.0</b>	960.8	86.9	84.0	47.275	45.120	0.60	0.10	

Client	Santos Ltd						E	xal Engi	neer	M. Hall / B. Tupman							
Well No	o. Casino	4 DW2					L	ocation		Ocean Pa	itriot						
Test No	o. Comple	etion					D	ates Fro	m/To	08/06/05-	11/06/0	5					
Time hh:mm:ss	40586P PSIA	40586T °F	Choke 64th	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1av MMscf/d	QChkgAv MMscf/d	Co2 mol%	H2S ppm		
<u>09/06/05</u>																	
14:55:00	2406	177.54	64.00	2034.8	121.2	1230.6	83.1	137.3	971.4	87.1	83.0	47.320	45.140	0.60	0.10		
15:00:00	2407	177.55	64.00	2035.4	121.1	1243.9	83.5	133.4	988.2	87.9	82.8	47.458	45.160	0.60	0.10		
15:00:00	Draeger indi	cated 0.6%	C02 and (	0.1 ppm H29	6.												
15:00:00	Gas SG 0.69	2.															
15:00:00	Mercury: 0.9	4 microgra	ms/m3.	00074	404.0	4050 0	~~ ~	400.0				47 505	45 400				
15:05:00	2407	177.56	64.00	2037.1	121.0	1250.8	83.9	129.9	997.0	88.5	82.2	47.525	45.190	0.60	0.10		
15:07:00	Removed or	ifice plate.	<b>64 00</b>	0007.0	404.0	4000 7		400 5	004 5		• •	0.504	45.040	0.00	0.40		
15:10:00	2408	1//.56 Du/uu 2	64.00	2037.3	121.2	1223.7	84.3	126.5	961.5	87.6	0.0	9.521	45.210	0.60	0.10		
15:10:00	Radon: 381	Bq/m3.															
15:11:00	Lowered pre		st separat	Or.	404.0	4409.4	04.2	400 C	007.0	96.4	0.0	0 000	45 240	0.60	0 40		
15:15:00	2409 Installed 4 E	1//.3/ 0" orifico n	04.00 Into in tool	2037.5	121.2 noo motor	1190.1	04.3	122.0	927.2	00.1	0.0	0.000	45.210	0.60	0.10		
15.17.00	111Stalleu 4.5	0 Office p		2020 5	424 2	1124 7	92.9	110 1	826 7	915	07 /	28 280	45 220	0 60	0 10		
15.20.00	2410	177 58	64.00 64.00	2039.5	121.2	1124.7	03.0 83.2	119.1	020.1 827.2	01.5 81.4	97.4 07.0	20.200	45.230	0.00	0.10		
15.25.00	2411	177 59	64.00	2040.0	121.5	1125.5	82.0	113.0	844 7	82.0	97.9	47.121	45.270	0.00	0.10		
15:30:00	Draeger indi	cated 0 6%	C02 and (	2042.4 ) 1 nnm H29	121.5	1130.4	02.5	115.4	044.7	02.0	50.1	47.210	43.300	0.00	0.10		
15:30:00	Gas SG 0 68																
15:35:00	2411	177 59	64 00	2043 4	121 6	1141 7	82.8	110 9	852 8	82.4	95 5	47 331	45 320	0.60	0 10		
15:40:00	2412	177.59	64.00	2040.4	121.0	1146.6	82 7	107.3	857.7	82.4	94.8	47.351	45 350	0.60	0.10		
15:45:00	2412	177.60	64.00	2045.3	121.7	1145.3	82.8	104.6	858.8	82.5	94.5	47.364	45.370	0.60	0.10		
15:50:00	2412	177.60	64.00	2046.5	121.8	1144.9	82.8	101.9	859.3	82.7	95.0	47.457	45.390	0.60	0.10		
15:50:00	Mercury: 0.5	9 microgra	ms/m3.				•=••			•=							
15:50:00	Lowered pre	ssure in te	st separat	or.													
15:55:00	2413	177.60	64.00	2046.1	121.9	1118.6	82.7	99.3	818.4	81.0	98.9	43.323	45.400	0.60	0.10		
16:00:00	2413	177.61	64.00	2047.5	121.8	1115.9	82.5	96.6	819.5	80.9	99.2	47.368	45.410	0.50	0.10		
16:00:00	Draeger indi	cated 0.5%	C02 and (	).1 ppm H29	6.												
16:00:00	Oil SG 0.773	@ 60 degF		••													
16:00:00	Well Test sa	mple attain	ed by Geo	services 0.	6% C02 ar	nd <0.5ppm	H2S.										
16:05:00	2413	177.61	64.00	2048.5	121.7	1115.7	82.3	94.0	819.5	80.8	99.7	47.406	45.430	0.50	0.10		
16:10:00	2413	177.61	64.00	2048.9	121.7	1115.9	82.1	91.7	819.5	80.8	99.2	47.305	45.460	0.50	0.10		
16:15:00	2413	177.62	64.00	2048.5	121.7	1120.0	82.0	89.1	818.9	80.9	97.1	46.959	45.470	0.50	0.10		
							Page 8	3									

Client	Santos	Santos Ltd					Exal Engineer			M. Hall / B. Tupman						
Well No	. Casino	4 DW2					Lo	ocation		Ocean P	atriot					
Test No	. Comple	etion					Da	ates Fro	m/To	08/06/05	-11/06/0	5				
Time	40586P	40586T	Choke	UcP	UcT	DcP	DcT	AnnP	GasP	GasT	GasD	QGas1av	QChkgAv	Co2	H2S	
hh:mm:ss	PSIA	۴	64th	PSIG	۴	PSIG	۴	PSIG	PSIG	٣F	INWG	MMscf/d	MMscf/d	mol%	ppm	
09/06/05																
16:15:00	Petrotech co	mmenced	taking gas	sample 1	.01 : s/n A47	786.										
16:20:00	2413	177.62	64.00	2050.2	121.7	1121.6	81.9	87.0	819.5	80.9	98.8	46.998	45.490	0.50	0.10	
16:25:00	2414	177.62	64.00	2050.4	121.6	1118.6	81.9	84.6	820.0	80.9	98.2	46.921	45.490	0.50	0.10	
16:30:00	2414	177.63	64.00	2050.8	121.6	1116.1	81.8	82.7	820.6	80.8	98.9	47.155	45.500	0.50	0.10	
16:30:00	Completed t	aking gas s	sample.													
16:35:00	2414	177.63	64.00	2050.8	121.6	1116.9	81.7	80.1	820.5	80.9	97.7	46.939	45.500	0.50	0.10	
16:40:00	2414	177.63	64.00	2051.6	121.6	1114.5	81.6	77.8	820.6	80.9	97.5	47.101	45.520	0.50	0.10	
16:45:00	2414	177.63	64.00	2051.0	121.7	1117.1	81.7	75.2	820.1	80.9	97.4	47.114	45.510	0.50	0.10	
16:45:00	Total liquid r	returns; 3 b	obls - Estin	nated LGR	0.65 bbl/Ml	Mscf.										
16:50:00	2414	177.64	64.00	2051.4	121.7	1117.5	81.7	73.1	820.1	81.0	97.7	47.177	45.510	0.50	0.10	
16:55:00	2414	177.65	64.00	2051.2	121.8	1115.9	81.8	70.5	820.6	81.0	98.4	47.223	45.530	0.50	0.10	
17:00:00	2414	177.65	64.00	2051.8	121.9	1118.8	81.9	68.6	820.0	81.1	98.5	47.357	45.530	0.60	0.10	
17:00:00	Draeger indi	cated 0.6%	6 C02 and 0	).1 ppm H2	2S.											
17:00:00	Gas SG 0.69	3.														
17:05:00	2414	177.65	64.00	2051.6	121.9	1116.5	81.9	66.2	820.6	81.1	98.6	47.195	45.520	0.60	0.10	
17:05:00	Clean-up cr	iteria esta	ablished: 1	: BS&W	<3% - not	t measura	ble, 2: Sta	ble THP	- <10	psi/5 min	change o	ver 2 hou	ırs - 15 ps	i stable	increase	
	over 2 hours	s, 3: Stable	gas rate -	47.2 MMsc	cf/d, 4: WGR	l < 1 bbl/M	Mscf - Estim	nated LGR	<0.65 bb	l/MMscf						
17:08:00	Raised orific	e plate and	d bypassed	l test sepa	arator.											
17:09:00	Closed in we	ell at choke	e manifold.													
17:10:00	2467	177.69	0.00	2192.0	122.0	304.1	81.9	71.1	305.1	72.4	0.0	18.862	36.120	0.60	0.10	



DcT - Temperature (°F)





Choke - Size (64th)



Choke - Size (64th)

UcT - Temperature (°F)





## Main Flow Data Listing

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Gas specific gravity of 0.61 used for rate calculations based on PVT analysis performed on gas samples. This over rides the estimate gas specific gravity of 0.68 reported during the test.

Client	t	Sar	ntos Lto							E	xal Eng	gineer	M. I	Hall / B	. Tupm	an				
Woll N		Cas	sino 4 F	)\//2						17	ocation	<b>-</b>	Oce	an Pat	riot					
WCII I	10.	out		///2						Ľ	Juano	•	000		inot					
Test N	No.	Cor	npletio	n						Da	ates Fi	rom/To	08/0	06/05-1	1/06/0	5				
Time hh:mm:ss		Choke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
09/06/05																				
18:30:00		0	2613.36	174.80	2327.0	81.0	2.4	67.6	0.0	0.0	65.6	0.0	0.000	0.000	0.000	4.482	0.00	0.00	0.60	0.10
18:35:00		0	2616.96	174.66	2329.8	79.7	1.8	67.2	0.0	0.0	65.4	0.0	0.000	0.000	0.000	4.482	0.00	0.00	0.60	0.10
18:38:00	Comm	nenced	methanol i	njection u	ostream of s	urface saf	ety valve.													
18:39:00	Opene	ed well	up to port	flareboom	on 16/64 ad	justable ch	oke throug	h heat exch	nanger and	l separator.										
18:40:00	•	24	2617.30	174.53	2329.8	78.5	107.9	66.8	0.0	53.9	73.8	0.0	0.000	0.000	2.260	4.482	0.00	0.00	0.60	0.10
18:40:00	Increa	sed to	24/64 adju:	stable chol	(e.															
18:41:00	Increa	sed to	32/64 adjus	stable chol	(e.															
18:41:00	Gas fla	are lit.																		
18:45:00		0	2606.53	174.78	2319.2	80.1	997.1	56.7	0.0	147.8	56.1	0.0	0.000	0.000	10.770	4.482	0.00	0.00	0.60	0.10
18:45:00	Well s	hut in (	due to burs	t steam ho	se.															
18:50:00		0	2621.22	175.20	2334.3	81.8	0.0	49.6	0.0	0.0	53.7	0.0	0.000	0.000	0.000	4.482	0.00	0.00	0.60	0.10
18:55:00		0	2625.91	175 27	2337.8	80.7	0.0	47.8	0.0	0.0	57.5	0.0	0.000	0 000	0 000	4 482	0.00	0.00	0.60	0 10
19.00.00		0	2629.61	175 14	2340.4	79.4	0.0	47.9	0.0	0.0	59.5	0.0	0.000	0.000	0.000	4 482	0.00	0.00	0.60	0 10
19.03.00	Comm	• henced	methanoli	niection u	netream of s	urface saf	otv valvo	41.0	0.0	0.0	00.0	0.0	0.000	0.000	0.000	4.402	0.00	0.00	0.00	0.10
19.03.00	Onene		un to nort	flareboom	on 16/64 adi	iustablo ch	oke throug	h haat ayot	anger and	l sonarator										
19.03.00	Incroa		32/64 adju	stable chol	on 10/04 auj		loke throug	ii iieat exci	anger and	1 300010101.										
10.05.00	merea	22	2622 EA	17/ 05	2224 0	78.0	255 5	49.1	0.0	121 2	72 5	0.0	0 000	0 000	6 150	1 192	0.00	0.00	0 60	0 10
10.05.00	Divort	od flou	2020.04	2/64 fixed /	2004.0	70.0	200.0	40.1	0.0	121.2	72.5	0.0	0.000	0.000	0.150	4.402	0.00	0.00	0.00	0.10
19.05.00	Gas fl	aro lit	v tillougil 5	2/04 11260 0	JIIOKE.															
19.00.00	Chut in	are ni.	o look on V		lownotroom	of oboko	nonifold on	used by by	drating											
19.07.00	Shuth	11 uue i	2622 40	475 00	2242 4	70 6		44 A	arating.	0.0	47.6	0.0	0 000	0 000	4 270	4 492	0.00	0.00	0.60	0.10
19.10.00	Onone	24 nd wall	2032.10	175.09	2343.1 on 24/64 odi	70.0 iuctoble ek	U.U	41.4 h haat ayak	0.0	U.U	47.0	0.0	0.000	0.000	4.270	4.402	0.00	0.00	0.60	0.10
10.11.00	Inorea		22/64 adju		011 24/04 auj	justable ci	loke infoug	ii iieat exci	langer and	i separator.										
19.11.00	Divort	iseu io	52/64 auju	2/64 fixed	ve.															
19.12.00	Stoom		v unough s	2/04 lixeu (	boltod to fiv	minor loo	in union													
10.12.00	Goo fl		iny to neat e	schanger		innor iea	k in union.													
19.13:00	GdS fli	are III.	ad atcom -	olivorite	ant avel															
19:13:00	Recon	ninenc		475 00		yer.	4065.0	20.0	~ ~	240.0	07 <b>7</b>		0.000	0.000	40 500	4 400	0.00	0.00	0.00	0.40
19:15:00	C	32 al mosti	2010.59 ≤ 2010.59	1/5.22	2324.5	8U.3	1065.0	30.0	0.0	219.0	31.1	0.0	0.000	0.000	13.530	4.482	0.00	0.00	0.60	0.10
19:19:00	cease	eu metr		ATE CO	ani of surfac	e sarety V	aive.	00 F		<b>570 0</b>	50.0		0.000	0.000	40 500	4 400	0.00	0.00	0.00	0.40
19:20:00		32	2614.21	1/5.63	2322.5	86.6	1050.3	39.5	0.0	5/8.2	59.6	0.0	0.000	0.000	13.500	4.482	0.00	0.00	0.60	0.10
19:25:00		32	2613.21	176.03	2321.2	90.5	1018.2	44.3	0.0	685.5	63.7	0.0	0.000	0.000	13.490	4.482	0.00	0.00	0.60	0.10

Client	t S	Santo	os Ltd							E	xal En	gineer	M. I	Hall / B	. Tupm	nan				
Well I	No. (	Casir	10 4 D	W2						L	ocatio	n	Oce	ean Pa	triot					
Test I	No. (	Comp	oletior	า						D	ates F	rom/To	08/0	<b>)6/05-</b> 1	1/06/0	5				
Time hh:mm:ss	Ch 6	oke 4th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
09/06/05																				
19:30:00		32 20	612.85	176.33	2321.0	92.4	999.8	47.6	0.0	731.8	63.4	0.0	0.000	0.000	13.490	4.482	0.00	0.00	0.60	0.10
19:35:00		32 20	612.74	176.52	2321.0	93.6	990.8	49.4	0.0	746.7	66.0	0.0	0.000	0.000	13.490	4.482	0.00	0.00	0.60	0.10
19:37:00	Installed	2.75" c	orifice pla	ate in test	separator g	as meter ri	ın.													
19:38:00	Gas SG	0.684.																		
19:40:00		32 20	612.84	176.65	2320.8	94.5	992.4	50.5	0.0	747.7	66.7	105.2	7.100	8.727	13.490	4.512	0.00	0.00	0.60	0.10
19:45:00		32 20	613.06	176.74	2321.4	95.1	1007.4	51.3	0.0	748.3	67.1	104.2	12.090	14.531	13.490	4.563	0.00	0.00	0.60	0.10
19:50:00		32 20	613.34	176.81	2321.4	95.7	1012.3	52.1	0.0	771.3	63.4	100.8	13.726	14.510	13.490	4.613	0.00	0.00	0.60	0.10
19:52:00	Draeger	indicat	ed 1% C0	)2 and 0.1	ppm H2S, 0	% mercap	an.													
19:55:00		32 20	613.73	176.86	2321.2	96.1	995.1	52.7	0.0	748.8	67.6	104.8	14.288	14.575	13.490	4.664	0.00	0.00	1.00	0.10
20:00:00		32 20	614.14	176.90	2322.1	96.5	990.2	53.0	0.0	743.2	69.0	106.1	14.464	14.530	13.490	4.714	0.00	0.00	1.00	0.10
20:05:00		32 20	614.58	176.94	2322.3	96.8	998.6	53.2	0.0	743.2	69.1	106.2	14.524	14.524	13.490	4.765	0.00	0.00	1.00	0.10
20:10:00		32 20	615.08	176.97	2322.7	96.9	1002.0	53.5	0.0	750.6	67.6	104.6	14.514	14.505	13.500	4.815	0.00	0.00	1.00	0.10
20:15:00		32 20	615.56	177.00	2322.9	97.1	988.5	53.6	0.0	745.6	68.9	106.2	14.532	14.542	13.500	4.866	0.00	0.00	1.00	0.10
20:20:00		32 20	616.07	177.03	2323.5	97.3	992.2	53.8	0.0	742.7	69.5	106.8	14.540	14.542	13.500	4.916	0.00	0.00	1.00	0.10
20:25:00		32 20	616.56	177.06	2323.9	97.4	1051.9	53.9	0.0	756.2	66.3	102.8	14.499	14.484	13.500	4.966	0.00	0.00	1.00	0.10
20:30:00		32 20	617.10	177.08	2324.3	97.5	987.1	54.4	0.0	751.7	67.7	106.4	14.573	14.591	13.500	5.017	0.00	0.00	1.00	0.10
20:32:00	Draeger	indicat	ed 1% C0	02 and 0.1	ppm H2S.															
20:35:00		32 20	617.65	177.10	2324.7	97.7	999.6	54.6	0.0	745.2	69.3	106.8	14.561	14.550	13.510	5.068	0.00	0.00	1.00	0.10
20:40:00		32 20	618.17	177.12	2325.1	97.8	1013.7	54.6	0.0	742.6	69.5	106.7	14.558	14.555	13.510	5.118	0.00	0.00	1.00	0.10
20:45:00		32 20	618.69	177.14	2325.3	98.0	1039.0	54.5	0.0	767.5	69.9	102.7	14.418	14.338	13.510	5.168	0.00	0.00	1.00	0.10
20:50:00		32 20	619.22	177.16	2325.9	98.1	1010.2	54.7	0.0	768.0	70.5	103.5	14.511	14.554	13.510	5.218	0.00	0.00	1.00	0.10
20:55:00		32 20	619.77	177.18	2326.3	98.2	1021.0	55.0	0.0	766.4	71.0	103.7	14.529	14.535	13.520	5.269	0.00	0.00	1.00	0.10
21:00:00		32 20	620.31	177.20	2326.1	98.2	1026.2	55.0	0.0	762.5	71.4	103.4	14.537	14.545	13.520	5.319	0.00	0.00	1.00	0.10
21:05:00		32 20	620.81	177.21	2327.0	98.3	1057.5	55.1	0.0	785.2	66.6	98.9	14.508	14.489	13.520	5.370	0.00	0.00	1.00	0.10
21:10:00		32 20	621.34	177.23	2327.2	98.4	1032.3	55.3	0.0	771.6	69.7	102.4	14.559	14.589	13.520	5.420	0.00	0.00	1.00	0.10
21:10:00	Radon: 3	896 Bq/	m3.																	
21:15:00		32 20	621.83	177.24	2327.6	98.5	1016.4	55.4	0.0	770.3	70.4	103.3	14.562	14.560	13.520	5.471	0.00	0.00	1.00	0.10
21:20:00		32 20	622.35	177.25	2328.0	98.5	1034.5	55.4	0.0	770.9	70.1	102.6	14.554	14.544	13.530	5.521	0.00	0.00	1.00	0.10
21:25:00		32 20	622.82	177.26	2328.4	98.5	1049.1	55.4	0.0	784.7	67.9	100.0	14.529	14.519	13.530	5.572	0.00	0.00	1.00	0.10
21:28:00	Gas SG	0.682.																		

21:29:00 Flushed line to downstream choke pressure transducer.

Client	: Sa	ntos Lto	ł						E	xal En	gineer	M. I	Hall / B	. Tupm	nan				
Well I	No. <mark>C</mark> a	sino 4 [	OW2						L	ocatio	n	Oce	ean Pa	triot					
Test I	No. Co	mpletio	n						D	ates F	rom/To	<b>o</b> 08/0	<b>06/05</b> -1	1/06/0	5				
Time hh:mm:ss	Choke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>09/06/05</u> 21:30:00	32	2623 29	177 28	2328.6	98 5	962.2	55 4	0.0	774 A	69 1	102.2	14 573	14 584	13 530	5 623	0.00	0.00	1 00	0 10
21.30.00	Draeger in	LoLO.LO	:02 and 0 1	nnm H2S (	)% mercan	tan	00.4	0.0	114.4	00.1	102.2	14.070	14.004	10.000	0.020	0.00	0.00	1.00	0.10
21:35:00	32	2623 78	177 29	2329.0	98.3	966.5	55 1	0.0	774 9	69.6	102.2	14 562	14 557	13 530	5 673	0.00	0.00	1 00	0 10
21:36:00	Adjusted s	eparator pre	ssure cont	rol.			••••												
21:40:00	32	2624.29	177.30	2329.2	98.2	970.2	54.9	0.0	738.1	68.4	107.3	14.537	14.585	13.530	5,724	0.00	0.00	1.00	0.10
21:45:00	32	2624.75	177.31	2329.4	98.2	971.0	54.6	0.0	740.6	68.0	106.5	14.514	14.546	13.540	5.774	0.00	0.00	1.00	0.10
21:50:00	32	2625.25	177.32	2329.6	98.1	1011.6	54.5	0.0	756.6	64.7	103.8	14.580	14.519	13.540	5.825	0.00	0.00	1.00	0.10
21:55:00	32	2625.66	177.33	2330.2	98.1	1047.2	54.4	0.0	741.5	68.1	107.0	14.561	14.594	13.540	5.875	0.00	0.00	1.00	0.10
22:00:00	32	2626.09	177.34	2330.2	98.1	1076.3	54.4	0.0	746.7	69.4	105.4	14.492	14.577	13.540	5.926	0.00	0.00	1.00	0.10
22:05:00	32	2626.57	177.35	2330.6	98.0	928.6	54.2	0.0	748.8	70.4	106.5	14.576	14.575	13.540	5.977	0.00	0.00	1.00	0.10
22:10:00	32	2627.04	177.36	2331.3	98.0	966.3	53.8	0.0	759.0	67.9	103.7	14.547	14.537	13.550	6.027	0.00	0.00	1.00	0.10
22:10:00	Commence	d pumpina	methanol u	pstream of	SSV to elir	ninate hvdr	ates across	heater ch	oke.										
22:15:00	32	2627.28	177.36	2331.1	97.8	889.8	53.3	0.0	740.3	68.8	108.9	14.634	14.665	13.550	6.078	0.00	0.00	1.00	0.10
22:20:00	32	2627.71	177.38	2331.3	97.6	860.0	52.8	0.0	740.3	68.7	109.0	14.666	14.680	13.550	6.129	0.00	0.00	1.00	0.10
22:25:00	32	2628.04	177.38	2331.3	97.7	852.8	51.8	0.0	740.3	69.0	108.8	14.670	14.674	13.550	6.180	0.00	0.00	1.00	0.10
22:30:00	32	2628.39	177.39	2331.9	97.7	851.4	50.8	0.0	738.1	68.2	108.7	14.664	14.665	13.550	6.231	0.00	0.00	1.00	0.10
22:30:00	Draeger in	licated 1% C	02 and 0.1	ppm H2S.															
22:35:00	32	2628.79	177.40	2332.1	97.7	853.8	50.0	0.0	739.7	68.5	108.7	14.676	14.682	13.550	6.282	0.00	0.00	1.00	0.10
22:40:00	32	2629.17	177.41	2332.3	97.6	856.7	49.6	0.0	740.3	69.1	109.0	14.678	14.681	13.550	6.333	0.00	0.00	1.00	0.10
22:40:00	Mercury: 0	24 microgra	ims/m3.																
22:45:00	32	2629.51	177.41	2332.5	97.6	858.3	49.4	0.0	740.9	68.9	109.0	14.682	14.683	13.550	6.384	0.00	0.00	1.00	0.10
22:50:00	32	2629.92	177.42	2332.7	97.5	867.7	49.2	0.0	762.8	65.1	101.5	14.635	14.632	13.550	6.434	0.00	0.00	1.00	0.10
22:55:00	32	2630.26	177.42	2332.5	97.4	861.4	49.1	0.0	757.2	67.1	106.0	14.681	14.703	13.550	6.486	0.00	0.00	1.00	0.10
23:00:00	32	2630.60	177.43	2332.9	97.4	857.5	49.0	0.0	758.4	68.7	106.2	14.695	14.703	13.560	6.537	0.00	0.00	1.00	0.10
23:05:00	32	2631.00	177.44	2333.3	97.3	857.3	49.0	0.0	758.9	68.9	106.4	14.695	14.693	13.560	6.588	0.00	0.00	1.00	0.10
23:10:00	32	2631.33	177.44	2333.5	97.3	854.2	49.0	0.0	756.2	67.9	105.7	14.685	14.687	13.560	6.639	0.00	0.00	1.00	0.10
23:15:00	32	2631.65	177.45	2333.5	97.2	855.9	49.0	0.0	756.6	65.7	106.0	14.696	14.694	13.560	6.690	0.00	0.00	1.00	0.10
23:20:00	32	2631.93	177.45	2333.7	97.2	856.3	48.9	0.0	758.4	67.9	106.1	14.704	14.709	13.560	6.741	0.00	0.00	1.00	0.10
23:23:00	Gas SG 0.6	83.																	
23:25:00	32	2632.24	177.46	2333.9	97.1	849.3	48.8	0.0	758.9	68.6	106.1	14.708	14.712	13.560	6.792	0.00	0.00	1.00	0.10
23:30:00	32	2632.53	177.47	2334.1	97.0	846.7	48.6	0.0	759.0	68.8	106.4	14.716	14.721	13.560	6.843	0.00	0.00	1.00	0.10
									Page 4	4									

Client	Sa	ntos Lto	t						E	xal En	gineer	M. I	Hall / B	. Tupm	nan				
Well N	lo. Ca	sino 4 I	OW2						L	ocatio	n	Oce	an Pa	triot					
Test N	lo. Co	mpletio	n						D	ates F	rom/To	08/0	<b>)6/05-</b> 1	1/06/0	5				
Time hh:mm:ss	Choke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>09/06/05</u>																			
23:30:00	Mercury: 0.	35 microgra	ıms/m3.																
23:35:00	32	2632.94	177.47	2334.1	97.0	845.9	48.4	0.0	757.8	66.2	106.2	14.718	14.711	13.560	6.894	0.00	0.00	1.00	0.10
23:40:00	32	2633.32	177.48	2334.7	97.2	853.6	48.4	0.0	759.0	68.1	104.9	14.666	14.652	13.570	6.945	0.00	0.00	1.00	0.10
23:45:00	32	2633.62	177.48	2334.7	97.1	859.1	48.6	0.0	760.7	68.7	104.5	14.656	14.653	13.570	6.996	0.00	0.00	1.00	0.10
23:50:00	32	2634.04	177.48	2334.7	97.1	867.7	48.9	0.0	770.3	69.0	103.3	14.624	14.609	13.570	7.046	0.00	0.00	1.00	0.10
23:50:00	Chlorides 4	5,000 mg/L.																	
23:50:00	Water dens	ity: 1.054 g/	cm3 @ 17.1	l degC.															
23:55:00	32	2634.26	177.49	2335.1	96.9	855.7	49.2	0.0	760.1	64.4	105.3	14.669	14.664	13.570	7.097	0.00	0.00	1.00	0.10
<u>10/06/05</u>																			
00:00:00	32	2634.62	177.49	2335.1	97.0	868.8	49.2	0.0	770.9	67.7	103.0	14.641	14.625	13.570	7.148	0.00	0.00	1.00	0.10
00:05:00	32	2634.86	177.49	2335.6	97.0	871.4	49.3	0.0	772.7	68.8	103.2	14.633	14.626	13.570	7.199	0.00	0.00	1.00	0.10
00:10:00	32	2635.21	177.50	2335.6	97.0	873.9	49.5	0.0	774.4	69.0	103.2	14.631	14.626	13.570	7.250	0.00	0.00	1.00	0.10
00:15:00	32	2635.53	177.50	2336.2	96.9	885.9	49.8	0.0	783.6	66.0	100.0	14.603	14.595	13.570	7.300	0.00	0.00	1.00	0.10
00:20:00	32	2635.88	177.51	2336.0	96.8	871.2	49.9	0.0	767.6	66.3	103.7	14.634	14.645	13.570	7.351	0.00	0.00	1.00	0.10
00:25:00	32	2636.07	177.51	2336.0	96.7	866.9	50.0	0.0	761.9	67.8	104.7	14.641	14.644	13.580	7.402	0.00	0.00	1.00	0.10
00:30:00	32	2636.32	177.51	2336.4	96.7	881.8	49.9	0.0	778.4	68.2	102.0	14.622	14.614	13.570	7.453	0.00	0.00	1.00	0.10
00:30:00	Petrotech c	ommenced	taking gas	sample 1.02	2 : s/n A200	06.													
00:35:00	32	2636.61	177.52	2336.4	96.6	881.0	49.9	0.0	777.3	68.3	101.7	14.622	14.628	13.580	7.504	0.00	0.00	1.00	0.10
00:40:00	32	2636.92	177.52	2336.6	96.6	887.8	49.9	0.0	774.4	64.3	101.8	14.634	14.639	13.580	7.554	0.00	0.00	1.00	0.10
00:45:00	32	2637.07	177.52	2336.8	96.5	884.3	49.9	0.0	779.6	67.6	101.8	14.626	14.627	13.580	7.605	0.00	0.00	1.00	0.10
00:45:00	Completed	taking sam	ple.																
00:50:00	32	2637.44	177.53	2336.4	96.5	879.4	49.9	0.0	774.4	68.6	103.0	14.631	14.630	13.580	7.656	0.00	0.00	1.00	0.10
00:55:00	32	2637.55	177.53	2336.6	96.5	880.2	49.8	0.0	774.4	68.7	102.9	14.636	14.635	13.580	7.707	0.00	0.00	1.00	0.10
01:00:00	32	2637.87	177.53	2336.8	96.4	900.2	49.8	0.0	787.4	65.0	99.5	14.612	14.603	13.580	7.758	0.00	0.00	1.20	0.10
01:00:00	Draeger ind	licated 1.2%	C02 and 0	.1 ppm H2S.															
01:05:00	32	2638.10	177.54	2336.8	96.4	875.5	49.9	0.0	765.9	66.9	104.0	14.650	14.669	13.580	7.809	0.00	0.00	1.20	0.10
01:07:00	Removed o	rifice plate.																	
01:08:00	Heater and	separator b	vpass oper	ned.															
01:09:00	Increased to	o 48/64 fixe	d choke.	-															
01:10:00	48	2638.43	177.54	2337.0	96.3	444.1	49.8	0.0	<b>348.3</b> Page 5	<b>65.1</b>	0.0	5.991	2.907	20.040	7.819	0.00	0.00	1.20	0.10

Client	t S	antos Lt	d						E	xal En	gineer	M. I	Hall / B	. Tupn	nan				
Well I	No. C	asino 4	DW2						L	ocatio	n	Oce	ean Pa	triot					
Test	No. C	ompletic	n						D	ates F	rom/To	08/0	06/05-1	11/06/0	5				
Time hh:mm:ss	Cho 64	ke 40586P Ith PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
10/06/05																			
01:11:00	Diverted	flow back thr	ough heat e	xchanger.															
01:14:00	Diverted	flow back the	ugh separa	tor.															
01:15:00	4	48 2609.71	177.49	2285.9	99.1	724.4	48.3	0.0	303.9	61.0	0.0	1.963	0.000	29.160	7.819	0.00	0.00	1.20	0.10
01:16:00	Closed s	eparator bypa	ISS.																
01:20:00	4	48 2603.92	177.56	2277.3	102.4	949.1	47.8	0.0	821.7	66.7	0.0	0.643	0.000	29.020	7.819	0.00	0.00	1.20	0.10
01:25:00	4	48 2599.95	177.67	2268.9	104.0	876.1	49.3	0.0	741.0	63.4	0.0	0.211	0.000	28.920	7.819	0.00	0.00	1.20	0.10
01:30:00	4	48 2597.58	177.76	2263.6	104.8	849.7	51.8	0.0	711.8	61.9	0.0	0.069	0.000	28.830	7.819	0.00	0.00	1.20	0.10
01:35:00	4	48 2594.70	177.83	2265.4	105.7	785.1	53.5	0.0	636.5	62.0	0.0	0.023	0.000	28.820	7.819	0.00	0.00	1.20	0.10
01:40:00	4	48 2592.23	177.86	2267.1	106.3	776.1	54.2	0.0	625.7	60.9	0.0	0.000	0.000	28.840	7.819	0.00	0.00	1.20	0.10
01:45:00	4	48 2590.07	177.89	2267.9	106.8	932.5	54.6	0.0	791.2	60.4	0.0	0.000	0.000	28.850	7.819	0.00	0.00	1.20	0.10
01:50:00	4	48 2588.14	177.91	2268.9	107.2	889.2	54.9	0.0	734.6	59.1	0.0	0.000	0.000	28.870	7.819	0.00	0.00	1.20	0.10
01:55:00	4	48 2586.32	177.93	2269.5	107.7	791.1	55.1	0.0	655.1	62.6	0.0	0.000	0.000	28.870	7.819	0.00	0.00	1.20	0.10
01:55:00	Opened s	separator byp	ass.																
02:00:00	4	48 2584.67	177.94	2269.9	108.0	649.2	55.0	0.0	459.0	55.5	0.0	0.000	0.000	28.880	7.819	0.00	0.00	1.10	0.10
02:00:00	Draeger i	ndicated 1.1%	% C02 and 0	.1 ppm H2S															
02:00:00	Mercury:	0.27 microgr	ams/m3.																
02:00:00	Drained 4	4 bbl's of fluic	I from sepe	rator to surg	ge tank.														
02:05:00	4	48 2583.17	177.95	2270.1	108.2	649.2	53.7	0.0	457.1	59.1	0.0	0.000	0.000	28.880	7.819	0.00	0.00	1.10	0.10
02:10:00	4	48 2581.79	177.96	2270.5	108.5	651.0	52.8	0.0	456.8	60.0	0.0	0.000	0.000	28.890	7.819	0.00	0.00	1.10	0.10
02:13:00	Closed s	eparator bypa	ISS.																
02:14:00	Surface S	Safety Valve t	ripped, well	shut in.															
02:15:00	4	48 2613.72	178.02	2327.2	108.1	39.4	52.4	0.0	42.1	66.4	0.0	0.000	0.000	28.960	7.819	0.00	0.00	1.10	0.10
02:20:00	4	48 2631.88	178.34	2345.4	103.9	0.0	53.5	0.0	0.0	62.0	0.0	0.000	0.000	29.770	7.819	0.00	0.00	1.10	0.10
02:25:00	4	48 2640.88	178.30	2352.9	100.7	0.0	54.5	0.0	0.0	62.2	0.0	0.000	0.000	29.900	7.819	0.00	0.00	1.10	0.10
02:29:00	Closed ir	well at chok	e manifold.																
02:29:00	Opened \$	Surface Safet	y Valve.																
02:30:00	_	0 2647.33	177.97	2358.4	97.6	0.0	55.0	0.0	0.0	61.7	0.0	0.000	0.000	17.980	7.819	0.00	0.00	1.10	0.10
02:32:00	Commen	ced pumping	methanol u	pstream of	SSV.														<b>•</b> / -
02:35:00	2	24 2652.45	177.58	2362.3	93.2	0.0	55.3	0.0	0.0	61.3	0.0	0.000	0.000	1.570	7.819	0.00	0.00	1.10	0.10
02:35:00	Opened v	well up to por	t flareboom	on 24/64 ac	ijustable cl	noke throug	h heat excl	hanger and	d separator.										

02:37:00 Gas flare lit.

Client	t 5	Sante	os Ltd							E	kal En	gineer	M. I	Hall / B	. Tupm	nan				
Well N	No. (	Casiı	no 4 D	W2						Lo	ocatio	n	Oce	ean Pat	triot					
Test N	No. (	Com	pletior	า						Da	ates F	rom/To	08/0	06/05-1	1/06/0	5				
Time hh:mm:ss	Ch	ioke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>10/06/05</u>																				
02:37:00	Increase	ed to 32	2/64 adjus	table chok	æ.															
02:40:00		32 2	2641.57	177.24	2349.9	90.0	383.8	50.0	0.0	337.9	39.8	0.0	0.000	0.000	11.390	7.819	0.00	0.00	1.10	0.10
02:42:00	Increase	ed to 48	8/64 adjus	table chok																
02:45:00		48 2	2613.49	177.11	2300.2	92.7	696.2	38.9	0.0	447.6	36.9	0.0	0.000	0.000	23.260	7.819	0.00	0.00	1.10	0.10
02:48:00	Diverted	flow t	hrough 48	3/64 fixed c	hoke.	400 -				400 -						- 040				
02:50:00		48 2	2603.13	1/7.23	2288.5	100.7	6/3./	38.9	0.0	460.7	44.6	0.0	0.000	0.000	29.180	7.819	0.00	0.00	1.10	0.10
02:52:00	Attempt	ed to li	ncrease so	eparator pr	ressure to /	50psi.														
02:54:00	Lowered	40 7		(e.	2204.2	404.2	664.2	42.0		457 9	46.0	20.4	2 042	2 042	20.000	7 996	0.00	0.00	4 40	0.40
02:55:00		40 2	2090.10	177.33	2204.2	104.2	675.0	43.0	0.0	407.0	40.0	20.1	2.013	2.013	29.000	7.020	0.00	0.00	1.10	0.10
03:00:00	Lowero	40 4	2394.34 srifiaa plat	1//.41	22/9./	105.9	0/5.2	40.1	0.0	400.1	49.0	0.0			29.030	1.041	0.00	0.00	1.10	0.10
03.00.00	Cos SG	1 4.25 C	nince plai	le.																
03.02.00	Gas 30	0.004. 18 2	2591 34	177 /9	2277 1	106.9	682.9	48.1	0.0	<i>1</i> 55 7	51.6	100.9	23 104	30 598	28 990	7 953	0.00	0.00	0 70	0 10
03.05.00	Dragger	indica	tod 0 7% (	0 b nc 201	1 nnm H2S	100.5	002.5	40.1	0.0	455.7	51.0	100.9	25.104	30.330	20.990	7.555	0.00	0.00	0.70	0.10
03.10.00	Diaegei	18 2	2588 84	177 59	2275 7	107 5	690 3	19.5	0.0	<i>1</i> 55 7	52 5	100.9	28 119	30 557	28 970	8 059	0.00	0.00	0 70	0 10
03:10:00	Ceased	metha	nol iniecti	on upstrea	om of SSV.	107.0	000.0	40.0	0.0	400.7	02.0	100.0	20.110	00.007	20.070	0.000	0.00	0.00	0.70	0.10
03.10.00	Radon:	285 Ba	/m3	on aponoa																
03:15:00	i autoriti	48 2	2586.73	177.67	2274.0	107.8	695.2	50.4	0.0	453.3	49.6	100.3	29.725	30.511	28.940	8,165	0.00	0.00	0.70	0.10
03:20:00		48 2	2584.84	177.73	2271.8	108.1	693.1	51.0	0.0	448.7	44.6	99.2	30.176	30.405	28.920	8.271	0.00	0.00	0.70	0.10
03:25:00		48 2	2583.11	177.77	2270.7	108.3	717.3	51.5	0.0	449.3	40.4	98.7	30.341	30.416	28.900	8.376	0.00	0.00	0.70	0.10
03:30:00		48 2	2581.60	177.80	2269.1	108.3	733.0	51.9	0.0	452.2	39.1	97.1	30.384	30.403	28.880	8.482	0.00	0.00	0.70	0.10
03:35:00		48 2	2580.27	177.83	2268.9	108.4	729.9	52.3	0.0	450.7	39.2	97.1	30.370	30.380	28.870	8.587	0.00	0.00	0.70	0.10
03:40:00		48 2	2579.24	177.85	2266.9	108.6	696.0	52.7	0.0	449.9	40.6	96.3	30.198	30.132	28.840	8.692	0.00	0.00	0.70	0.10
03:45:00		48 2	2577.95	177.87	2266.9	108.9	695.0	53.0	0.0	449.9	40.1	96.8	30.202	30.195	28.840	8.797	0.00	0.00	0.70	0.10
03:50:00		48 2	2576.88	177.88	2266.2	109.0	709.7	53.1	0.0	448.7	40.0	96.6	30.191	30.186	28.840	8.902	0.00	0.00	0.70	0.10
03:55:00		48 2	2575.83	177.90	2265.8	109.3	714.8	53.2	0.0	449.3	40.4	97.0	30.177	30.158	28.830	9.006	0.00	0.00	0.70	0.10
04:00:00		48 2	2574.79	177.91	2265.4	109.5	716.5	53.5	0.0	455.7	40.9	95.0	30.151	30.139	28.830	9.111	14.40	0.00	1.00	0.10
04:00:00	Comme	nced d	umping fl	uid from se	eparator to	surge tank	, establishe	d level on s	surge tank											
04:00:00	Draeger	indica	ted 1% C0	)2 and 0.1 j	ppm H2S.	-			-											
04:00:00	Mercury	: 0.47 r	microgran	ns/m3.																
04:05:00		48 2	2573.82	177.93	2265.2	109.8	715.4	53.7	0.0	<b>464.0</b> Page 7	41.4	93.7	30.145	30.137	28.820	9.216	14.40	0.00	1.00	0.10

Client	:	Sar	ntos Ltd	l						E	xal En	gineer	M. I	Hall / B	. Tupm	an				
Well N	lo.	Cas	sino 4 E	)W2						L	ocatio	n	Oce	ean Pa	triot					
Test N	lo.	Cor	npletio	n						D	ates F	rom/To	o 08/0	0 <mark>6/05-</mark> 1	1/06/0	5				
Time hh:mm:ss	c	Choke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
10/06/05																				
04:10:00		48	2572.89	177.94	2264.4	110.1	712.2	54.0	0.0	469.0	42.0	92.6	30.130	30.128	28.820	9.320	14.40	0.00	1.00	0.10
04:15:00		48	2572.01	177.95	2263.6	110.2	716.0	54.2	0.0	473.7	42.2	91.7	30.136	30.129	28.810	9.425	14.40	0.00	1.00	0.10
04:20:00		48	2571.24	177.96	2262.4	110.3	709.5	54.4	0.0	470.7	42.3	91.4	30.107	30.105	28.790	9.529	14.40	0.00	1.00	0.10
04:25:00		48	2570.45	177.96	2261.9	110.4	710.7	54.4	0.0	476.4	42.7	90.8	30.082	30.065	28.780	9.634	14.40	0.00	1.00	0.10
04:30:00		48	2569.73	177.97	2261.3	110.5	714.6	54.5	0.0	477.0	43.0	90.7	30.073	30.073	28.780	9.738	24.00	0.30	1.00	0.10
04:35:00		48	2569.00	177.98	2260.9	110.6	717.9	54.6	0.0	479.3	43.3	90.1	30.047	30.032	28.770	9.843	24.00	0.30	1.00	0.10
04:40:00		48	2568.35	177.98	2260.5	110.7	717.3	54.8	0.0	483.4	43.5	89.5	30.067	30.076	28.770	9.947	24.00	0.30	1.00	0.10
04:45:00		48	2567.68	177.99	2260.1	110.7	713.8	54.8	0.0	488.5	43.6	88.8	30.089	30.094	28.760	10.051	24.00	0.30	1.00	0.10
04:50:00		48	2567.10	177.99	2259.9	110.8	718.3	54.9	0.0	492.0	43.8	88.3	30.121	30.138	28.760	10.156	24.00	0.30	1.00	0.10
04:55:00		48	2566.50	178.00	2259.5	110.9	714.6	55.0	0.0	494.2	44.0	88.1	30.157	30.174	28.750	10.261	24.00	0.30	1.00	0.10
05:00:00		48	2565.91	178.00	2259.3	111.0	717.9	55.1	0.0	498.5	44.3	87.5	30.181	30.190	28.750	10.366	14.40	0.80	1.00	0.10
05:00:00	Draege	er indi	cated 1% C	02 and 0.1	ppm H2S.															
05:00:00	Liquid	return	ns at surge	tank 0.8 bb	ols.															
05:00:00	Tank L	.iquid	Rate: 14.4 k	obls/d.																
05:05:00		48	2565.32	178.01	2258.7	111.1	718.1	55.2	0.0	501.9	44.5	87.4	30.218	30.227	28.740	10.471	14.40	0.80	1.00	0.10
05:05:00	Chlorid	des 21	,000 mg/L.																	
05:05:00	Water of	densit	y: 1.026 g/c	:m3 @ 15.7	degC.															
05:10:00		48	2564.75	178.01	2258.3	111.3	717.7	55.3	0.0	503.0	44.8	87.2	30.254	30.269	28.740	10.576	14.40	0.80	1.00	0.10
05:11:00	Water S	SG 1.0	)3 at 55 Deg	g F.																
05:15:00		48	2564.20	178.02	2257.7	111.4	720.1	55.4	0.0	506.3	45.0	86.7	30.276	30.294	28.730	10.681	14.40	0.80	1.00	0.10
05:20:00		48	2563.67	178.02	2257.0	111.4	721.1	55.4	0.0	509.8	45.2	86.2	30.299	30.306	28.720	10.786	14.40	0.80	1.00	0.10
05:25:00		48	2563.14	178.02	2256.8	111.4	721.4	55.5	0.0	513.6	45.4	85.6	30.295	30.293	28.720	10.891	14.40	0.80	1.00	0.10
05:30:00		48	2562.65	178.02	2256.8	111.3	721.0	55.5	0.0	518.1	45.6	84.4	30.253	30.240	28.710	10.996	9.60	1.10	1.00	0.10
05:35:00		48	2562.16	178.03	2256.4	111.3	715.6	55.5	0.0	510.9	45.4	85.3	30.233	30.231	28.710	11.101	9.60	1.10	1.00	0.10
05:40:00		48	2561.70	178.03	2256.0	111.3	718.7	55.5	0.0	515.3	45.6	84.5	30.189	30.170	28.710	11.206	9.60	1.10	1.00	0.10
05:45:00		48	2561.26	178.03	2255.8	111.4	723.4	55.6	0.0	523.2	45.9	82.5	30.141	30.131	28.700	11.311	9.60	1.10	1.00	0.10
05:50:00		48	2560.81	178.03	2255.2	111.4	726.1	55.7	0.0	529.0	46.3	81.6	30.061	30.025	28.700	11.415	9.60	1.10	1.00	0.10
05:55:00		48	2560.40	178.03	2254.8	111.4	726.7	55.8	0.0	530.5	46.4	80.6	29.967	29.932	28.690	11.519	9.60	1.10	1.00	0.10
06:00:00		48	2559.96	178.03	2254.4	111.5	715.4	55.8	0.0	519.9	46.1	82.2	29.915	29.902	28.690	11.623	9.60	1.30	1.00	0.10
06:00:00	Draege	er indi	cated 1% C	02 and 0.1	ppm H2S.															

06:00:00 Liquid returns at surge tank 1.30 bbls.

Client	t Sa	ntos Lto	ł						E	xal En	gineer	• M. I	Hall / B	. Tupm	nan				
Well I	No. <mark>Ca</mark>	sino 4 [	DW2						L	ocatio	n	Oce	ean Pa	triot					
Test	No. Co	mpletio	n						D	ates F	rom/T	o 08/(	06/05-1	1/06/0	5				
Time hh:mm:ss	Choke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>10/06/05</u>																			
06:00:00	Tank Liquid	Rate: 9.60	bbls/d.																
06:05:00	48	2559.55	178.04	2253.8	111.5	719.1	55.8	0.0	524.3	46.2	81.5	29.889	29.875	28.680	11.726	9.60	1.30	1.00	0.10
06:10:00	48	2559.14	178.04	2253.6	111.5	724.8	55.8	0.0	532.3	46.6	80.5	29.888	29.886	28.680	11.830	9.60	1.30	1.00	0.10
06:15:00	48	2558.77	178.04	2253.6	111.5	724.6	55.9	0.0	531.6	46.7	80.6	29.883	29.881	28.680	11.934	9.60	1.30	1.00	0.10
06:20:00	48	2558.38	178.04	2252.6	111.5	725.6	56.0	0.0	533.9	46.9	80.1	29.876	29.866	28.670	12.038	9.60	1.30	1.00	0.10
06:25:00	48	2558.00	178.04	2252.3	111.5	728.5	56.1	0.0	538.3	46.9	79.2	29.887	29.901	28.660	12.141	9.60	1.30	1.00	0.10
06:30:00	48	2557.63	178.04	2252.3	111.4	737.1	56.2	0.0	550.8	47.4	77.6	29.884	29.890	28.660	12.245	14.40	1.50	1.00	0.10
06:30:00	Petrotech c	ommenced	taking gas	sample 1.03	3 : s/n A-57	68.													
06:35:00	48	2557.27	178.04	2251.9	111.4	735.7	56.3	0.0	559.3	48.0	76.6	29.908	29.912	28.660	12.349	14.40	1.50	1.00	0.10
06:40:00	48	2556.89	178.05	2251.7	111.4	745.7	56.4	0.0	573.5	48.6	74.2	29.883	29.879	28.650	12.453	14.40	1.50	1.00	0.10
06:45:00	48	2556.55	178.05	2251.5	111.5	731.2	56.4	0.0	554.1	48.0	76.9	29.901	29.954	28.650	12.557	14.40	1.50	1.00	0.10
06:45:00	Completed	taking sam	ple.																
06:50:00	48	2556.24	178.05	2251.1	111.5	740.4	56.4	0.0	566.2	48.2	75.7	29.890	29.882	28.640	12.661	14.40	1.50	1.00	0.10
06:55:00	48	2555.90	178.05	2250.7	111.4	765.3	56.5	0.0	600.6	49.5	71.2	29.919	29.930	28.640	12.765	14.40	1.50	1.00	0.10
07:00:00	48	2555.56	178.05	2250.3	111.4	767.1	56.9	0.0	603.8	49.9	70.6	29.905	29.897	28.640	12.868	0.00	1.80	1.00	0.10
07:00:00	Liquid retur	ns at surge	tank 1.80 b	obls.															
07:00:00	Draeger ind	licated 1% C	02 and 0.1	ppm H2S.															
07:02:00	Raised orifi	ce plate.																	
07:05:00	48	2555.25	178.05	2250.1	111.4	755.3	57.2	0.0	601.7	50.6	0.0			28.630	12.931	0.00	1.80	1.00	0.10
07:06:00	Opened sep	parator bypa	ass.																
07:10:00	48	2554.92	178.05	2249.9	111.4	693.6	57.1	0.0	544.0	49.5	0.0			28.630	12.931	0.00	1.80	1.00	0.10
07:10:00	Diverted flo	w through 4	48/64" adju:	stable chok	e.														
07:12:00	Increased a	djustable cl	hoke to 52/	64".															
07:15:00	64	2507.19	177.88	2150.5	113.3	1086.5	58.8	0.0	742.0	63.1	0.0			36.150	12.933	0.00	1.80	1.00	0.10
07:15:00	Increased a	djustable cl	hoke to 64/	64".															
07:19:00	Diverted flo	w through 6	64/64" fixed	l choke.															
07:20:00	64	2499.22	177.77	2140.1	116.7	1075.8	63.8	0.0	742.0	68.2	0.0			47.310	12.933	0.00	1.80	1.00	0.10
07:21:00	Closed sep	arator bypa	ss.																
07:24:00	Installed 4.	50" orifice p	late in test	separator g	as meter r	un.													
07:25:00	64	2493.91	177.85	2136.4	117.9	1080.3	67.5	0.0	748.8	70.2	118.3	33.774	22.174	47.440	13.003	0.00	1.80	1.00	0.10
07:30:00	64	2488.18	177.90	2130.1	118.7	1077.5	70.0	0.0	746.1	71.3	119.6	44.572	49.838	47.320	13.176	9.60	1.80	1.00	0.10
									Page 9	9									

Client	: S	antos L	td						E	xal En	gineer	M. I	Hall / B	. Tupm	nan				
Well N	No. C	asino 4	DW2						L	ocatio	n	Oce	ean Pa	triot					
Test	No. C	ompleti	on						D	ates F	rom/To	<b>o</b> 08/0	06/05-1	1/06/0	5				
Time hh:mm:ss	Chc 64	ke 40586P Ith PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>10/06/05</u>																			
07:35:00	(	64 2482.83	177.91	2121.1	119.2	1072.4	71.5	0.0	743.2	72.1	118.7	48.031	49.748	47.150	13.348	9.60	1.80	1.00	0.10
07:40:00	(	64 2478.54	177.92	2113.3	119.6	1068.9	72.5	0.0	740.8	72.7	117.8	48.943	49.414	46.960	13.520	9.60	1.80	1.00	0.10
07:45:00	(	64 2474.39	177.91	2106.6	119.9	1065.0	73.4	0.0	738.1	73.2	117.6	49.081	49.159	46.790	13.691	9.60	1.80	1.00	0.10
07:45:00	Gas SG (	.698.																	
07:50:00	(	64 2471.41	177.90	2101.5	120.2	1062.3	74.0	0.0	737.5	73.5	116.7	49.014	49.002	46.670	13.861	9.60	1.80	1.00	0.10
07:55:00	(	64 2469.38	177.89	2089.2	120.3	1055.0	74.5	0.0	731.8	73.6	116.5	48.864	48.828	46.500	14.030	9.60	1.80	1.00	0.10
08:00:00	(	64 2468.83	177.89	2079.0	120.1	1066.2	74.7	0.0	721.6	74.2	115.4	48.488	48.379	46.210	14.198	9.60	2.00	1.00	0.10
08:00:00	Water SC	6 1.022 @ 60	degF.																
08:00:00	Liquid re	turns at surg	e tank 2.00	bbls.															
08:00:00	Tank Liq	uid Rate: 9.6	) bbls/d.																
08:05:00		64 2466.91	177.90	2074.9	120.5	1069.7	75.3	0.0	729.5	75.0	115.2	48.259	48.117	46.070	14.365	9.60	2.00	1.00	0.10
08:10:00	(	64 2465.28	177.90	2073.1	120.7	1064.2	75.7	0.0	722.8	74.7	115.5	48.157	48.126	46.010	14.533	9.60	2.00	1.00	0.10
08:15:00		64 2463.70	177.90	2071.0	120.7	1059.9	76.0	0.0	719.4	74.6	116.3	48.103	48.072	45.980	14.700	9.60	2.00	0.70	0.10
08:15:00	Draeger	ndicated 0.7	% C02 and 0	).1 ppm H2S															
08:20:00	(	64 2462.18	177.90	2069.2	120.8	1059.5	76.1	0.0	721.1	74.7	116.1	48.095	48.091	45.930	14.866	9.60	2.00	0.70	0.10
08:25:00		64 2460.81	177.90	2067.7	120.9	1057.5	76.2	0.0	721.2	74.8	116.3	48.067	48.042	45.890	15.033	9.60	2.00	0.70	0.10
08:30:00	(	64 2459.58	177.90	2065.5	121.0	1055.4	76.3	0.0	719.7	74.9	116.2	48.037	48.011	45.850	15.200	24.00	2.20	0.70	0.10
08:30:00	Chloride	s 15,000 mg/																	
08:30:00	Water de	nsity: 1.018	g/cm3 @ 16.	1 degC.															
08:30:00	pH: 6.69	@ 15.3 degC	, Conductivi	ty 35.8 mS/c	cm @ 15.3	degC, Resis	tivity 0.028	Ohm-m @	) 15.3 degC.										
08:35:00	(	64 2458.38	177.90	2064.1	121.1	1055.6	76.4	0.0	721.2	75.0	115.7	48.003	47.984	45.810	15.367	24.00	2.20	0.70	0.10
08:40:00	(	64 2457.15	177.90	2062.0	121.2	1051.7	76.5	0.0	715.1	75.2	116.5	47.933	47.908	45.770	15.533	24.00	2.20	0.70	0.10
08:45:00	(	64 2455.96	177.90	2061.2	121.4	1051.5	76.7	0.0	714.5	75.4	116.1	47.868	47.838	45.740	15.699	24.00	2.20	0.70	0.10
08:50:00	(	64 2454.85	177.90	2060.2	121.7	1051.5	76.8	0.0	715.0	75.8	116.2	47.855	47.848	45.720	15.865	24.00	2.20	0.70	0.10
08:55:00	(	64 2453.74	177.90	2059.2	121.9	1053.0	77.0	0.0	714.5	76.1	115.7	47.785	47.752	45.700	16.031	24.00	2.20	0.70	0.10
09:00:00	(	64 2452.71	177.90	2057.5	122.1	1054.6	77.2	0.0	715.1	76.4	115.7	47.720	47.685	45.670	16.197	43.20	2.70	0.70	0.10
09:00:00	Liquid re	turns at surg	e tank 2.70	bbls.															
09:00:00	Tank Liq	uid Rate: 43.	30 bbls/d.																
09:05:00		64 2451.70	177.90	2056.9	122.1	1055.2	77.3	0.0	714.0	76.6	116.0	47.686	47.665	45.650	16.362	43.20	2.70	0.70	0.10
09:10:00		64 2450.75	177.90	2056.1	122.0	1055.4	77.3	0.0	712.2	76.6	115.5	47.616	47.589	45.630	16.527	43.20	2.70	0.70	0.10
09:15:00	(	64 2449.81	177.90	2055.9	122.0	1054.4	77.1	0.0	710.6	76.7	116.0	47.579	47.562	45.620	16.692	43.20	2.70	0.70	0.10
					-				Page 1	0							-		

Client	t S	Santo	os Ltd							E>	al Eng	gineer	M. F	lall / B	. Tupm	an				
Well N	No. (	Casir	10 4 D	W2						Lo	ocation	า	Oce	an Pat	riot					
Test I	No. (	Comp	oletion							Da	ates Fi	rom/To	08/0	6/05-1	1/06/0	5				
Time hh:mm:ss	Ch 6	oke i4th	40586P PSIA	40586Т °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>10/06/05</u>																				
09:20:00		64 24	448.80	177.90	2055.5	122.1	1055.2	77.1	0.0	711.5	76.9	115.7	47.566	47.567	45.610	16.858	43.20	2.70	0.70	0.10
09:25:00		64 24	447.77	177.90	2055.3	122.1	1055.2	77.0	0.0	711.6	76.9	116.0	47.585	47.592	45.600	17.023	43.20	2.70	0.70	0.10
09:30:00	Desserver	64 24	446.84 	1//.90	2055.3	122.1	1055.0	77.0	0.0	/11.6	/6.8	115.9	47.553	47.535	45.600	17.188	48.00	3.60	1.00	0.10
09:30:00	Draeger	Indicat	ed 1% CU	2 and 0.1 p	орт H2S.	400.0	4054.0	70.0		445.0	47 550	47 500	45 640	47.050	40.00	2 60	4.00	0.40		
09:35:00		64 Z4	445.90	177.89	2055.3	122.0	1054.2	/ 6.8 76 5	0.0	711.1	76.0	115.8	47.553	47.560	45.610	17.353	48.00	3.60	1.00	0.10
09.40.00		64 24 64 2	444.00	177.03	2055.1	121.9	1054.4	76.5	0.0	712.2	76.2	115.0	47.505	47.509	45.000	17.510	40.00	3.00	1.00	0.10
09.45.00		64 2	443.30	177.89	2055.5	122.0	1055.2	76.3	0.0	713.3	76.8	115.4	47.552	47.525	45.000	17.848	48.00	3.60	1.00	0.10
09:55:00		64 2	442.00	177.89	2055.5	121.5	1053.2	76.2	0.0	712.2	76.8	116.0	47 566	47 573	45 610	18 014	48.00	3.60	1.00	0.10
10.00.00		64 2	441 08	177.88	2055.5	122.0	1053.4	76.2	0.0	711 1	76.8	115.7	47.536	47 530	45 610	18 179	57 60	4 60	1.00	0.10
10:00:00	Liquid re	eturns a	nt surge ta	ank 4.60 bt	uls.		100014		0.0		10.0		41.000	41.000	40.010	10.110	01.00	-1.00		0.10
10:00:00	Tank Lio	uid Rat	te: 57.60 k	bls/d.																
10:00:00	Gas SG	0.703.																		
10:05:00		64 24	440.17	177.88	2055.5	122.1	1052.1	76.4	0.0	711.1	76.8	115.8	47.511	47.500	45.610	18.344	57.60	4.60	1.00	0.10
10:10:00		64 24	439.27	177.88	2055.5	122.1	1051.5	76.4	0.0	710.5	76.8	115.5	47.494	47.484	45.610	18.508	57.60	4.60	1.00	0.10
10:15:00		64 24	438.29	177.88	2055.1	122.1	1051.3	76.5	0.0	710.6	76.7	115.8	47.497	47.495	45.610	18.673	57.60	4.60	1.00	0.10
10:20:00		64 24	437.41	177.88	2055.3	122.1	1051.1	76.5	0.0	711.1	76.8	116.2	47.556	47.584	45.610	18.839	57.60	4.60	1.00	0.10
10:20:00	Petrotec	h obtai	ned water	r samples:	1.04, 1.05,	1.06, 1.07.														
10:25:00		64 24	436.66	177.88	2055.5	122.1	1050.7	76.5	0.0	711.6	76.7	115.8	47.571	47.581	45.600	19.004	57.60	4.60	1.00	0.10
10:30:00		64 24	435.86	177.87	2055.1	122.0	1050.1	76.5	0.0	711.2	76.7	115.5	47.545	47.534	45.600	19.169	48.00	5.80	1.00	0.10
10:35:00		64 24	435.09	177.87	2054.9	122.0	1050.7	76.5	0.0	712.8	76.7	115.3	47.504	47.484	45.600	19.334	48.00	5.80	1.00	0.10
10:40:00		64 24	434.31	177.87	2054.9	122.0	1049.5	76.6	0.0	710.5	76.6	115.9	47.487	47.468	45.600	19.499	48.00	5.80	1.00	0.10
10:45:00		64 24	433.56	177.87	2054.9	122.0	1049.9	76.7	0.0	711.1	76.7	115.7	47.507	47.521	45.600	19.664	48.00	5.80	1.00	0.10
10:45:00	Chloride	s 45,00	0 mg/L.																	
10:45:00	Water de	ensity:	1.051 g/cr	n3 @ 16.5	degC.															
10:45:00	pH: 6.62	@ 19.0	degC, Co	onductivity	97.6 mS/cr	n @ 19.0 d	egC, Resisti	ivity 0.010 (	Dhm-m @	19.0 degC.										
10:50:00		64 24	432.77	177.87	2054.7	122.0	1050.9	76.7	0.0	713.4	76.7	115.4	47.517	47.527	45.600	19.829	48.00	5.80	1.00	0.10
10:55:00		64 24	431.98	177.87	2054.7	122.0	1047.8	76.7	0.0	710.6	76.7	115.6	47.504	47.503	45.590	19.993	48.00	5.80	1.00	0.10
11:00:00		64 24	431.21	177.87	2054.7	122.0	1047.2	76.7	0.0	710.6	76.5	115.9	47.513	47.509	45.590	20.158	48.00	6.80	1.00	0.10
11:00:00	Draeger indicated 1% C02 and 0.1 ppm H2S.																			
11:00:00	Liquid re	uid returns at surge tank 6.80 bbls.																		

Client	: 5	San	tos Ltd							E	xal En	gineer	M. I	-lall / B	. Tupm	nan				
Well N	No. (	Cas	ino 4 D	)W2						L	ocatio	n	Oce	ean Pa	triot					
Test I	No. (	Con	npletior	า						D	ates F	rom/To	08/0	06/05-1	1/06/0	5				
Time hh:mm:ss	Ch e	noke 64th	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm
<u>10/06/05</u>																				
11:00:00	Tank Lic	quid F	Rate: 48.00	bbls/d.																
11:00:00	Draeger	indic	ated 1% C	02 and 0.1	ppm H2S.															
11:05:00		64	2430.45	177.86	2054.3	121.8	1048.9	76.5	0.0	711.7	76.3	115.0	47.506	47.514	45.580	20.323	48.00	6.80	1.00	0.10
11:10:00		64	2429.72	177.86	2054.3	121.7	1051.3	76.1	0.0	712.7	76.3	115.2	47.519	47.525	45.580	20.488	48.00	6.80	1.00	0.10
11:15:00		64	2429.02	177.86	2053.6	121.6	1048.5	75.7	0.0	711.1	76.3	115.4	47.510	47.520	45.570	20.653	48.00	6.80	1.00	0.10
11:20:00		64	2428.30	177.86	2053.6	121.6	1045.0	75.5	0.0	709.5	76.1	115.7	47.478	47.458	45.570	20.818	48.00	6.80	1.00	0.10
11:25:00		64	2427.63	177.86	2053.4	121.6	1045.0	75.5	0.0	710.1	76.2	115.6	47.500	47.510	45.560	20.983	48.00	6.80	1.00	0.10
11:30:00		64	2426.95	177.86	2053.4	121.6	1046.2	75.5	0.0	711.1	76.2	115.6	47.489	47.476	45.560	21.148	24.00	7.80	1.00	0.10
11:35:00		64	2426.31	177.85	2052.6	121.6	1046.8	75.5	0.0	713.4	76.3	115.3	47.499	47.499	45.550	21.313	24.00	7.80	1.00	0.10
11:40:00		64	2425.64	177.85	2052.6	121.6	1047.6	75.6	0.0	713.3	76.5	115.0	47.464	47.448	45.550	21.478	24.00	7.80	1.00	0.10
11:45:00		64	2425.01	177.85	2052.4	121.7	1046.4	75.7	0.0	711.6	76.5	115.0	47.473	47.488	45.550	21.643	24.00	7.80	1.00	0.10
11:50:00		64	2424.41	177.85	2051.8	121.7	1045.2	75.7	0.0	712.7	76.5	115.1	47.484	47.498	45.540	21.808	24.00	7.80	1.00	0.10
11:55:00		64	2423.84	177.85	2051.4	121.7	1046.4	75.9	0.0	713.4	76.5	114.8	47.477	47.481	45.530	21.972	24.00	7.80	1.00	0.10
12:00:00		64	2423.23	177.85	2051.4	121.7	1045.8	76.0	0.0	713.4	76.5	114.7	47.455	47.447	45.520	22.137	24.00	8.30	1.00	0.10
12:00:00	Liquid re	eturn	s at surge t	tank 8.30 b	bls.															
12:00:00	Tank Lic	quid F	Rate: 24.00	bbls/d.																
12:05:00		64	2422.66	177.85	2051.4	121.7	1042.3	76.0	0.0	710.0	76.5	115.4	47.444	47.443	45.520	22.302	24.00	8.30	1.00	0.10
12:10:00		64	2422.05	177.85	2051.0	121.6	1040.9	76.0	0.0	707.2	76.3	116.1	47.447	47.450	45.510	22.467	24.00	8.30	1.00	0.10
12:15:00		64	2421.41	177.84	2051.0	121.6	1040.3	75.9	0.0	709.1	76.2	116.1	47.478	47.481	45.510	22.632	24.00	8.30	1.00	0.10
12:20:00		64	2420.96	177.84	2050.8	121.6	1040.5	75.9	0.0	709.5	76.3	116.1	47.498	47.501	45.500	22.796	24.00	8.30	1.00	0.10
12:25:00		64	2420.34	177.84	2050.4	121.6	1043.1	75.8	0.0	711.1	76.4	115.2	47.451	47.434	45.490	22.961	24.00	8.30	1.00	0.10
12:30:00		64	2419.80	177.84	2050.0	121.6	1044.0	75.7	0.0	713.4	76.4	114.8	47.443	47.447	45.490	23.126	28.80	8.80	1.00	0.10
12:35:00		64	2419.26	177.84	2050.2	121.7	1041.7	75.8	0.0	710.0	76.5	115.3	47.435	47.430	45.490	23.291	28.80	8.80	1.00	0.10
12:35:00	Petrotec	ch coi	mmenced t	aking gas s	sample 1.08	: s/n A-19	84.													
12:40:00		64	2418.75	177.84	2049.1	121.7	1040.3	75.8	0.0	706.3	76.4	116.0	47.402	47.368	45.480	23.455	28.80	8.80	1.00	0.10
12:45:00		64	2418.17	177.84	2049.1	121.8	1038.6	75.8	0.0	705.9	76.3	116.0	47.397	47.413	45.470	23.620	28.80	8.80	1.00	0.10
12:45:00	Complet	ted ta	king samp	le.																
12:50:00		64	2417.72	177.83	2048.7	121.9	1040.7	75.9	0.0	706.0	76.5	115.8	47.388	47.426	45.470	23.784	28.80	8.80	1.00	0.10
12:55:00		64	2417.12	177.83	2048.7	121.8	1038.2	76.0	0.0	708.5	76.4	116.1	47.528	47.466	45.460	23.949	28.80	8.80	1.00	0.10
13:00:00		64	2416.73	177.83	2048.5	122.0	1038.8	76.0	0.0	708.5	76.7	116.1	47.495	47.505	45.460	24.114	28.80	9.40	1.00	0.10
13:00:00	Petrotec	ch cor	mmenced t	aking gas s	sample 1.13	: s/n A-19	79.													

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Client	Santos Ltd								E	Exal Engineer			M. Hall / B. Tupman									
Well I	No. <mark>C</mark> a	Casino 4 DW2									Location			Ocean Patriot								
Test I	Io. Completion									Dates From/To				08/06/05-11/06/05								
Time hh:mm:ss	Chok 64t	40586P PSIA	40586T °F	UcP PSIG	UcT °F	DcP PSIG	DcT °F	AnnP PSIG	GasP PSIG	GasT °F	GasD INWG	QGas1s MMscf/d	QGas1av MMscf/d	QChkgAv MMscf/d	Gas1Cum MMscf/d	QLiq bbls/d	LiqCum bbls	Co2 mol%	H2S ppm			
<u>10/06/05</u>																						
13:00:00	Petrotech	obtained wa	ter samples	s: 1.09, 1.10,	, 1.11, 1.12																	
13:00:00	Liquid retu	irns at surge	tank 9.40 b	obls.																		
13:00:00	Tank Liqu	d Rate: 24.0	0 bbls/d.																			
13:05:00	64	2416.18	177.83	2048.3	122.0	1037.4	76.2	0.0	708.5	76.6	116.3	47.492	47.486	45.450	24.279	28.80	9.40	1.00	0.10			
13:10:00	64	2415.80	177.83	2048.1	122.0	1040.3	76.3	0.0	707.2	76.6	116.2	47.354	47.301	45.440	24.443	28.80	9.40	1.00	0.10			
13:15:00	64	2415.34	177.83	2047.3	122.1	1039.5	76.4	0.0	708.4	76.7	116.2	47.483	47.478	45.440	24.608	28.80	9.40	1.00	0.10			
13:15:00	Completed	taking sam	ple.																			
13:20:00	64	2414.86	177.83	2048.1	122.0	1040.5	76.4	0.0	707.8	76.5	116.2	47.520	47.507	45.440	24.773	28.80	9.40	1.00	0.10			
13:25:00	64	2414.37	177.83	2047.7	121.9	1036.2	76.3	0.0	708.5	76.4	116.1	47.531	47.508	45.440	24.938	28.80	9.40	1.00	0.10			
13:25:00	Closed An	nulus Maste	r Valve.																			
13:26:00	Opened se	parator bypa	ass valve																			
12.20.00	6	2/12 0/	177.92	2046 7	121 0	1060 5	76.2	0.0	724 9	77.0	118.0	10 1 10	16 956	45 420	25 101	0.00	0 00	1 00	0 10			
10.00.00											110.0	43.143	40.000	40.420	20.101	0.00	5.50	1.00	0.10			

13:31:00 Closed in well at choke manifold. Commenced build up survey.



DcT - Temperature (°F)











## MF Gas Calculation Data Listing

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Gas specific gravity of 0.61 used for rate calculations based on PVT analysis performed on gas samples. This over rides the estimate gas specific gravity of 0.68 reported during the test.

Client	t	Santos Ltd Exal Engineer								gineer	M. Hall / B. Tupman Ocean Patriot										
Well I	No.	Casino 4 DW2																		n	
Test I	No.	Completion								D	Dates From/To			08/06/05-11/06/05							
Time hh:mm:ss		UcP PSIG	OrifSize ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d	
<u>09/06/05</u>																					
18:38:00	Comm	nenced r	methanol i	injection up	ostream of	f surface sat	fety valve.														
18:39:00	233	31.87	0.00	0.00	65.26	0.000	0.610	0.60	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	4.482	
18:39:00	Opene	ed well u	ip to port	flareboom	on 16/64 a	djustable cl	hoke throug	gh heat excl	hanger an	d separator											
18:40:00	Increa	ased to 2	24/64 adjus	stable chok	æ.																
18:41:00	Increa	ased to 3	82/64 adjus	stable chok	æ.																
18:41:00	Gas fl	are lit.																			
18:45:00	23	19.19	0.00	147.84	56.06	0.000	0.610	0.60	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	4.482	
18:45:00	Well s	shut in d	ue to burs	st steam ho	se.																
19:00:00	234	40.45	0.00	0.00	59.47	0.000	0.610	0.60	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	4.482	
19:03:00	Comm	nenced r	nethanol i	injection up	ostream of	surface sat	fety valve.														
19:03:00	Opene	ed well u	ip to port	flareboom	on 16/64 a	djustable cl	hoke throug	jh heat excl	hanger an	d separator	•										
19:04:00	Increa	ased to 3	32/64 adjus	stable chok	ie.																
19:05:00	Divert		through 3	2/64 fixed c	поке.																
19:06:00	Gas Ti	are lit.	laak on V	Vaca anal d		n of obolio	monifold on	used by by	duction												
19:07:00	Opene	n que to	in to port	flaroboom	on 24/64 a	diustable el	mannoiu ca	used by ny	urating. bangor an	d constator											
19.10.00	Opened well up to port mareboom on 24/64 adjustable choke through heat exchanger and separator.																				
19.11.00	J increased to $32/64$ aujustable CHOKE.																				
19.12.00	Steam	n deliver	v to heat a	2/04 lixeu ( avchanger l	halted to f	ix minor lea	k in union														
19.13.00	Gas fl	are lit	y to neur t	Xenunger			k in amon.														
19.13.00	Recor	nmence	d steam d	elivery to h	eat excha	nger															
19:15:00	232	24.51	0.00	218.98	37.71	0.000	0.610	0.60	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	4.482	
19:19:00	Cease	ed metha	anol iniect	ion upstrea	am of surfa	ace safetv v	alve.														
19:30:00	232	21.03	0.00	731.82	63.36	0.000	0.610	0.60	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	4.482	
19:37:00	Install	led 2.75"	' orifice pl	ate in test s	separator	gas meter r	un.														
19:38:00	Gas S	G 0.684.			•	•															
19:45:00	232	21.44	2.75	748.31	67.14	104.220	0.610	0.60	0.10	1582.09	1.000	0.998	1.000	1.000	0.993	1.280	1.066	2141.41	14.531	4.563	
19:52:00	Draeg	er indica	ated 1% C	02 and 0.1	ppm H2S,	0% mercap	tan.														
20:00:00	232	22.06	2.75	743.16	68.98	106.130	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.991	1.280	1.064	2133.24	14.530	4.714	
20:15:00	232	22.87	2.75	745.61	68.87	106.170	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.992	1.280	1.064	2134.01	14.542	4.866	
20:30:00	232	24.30	2.75	751.69	67.70	106.380	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.993	1.280	1.065	2138.61	14.591	5.017	
										Page	2										
Client	t S	antos Lt	d						E	xal En	gineer	M. F	lall / B.	Tupma	an						
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Well I	No. C	asino 4	DW2						L	ocatio	n	Oce	an Pat	riot							
Test	No. C	Completio	on						D	ates F	rom/To	08/0	6/05-1	1/06/05	5						
Time hh:mm:ss	L PS	IcP OrifSize SIG ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d		
<u>09/06/05</u>																					
20:32:00	Draeger	indicated 1%	C02 and 0.1	ppm H2S.																	
20:45:00	2325.	32 2.75	767.51	69.87	102.730	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.991	1.280	1.066	2135.03	14.338	5.168		
21:00:00	2326.	14 2.75	762.48	71.37	103.400	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.989	1.280	1.064	2129.63	14.545	5.319		
21:10:00	Radon: 3	96 Bq/m3.																			
21:15:00	2327.	58 2.75	770.33	70.36	103.260	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.990	1.280	1.066	2134.03	14.560	5.471		
21:28:00	Gas SG (	0.682.																			
21:29:00	Flushed	line to downs	tream choke	pressure	transducer.																
21:30:00	2328.	60 2.75	774.38	69.06	102.160	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.991	1.280	1.067	2138.73	14.584	5.623		
21:30:00	Draeger	indicated 1%	C02 and 0.1	ppm H2S,	0% mercap	tan.															
21:36:00	Adjusted	l separator pr	essure contr	rol.																	
21:45:00	2329.	41 2.75	740.65	67.97	106.510	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.992	1.280	1.064	2135.78	14.546	5.774		
22:00:00	2330.	23 2.75	746.66	69.36	105.380	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.991	1.280	1.064	2132.76	14.577	5.926		
22:10:00	Commen	icea pumping	methanol u	pstream of	r SSV to ellr	ninate nyor	ates across	s neater ci	10Ke.	4 000		4 000	4 000		4 000			44.005			
22:15:00	2331.	05 2.75	740.34	68.76	108.880	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.992	1.280	1.064	2133.29	14.665	6.078		
22:30:00	2331.	8/ 2./5	/ 38.0/	68.17	108.690	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.992	1.280	1.064	2134.65	14.665	6.231		
22:30:00	Draeger			ррш н25.																	
22:40:00	mercury:	0.24 microgi	ams/ms.	<b>60 06</b>	400.000	0 640	4.00	0.40	4592.00	4 000	0.009	4 000	1 000	0.002	4 280	4.064	2422.00	44 692	6 204		
22:45:00	2332.	40 2.75 90 2.75	759 42	00.00 69.67	109.000	0.610	1.00	0.10	1502.09	1.000	0.990	1.000	1.000	0.992	1.200	1.064	2133.09	14.003	6.304		
23.00.00	2332.	50 2.75	756.65	65.67	106.220	0.010	1.00	0.10	1502.09	1.000	0.990	1.000	1.000	0.992	1.200	1.005	2130.31	14.703	6.557		
23.13.00	2333. Gas SG (	50 2.75 N 692	750.05	05.07	100.000	0.010	1.00	0.10	1302.09	1.000	0.550	1.000	1.000	0.995	1.200	1.007	2145.75	14.034	0.050		
23.23.00	0a5 30 0	1.005. 12 2.75	758 98	68 77	106 400	0 610	1 00	0 10	1582.09	1 000	0 998	1 000	1 000	0 992	1 280	1 065	2136 71	14 721	6 843		
23.30.00	Mercury	0 35 microa	ams/m3	00.77	100.400	0.010	1.00	0.10	1002.00	1.000	0.000	1.000	1.000	0.002	1.200	1.000	2100.71	14.721	0.040		
23:45:00	2334	73 2 75	760 70	68 66	104 480	0 610	1 00	0 10	1582 09	1 000	0 998	1 000	1 000	0 992	1 280	1 066	2137 42	14 653	6 996		
23:50:00	Chloride	s 45.000 ma/l		00.00	104.400	0.010		0.10	1002.00		0.000		1.000	0.002	1.200		2107.42	14.000	0.000		
23:50:00	Water de	nsity: 1.054 c	/cm3 @ 17.1	deaC.																	
<u>10/06/05</u>																					
00:00:00	2335.	14 2.75	770.88	67.67	103.030	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.993	1.280	1.067	2142.34	14.625	7.148		
00:15:00	2336.	16 2.75	783.58	65.96	100.050	0.610	1.00	0.10	1582.09	1.000	0.999	1.000	1.000	0.994	1.280	1.069	2150.05	14.595	7.300		
00:30:00	2336.	37 2.75	778.36	68.16	102.000	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.992	1.280	1.067	2142.23	14.614	7.453		
									Page	3											

Client	t S	antos L	td						E	xal En	gineer	M. F	lall / B.	Tupma	an				
Well I	No. <mark>C</mark>	asino 4	DW2						L	ocatio	n	Oce	an Pat	riot					
Test I	No. C	ompleti	on						D	ates F	rom/To	08/0	6/05-1	1/06/05	5				
Time hh:mm:ss	Ui PS	cP OrifSiz IG in	e GasP s PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d
<u>10/06/05</u>																			
00:30:00	Petrotech	commence	ed taking gas	sample 1.0	02 : s/n A200	06.													
00:45:00	2336.7	7 2.7	5 779.59	67.57	101.780	0.610	1.00	0.10	1582.09	1.000	0.998	1.000	1.000	0.993	1.280	1.068	2144.27	14.627	7.605
00:45:00	Complete	d taking sa	mple.																
01:00:00	2336.7	7 2.7	5 787.44	64.97	99.540	0.610	1.20	0.10	1582.09	1.000	0.999	1.000	1.000	0.995	1.280	1.069	2153.03	14.603	7.758
01:00:00	Draeger i	ndicated 1.2	2% C02 and 0	.1 ppm H2	6.														
01:07:00	Removed	orifice plat	e.																
01:08:00	Heater an	d separator	· bypass oper	ned.															
01:09:00	Increased	l to 48/64 fix	ed choke.																
01:11:00	Diverted	flow back th	rough heat e	xchanger.															
01:14:00	Diverted	flow back th	ough separa	tor.															
01:15:00	2285.8	i7 0.00	0 303.86	61.05	0.000	0.610	1.20	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819
01:16:00	Closed se	eparator by	bass.																
01:30:00	2263.5	9 0.0	0 711.76	61.93	0.000	0.610	1.20	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819
01:45:00	2267.8	18 U.U	0 /91.24	60.36	0.000	0.610	1.20	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819
01:55:00	Opened s	eparator by	pass.		0.000	0.640	4 40	0.40	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0 000	0.00	0.000	7 940
02:00:00	2209.5 Droogor i	12 U.U	U 450.90	00.00	0.000	0.610	1.10	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.019
02.00.00	Moreury	0 27 micros	1 % CU2 anu U	. i ppili nz.	5.														
02.00.00	Drained 4	bbl's of flu	id from sener	rator to su	no tank														
02.00.00	Closed so	narator hvi	na noni seper		ge tank.														
02.10.00	Surface S	afoty Valvo	trinned well	shut in															
02:15:00	2327.1	7 0.0	110000, Wein 0 42.11	66.37	0.000	0.610	1.10	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819
02:29:00	Closed in	well at cho	ke manifold.	•••••				••											
02:29:00	Opened S	Surface Safe	tv Valve.																
02:30:00	2358.4	4 0.0	0.00	61.66	0.000	0.610	1.10	0.10	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819
02:32:00	Commen	ced pumpin	g methanol u	pstream o	f SSV.														
02:35:00	Opened v	vell up to po	ort flareboom	on 24/64 a	djustable ch	noke throug	h heat excl	hanger an	d separator										
02:37:00	Gas flare	lit.						U	•										
02:37:00	Increased	l to 32/64 ac	ljustable cho	ke.															
02:42:00	Increased	l to 48/64 ac	ljustable cho	ke.															
02:45:00	2300.1	8 0.0	0 447.62	36.87	0.000	0.610	1.10	0.10	<b>0.00</b> Page	<b>0.000</b>	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	7.819

Client	t	Sant	tos Lto	l						E	xal En	gineer	M. H	Hall / B.	Tupma	an				
Well I	No.	Casi	ino 4 E	)W2						L	ocatio	n	Oce	an Pat	riot					
Test I	No.	Com	pletio	n						D	ates F	rom/To	08/0	06/05-1	1/06/05	5				
Time hh:mm:ss		UcP PSIG	OrifSize ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d
<u>10/06/05</u>																				
02:48:00	Divert	ted flow	through 4	8/64 fixed c	choke.															
02:52:00	Attem	pted to	increase s	eparator p	ressure to	750psi.														
02:54:00	Lower	red 3.75	orifice pla	ite.																
03:00:00	227	79.74	4.25	455.10	49.83	0.000	0.610	1.10	0.10	4354.86		1.000	1.000	1.000	1.010	1.280	1.044			7.847
03:00:00	Lower	red 4.25	orifice pla	ite.																
03:02:00	Gas S	G 0.684.																		
03:05:00	Draeg	jer indica	ated 0.7%	C02 and 0.	1 ppm H2S	S.														
03:10:00	Cease	ed metha	anol inject	ion upstrea	am of SSV															
03:10:00	Rador	n: 285 B	q/m3.																	
03:15:00	227	74.01	4.25	453.26	49.64	100.250	0.610	0.70	0.10	4354.86	1.000	0.997	1.000	1.000	1.010	1.280	1.045	5867.37	30.511	8.165
03:30:00	220	69.11	4.25	452.16	39.11	97.060	0.610	0.70	0.10	4354.86	1.000	0.997	1.000	1.000	1.021	1.280	1.048	5949.25	30.403	8.482
03:45:00	220	66.86	4.25	449.89	40.12	96.810	0.610	0.70	0.10	4354.86	1.000	0.997	1.000	1.000	1.020	1.280	1.047	5939.77	30.195	8.797
04:00:00	220	65.43	4.25	455.71	40.91	94.960	0.610	1.00	0.10	4354.86	1.000	0.997	1.000	1.000	1.019	1.280	1.047	5935.29	30.139	9.111
04:00:00	Comm	nenced o	dumping f	luid from se	eparator to	o surge tank	k, establishe	ed level on	surge tan	k.										
04:00:00	Draeg	jer indica	ated 1% C	02 and 0.1	ppm H2S.															
04:00:00	Mercu	ıry: 0.47	microgra	ms/m3.																
04:15:00	220	63.59	4.25	473.74	42.21	91.740	0.610	1.00	0.10	4354.86	1.000	0.997	1.000	1.000	1.018	1.280	1.049	5937.17	30.129	9.425
04:30:00	220	61.34	4.25	476.99	43.02	90.680	0.610	1.00	0.10	4354.86	1.000	0.997	1.000	1.000	1.017	1.280	1.049	5932.98	30.073	9.738
04:45:00	226	60.11	4.25	488.46	43.61	88.780	0.610	1.00	0.10	4354.86	1.000	0.997	1.000	1.000	1.016	1.280	1.050	5935.89	30.094	10.051
05:00:00	22	59.29	4.25	498.52	44.32	87.540	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.015	1.280	1.051	5936.73	30.190	10.366
05:00:00	Draeg	jer indica	ated 1% C	02 and 0.1	ppm H2S.															
05:00:00	Liquid	d returns	s at surge	tank 0.8 bb	ls.															
05:00:00	Tank I	Liquid R	ate: 14.4 l	obls/d.																
05:05:00	Chlori	ides 21,0	000 mg/L.																	
05:05:00	Water	density	: 1.026 g/c	:m3 @ 15.7	degC.															
05:11:00	Water	SG 1.03	3 at 55 Deg	g F.																
05:15:00	22	57.66	4.25	506.31	45.02	86.690	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.015	1.280	1.051	5936.13	30.294	10.681
05:30:00	22	56.84	4.25	518.08	45.62	84.430	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.014	1.280	1.052	5938.98	30.240	10.996
05:45:00	22	55.82	4.25	523.17	45.94	82.550	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.014	1.280	1.053	5939.87	30.131	11.311
06:00:00	22	54.39	4.25	519.86	46.13	82.210	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.014	1.280	1.052	5936.39	29.902	11.623
06:00:00	Draeg	jer indica	ated 1% C	02 and 0.1	ppm H2S.															

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Client	t	Sant	os Ltd							E	xal En	gineer	M. F	-lall / B.	Tupm	an				
Well I	No.	Casi	no 4 E	)W2						L	ocatio	n	Oce	an Pat	riot					
Test	No.	Com	pletior	า						D	ates F	rom/To	08/0	)6/05-1	1/06/08	5				
Time hh:mm:ss		UcP PSIG	OrifSize ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d
<u>10/06/05</u>																				
06:00:00	Liquid	returns	at surge	tank 1.30 bl	bls.															
06:00:00	Tank L	iquid R.	ate: 9.60 b	bls/d.																
06:15:00	225	3.57	4.25	531.64	46.73	80.590	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.013	1.280	1.053	5939.03	29.881	11.934
06:30:00	225	2.34	4.25	550.77	47.43	77.580	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.012	1.280	1.055	5945.50	29.890	12.245
06:30:00	Petrote	ech com	nmenced t	aking gas s	sample 1.0	03 : s/n A-57	68.													
06:45:00	225	1.53	4.25	554.15	48.03	76.880	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.012	1.280	1.055	5942.73	29.954	12.557
06:45:00	Comple	eted tak	king samp	le.																
07:00:00	225	0.30	4.25	603.76	49.93	70.630	0.610	1.00	0.10	4354.86	1.000	0.998	1.000	1.000	1.010	1.280	1.059	5957.72	29.897	12.868
07:00:00	Liquid	returns	at surge t	tank 1.80 bl	bls.															
07:00:00	Draege	er indica	ated 1% C	02 and 0.1 p	ppm H2S.															
07:02:00	Raised	l orifice	plate.																	
07:06:00	Openeo	d separ	ator bypa	ss.																
07:10:00	Diverte	ed flow	through 4	8/64" adjus	table chol	ke.														
07:12:00	Increas	sed adjı	ustable ch	oke to 52/6	4".															
07:15:00	215	0.54	4.25	742.00	63.15	0.000	0.610	1.00	0.10	4354.86		1.000	1.000	1.000	0.997	1.280	1.067			12.933
07:15:00	Increas	sed adjı	ustable ch	oke to 64/6	4".															
07:19:00	Diverte	ed flow	through 6	4/64" fixed	choke.															
07:21:00	Closed	l separa	tor bypas	s.																
07:24:00	Installe	ed 4.50"	orifice pla	ate in test s	separator	gas meter ru	un.													
07:30:00	213	0.09	4.50	746.10	71.30	119.560	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.989	1.280	1.063	6900.18	49.838	13.176
07:45:00	210	6.58	4.50	738.07	73.16	117.580	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.988	1.280	1.061	6878.13	49.159	13.691
07:45:00	Gas SG	G 0.698.																		
08:00:00	207	8.98	4.50	721.63	74.17	115.390	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.987	1.280	1.060	6859.74	48.379	14.198
08:00:00	Water \$	SG 1.02	2 @ 60 de	gF.																
08:00:00	Liquid	returns	at surge t	tank 2.00 bl	bls.															
08:00:00	Tank L	iquid R.	ate: 9.60 b	bls/d.																
08:15:00	207	1.01	4.50	719.43	74.56	116.270	0.610	0.70	0.10	5135.80	1.000	0.998	1.000	1.000	0.986	1.280	1.060	6858.24	48.072	14.700
08:15:00	Draege	er indica	ated 0.7%	C02 and 0.1	1 ppm H2S	S.														
08:30:00	206	5.49	4.50	719.67	74.88	116.240	0.610	0.70	0.10	5135.80	1.000	0.998	1.000	1.000	0.986	1.280	1.060	6855.43	48.011	15.200
08:30:00	Chloric	des 15,0	00 mg/L.																	
08:30:00	Water of	density	: 1.018 g/c	m3 @ 16.1	degC.															

Client	t	Sant	os Ltd							E	xal En	gineer	M. F	lall / B.	Tupma	an				
Well I	No.	Casi	no 4 E	)W2						L	ocatio	n	Oce	an Pati	iot					
Test I	No.	Com	pletio	n						D	ates F	rom/To	08/0	6/05-1	1/06/05	5				
Time hh:mm:ss		UcP PSIG	OrifSize ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d
10/06/05																				
08:30:00	pH: 6.6	69 @ 15.	.3 degC, C	conductivity	/ 35.8 mS/	cm @ 15.3 c	legC, Resis	tivity 0.028	Ohm-m @	) 15.3 degC										
08:45:00	. 206	51.20	4.50	714.52	75.37	116.060	0.610	0.70	0.10	5135.80	1.000	0.998	1.000	1.000	0.986	1.280	1.059	6848.01	47.838	15.699
09:00:00	205	57.52	4.50	715.07	76.37	115.700	0.610	0.70	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.059	6839.11	47.685	16.197
09:00:00	Liquid	returns	at surge	tank 2.70 bl	bls.															
09:00:00	Tank L	iquid R.	ate: 43.30	bbls/d.																
09:15:00	205	5.88	4.50	710.60	76.68	115.950	0.610	0.70	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6833.78	47.562	16.692
09:30:00	205	5.27	4.50	711.64	76.77	115.930	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6830.17	47.535	17.188
09:30:00	Draege	er indica	ated 1% C	02 and 0.1 p	opm H2S.															
09:45:00	205	5.47	4.50	, 712.19	76.77	115.390	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6830.55	47.525	17.683
10:00:00	205	5.47	4.50	711.09	76.78	115.670	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6829.80	47.530	18.179
10:00:00	Liquid	returns	at surge	tank 4.60 bl	bls.															
10:00:00	Tank L	iquid R.	ate: 57.60	bbls/d.																
10:00:00	Gas SC	G 0.703.																		
10:15:00	205	5.07	4.50	710.60	76.67	115.780	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6830.51	47.495	18.673
10:20:00	Petrote	ech obta	ained wate	er samples:	1.04, 1.05	5, 1.06, 1.07.														
10:30:00	205	5.07	4.50	711.21	76.68	115.540	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6830.77	47.534	19.169
10:45:00	205	4.86	4.50	711.15	76.68	115.680	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.058	6830.72	47.521	19.664
10:45:00	Chloric	des 45,0	00 mg/L.																	
10:45:00	Water	density	: 1.051 g/c	:m3 @ 16.5	degC.															
10:45:00	pH: 6.6	62 @ 19.	.0 degC, C	onductivity	/ 97.6 mS/	cm @ 19.0 c	legC, Resis	tivity 0.010	Ohm-m @	) 19.0 degC										
11:00:00	205	4.66	4.50	710.60	76.47	115.910	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6832.28	47.509	20.158
11:00:00	Draege	er indica	ated 1% C	02 and 0.1 p	opm H2S.															
11:00:00	Liquid	returns	at surge	tank 6.80 bl	bls.															
11:00:00	Tank L	iquid R.	ate: 48.00	bbls/d.																
11:00:00	Draege	er indica	ated 1% C	02 and 0.1 p	opm H2S.															
11:15:00	205	3.64	4.50	711.09	76.28	115.420	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6834.42	47.520	20.653
11:30:00	205	3.43	4.50	711.15	76.18	115.640	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6835.31	47.476	21.148
11:45:00	205	52.41	4.50	711.64	76.47	114.950	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6833.00	47.488	21.643
12:00:00	205	51.39	4.50	713.36	76.47	114.690	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6833.98	47.447	22.137
12:00:00	Liquid	returns	at surge	tank 8.30 bl	bls.															

12:00:00 Tank Liquid Rate: 24.00 bbls/d.

Client	Sar	itos Lto	ł						E	xal En	gineer	M. F	lall / B.	Tupma	an				
Well N	No. Cas	sino 4 [	DW2						L	ocatio	n	Oce	an Pati	riot					
Test	No. Cor	npletio	n						D	ates F	rom/To	08/0	6/05-1	1/06/05	5				
Time hh:mm:ss	UcP PSIG	OrifSize ins	GasP PSIG	GasT °F	GasD INWG	GasSG Factor	Co2 mol%	H2S ppm	GasFb Factor	GasFr Factor	GasY Factor	GasFpb Factor	GasFtb Factor	GasFtf Factor	GasFgr Factor	GasFpv Factor	GasC Factor	QGas1av MMscf/d	Gas1Cum MMscf/d
<u>10/06/05</u> 12:15:00	2050.98	4.50	709.06	76.22	116.110	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6833.76	47.481	22.632
12:30:00	2049.96	4.50	713.36	76.37	114.750	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.058	6834.87	47.447	23.126
12:35:00	Petrotech co	49.96 4.50 713.36 76.37 114.750 0.61 ech commenced taking gas sample 1.08 : s/n A-1984.																	
12:45:00	2049.14	4.50	705.93	76.28	116.000	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.985	1.280	1.057	6831.49	47.413	23.620
12:45:00	Completed ta	aking sam	ole.																
13:00:00	2048.53	4.50	708.45	76.67	116.060	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.057	6829.29	47.505	24.114
13:00:00	Petrotech co	mmenced	taking gas	sample 1.4	3 : s/n A-19	79.													
13:00:00	Petrotech ob	tained wat	er samples	: 1.09, 1.10	, 1.11, 1.12.														
13:00:00	Liquid return	s at surge	tank 9.40 b	bls.															
13:00:00	Tank Liquid	Rate: 24.00	) bbls/d.																
13:15:00	2047.30	4.50	708.39	76.67	116.220	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.057	6829.23	47.478	24.608
13:15:00	Completed ta	aking sam	ole.																
13:25:00	Closed Annu	lus Maste	r Valve.																
13:26:00	Opened sepa	arator bypa	ass valve.																
13:30:00	2046.69	4.50	734.76	76.96	118.040	0.610	1.00	0.10	5135.80	1.000	0.998	1.000	1.000	0.984	1.280	1.059	6840.74	46.856	25.101
13:31:00	Closed in we	II at choke	manifold.	Commence	d build up	survey.													





## Gauge Information

Client	Santos Ltd	Well No.	Casino 4 DW2	
Test No.	Completion	Dates From/To	08/06/05-11/06/05	
		40500	51040	51004
	ber	40566	51240 400 SO	400 SO
Range		- 16 000	- 16 000	- 16 000
Depth (m MI	OBRT)	1661.5	1660.1	1656.86
Gauge Prog	ram			
Start Date		09/06/05	09/06/05	09/06/05
Start Time		01:32:00	01:29:00	01:27:00
Sample Rate	9	2 seconds	1 second	1 second
Stop Date		11/06/05	11/06/05	11/06/05
Stop Time		08:28:00	08:27:00	08:24:00





## Gauge Comparison

Client	Santos Ltd		Well No.	Casino 4 DW2	
Test No.	Completion		Dates From/To	08/06/05-11/06/05	
Gauge Numb	or.	40586		51248	51804
Gauge Type	51	400 SQ	2	400 SQ	400 SQ
Maximum Ter	nperature (°F)	178.49		177.20	177.78
Time / Date	Event / End Of	Pressu	ıre (PSIA)		
00:00:00 10/06	6/05 Main Flow - 32/64" Cl	noke 2634.62	2	636.21	2636.73
06:00:00 10/06	6/05 Main Flow - 48/64" Cl	noke 2559.96	2	561.58	2562.02
12:00:00 10/06	6/05 Main Flow - 64/64" Cl	noke 2423.23	2	424.79	2425.14
05:00:00 11/06	6/05 Build Up	2735.68	2	737.14	2737.57

1) Full data recovered has been supplied on floppy disc in .TPR file format.

2) All gauges utilised have been post verified at the reservoir pressure and temperature encountered.

	Gauge WELL : Casino 4 DW2 FIELD : Casino DATE : 09/06/05 TEST : Completion	e Toolstri CUSTOI ENGINE LOCATI PERFS	ing MER: S ER: N ON: C : C	Santos M. Hall Ocean Patriot Open Hole - Sand Screens
	,	Length	O.D.	
	4.625 QX Lock Mandrell	0.94	4.68	GAUGE TYPE       400 SQ         GAUGE NO.       51804         RANGE (psi)       0 - 16,000         START DATE       01:27 09/06/05         SAMPLE RATE       1 second         MEMORY SIZE       400k
	Shock Absorber	0.97	2.20	MEMORY SIZE         400k           END DATE         08:24 11/06/05
	Crossover	0.10	1.88	GAUGE TYPE         400 SQ           GAUGE NO.         51248           BANGE (psi)         0 - 16 000
5	400 SQ memory gauge	1.52	1.25	START DATE01:29 09/06/05SAMPLE RATE1 secondMEMORY SIZE400kEND DATE09:27 11/06/05
	Crossover	0.10	1.88	00.27 11/00/05
	Inline Slickline Bowspring Centrali	1.09	1.88	GAUGE TYPE       400 SQ         GAUGE NO.       40586         RANGE (psi)       0 - 16,000
	Crossover	0.10	1.50	START DATE01:32 09/06/05SAMPLE RATE2 secondsMEMORY SIZE400kEND DATE08:28 11/06/05
	400 SQ memory gauge SENSING DEPTH 1660.1mMDBRT	1.52	1.25	00.2011/00/03
	400 SQ memory gauge	1.52	1.25	
	Crossover	0.10	1.88	FoolString Length = 9.06 m
	Inline Slickline Bowspring Centrali	1.09	1.88	
I				Exaldraw for Windows © 1993-99





## **Combined Memory Gauge Data Listing**

Client	Santos Ltd
Well No.	Casino 4 DW2
Test No.	Completion
Location	Ocean Patriot
Dates From/To	08/06/05-11/06/05
Country	Australia
Field	Casino
Formation	Waarre A Sands
Exal Engineer	M. Hall / B. Tupman
Expro Supervisor	F. Beaton
Client Engineer	R. King / M. Andronov / P. Nardone
Perforations	Open Hole - Sand Screens

Gas specific gravity of 0.61 used for rate calculations based on PVT analysis performed on gas samples. This over rides the estimate gas specific gravity of 0.68 reported during the test.

Client	Santos	Ltd			Exal E	ngineer	M. H	Hall / B.	Tupman	
Well No.	Casino	4 DW2			Locati	on	Oce	an Patri	ot	
Test No.	Comple	tion			Dates	From/To	08/0	)6/05-11	/06/05	
Time hh:mm:ss	40586P SIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F				
09/06/05 01:27:00	Started to sampling at	op gauge 1 second i	e MP2C ntervals.	H042-510	84 by	connecting	ı to	battery	20466,	gauge
01:27:19 01:28:00			14.49	64.34						
01:29:00 01:29:00	0.00 Started m	0.00 iddle gau	14.53 ige MP20	64.25 CH228-51	1.19 248 by	5.10 5.10 connecting	to	battery	FC15708,	gauge
01:30:00	sampling at	1 second i	ntervals. 14 56	64 10	16 49	70.43				
01:31:00			14.00	63.95	16.40	70.40				
01:32:00			14.59	63 75	16.60	69.78				
01:32:00	Started bo	ottom dau	IT.00	CH185-40	586 by	connectinc	ı to	hatterv	EC15692	naune
01.02.00	sampling at	2 second i	ntervals.	011100-40	500 by	connecting	, 10	battery	1010002,	gauge
01:33:00	12.33	65.19	14.61	63.52	16.67	69.39				
01:34:00	12.41	65.16	14.64	63.26	16.72	68.94				
01:35:00	12.19	65.06	14.67	63.00	16.64	68.58				
01:36:00	12.25	64.92	14.68	62.71	16.67	68.24				
01:37:00	12.23	64.75	14.67	62.43	16.70	67.87				
01:38:00	12.25	64.59	14.67	62.18	16.79	67.43				
01:39:00	17.26	64.37	14.71	61.88	18.75	66.87				
01:40:00	17.23	64.20	14.68	61.65	18.70	66.41				
01:40:00	Installed ga	uge toolstri	ng in lubrio	cator, stab	bed on.					
01:40:01	17.23	64.19	<b>14.68</b>	61.64	18.71	66.40				
01:45:00	17.19	63.67	14.57	61.07	18.51	64.88				
01:56:00	Opened Sul	b Sea Lubr	icator Valv	e.						
02:00:00	23.46	63.40	20.66	61.86	24.37	63.08				
02:00:00	Equalized a	bove Sub S	Sea Upper	Ball Valve	Э.					
02:03:00	Opened Sul	b Sea Uppe	er Ball Valv	ve.						
02:08:00	Wireline cor	nmenced r	unning in ł	nole with p	oressure/te	emperature g	guage	s.		
02:15:00	712.10	61.52	708.99	60.80	710.53	61.13				
02:15:00	Pressure de	etected in S	ub Sea as	sist close	line, opera	ations halted	l.			
02:18:00	Issue resolv	ed, operati	ions recom	nmenced.						
02:30:00	1098.89	80.54	1096.57	81.33	1101.81	81.78				
02:45:00	1757.07	116.20	1754.75	117.18	1760.51	117.48				
03:00:00	2399.51	141.86	2397.18	142.31	2402.86	142.50				
03:15:00	2561.00	158.57	2558.66	158.10	2560.62	158.03				
03:30:00	2551.16	161.66	2548.86	160.70	2551.31	160.54				
03:37:00	Wireline at a	surface, sh	ut Sub Sea	a Upper Ba	all Valve.					
03:41:00	Bled surface	e pressure	down to 74	4psi at cho	oke manifo	old and held	for 10	min.		
03:45:00	2557.32	162.45	2555.10	161.26	2557.36	161.04				
03:52:00	Test good,	bled su	rface pre	ssure do	wn to 0	psi at cho	ke n	nanifold a	and closed	l choke
~~ ~~ ~~	manifold.	о ·								
03:55:00	Closed Sub	Sea Lubrio	cator Valve	). 						
04:00:00	2558.36	162.58	2556.22	161.40	2558.47	161.16				
04:00:00	Opened 7" I	-lowhead k	VIII Wing V	alve.		h - l -				
04:06:00	Closed 7" F	Iowhead S	wab Valve	and made	e up down	nole gauge	recove	ery toolstri	ing.	
04:12:00	Opened Sul	o Sea Lubr	icator Valv	e.						
04:14:00	Equalized p	ressure in	order to op	ben Sub S	ea Upper	Ball Valve.				
04:15:00	2558.61	162.60	2556.44	161.46	2558.72	161.19				
04:16:00	Closed 7" F	iowhead Ki	III Wing Va	lve.						
04:17:00	Opened Sul	o Sea Uppe	er Ball Val	ve.						
04:21:00	Conducted	Safety mee	eting prior t	to flowing	well.	404.04				
04:30:00	2558.81	162.64	2556.65	161.49	2559.12	161.21				

Client	Santos I	_td			Exal En	igineer	M. Hal	I / B	. Tup	man		
Well No.	Casino 4	4 DW2			Locatio	on	Ocean	Pat	triot			
Test No.	Complet	tion			Dates F	rom/To	08/06/	05-1	1/06	/05		
Time hh:mm:ss	40586P PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F						
<u>09/06/05</u>	0559 46	160 70	2556 45	161 50	2559 51	161 01						
04.45.00	Z000.10 Commenced	l pumpine	2556.45 a pilot di	iesel to	flare. set	one con	npressor	on	half	load	to	brina
•	flare ignition	system or	nline.					•				g
05:00:00	2558.56	162.75	2556.47	161.53	2558.65	161.23						
05:12:00	Opened well	to surge t	ank via 16	/64 adjust	able choke.							
05:13:00	Increased to	20/64 adj	ustable cho	oke.	0507.40	404.00						
05:15:00	2526.90	162.81 24/64 odi	2523.90	161.6Z	2527.16	161.32						
05.15.00	Increased to	24/04 auj 28/64 adi	ustable chi	oke. oke								
05:18:00	11.4 bbls cur	mulative re	ecovered a	it surge tai	nk.							
05:20:00	13.9 bbls cur	mulative re	ecovered a	it surge tai	nk.							
05:21:00	Increased to	32/64 adj	ustable cho	oke.								
05:25:00	20.7 bbls cu	mulative re	ecovered a	it surge tai	nk.							
05:30:00	2557.42	168.00	2554.91	167.28	2557.85	166.92						
05:30:00	28 bbls cumi	ulative rec	overed at s	surge tank								
05:35:00	35 DDIS CUMI	ulative rec	overed at s	surge tank								
05:40:00	Increased to	36/64 adi	ustable ch	oke								
05:45:00	2602.22	169.64	2600.20	168.92	2603.02	168.51						
05:49:00	Increased to	40/64 adj	ustable cho	oke.								
05:55:00	Increased to	44/64 adj	ustable cho	oke.								
05:58:00	Increased to	48/64 adj	ustable cho	oke.								
06:00:00	2603.26	171.18	2602.49	170.55	2603.41	170.06						
06:01:00	Increased to	52/64 adj	ustable cho	oke.	a al altreamta a	. <b>f</b> la	aa Kaa ta	£1	<b>b a a a</b>	_		
06:12:00	Brine at sum	ace, port fi	areboom e			1 TIOW VIA G	as line to	Tiare	boon	۱.		
06.15.00	2049.19 RS&W at ch	nke manife	2049.32 old 100% n	nud	2000.40	175.45						
06:17:00	Gas at surfa	ce.		nuu.								
06:18:00	Lo-pilot upst	ream safe	ty valve ari	med, set a	it 150psi.							
06:21:00	Increased to	56/64 adj	ustable cho	oke.	•							
06:22:00	Increased to	60/64 adj	ustable cho	oke.								
06:24:00	Increased to	64/64 adj	ustable cho	oke.								
06:30:00	2649.11	1/5.26	2649.79	1/4.56	2649.62	1/4.05						
06:30:00	2623 68	176 27	2624 57	175 57	2624 52	175.03						
06:57:00	Decreased to	n 56/64 ad	iustable cl	noke	2024.32	175.05						
07:00:00	2614.47	176.73	2615.63	176.01	2615.41	175.47						
07:00:00	BS&W at cho	oke manifo	old 100% n	nud.								
07:00:00	Draeger indi	cated 0.7%	% C02 and	0.3 ppm H	12S.							
07:05:00	Flare ignited	on port fla	areboom.									
07:09:00	Increased to	64/64 adj	ustable cho	oke.								
07:15:00	2581.23	1/6.92	2582.40	1/6.20	2582.46	175.64						
07:15:00	2563 22	177 00	2564 44	0.3 ppm r	725.	175 82						
07:30:00	BS&W at ch	oke 100%	mud	110.07	2007.40	110.02						
07:30:00	Draeger indi	cated 1.0%	6 C02 and	0.3 ppm H	12S.							
07:45:00	2551.25	177.22	2552.55	176.50	2552.54	175.94						
07:45:00	Draeger indi	cated 1.0%	6 C02 and	0.3 ppm H	12S.							
08:00:00	2540.99	177.31	2542.26	176.58	2542.27	176.03						
08:00:00	BS&W at cho	oke 100%	mud.	0.0	100							
08:00:00	Draeger Indi	cated 1.0%	6 CU2 and	0.3 ppm H	125.	176.00						
00.10.00	2001.00	111.51	2000.10	170.00	2000.19	110.09						

Client	Santos	Ltd			Exal En	gineer	M. Hall / B. Tupman
Well No.	Casino	4 DW2			Locatio	n	Ocean Patriot
Test No.	Comple	tion			Dates F	rom/To	08/06/05-11/06/05
Time hh:mm:ss	40586P PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F	
09/06/05	Dracgar indi	ootod 1 00	( C02 and	0.2 ppm	120		
08:30:00	2524.08	177.42	2525.45	0.3 ppm r 176.70	2525.36	176.14	
08:30:00	BS&W at ch	oke 100%	mud.				
08:30:00	Draeger indi	cated 1.0%	6 C02 and	0.3 ppm ⊢	12S.	monitorio	_
08:43:00	2516 98	177 46	2518 33	176 73	2518 32	176 17	].
08:45:00	Draeger indi	cated 1.0%	6 C02 and	0.3 ppm H	2310.32 12S.	170.17	
09:00:00	2510.77	177.49	2512.11	176.77	2512.04	176.21	
09:00:00	BS&W at ch	oke 100%	mud.				
09:00:00	Draeger indi	cated 1.0%	6 C02 and	0.1 ppm ⊢	I2S.		
09:15:00	2504.44	177.52	2505.85	176.79	2505.77	176.23	
09:15:00	Draeger indi	cated 1.0%	6 CU2 and	0.1 ppm ⊢	125.		
09.10.00	Annulus tran	nsducer ha	ck on line	JKe.			
09:26:00	Increased to	76/64 adi	ustable cho	oke.			
09:30:00	2456.73	177.31	2457.97	176.57	2457.90	176.01	
09:30:00	BS&W at ch	oke 100%	mud.				
09:30:00	Draeger indi	cated 1.0%	6 C02 and	0.1 ppm ⊢	I2S.		
09:31:00	Increased to	96/64 adji	ustable cho	oke.	0440.00	475.04	
09:45:00	2417.67 Dragger indi	177.10 cotod 1.0%	2418.76 CO2 and	1/6.3/ 0.1 ppm ⊢	2418.80	175.81	
10.00.00	2406 51	177 07	2407 63	176.35	2407 80	175 79	
10:00:00	BS&W at ch	oke 100%	mud.	110.00	2107.00	110.10	
10:00:00	Draeger indi	cated 0.5%	6 C02 and	0.1 ppm ⊢	I2S.		
10:15:00	2397.04	177.08	2398.24	176.36	2398.31	175.80	
10:30:00	2388.05	177.08	2389.21	176.36	2389.31	175.80	
10:30:00	BS&W at ch	OKE 100%	mud.	0.1 mmm l	100		
10:30:00	2380 11	177 08	0 CUZ and	0.1 ppm F 176 36	125. 2381 34	175 80	
11:00:00	2371.68	177.07	2372.93	176.35	2373.04	175.79	
11:00:00	BS&W at ch	oke 100%	mud.		2010.01		
11:00:00	Draeger indi	cated 1.0%	6 C02 and	0.1 ppm ⊢	I2S.		
11:15:00	2363.80	177.05	2365.08	176.33	2365.10	175.77	
11:30:00	2356.94	177.04	2358.21	176.32	2358.31	175.76	
11:30:00	BS&W at ch	OKE 100%	mud.	0.1 nnm L	120		
11:45:00	2350 62	177 03	2351 80	0.1 ppill F 176 31	2352 00	175 75	
12:00:00	2344.68	177.02	2346.01	176.30	2346.04	175.74	
12:00:00	BS&W at ch	oke 100%	mud.				
12:00:00	Draeger indi	cated 0.3%	6 C02 and	0.0 ppm H	I2S.		
12:15:00	2339.20	177.02	2340.52	176.29	2340.56	175.74	
12:30:00	2333.88	177.00	2335.20	176.29	2335.22	175.73	
12:30:00	2328 80	0KE 100%	MUO. 2330 15	176 28	2330 18	175 72	
12:45:00	2328.80	176.99	2325 45	176.20	2325.48	175.72	
13:00:00	Unable obta	in BS&W c	lue to plua	ging in sar	npling lines		
13:15:00	2319.55	176.98	2320.91	176.26	2320.96	175.70	
13:30:00	2315.52	176.97	2316.90	176.26	2316.93	175.69	
13:45:00	2311.44	176.97	2312.83	176.25	2312.87	175.68	
13:47:00	Diverted flow	v through 6	64/64" fixed	d choke.			
13:50:00	2380 82		2382 51	176 75	2382 16	176 10	
14.00.00	2000.00	177.40	2002.04	110.10	2002.40	170.19	

Client	Santos	Ltd			Exal En	gineer	M. Hall / I	B. Tupmai	n
Well No.	Casino	4 DW2			Locatio	n	Ocean Pa	atriot	
Test No.	Comple	tion			Dates F	rom/To	08/06/05-	11/06/05	
Time hh:mm:ss	40586P 9 PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F			
<u>09/06/05</u>	Due e e e e in d		( 000 and	0.1	100				
14:00:00	2393.06	177 49	2394 81	0.1 ppm F	2394 66	176 20			
14:23:00	Diverted flo	w through t	est separa	tor.	2004.00	170.20			
14:30:00	2399.94	177.50	2401.69	176.79	2401.51	176.22			
14:39:00	Installed 4.5	50" orifice p	late in test	separator	gas meter	run.			
14:45:00	2403.59	177.52	2405.33	176.80	2405.24	176.23			
14:45:00	Draeger ind	licated 0.6%	6 C02 and	0.1 ppm H	I2S.				
14:45:00	Gas SG 0.7	16.	0400 74	470.00	0400 50	470.07			
15:00:00	2407.00 Dracgor ind	1//.55	2408.74 (C02 and	1/6.83	2408.52	176.27			
15:00:00	Gas SG 0.6	102 100 0.07	0 CUZ anu	u. i ppili r	123.				
15:00:00	Mercury: 0 9	94 microarz	ams/m3						
15:07:00	Removed o	rifice plate.							
15:10:00	Radon: 381	Bq/m3.							
15:11:00	Lowered pro	essure in te	st separat	or.					
15:15:00	2409.39	177.57	2411.14	176.85	2410.93	176.28			
15:17:00	Installed 4.5	50" orifice p	late in test	separator	gas meter	run.			
15:30:00	2411.33	177.59	2413.07	176.87	2412.83	176.30			
15:30:00	Draeger Ind		6 CU2 and	0.1 ppm F	125.				
15.30.00	2/12 21	177 60	2/1/ 00	176 88	2/13 76	176 31			
15:50:00	Mercury: 0	59 microarz	2414.00 ams/m3	170.00	2413.70	170.51			
15:50:00	Lowered pr	essure in te	st separat	or.					
16:00:00	2412.92	177.61	2414.68	176.89	2414.45	176.32			
16:00:00	Draeger ind	icated 0.5%	6 C02 and	0.1 ppm H	I2S.				
16:00:00	Oil SG 0.77	3 @ 60 deg	gF.						
16:00:00	Well Test sa	ample attair	ned by Geo	oservices (	0.6% CO2 a	and <0.5pp	m H2S.		
16:15:00	2413.37	177.62	2415.13	176.90	2414.94	176.33			
16:15:00	Petrotech c		taking gas		.01 : S/N A4	176.24			
16.30.00	Completed	177.03 taking gas (	2415.43 sample	170.91	2415.10	170.34			
16:45:00	2413 72	177 63	2415 51	176 92	2415 27	176 35			
16:45:00	Total liquid	returns: 3 b	bls - Estim	nated LGR	0.65 bbl/M	Mscf.			
17:00:00	2413.74	177.65	2415.52	176.93	2415.29	176.36			
17:00:00	Draeger ind	licated 0.6%	6 C02 and	0.1 ppm H	I2S.				
17:00:00	Gas SG 0.6	93.							
17:05:00	Clean-up o	criteria est	ablished:	1: BS&W	/ <3% -	not meas	urable, 2:	Stable TH	P - <10
	psi/5 min	change ov	ver 2 ho	urs - 15	psi stabl	e increase	e over 2 h	nours, 3: S	Stable gas
17.00.00	rate - 47.1 P	VIIVISCI/0, 4:	WGR < 1	DDI/IVIIVISCI	- Estimate	a LGR<0.0	5 DDI/IVIIVISC	T	
17.00.00	Closed in w	ell at choke	u bypassed	u test sepa	irator.				
17:15:00	2505 59	178 19	2507 59	177 48	2507 50	176 92			
17:30:00	2545.80	177.57	2547.84	176.83	2547.55	176.23			
17:45:00	2569.40	176.65	2571.43	175.89	2571.07	175.31			
18:00:00	2587.02	175.69	2589.05	174.94	2588.65	174.37			
18:15:00	2601.35	175.18	2603.37	174.41	2602.95	173.87			
18:30:00	2613.36	174.80	2615.38	173.98	2614.95	173.47			
18:38:00	Commence	d methanol	injection u	ipstream o	of surface s	afety valve			
18:39:00	Opened w	ell up to	port flare	eboom or	n 16/64 a	adjustable	choke thro	ough heat	exchanger
18.40.00	and separat	101. 2 21/61 adii	ustable ob	oko					
18·41·00	Increased to	יושב 32/64 auji מוחב 32/64 adii	ustable chi	oke. Oke					
		uuji							

Client	Santos	Ltd			Exal En	gineer	M. Hall / B.	Tupman	
Well No.	Casino	4 DW2			Locatio	n	Ocean Patr	riot	
Test No.	Comple	tion			Dates F	rom/To	08/06/05-1	1/06/05	
Time hh:mm:ss	40586P PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F			
09/06/05 18:41:00	Gas flare lit.								
18:45:00	2606.53	174.78	2608.48	174.00	2608.12	173.53			
18:45:00	Well shut in	due to bui	st steam h	ose.					
19:00:00	2629.61	175.14	2631.65	174.40	2631.22	173.86			
19:03:00	Commenced	d methano	l injection u	ipstream c	of surface s	afety valve			
19:03:00	Opened we and separate	ell up to or.	port flare	eboom or	ו 16/64 a	idjustable	choke throug	gh heat ex	changer
19:04:00	Increased to	32/64 adj	ustable cho	oke.					
19:05:00	Diverted flow	v through	32/64 fixed	choke.					
19:06:00	Gas flare lit.	luo to	look on		ool down	otroom o	f oboko ma	paifold oou	and by
10.10.00	hydrating.		nort flor					annolu cau	seu by
19.10.00	and separate	nr up io	port nar		1 24/04 6	ujustable		gii neat ex	Changel
19.11.00	Increased to	32/64 adi	ustable cho	oke					
19:12:00	Diverted flov	v through	32/64 fixed	choke.					
19:13:00	Steam delive	ery to heat	exchange	r halted to	fix minor le	ak in unior	۱.		
19:13:00	Gas flare lit.	,	Ũ						
19:13:00	Recommend	ced steam	delivery to	heat exch	anger.				
19:15:00	2616.59	175.22	2618.57	174.47	2618.07	173.97			
19:19:00	Ceased met	hanol inje	ction upstre	eam of sur	face safety	valve.			
19:30:00	2612.85	1/6.33 5" anifiaa	2614.85	1/5.61	2614.42	1/5.10			
19:37:00	Installed 2.7	5° Orifice p	plate in test	separator	gas meter	run.			
19.30.00	2613.06	04. 176 7 <i>1</i>	2615.08	176.03	2614 65	175 /0			
19:43:00	Draeger indi	cated 1%	C02 and 0	1 nnm H2	2014.00 S 0% mer	rantan			
20:00:00	2614.14	176.90	2616.17	176.17	2615.73	175.63			
20:15:00	2615.56	177.00	2617.59	176.27	2617.14	175.73			
20:30:00	2617.10	177.08	2619.14	176.35	2618.71	175.80			
20:32:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.				
20:45:00	2618.69	177.14	2620.75	176.41	2620.31	175.86			
21:00:00	2620.31	177.20	2622.34	176.46	2621.88	175.91			
21:10:00	Radon: 396	Bq/m3.							
21:15:00	2621.83	177.24	2623.88	176.51	2623.46	175.95			
21:28:00	Gas SG 0.68	52. to downoi	room ohok		tranaduaa	-			
21:29:00		177 29	2625 34	e pressure		176.00			
21.30.00	2023.29 Draeger indi	cated 1%	2020.04 CO2 and 0	1 nnm H2	2024.91 S 0% mer	rantan			
21:36:00	Adjusted set	narator pre	essure conf	rol	0, 070 men	Japian.			
21:45:00	2624.75	177.31	2626.79	176.58	2626.34	176.03			
22:00:00	2626.09	177.34	2628.13	176.61	2627.71	176.05			
22:10:00	Commenced	d pumpi	ng metha	anol ups	tream of	SSV	to eliminate	hydrates	across
	heater choke	э	•	•				2	
22:15:00	2627.28	177.36	2629.34	176.63	2628.82	176.08			
22:30:00	2628.39	177.39	2630.44	176.66	2630.03	176.11			
22:30:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.				
22:40:00	Mercury: 0.2		ams/m3.	170.00	0604 44	470 40			
22:45:00	2029.51	1//.41	2031.57	170.00	2031.14	170.13			
23:00:00	2030.00	177 45	2032.00	176.70	2032.20	176 16			
23.15.00 23.22.00	2031.00 Gas SC 0.69	1/1.40 R3	2033.00	1/0./2	2033.21	01.01			
23:30:00	2632.53	177.47	2634.61	176.73	2634.22	176.18			

Client	Santos I	Ltd			Exal Engineer		M. Ha	II / B. Tu	upma	n
Well No	. Casino 4	4 DW2		Location		Ocea	n Patriot	:		
Test No	Comple	tion			Dates	From/To	08/06	/05-11/0	6/05	
Time hh:mm:ss	40586P S PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F				
<u>09/06/05</u> 23:30:00	Mercury: 0.3	5 microar	ams/m3							
23:45:00	2633.62	177.48	2635.69	176.75	2635.29	176.19				
23:50:00	Chlorides 45	5,000 mg/L	 /cm3 @ 17							
24:00:00	2634.62	177.49	2636.73	176.76	2636.20	176.20				
<u>10/06/05</u>	0005 50	477 50	0007.04	470 77	000744	470.04				
00:15:00	2635.53	177.50	2638.41	176.77	2637.11	176.21				
00:30:00	Petrotech co	mmenced	taking gas	sample 1	.02 : s/n A	2006.				
00:45:00	2637.07	177.52	2639.24	176.79	2638.77	176.23				
00:45:00	Completed t	aking sam	ple.							
01:00:00	2637.87	177.53	2639.90	176.80	2639.52	176.25				
01:00:00	Draeger indi	cated 1.2%	6 C02 and	0.1 ppm ⊦	I2S.					
01:07:00	Removed or	ifice plate.								
01:08:00	Heater and s	separator i	oypass ope	nea.						
01.09.00	Diverted flov	v hack thre	u choke. Nuch heat e	ychanger						
01:14:00	Diverted flov	v back tho	ugh separa	tor.						
01:15:00	2609.71	177.49	2611.74	176.75	2611.22	176.20				
01:16:00	Closed sepa	rator bypa	SS.							
01:30:00	2597.58	177.76	2599.60	177.04	2599.16	176.48				
01:45:00	2590.07	177.89	2592.09	177.18	2591.64	176.61				
01:55:00	Opened sep	arator byp	ass.	477.00	0500.00	470.05				
02:00:00	2004.07 Draeger indi	1//.94 cated 1 10	2000.09 6 CO2 and	1//.22 ∩ 1 nnm ⊢	2000.20	170.05				
02.00.00	Mercury: 0.2	7 microar	ams/m3	0.1 ppin i	120.					
02:00:00	Drained 4 bb	ol's of fluid	from seper	rator to su	rae tank.					
02:13:00	Closed sepa	rator bypa	ISS.		3					
02:14:00	Surface Safe	ety Valve t	ripped, wel	l shut in.						
02:15:00	2613.72	178.02	2615.99	177.30	2615.69	176.74				
02:29:00	Closed in we	ell at choke	e manifold.							
02:29:00	Opened Sur	tace Satet	y Valve.	477.04	0040.00	470.04				
02:30:00	2047.33 Commencer		2049.44 methanol i	I//.24	2049.03	170.04				
02:32:00	Opened we	l un to	nort flare	pone or	יגט וע 1 24/64 מ	adiustable	choke	through	heat	exchanger
02.00.00	and separate	or.	port narc		1 24/04	adjustable	CHOICE	unougn	near	exchanger
02:37:00	Gas flare lit.									
02:37:00	Increased to	32/64 adj	ustable cho	oke.						
02:42:00	Increased to	48/64 adj	ustable cho	oke.						
02:45:00	2613.49	177.11	2615.51	176.35	2614.92	175.80				
02:48:00	Diverted flov	v through 4	48/64 fixed	choke.	750 .					
02:52:00	Attempted to	D Increase	separator p	pressure to	o 750psi.					
02.04.00	2504 3.7	177 A1	2506 31	176 60	2595 90	176 13				
03:00:00	Lowered 4 2	5 orifice n	ate.	170.09	2000.00	170.13				
03:02:00	Gas SG 0.68	84.								
03:05:00	Draeger indi	cated 0.7%	6 C02 and	0.1 ppm H	I2S.					
03:10:00	Ceased met	hanol injed	ction upstre	am of SSV	<b>v</b> .					
03:10:00	Radon: 285	Bq/m3.	0500 -0	470.00	0500.00	470.40				
03:15:00	2586.73	1//.6/	2588.72	175.96	2588.29	176.40				
03:30:00	2001.00	177.80	2003.03	80.111	2003.18	170.52				

Client	Santos I	Ltd			Exal Er	ngineer	М.	Hall / B. T	upma	n	
Well No.	Casino	Casino 4 DW2			Locatio	on	00	cean Patrio	t		
Test No.	Comple	tion			Dates I	rom/To	08	/06/05-11/(	06/05		
Time hh:mm:ss	40586P PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F					
<u>10/06/05</u>	0577.05	477.07	0570.07	477 45	0570 54	470 50					
03:45:00	2577.95	1//.8/	25/9.9/	177.15	2579.54	176.58					
04.00.00	2014.19 Commencer	177.91 1 dumnin	20/0.02 a fluid fr	1//.19 om sena	20/0.40	170.0Z	nk	established	امريما	on	surae
04.00.00	tank	uumpin	y nulu n	oni sepa		surge tai	nr,	established	level	011	Surge
04:00:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.						
04:00:00	Mercury: 0.4	7 microgra	ams/m3.	F F	-						
04:15:00	2572.01	177.95	2574.05	177.22	2573.61	176.66					
04:30:00	2569.73	177.97	2571.75	177.25	2571.32	176.68					
04:45:00	2567.68	177.99	2569.72	177.27	2569.28	176.70					
05:00:00	2565.91	178.00	2567.93	177.28	2567.50	176.71					
05:00:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.						
05:00:00	Liquid return	IS at surge	tank U.8 Di bblo/d	DIS.							
05.00.00	Chlorides 21	Rale. 14.4	DDIS/U.								
05:05:00	Water densi	tv: 1 026 a	 ./cm3 @ 15	7 deaC							
05:11:00	Water SG 1	03 at 55 D	)ea F	.7 ucyo.							
05:15:00	2564.20	178.02	2566.24	177.29	2565.82	176.72					
05:30:00	2562.65	178.02	2564.69	177.30	2564.26	176.73					
05:45:00	2561.26	178.03	2563.30	177.31	2562.88	176.73					
06:00:00	2559.96	178.03	2562.02	177.31	2561.58	176.74					
06:00:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.						
06:00:00	Liquid return	is at surge	tank 1.30 l	obls.							
06:00:00	Tank Liquid	Rate: 9.60	) bbls/d.	477.00		470 74					
06:15:00	2558.77	178.04	2560.81	1/7.32	2560.38	1/6./4					
06:30:00	2007.00 Potrotoch co	178.04 mmoncod	2009.09 Ltaking gas	1//.32	2339.24	1/0./0					
00.30.00	2556 55	178 05	2558 62	177 32	2558 15	176 75					
06:45:00	Completed t	aking sam	nle	111.02	2000.10	110.10					
07:00:00	2555.56	178.05	2557.62	177.33	2557.18	176.76					
07:00:00	Liquid return	is at surge	tank 1.80 l	obls.							
07:00:00	Draeger indi	cated 1%	C02 and 0.	1 ppm H2	S.						
07:02:00	Raised orific	e plate.									
07:06:00	Opened sep	arator byp	ass.								
07:10:00	Diverted flov	v through 4	48/64" adju	stable cho	ke.						
07:12:00	Increased ad		2500 25	'64". 177.15	2509.06	176 57					
07.15.00	2507.19	I//.00 Aiustable e	2009.20 boko to 64	177.13 /64"	2000.00	170.57					
07.15.00	Diverted flov	y through 6	64/64" fixed	04. I choke							
07:21:00	Closed sena	rator bypa		r choke.							
07:24:00	Installed 4.5	0" orifice c	blate in test	separator	das meter	r run.					
07:30:00	2488.18	177.90	2490.04	177.18	2489.71	176.61					
07:45:00	2474.39	177.91	2476.27	177.19	2475.94	176.62					
07:45:00	Gas SG 0.69	98.									
08:00:00	2468.83	177.89	2470.62	177.18	2470.35	176.60					
08:00:00	Water SG 1.	022 @ 60	degF.								
00:00:80	Liquid return	is at surge	tank 2.00 l	odis.							
00:15:00		Kate: 9.60	DDIS/Q.	177 40	0465 00	176 64					
00.10.00	2403.70 Draegor indi	1//.9U	2400.40	۲//.1ŏ ⊔ ۲۰۰۳ ل	2400.22	1/0.01					
08:30:00	2459 58	177 QN	2461 30	0. i ppili F 177 18	2461 00	176 61					
08:30:00	Chlorides 15	5.000 ma/l	<u> </u>	177.10	L-101.00	110.01					
08:30:00	Water densi	ty: 1.018 g	/cm3 @ 16	.1 degC.							
		•	-	-							

Client	Santos	Ltd			Exal E	ngineer	M. Ha	all / B. <sup>-</sup>	Tupman	
Well No.	Casino	4 DW2			Locati	on	Ocea	n Patri	ot	
Test No.	Comple	etion			Dates	From/To	08/06	6/05-11	/06/05	
Time hh:mm:ss	40586P 9 PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F				
10/06/05 08:30:00	pH: 6.69 Ωhm₋m @	@ 15.3	degC, (	Conductivity	y 35.8	mS/cm @	15.3	degC,	Resistivity	0.028
08:45:00 09:00:00	2455.96 2452.71	177.90 177.90	2457.81 2454.57	177.19 177.19	2457.50 2454.30	176.61 176.61				
09:00:00 09:15:00	Tank Liquid 2449.81	d Rate: 43.3 177.90	2451.65	177.18	2451.34	176.61				
09:30:00 09:30:00 09:45:00	2446.84 Draeger ind 2443.90	177.90 dicated 1% 177.89	2448.72 C02 and 0 2445.79	177.18 0.1 ppm H23 177.18	2448.38 S. 2445.47	176.60 176.60				
10:00:00 10:00:00 10:00:00	2441.08 Liquid retur Tank Liquid	177.88 ns at surge d Rate: 57.6	2442.94 tank 4.60 0 bbls/d.	177.16 bbls.	2442.66	176.59				
10:00:00 10:15:00 10:20:00	Gas SG 0.7 2438.29 Petrotech c	703. 177.88	2440.17 ter sample	177.16	2439.82	176.59 1.07				
10:30:00 10:45:00	2435.86 2433.56 Chloridos 4	177.87 177.87	2437.74 2435.43	177.15 177.15 177.15	2437.39 2435.09	176.58 176.58				
10:45:00 10:45:00 10:45:00	Water dens pH: 6.62	sity: 1.051 g @ 19.0	 /cm3 @ 1 degC, (	6.5 degC. Conductivity	y 97.6	mS/cm @	9 19.0	degC,	Resistivity	0.010
11:00:00 11:00:00	2431.21 Draeger ind	19.0 degC. 177.87 dicated 1%	2433.08 C02 and (	177.15 ).1 ppm H2	2432.78 S.	176.57				
11:00:00 11:00:00 11:00:00	Liquid retur Tank Liquid Draeger ind	ns at surge d Rate: 48.0 dicated 1%	tank 6.80 00 bbls/d. C02 and 0	bbls. ).1 ppm H2:	S.					
11:15:00 11:30:00 11:45:00 12:00:00	2429.02 2426.95 2425.01 2423.23	177.86 177.86 177.85 177.85	2430.90 2428.85 2426.93 2425.14	177.14 177.14 177.13 177.13	2430.58 2428.53 2426.61 2424.79	176.57 176.56 176.56 176.56				
12:00:00 12:00:00 12:15:00	Liquid retur Tank Liquid 2421.41	ns at surge d Rate: 24.0 177.84	tank 8.30 0 bbls/d. 2423.33	bbls. 177.13	2423.02	176.55				
12:30:00 12:35:00 12:45:00	2419.80 Petrotech c 2418.17	177.84 commenced 177.84	2421.71 taking ga 2420.10	177.12 s sample 1 177.12	2421.36 08 : s/n A. 2419.75	176.55 A-1984. 176.54				
12:45:00 13:00:00 13:00:00	2416.73 Petrotech c	taking sam 177.83 commenced	ple. 2418.61 I taking ga	177.12 s sample 1	2418.29 .13 : s/n A	176.54 \-1979.				
13:00:00 13:00:00 13:00:00	Liquid retur Tank Liquid	ns at surge	ter sample tank 9.40 00 bbls/d.	es: 1.09, 1. <sup>-</sup> bbls.	10, 1.11, 7	1.12.				
13:15:00 13:15:00 13:25:00 13:26:00	2415.34 Completed Closed Anr	177.83 taking sam nulus Maste parator byp	2417.23 ple. r Valve.	1//.11	2416.91	176.54				
13:30:00 13:31:00 13:45:00	2413.94 Closed in v	vell at choke	2415.81 e manifold	177.10 . Commenc	2415.50 ced build (	176.53 up survey.				
14:00:00 14:15:00	2560.70 2578.93	177.59 176.88	2562.80 2581.06	176.86 176.14	2562.37 2580.60	176.27 175.55				

Client	Santos	Ltd			Exal Engineer		M. Hall / B. Tupman
Well No.	Casino	4 DW2			Locatio	n	Ocean Patriot
Test No.	Comple	tion			Dates F	rom/To	08/06/05-11/06/05
Time	40586P	40586T	51804P	51804T	51248P	51248T	
hh:mm:ss	PSIA	°F	PSIA	°F	PSIA	°F	
<u>10/06/05</u> 14:30:00 14:45:00	2593.34 2605.21	176.24 175.92	2595.46 2607.33	175.51 175.17	2594.97 2606.81	174.93 174.61	
15:00:00	2615.29	175.64	2617.39	174.86	2616.88	174.32	
15:15:00	2624.01	175.33	2626.14	174.55	2625.59	174.02	
15:45:00 16:00:00	2631.71 2638.55 2644.70	175.05 174.77 174.52	2633.82 2640.66 2646.80	174.20 173.99 173.73	2633.28 2640.12 2646.27	173.46 173.22	
16:15:00	2650.28	174.31	2652.39	173.51	2651.82	173.00	
16:30:00	2655.37	174.10	2657.48	173.29	2656.91	172.80	
16:45:00	2660.03	173.91	2662.14	173.11	2661.57	172.60	
17:00:00	2664.31	173.72	2666.44	172.92	2665.86	172.42	
17:15:00	2668.30	173.55	2670.40	172.75	2669.84	172.25	
17:30:00	2671.97	173.40	2674.09	172.59	2673.51	172.10	
17:45:00	2675.41	173.25	2677.51	172.43	2676.94	171.95	
18:00:00	2678.62	173.10	2680.73	172.29	2680.15	171.81	
18:15:00	2681.62	172.97	2683.72	172.16	2683.16	171.67	
18:30:00	2684.43	172.84	2686.54	172.03	2685.96	171.55	
18:45:00	2687.10	172.72	2689.19	171.91	2688.61	171.43	
19:00:00	2689.59	172.61	2691.69	171.79	2691.11	171.32	
19:15:00	2691.95	172.50	2694.06	171.68	2693.48	171.21	
19:30:00	2694.18	172.40	2696.30	171.57	2695.71	171.11	
19:45:00 20:00:00 20:15:00	2696.31 2698.32 2700.24	172.30 172.20	2698.41 2700.43 2702.34	171.47 171.37 171.28	2697.83 2699.84 2701.75	171.01 170.91 170.82	
20:30:00 20:45:00	2702.06 2703.80	172.02 171.94	2702.34 2704.18 2705.91	171.19 171.11 171.11	2703.58 2705.31	170.02 170.74 170.66	
21:15:00 21:30:00	2705.46 2707.03 2708.54	171.86 171.79 171.71	2707.55 2709.16 2710.66	171.02 170.95 170.87	2708.97 2708.57 2710.09	170.58 170.49 170.43	
21:45:00	2710.00	171.64	2712.11	170.80	2711.53	170.36	
22:00:00	2711.40	171.57	2713.49	170.72	2712.91	170.29	
22:15:00	2712.73	171.51	2714.82	170.66	2714.24	170.23	
22:30:00	2714.02	171.44	2716.10	170.59	2715.51	170.16	
22:45:00	2715.23	171.38	2717.34	170.53	2716.76	170.10	
23:00:00	2716.42	171.31	2718.53	170.46	2717.93	170.04	
23:15:00	2717.55	171.25	2719.64	170.40	2719.07	169.98	
23:30:00	2718.64	171.20	2720.75	170.35	2720.16	169.92	
23:45:00	2719.71	171.14	2721.80	170.29	2721.22	169.86	
24:00:00	2720.71	171.09	2722.81	170.23	2722.24	169.81	
<u>11/06/05</u> 00:15:00	2721.70	171.03	2723.79	170.17	2723.21	169.76	
00:30:00	2722.66	170.98	2724.76	170.12	2724.16	169.70	
00:45:00	2723.57	170.93	2725.67	170.07	2725.08	169.66	
01:00:00	2724.45	170.88	2726.55	170.02	2725.96	169.61	
01:15:00	2725.31	170.83	2727.40	169.98	2726.80	169.56	
01:30:00	2726.13	170.79	2728.21	169.94	2727.63	169.51	
01:45:00	2726.94	170.75	2729.03	169.89	2728.44	169.48	
02:00:00	2727.70	170.71	2729.81	169.85	2729.22	169.44	
02:15:00	2728.48	170.66	2730.57	169.81	2729.97	169.39	
02:30:00	2729.20	170.62	2731.29	169.76	2730.69	169.35	
02:45:00	2729.91	170.58	2732.01	169.72	2731.41	169.31	

Well No.         Casino 4 DW2         Location         Ocean Patriot           Test No.         Completion         Dates From/To         08/06/05-11//06/05           Time         40586P         40586T         51804P         51248P         51248T           htmmms         981A         °F         PSIA         °F         PSIA         °F           1106005         2730.60         170.55         2732.70         169.69         2732.77         169.24           03:30:00         2731.83         170.47         2734.02         169.60         2733.71         169.24           03:30:00         2733.71         170.39         2735.77         169.52         2734.05         169.16           04:00:00         2733.77         170.32         2736.45         169.49         2735.57         169.50           04:30:00         Closed 7" Flowhead Master Valve.         04/37.00         EDS Tripped closing 7" Flowhead Flow Wing Valve.         04/37.00         EDS Tripped closing 7" Flowhead Swab Valve.           04:45:00         Closed 1 at choke manifold.         04/47.00         Opened 7" Flowhead Swab Valve.         04/47.00         Opened 7" Flowhead Swab Valve.         05/30.00         273.64         169.30         05/30.00         070.27         273.71         169.00	Client	Santos I	Ltd			Exal En	gineer	M. Hall / B. Tupman
Test No.         Completion         Dates From/To         08/06/05-11/06/05           Time htmm:ss         40586F PSIA         40586F PSIA         51804F PSIA         51248F PSIA         51248F PSIA           1/06/05         03:00:00         2730.60         170.55         2732.70         169.69         2732.09         169.27           03:315:00         2731.27         170.50         2733.37         169.64         2732.71         170.50         2733.37         169.64         2732.47         169.52           03:45:00         2733.51         170.43         2734.67         169.56         273.45         169.46         273.58         169.41         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.42         273.58         169.40         273.58         169.40         273.58         169.40         273.58         169.40         273.58         169.40         273.58         169.40         273.58         169.40         273.57         169.40         273.57         169.40         273.57         169.40         27	Well No	. Casino 4	4 DW2			Locatio	n	Ocean Patriot
Time hh:mm:ss         40586P PSIA         40586T *F         51804P PSIA         51804T *F         51248P PSIA         51248T *F           11/06/05 03:00:00         2730.60         170.55         2732.70         169.69         2732.09         169.27           03:15:00         2731.27         170.50         2733.33         169.64         2732.77         169.24           03:30:00         2731.37         170.47         2734.02         169.60         2733.43         169.20           03:45:00         2733.17         170.39         2735.27         169.52         2734.67         169.12           04:15:00         2733.77         170.32         2736.45         169.44         2735.27         169.06           04:30:00         Closed 7" Flowhead Master Valve.         04:45:00         2734.92         169.43         2736.41         169.03           04:45:00         Opened 7" Flowhead Swab Valve.         04:45:00         Opened 7" Flowhead Swab Valve.         04:45:00         Opened 7" Flowhead Swab Valve.           04:45:00         Clasel ant a choke manifold.         04:47:00         Opened 7" Flowhead Kill Wing Valve.         04:45:00         Clasel and a choke manifold.           04:48:00         Opened 7" Flowhead Kill Wing Valve.         04:45:00         Clasel and a choke manifold.<	Test No	. Complet	Completion				rom/To	08/06/05-11/06/05
11/06/05           03:00:00         2730.60         170.55         2732.70         169.69         2732.77         169.24           03:30:00         2731.93         170.47         2734.02         169.60         2733.43         169.24           03:30:00         2731.93         170.47         2734.02         169.60         2733.43         169.20           03:45:00         2732.56         170.43         2734.67         169.22         273.467         169.12           04:15:00         2733.77         170.39         2736.64         169.46         2735.24         169.06           04:30:00         Closed 7" Flowhead Master Valve.         04:35:00         Opened 7" Flowhead Valve Valve.         04:35:00         Opened 7" Flowhead Valve.           04:35:00         Opened 7" Flowhead Valve.         04:47:00         Opened 7" Flowhead Wing Valve.         04:47:00         Opened 7" Flowhead Kill Wing Valve.           04:47:00         Opened 7" Flowhead Kill Wing Valve.         02:37:57         169.40         2737.14         169.00           05:01:00         Opened 7" Flowhead Kill Wing Valve.         02:36:68         170.27         273.57         169.40         273.14         169.00           05:01:00         Opened 7" Flowhead Kill Wing Valve.         05:01:00	Time hh:mm:se	40586P S PSIA	40586T °F	51804P PSIA	51804T °F	51248P PSIA	51248T °F	
3:00:00       2730.60       170.55       2732.70       169.64       2732.77       169.24         03:15:00       2731.27       170.50       2733.37       169.64       2732.77       169.24         03:30:00       2732.56       170.43       2734.67       169.56       2733.43       169.20         03:45:00       2733.77       170.39       2735.27       169.52       2734.67       169.12         04:15:00       2733.77       170.36       2735.86       169.49       2735.27       169.09         04:30:00       Cosed 7" Flowhead Master Valve.	11/06/05							
03:16:00       2731.27       170.50       2733.37       169.64       2732.77       169.24         03:30:00       2731.93       170.47       2734.02       169.60       2733.43       169.20         03:45:00       2733.37       170.43       2734.67       169.52       2734.65       169.16         04:00:00       2733.17       170.39       2735.86       169.49       2735.27       169.09         04:30:00       2734.35       170.32       2736.45       169.46       2735.84       169.06         04:30:00       Closed 7" Flowhead Master Valve.       0       169.44       169.06         04:35:00       Depened 7" Flowhead Swab Valve.       0       2736.41       169.03         04:45:00       Opened 7" Flowhead Wing Valve.       0       2736.41       169.03         04:47:00       Opened 7" Flowhead Kill Wing Valve.       0       2735.86       170.27       2737.12       169.40       2737.14       169.00         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00       165.02       160.26       169.39       2736.11       169.39       2737.14       169.00       165.02       160.01       177.273.57       169.40       2737.14	03:00:00	2730.60	170.55	2732.70	169.69	2732.09	169.27	
03:30:00       2731.93       170.47       2734.67       169.56       2733.43       169.20         03:45:00       2732.56       170.43       2735.27       169.52       2734.67       169.12         04:16:00       2733.77       170.36       2735.27       169.52       2735.46       169.19         04:30:00       Closed 7" Flowhead Master Valve.	03:15:00	2731.27	170.50	2733.37	169.64	2732.77	169.24	
03:45:00       2732.56       170.43       2734.67       169.52       2734.67       169.16         04:00:00       2733.17       170.39       2735.27       169.92       2734.67       169.09         04:30:00       2733.37       170.32       2736.45       169.49       2735.27       169.09         04:30:00       Closed 7" Flowhead Master Valve.       04:30:00       Opened 7" Flowhead Master Valve.       04:30:00         04:37:00       ESD Tripped closing 7" Flowhead Flow Wing Valve.       04:47:00       Opened 7" Flowhead Wab Valve.         04:47:00       Opened 7" Flowhead Kill Villy Valve.       04:48:00       Opened 7" Flowhead Kill Villy Valve.         04:48:00       Opened 7" Flowhead Kill Villy Valve.       04:49:00       Opened 7" Flowhead Kill Villy Valve.         04:52:00       Closed 7" Flowhead Kill Villy Valve.       04:52:00       Closed 7" Flowhead Kill Villy Valve.         05:02:00       Closed 7" Flowhead Kill Villy Valve.       05:02:00       Closed 7" Flowhead Kill Villy Valve.         05:02:00       Closed 7" Flowhead Kill Villy Valve.       04:03:00       Commerced RIH villy Willy Valve.         05:02:00       Cosed 7" Flowhead Kill Villy Valve.       05:02:00       Cosed 7: Flowhead Kill Villy Valve.         05:30:00       Z736.54       170.27       2738.11       169.39	03:30:00	2731.93	170.47	2734.02	169.60	2733.43	169.20	
04:00:00 2733.17 170.38 2735.27 169.52 2734.67 169.12 04:15:00 2733.77 170.36 2735.86 169.49 2735.27 169.09 04:30:00 2734.35 170.32 2736.45 169.46 2735.84 169.06 04:30:00 Closed 7" Flowhead Master Valve. 04:35:00 Opened 7" Flowhead Swab Valve. 04:37:00 ESD Tripped closing 7" Flowhead Flow Wing Valve. 04:45:00 2734.92 170.30 2737.02 169.43 2736.41 169.03 04:47:00 Opened 7" Flowhead Wing Valve. 04:48:00 Opened 7" Flowhead Kill Wing Valve. 05:00:00 2735.68 170.27 2737.57 169.40 2737.14 169.00 05:01:00 Opened 7" Flowhead Kill Wing Valve. 05:02:00 Closed 7" Flowhead Kill Wing Valve. 05:03:00 Commenced RIH with wireline to retrieve pressure temperature gauges. 05:15:00 2736.00 170.27 2738.11 169.39 2737.50 169.00 05:30:00 Wireline at depth. 05:30:00 Wireline at depth. 05:30:00 Wireline at cheft. 05:30:00 Wireline at cheft. 05:30:00 Wireline at cheft. 05:30:00 Wireline at surface. 06:45:00 2690.31 166.52 2692.76 165.54 2691.91 164.97 06:30:00 2473.77 119.59 2475.83 118.68 2474.56 118.33 06:30:00 Wireline at surface. 06:45:00 2635.41 70.22 2738.63 17.7 2526.48 131.37 06:30:00 Wireline at surface. 06:45:00 2635.41 2692.76 2637.36 17.82 2439.33 77.70 06:50:00 Closed Lower Ball Valve(LBV) on SSTT. 06:45:00 2438.39 80.08 2440.69 77.82 2439.33 77.70 06:50:00 Closed Lower Ball Valve(UBV) on SSTT. 07:00:00 Closed Lower Ball Valve(UBV) on SSTT. 07:00:00 Closed Lower Ball Valve(UBV) on SSTT. 07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold. 07:01:00 Closed choke manifold, commenced inflow test on UBV. 07:15:00 137.73 49.89 137.72 47.99 137.18 47.61 07:22:00 Bod test, closed SSLV.	03:45:00	2732.56	170.43	2734.67	169.56	2734.05	169.16	
04:15:00 2733.77 170.36 2735.86 169.49 2735.27 169.09 04:30:00 Closed 7" Flowhead Master Valve. 04:35:00 Opened 7" Flowhead Swab Valve. 04:35:00 Opened 7" Flowhead Swab Valve. 04:37:00 ESD Tripped closing 7" Flowhead Flow Wing Valve. 04:45:00 2734.92 170.30 2737.02 169.43 2736.41 169.03 04:47:00 Opened 7" Flowhead Swab Valve. 04:48:00 Closed in at choke manifold. 04:48:00 Opened 7" Flowhead Swab Valve. 04:48:00 Closed in at choke manifold. 04:49:00 Opened 7" Flowhead Swab Valve. 04:48:00 Closed in at choke manifold. 04:49:00 Opened 7" Flowhead Swab Valve. 04:49:00 Opened 7" Flowhead Kill Wing Valve. 04:49:00 Opened 7" Flowhead Kill Wing Valve. 04:49:00 Opened 7" Flowhead Kill Wing Valve. 05:00:00 2735.68 170.27 2737.57 169.40 2737.14 169.00 05:01:00 Opened 7" Flowhead Kill Wing Valve. 05:02:00 Commenced RIH with wireline to retrieve pressure temperature gauges. 05:03:00 Commenced RIH with wireline to retrieve pressure temperature gauges. 05:03:00 2736.00 170.27 2738.11 169.39 2737.50 169.00 05:30:00 2736.54 170.22 2738.64 169.35 2738.03 168.95 05:30:00 Wireline at depth. 05:33:00 Wireline latched pressure temperature gauges. POOH. 05:45:00 2690.31 166.52 2692.76 165.54 2691.91 164.97 06:00:00 2585.06 147.69 2587.36 146.43 2586.33 145.84 06:15:00 2262.42 133.02 2527.62 131.77 2526.48 131.37 06:30:00 2473.77 119.59 2475.83 118.68 2474.56 118.33 06:30:00 Wireline at surface. 06:45:00 2483.9 80.08 2440.69 77.82 2439.33 77.70 06:50:00 Closed Lower Ball Valve(LBV) on SST. 06:55:00 Commenced bleeding off surface pressure to 100 psi via choke manifold. 07:00:00 2408.70 66.12 2406.85 62.79 2409.20 65.11 07:00:00 Closed choke manifold, LBV on STT. 07:00:00 Closed choke manifold, LBV on STT. 07:00:00 Closed choke manifold, LBV on STT. 07:00:00 Closed choke manifold, Commenced inflow test on UBV. 07:15:00 137.73 48.89 137.72 47.99 137.18 47.61 07:27:00 Bod chest, closed SSLV.	04:00:00	2733.17	170.39	2735.27	169.52	2734.67	169.12	
04:30:00       2734.35       170.32       2736.45       169.46       2735.84       169.06         04:30:00       Closed 7" Flowhead Master Valve.       0       <	04:15:00	2733.77	170.36	2735.86	169.49	2735.27	169.09	
04:30:00       Closed 7" Flowhead Master Valve.         04:35:00       Bled surface pressure to 0psi via choke manifold.         04:35:00       Copened 7" Flowhead Swab Valve.         04:37:00       ESD Tripped closing 7" Flowhead Flow Wing Valve.         04:45:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:45:00       Opened 7" Flowhead Wing Valve.       04:48:00       Opened 7" Flowhead Swab Valve.       04:48:00         04:48:00       Opened 7" Flowhead Kill Wing Valve.       04:48:00       Closed in at choke manifold.         04:49:00       Opened 7" Flowhead Kill Wing Valve.       04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       273.757       169.40       2737.51       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.       05:30:00       2736.54       170.27       273.81       169.39       273.50       169.00       05:30:00       2736.54       170.27       273.81       169.39       2738.03       168.95       05:30:00       2690.31       166.52       2692.76       165.54       2691.91 <t< td=""><td>04:30:00</td><td>2734.35</td><td>170.32</td><td>2736.45</td><td>169.46</td><td>2735.84</td><td>169.06</td><td></td></t<>	04:30:00	2734.35	170.32	2736.45	169.46	2735.84	169.06	
04:35:00       Bled surface pressure to 0psi via choke manifold.         04:35:00       Opened 7" Flowhead Swab Valve.         04:35:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:45:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:47:00       Opened 7" Flowhead Wing Valve.       04:48:00       Closed in at choke manifold.       04:48:00         04:48:00       Opened 7" Flowhead Kill Wing Valve.       04:48:00       Closed in at choke manifold.         04:49:00       Opened 7" Flowhead Kill Wing Valve.       02:735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Master Valve.       05:01:00       Opened 7" Flowhead Master Valve.       05:01:00       02:736.54       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline latched pressure temperature gauges, POOH.       05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2525.42       133.02       2527.62       131.77       252	04:30:00	Closed 7" Fl	owhead M	laster Valve	2			
04:35:00       Opened 7" Flowhead Swab Valve.         04:37:00       ESD Tripped closing 7" Flowhead Flow Wing Valve.         04:45:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:47:00       Opened 7" Flowhead Wing Valve.       04:48:00       Opened 7" Flowhead Wing Valve.       04:48:00         04:48:00       Opened 7" Flowhead Kill Wing Valve.       04:48:00       Opened 7" Flowhead Kill Wing Valve.         04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.       05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.         05:30:00       2736.04       170.22       2738.11       169.39       2737.50       169.00         05:30:00       Wireline at depth.       05:33:00       Wireline at depth.       05:33:00       Wireline at depth.         05:30:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33	04:35:00	Bled surface	pressure	to 0psi via	choke ma	nifold.		
04:37:00       ESD Tripped closing 7" Flowhead Flow Wing Valve.         04:45:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:47:00       Opened 7" Flowhead Wing Valve.       04:48:00       Opened 7" Flowhead Swab Valve.       04:48:00         04:48:00       Opened 7" Flowhead Kill Wing Valve.       04:48:00       Opened 7" Flowhead Kill Wing Valve.         04:49:00       Depened 7" Flowhead Kill Wing Valve.       04:48:00       02735.68       170.27       2737.57       169.40       2737.14       169.00         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       2736.60       170.27       2738.11       169.39       2737.50       169.00         05:03:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:33:00       Wireline at depth.       05:53:00       2736.54       170.22       2738.64       164.43       2586.33       145.84         06:10:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:10:00       2	04:35:00	Opened 7" F	lowhead \$	Swab Valve	• • • • •			
04:45:00       2734.92       170.30       2737.02       169.43       2736.41       169.03         04:47:00       Opened 7" Flowhead Wing Valve.       04:48:00       Opened 7" Flowhead Swab Valve.         04:48:00       Opened 7" Flowhead Wing Valve.       04:48:00       Opened 7" Flowhead Swab Valve.         04:49:00       Opened 7" Flowhead Kill Wing Valve.       04:48:00       Opened 7" Flowhead Master Valve.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Master Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       2736.00       170.27       2738.11       169.35       2738.03       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       2736.64       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:35:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2438.39       80.08       2440.69	04:37:00	ESD Tripped	d closina 7	" Flowhead	I Flow Win	a Valve.		
04:47:00       Opened 7" Flowhead Wing Valve.         04:48:00       Opened 7" Flowhead Swab Valve.         04:48:00       Closed in at choke manifold.         04:49:00       Opened 7" Flowhead Kill Wing Valve.         04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.         05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:30:00       Vireline at depth.       05:45:00       2690.31       166.52       2692.76       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Closed Lower Ball Valve(LBV) on SST.       00       65.11       07.00       2408.70 <td>04:45:00</td> <td>2734.92</td> <td>170.30</td> <td>2737.02</td> <td>169.43</td> <td>2736.41</td> <td>169.03</td> <td></td>	04:45:00	2734.92	170.30	2737.02	169.43	2736.41	169.03	
04:48:00       Opened Opened 7" Flowhead Swab Valve.         04:48:00       Closed in at choke manifold.         04:49:00       Opened 7" Flowhead Kill Wing Valve.         04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       0	04:47:00	Opened 7" F	lowhead \	Ning Valve				
04:48:00       Closed in at choke manifold.         04:49:00       Opened 7" Flowhead Kill Wing Valve.         04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Master Valve.       05:02:00       Closed 7" Flowhead Master Valve.       05:02:00         05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       2736.00       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:33:00       Wireline at depth.       05:33:00       Wireline at depth.         05:33:00       Wireline at depth.       05:30:00       2585.06       147.69       2587.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.35       118.68       2474.56       118.33         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Closed Lower Ball Valve(LBV) on SST.       06:45:00       2408.70	04:48:00	Opened Ope	ened 7" Flo	owhead Sw	ab Valve.			
04:49:00       Opened 7" Flowhead Kill Wing Valve.         04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       0 </td <td>04:48:00</td> <td>Closed in at</td> <td>choke ma</td> <td>nifold.</td> <td></td> <td></td> <td></td> <td></td>	04:48:00	Closed in at	choke ma	nifold.				
04:52:00       Equalized pressure above 7" Flowhead Master Valve with glycol water mixture.         05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       0	04:49:00	Opened 7" F	lowhead I	Kill Wing Va	alve.			
05:00:00       2735.68       170.27       2737.57       169.40       2737.14       169.00         05:01:00       Opened 7" Flowhead Kill Wing Valve.       05:02:00       Closed 7" Flowhead Kill Wing Valve.         05:02:00       Closed 7" Flowhead Kill Wing Valve.       05:03:00       2736.50       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:30:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:00:02       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:0	04:52:00	Equalized pr	essure ab	ove 7" Flow	vhead Mas	ster Valve v	vith alvcol	water mixture.
05:01:00       Opened 7" Flowhead Master Valve.         05:02:00       Closed 7" Flowhead Kill Wing Valve.         05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.         05:13:00       2736.00       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:33:00       Wireline latched pressure temperature gauges, POOH.       05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Closed Lower Ball Valve(LBV) on SST.       06       65.500       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85	05:00:00	2735.68	170.27	2737.57	169.40	2737.14	169.00	
05:02:00       Closed 7" Flowhead Kill Wing Valve.         05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.         05:15:00       2736.00       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       0       0       533:00       Wireline latched pressure temperature gauges, POOH.         05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       2408.70       66.12 <t< td=""><td>05:01:00</td><td>Opened 7" F</td><td>lowhead I</td><td>Master Valv</td><td>/e.</td><td></td><td></td><td></td></t<>	05:01:00	Opened 7" F	lowhead I	Master Valv	/e.			
05:03:00       Commenced RIH with wireline to retrieve pressure temperature gauges.         05:03:00       2736.00       170.27       2738.11       169.39       2737.50       169.00         05:03:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:33:00       Wireline latched pressure temperature gauges, POOH.         05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11       07:00:00       2408.70	05.02.00	Closed 7" Fl	owhead K	ill Wing Val	ve			
05:15:00       2736.00       170.27       2738.11       169.39       2737.50       169.00         05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:33:00       Wireline latched pressure temperature gauges, POOH.       05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Wireline at surface.       0645:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Closed Lower Ball Valve(LBV) on SST.       06       05.11       07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00	05:03:00	Commenced	RIH with	wireline to	retrieve pr	ressure tem	perature o	nauges
05:30:00       2736.54       170.22       2738.64       169.35       2738.03       168.95         05:30:00       Wireline at depth.       05:33:00       Wireline latched pressure temperature gauges, POOH.       05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed upper Ball Valve(UBV) on SSTT.         07:10:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:13:00       Closed choke manifold, commenced inflow test on UBV.         07:13:00	05:15:00	2736.00	170 27	2738 11	169 39	2737 50	169.00	jaagee.
05:30:00       Wireline at depth.         05:30:00       Wireline latched pressure temperature gauges, POOH.         05:45:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Wireline at surface.       06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed Upper Ball Valve(UBV) on SSTT.         07:10:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:07:00       Closed choke manifold, commenced inflow test on UBV.         07:13:00       Closed choke manifold, commenced inflow test on UBV.       137.73<	05:30:00	2736 54	170.22	2738 64	169.35	2738.03	168.95	
05:33:00       Wireline latched pressure temperature gauges, POOH.         05:43:00       2690.31       166.52       2692.76       165.54       2691.91       164.97         06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:55:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed Upper Ball Valve(UBV) on SSTT.         07:10:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:13:00       Closed choke manifold, commenced inflow test on UBV.         07:13:00       Closed choke manifold, commenced inflow test on UBV.       137.73       49.89       137.72       47.99       137.18       47.61	05:30:00	Wireline at d	lenth	2100.01	100.00	2100.00	100.00	
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06:00:00       2585.06       147.69       2587.36       146.43       2586.33       145.84         06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Wireline at surface.       06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:50:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed Upper Ball Valve(UBV) on SSTT.         07:10:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.       07:13:00       Closed choke manifold, commenced inflow test on UBV.         07:13:00       Closed choke manifold, commenced inflow test on UBV.       07:15:00       137.73       49.89       137.72       47.99       137.18       47.61         07:24:00 <t< td=""><td>05:45:00</td><td>2690.31</td><td>166 52</td><td>2692 76</td><td>165 54</td><td>2691 91</td><td>. 164 97</td><td></td></t<>	05:45:00	2690.31	166 52	2692 76	165 54	2691 91	. 164 97	
06:15:00       2525.42       133.02       2527.62       131.77       2526.48       131.37         06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Wireline at surface.       06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:50:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed Upper Ball Valve(UBV) on SSTT.       07:10:00         07:07:00       Closed choke manifold, commenced inflow test on UBV.       07:13:00       Closed choke manifold, commenced inflow test on UBV.         07:15:00       137.73       49.89       137.72       47.99       137.18       47.61         07:24:00       Good test, closed SSLV.       07:24:00       Good test, closed SSLV.       07:24:00       For urface pressure broke out and ratrioud gauges	06:00:00	2585.06	147 69	2587.36	146 43	2586.33	145.84	
06:30:00       2473.77       119.59       2475.83       118.68       2474.56       118.33         06:30:00       Wireline at surface.       06:45:00       2438.39       80.08       2440.69       77.82       2439.33       77.70         06:50:00       Closed Lower Ball Valve(LBV) on SST.       06:55:00       Commenced bleeding off surface pressure to 100 psi via choke manifold.         07:00:00       2408.70       66.12       2406.85       62.79       2409.20       65.11         07:00:00       Closed choke manifold, LBV on STT not closed.       07:07:00       Closed Upper Ball Valve(UBV) on SSTT.         07:10:00       Closed choke manifold, commenced inflow test on UBV.       07:13:00       Closed choke manifold, commenced inflow test on UBV.         07:15:00       137.73       49.89       137.72       47.99       137.18       47.61         07:24:00       Good test, closed SSLV.       07:24:00       Good test, closed SSLV.       07:24:00       Rod eff aurface pressure broke out and ratiowed apugate	06:15:00	2525 42	133.02	2527.62	131 77	2526.48	131.37	
06:30:00Wireline at surface.06:30:002438.3980.082440.6977.822439.3377.7006:50:00Closed Lower Ball Valve(LBV) on SST.06:55:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:00:002408.7066.122406.8562.792409.2065.1107:00:00Closed choke manifold, LBV on STT not closed.07:07:00Closed Upper Ball Valve(UBV) on SSTT.07:10:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:10:00Closed choke manifold, commenced inflow test on UBV.07:13:00Closed choke manifold, commenced inflow test on UBV.07:15:00137.7349.89137.7247.9907:24:00Good test, closed SSLV.07:24:00Good test, closed SSLV.	06:30:00	2473 77	119 59	2475.83	118 68	2020.40	118.33	
06:00:00Vincinic droundoct06:45:002438.3980.082440.6977.822439.3377.7006:50:00Closed Lower Ball Valve(LBV) on SST.06:55:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:00:002408.7066.122406.8562.792409.2065.1107:00:00Closed choke manifold, LBV on STT not closed.07:07:00Closed Upper Ball Valve(UBV) on SSTT.07:10:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:10:00Closed choke manifold, commenced inflow test on UBV.07:15:00137.7349.89137.7247.99137.1847.6107:24:00Good test, closed SSLV.07:27:00Pled off surface pressure broke out and retrieved acurace	06:30:00	Wireline at s	urface	2170.00	110.00	217 1.00	110.00	
<ul> <li>06:50:00 Closed Lower Ball Valve(LBV) on SST.</li> <li>06:55:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.</li> <li>07:00:00 2408.70 66.12 2406.85 62.79 2409.20 65.11</li> <li>07:00:00 Closed choke manifold, LBV on STT not closed.</li> <li>07:07:00 Closed Upper Ball Valve(UBV) on SSTT.</li> <li>07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.</li> <li>07:10:00 Closed choke manifold, commenced inflow test on UBV.</li> <li>07:15:00 137.73 49.89 137.72 47.99 137.18 47.61</li> <li>07:24:00 Good test, closed SSLV.</li> <li>07:27:00 Pled off surface pressure broke out and retrieved gauges</li> </ul>	06:45:00	2438 39	80.08	2440 69	77 82	2439 33	77 70	
06:50:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:00:002408.7066.122406.8562.792409.2065.1107:00:00Closed choke manifold, LBV on STT not closed.07:07:00Closed Upper Ball Valve(UBV) on SSTT.07:10:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:10:00Closed choke manifold, commenced inflow test on UBV.07:13:00Closed choke manifold, commenced inflow test on UBV.07:15:00137.7349.89137.7247.99137.1847.6107:24:00Good test, closed SSLV.07:27:00Bled off aurface pressure broke out and retrieved apugate	06:50:00	Closed Lowe	er Ball Val	ve(LR\/) on	SST	2100.00		
07:00:002408.7066.122406.8562.792409.2065.1107:00:00Closed choke manifold, LBV on STT not closed.07:07:00Closed Upper Ball Valve(UBV) on SSTT.07:10:00Commenced bleeding off surface pressure to 100 psi via choke manifold.07:13:00Closed choke manifold, commenced inflow test on UBV.07:15:00137.7349.89137.7247.99137.1847.6107:24:00Good test, closed SSLV.07:24:00Blod off surface pressure brake out and ratiowed gauges	06:55:00	Commenced	hleedina	off surface	nressure i	to 100 psi v	via choke r	manifold
<ul> <li>07:00:00 Closed choke manifold, LBV on STT not closed.</li> <li>07:07:00 Closed Upper Ball Valve(UBV) on SSTT.</li> <li>07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.</li> <li>07:13:00 Closed choke manifold, commenced inflow test on UBV.</li> <li>07:15:00 137.73 49.89 137.72 47.99 137.18 47.61</li> <li>07:24:00 Good test, closed SSLV.</li> <li>07:24:00 Bled off surface pressure broke out and retrieved gauges.</li> </ul>	07:00:00	2408 70	66 12	2406 85	62 79	2409 20	65 11	
<ul> <li>07:07:00 Closed Upper Ball Valve(UBV) on SSTT.</li> <li>07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.</li> <li>07:13:00 Closed choke manifold, commenced inflow test on UBV.</li> <li>07:15:00 137.73 49.89 137.72 47.99 137.18 47.61</li> <li>07:24:00 Good test, closed SSLV.</li> <li>07:24:00 Blod off surface pressure broke out and retrieved gauges.</li> </ul>	07:00:00	Closed chok	e manifold	1 I BV on S	TT not clo	sed	00.11	
<ul> <li>07:10:00 Commenced bleeding off surface pressure to 100 psi via choke manifold.</li> <li>07:13:00 Closed choke manifold, commenced inflow test on UBV.</li> <li>07:15:00 137.73 49.89 137.72 47.99 137.18 47.61</li> <li>07:24:00 Good test, closed SSLV.</li> <li>07:24:00 Blod off surface pressure broke out and retrieved gauges.</li> </ul>	07:07:00	Closed Unne	er Rall Val	ve(UBV) or	SSTT			
07:13:00 Closed choke manifold, commenced inflow test on UBV. 07:15:00 137.73 49.89 137.72 47.99 137.18 47.61 07:24:00 Good test, closed SSLV.	07.10.00	Commenced	hleeding	off surface	nressure 1	to 100 nei v	via choke r	manifold
07:15:00 137.73 49.89 137.72 47.99 137.18 47.61 07:24:00 Good test, closed SSLV.	07.13.00	Closed chok	e manifold	1 comment	red inflow	test on LIR		namola.
07:24:00 Good test, closed SSLV.	07.15.00	127 72	20 20	137 72	<u>47</u> 00	137 18	v. ⊿7 61	
07:27:00 Blod off outfood proceure broke out and retrieved gourges	07.24.00	Good test of	losed SSI	V	77.33	107.10	10.17	
	07.27.00	Bled off surf:	ace pressi	ure broke o	out and ret	rieved daug	res	







$$Qg = C' \sqrt{hw \times Pf}$$
 (Equation 3-D-1 AGA 3)

Where,

Qg = Gas Rate (scf/hr) C' = Orifice Flow Constant hw = Differential flow in inches of water Pf = Flowing pressure in psia.

C' (Orifice Flow Constant) is further broken down to: -

$$\mathbf{C}' = \mathbf{F}_{\mathbf{b}} * \mathbf{F}_{\mathbf{r}} * \mathbf{Y} * \mathbf{F}_{\mathbf{pb}} * \mathbf{F}_{\mathbf{tb}} * \mathbf{F}_{\mathbf{tf}} * \mathbf{F}_{\mathbf{gr}} * \mathbf{F}_{\mathbf{pv}}$$
(3-D-2)

Where,

 $F_{b}$  = Basic Orifice Factor F<sub>r</sub> Y = Reynolds Number Factor

- = Expansion Factor

#### Comments/References

The gas calculations quoted within this standard have been taken from the AGA report No3, which is the accepted standard for natural gas fluid measurement through an orifice meter. The compressibility factor used is based upon the Dranchuk et al calculation.

## **SECTION 5: DAILY GEOLOGICAL REPORTS**

		WEL	LP	ROGRES	SS REPO	RT	
			CA	SINO 4	DW1		
				DATE: 22/05	5/05		
				REPORT NO	): 1		
(As at 2400 hou	rs 21/05/05)	<b>DEPTH :</b> 1574	m	PR	OGRESS: 266	m	DAYS FROM SPUD: 1
OPERATION:	DRILLING	311mm (12.25") E	DIRECT	IONAL HOLI	E.		DAYS ON WELL: 1
(As at 0600 hou	rs 22/05/05)	<b>DEPTH :</b> 1599	m	PR	OGRESS (060	0-0600 hrs	s): 291m
<b>OPERATION</b> :	PULLING (	OUT OF HOLE TO	O CASI	NG SHOE FO	R TOP DRIVE	REPAIRS	5.
AFE COST		CU	МПА	TIVE COST			
340mm (13.375	5") CASING D	<b>EPTH</b> : 727.87m (l	n Casii	no-4)		RIG	: OCEAN PATRIOT
340mm (13.375 PROGRAMMI	5") CASING D ED TD: 2624m	EPTH: 727.87m () RC	n Casii <b>TARY</b>	no-4) TABLE: 22r	n LAT	RIO RT WA	: OCEAN PATRIOT – MUDLINE: 92.8 m TER DEPTH: 70.8 m
<b>340mm (13.375</b> <b>PROGRAMMI</b> <b>MUD DATA</b> (2400 Hours)	5") CASING D ED TD: 2624m Mud Type: PHG	EPTH: 727.87m (J RC Wt: (SG/PPG) 1.26 / 10.5	n Casin VTARY Vis: 58	no-4) <b>TABLE:</b> 22r FL: Pr 4.0 10	n LAT n: KC1% 0.0 8.0	RIG RT WA Cl : 40000	<b>5: OCEAN PATRIOT</b> – <b>MUDLINE: 92.8</b> m <b>TER DEPTH: 70.8</b> m PV/YP: Rmf: 19/39
340mm (13.375 PROGRAMMI MUD DATA (2400 Hours) BIT DATA (2400 Hours)	<b>5") CASING D</b> <b>ED TD:</b> 2624m Mud Type: PHG No. Make 6 Sec-E	EPTH: 727.87m (J RC Wt: (SG/PPG) 1.26 / 10.5 Type DBS FS2663	n Casin VTARY Vis: 58	no-4) <b>TABLE:</b> 22r FL: Pr 4.0 10 Size (mm) 311	n LAT n: KC1% 0.0 8.0 Hours 12.24	RIC RT WA Cl : 40000 Drilled 266	<b>E: OCEAN PATRIOT</b> – <b>MUDLINE: 92.8</b> m <b>TER DEPTH: 70.8</b> m PV/YP: Rmf: 19/39 Condition –
340mm (13.375 PROGRAMMI MUD DATA (2400 Hours) BIT DATA (2400 Hours) SURVEYS:	5") CASING DI ED TD: 2624m Mud Type: PHG No. Make 6 Sec-E <u>MD</u> (m) 1490.95 1519.82	EPTH: 727.87m (J RC Wt: (SG/PPG) 1.26 / 10.5 DBS FS2663 <u>INC (°)</u> 22.05 26.05	vTARY Vis: 58	no-4) <b>TABLE:</b> 22r FL: Pr 4.0 10 Size (mm) 311 <u>AZIM</u> 304.6 307.69	n LAT 1: KC1% 0.0 8.0 Hours 12.24 L(°T)	RIG RT WA Cl : 40000 Drilled 266	E: OCEAN PATRIOT - MUDLINE: 92.8 m TER DEPTH: 70.8 m PV/YP: Rmf: 19/39 Condition - RE (m) DIRECTION (*

#### PREVIOUS 24 HOURS OPERATIONS SUMMARY:

CONTINUE WITH ATTEMPTS TO SIDETRACK FROM KICK-OFF PLUG. OBSERVE 70% FORMATION FROM 1308m SAMPLE. <u>CASINO-4DW KICKED OFF FROM 1308m AT 09:30 HRS ON 21-05-05</u>. DRILL AHEAD 311mm DIRECTIONAL HOLE FROM 1308m TO 1337m. OBSERVE DROP IN TORQUE AND SLOW PENETRATION RATE. PUMP WATER PILL TO CLEAR BALLED-UP BIT. DRILL AHEAD 311mm (12.25") DIRECTIONAL HOLE FROM 1337m TO 1574m BUILDING ANGLE AS PER PROGRAM.

#### 00:00 - 06:00 HOURS 22/05/05 :

DRILL A HEAD FROM 1574m TO 1599m. TOP DRIVE SYSTEM FAILED – NO ROTARY AVAILABLE. RIG UP CEMENTING HEAD AND LINES. CIRCULATE HOLE CLEAN. RIG DOWN CEMENTING HEAD & LINES. PULL OUT OF HOLE FROM 1599m TO 1300m AT 06:00HRS.

#### **ANTICIPATED OPERATIONS:**

PULL OUT TO CASING SHOE. REPAIR TOP DRIVE SYSTEM. RUN BACK IN HOLE. DRILL AHEAD DIRECTIONAL HOLE.

A.C.N. 007 550 923

## WELL PROGRESS REPORT

## **CASINO 4DW1**

DATE: 22/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<u>INTERVAL</u>	LITHOLOGY	GAS
	Nil	

GEOLOGICAL SUMMARY							
<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	<u>GAS</u>					
1308-1458 ROP: 1 - 58 Ave:	MASSIVE SILTSTONE SILTSTONE: Medium brown to yellow brown, brown grey, dominantly very finely arenaceous, slightly argillaceous, minor to locally common glauconite grains and disseminated glauconite, trace carbonaceous specks, trace pyrite, trace loose coarse and fine quartz grains, soft, firm in part, subblocky.						
1458-1578m ROP: 9-71 Ave: 36.1	SILTSTONE INTERBEDDED WITH SANDSTONE SILTSTONE: Medium brown to yellow brown, brown grey, dominantly very finely arenaceous, slightly argillaceous, minor glauconite grains, trace disseminated glauconite, trace carbonaceous specks, trace pyrite, firm, subblocky. SANDSTONE: Light brown to light grey, clear to translucent, fine to coarse, dominantly medium grained, moderately well sorted, subangular to subrounded, moderately strong siliceous cement, locally abundant light brown argillaceous matrix, minor glauconite, rare very coarse loose grains, common loose, friable to hard aggregates, poor visual porosity, no fluorescence.	13.5 – 67.3 units 99/1/trace %					

A.C.N. 007 550 923

## WELL PROGRESS REPORT

## **CASINO 4DW1**

DATE: 22/05/05

<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	GAS
1578-1599m ROP: 15-32 Ave: 24.4	MASSIVE SILTSTONE SILTSTONE: Medium to light brown, dominantly argillaceous, minor arenaceous, trace carbonaceous specks, trace lithic fragments, locally common glauconite, trace pyrite, trace loose coarse quartz grains, soft to dominantly firm, occasionally moderately hard, subblocky.	21 – 43 units 98/1/trace/1/trace %

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A.C.N. 007 550 923

### WELL PROGRESS REPORT

### **CASINO 4DW1**

DATE: 23/05/05

**REPORT NO: 2** 

(As at 2400 hours 22/05/05)		<b>DEPTH :</b> 1662 m		PR	PROGRESS: 88m DA DA			DAYS FROM SPUD : 2 DAYS ON WELL: 2	
(As at 0600 hours 23/05/05) <b>DEPTH :</b> 1662 m OPERATION : RUNNING IN HOLE WITH NEW DI MOTOR.			E DIR ECT PR	TIONAL BH. C <b>OGRESS</b> (0 JAL BHA A	A 1 <b>600-0600 hrs</b> T 87m. RE	): 63m PLACED C	GEOPILOT WIT	ГН MUD	
AFE COST 340mm (13.375") ( PROGRAMMED T	MOTOR. C <b>ASING DEP</b> <b>D:</b> 2624m	CUM TH: 727.87m (In ROT	IULAT Casinc ARY T	<b>IVE COST</b> ⊢4) ` <b>ABLE:</b> 22	m LAT	RIG RT WA	: OCEAN - MUDLIN TER DEPI	PATRIOT E: 92.8 m IH: 70.8 m	
MUD DATA Mu (2400 Hours) PH	ud Type: W IG 1	/t: (SG/PPG) 29 / 10.7	Vis: 58	FL: P 3.8 9	h: KCl <sup>4</sup> .2 8.0	% Cl : 47000	PV/YP: 22 / 38	Rmf : 0.78 @ 78° F	
BIT DATA No (2400 Hours) 6	o. Make Sec-DBS	Type FS2663		Size (mm) 311	Hours 20.3	Drilled 354	Co -	ondition	
SURVEYS: <u>M</u> 15 15 16 16	<u>D</u> (m) 77 05.77 34.45	<u>INC (°)</u> 34.31 37.79 39.67		<u>AZIN</u> 310.0 310.4 313.0	<u>M (°T)</u> 8 -1 0	<u>CLOSU</u> 105	<u>RE (m)</u>	DIRECTIO 293	<u>PN (°)</u>

#### PREVIOUS 24 HOURS OPERATIONS SUMMARY:

DRILL AHEAD FROM 1574m TO 1599m. OILER PUMP IN TOP DRIVE SYSTEM FAILED – NO ROTARY AVAILABLE. RIG UP CEMENTING HEAD AND LINES. CIRCULATE HOLE CLEAN. RIG DOWN CEMENTING HEAD & LINES. PULL OUT OF HOLE FROM 1599m TO CASING SHOE. UNDERTAKE REPAIRS TO TOP DRIVE SYSTEM. RUN BACK IN HOLE TO BOTTOM. DRILL AHEAD 311mm (12.25") DIRECTIONAL HOLE FROM 1599m TO 1662m. OBSERVE REQUIRED BUILD RATE NOT BEING ACHIEVED (ESPECIALLY AFTER ENTERING THE SKULL CREEK FORMATION). CIRCULATE HOLE CLEAN OFF BOTTOM AND EVALUATE OPTIONS. PULL OUT OF HOLE TO CHANGE BHA.

#### 00:00 - 06:00 HOURS 23/05/05 :

ATTEMPT TO DOWNLOAD MWD MEMORY DATA. UNABLE TO COMMUNICATE WITH TOOL. LAYOUT MWD TOOLS, BIT & GEOPILOT STEERABLE UNIT. PICK UP 244mm (9 7/8") MOTOR (1.5° BEND). MAKE UP MWD TOOLS, ALIGN MOTOR TO HIGH SIDE OF HOLE, RUN IN HOLE TO 87m AT 06:00 HRS.

#### **ANTICIPATED OPERATIONS:**

RUN BACK IN HOLE. DRILL AHEAD DIRECTIONAL HOLE.

A.C.N. 007 550 923

## WELL PROGRESS REPORT

## **CASINO 4DW1**

DATE: 23/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
INTERVAL	LITHOLOGY	GAS
	Nil	

	GEOLOGICAL SUMMARY	
<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	GAS
1599-1662m ROP: 17-44 Ave: 27.0	MASSIVE SILTSTONE SILTSTONE: Olive grey, brown grey, arenaceous, grades to very fine Sandstone in part, occasionally argillaceous, trace carbonaceous specks, trace lithic fragments, trace glauconite, trace pyrite, firm to moderately hard, subblocky	12 – 45 units 99/1/trace/trace %

A.C.N. 007 550 923

### WELL PROGRESS REPORT

## CASINO 4DW1

DATE: 24/05/05

**REPORT NO: 3** 

(As at 2400 hours 23/05/05) DEP OPERATION: PRESSURE TEST		<b>DEPTH :</b> 1662 m ESTING BOP STACK	<b>PROGRESS:</b> 0m WHILE WAITING ON	DAYS FROM SPUD : 3 DAYS ON WELL: 3 EMENT		
(As at 0600 hours 24/0	05/05)	<b>DEPTH :</b> 1662 m	PROGRESS (0600	-0600 hrs): 0m		
OPERATION :	PREPARING PRESSURE T	TO MAKE UP 311n ESTED BOP STACK &	nm (12.25") STEERA SURFACE EQUIPME	BLE BHA FOR KICK-OFF HAV NT.	ING	
AFE COST		CUMULATI	VE COST			
340mm (13.375")	CASING DE	<b>PTH</b> : 727.87m (In Casin	o-4)	RIG: OCEAN PATRIOT		
PROGRAMMEI	<b>D TD:</b> 2624m	ROTARY TA	BLE: 22m LAT	WATER DEPTH: 70.8 m		

MUD DATA (2400 Hours)	Mud Type: PHG	Wt: (SG/PPG) 1.29 / 10.75	Vis: 65	FL: 4.8	Ph: 9.0	KC1% 8.0	Cl : 48000	PV/YP: 22 / 38	Rmf : 0.78 @ 78° F
<b>BIT DATA</b> (2400 Hours)	No. Make 6 Sec-D	Type BS FS2663		Size (mr 311	n) Ho 20	ours .3	Drilled 354	C 1-	ondition 2-WT-G-X-I-ER-BHA
SURVEYS:	<u>MD</u> (m) 1605.77 1634.45	<u>INC (°)</u> 37.79 39.67		<u>AZ</u> 310 313	<u>IM (°T)</u> ).41 3.00		<u>CLOSU</u> 105	J <u>RE (m)</u>	DIRECTION (°) 293

#### PREVIOUS 24 HOURS OPERATIONS SUMMARY:

ATTEMPT TO DOWNLOAD MWD MEMORY DATA. UNABLE TO COMMUNICATE WITH TOOL. LAYOUT MWD TOOLS, BIT & GEOPILOT STEERABLE UNIT. PICK UP 244mm (9 7/8") MOTOR (1.5° BEND). MAKE UP MWD TOOLS, ALIGN MOTOR TO HIGH SIDE OF HOLE. START RUNNING IN HOLE. UNABLE TO LOWER MOTOR ASSEMBLY INSIDE CASING DUE TO EXCESSIVE FRICTION. PULL OUT & LAYOUT MOTOR. SERVICE TOP DRIVE SYSTEM. RECEIVE INSTRUCTIONS TO PLUG BACK TO 1200m AND SIDETRACK WELL TO CASINO-4DW2. PULL OUT & RACK BACK BHA. MAKE UP CEMENT STINGER AND RUN IN HOLE TO 1450m. CIRCULATE HOLE CLEAN & SPOT 9.5 m3 (60 BBL) HI-VIS PILL. PULL OUT TO 1350m. RIG UP CEMENTING LINES & PRESSURE TEST SAME. SET CEMENT PLUG 1200-1350m. PULL OUT OF HOLE SLOWLY THROUGH CEMENT TO 1150m. REVERSE CIRCULATE THE STRING CLEAN. PULL OUT OF HOLE. WAIT ON CEMENT. RUN IN HOLE WITH TEST PLUG & ATTEMPT TO PRESSURE TEST BOP STACK. OBSERVE TEST PLUG SEALS LEAKING. PULL OUT OF HOLE & INSTALL NEW SEALS ON TEST PLUG. RUN BACK IN HOLE WITH TEST PLUG. COMMENCE PRESSURE TESTING BOP STACK.

#### 00:00 - 06:00 HOURS 23/05/05 :

COMPLETE PRESSURE TESTING BOP STACK ON BLUE POD. FUNCTION TEST ON YELLOW POD. PULL OUT OF HOLE WITH TEST PLUG & LAYOUT SAME. PRESSURE TEST SURFACE EQUIPMENT.

#### ANTICIPATED OPERATIONS:

MAKE UP CASING HANGER RUNNING TOOL. MAKE UP DIRECTIONAL ASSEMBLY WITH GEOPILOT STEERABLE ASSEMBLY AND 311mm (12.25") ROCK BIT, KICK-OFF FROM APPROX 1200m, BUILDING ANGLE. SIDETRACK WELL TO BE DESIGNATED CASINO-4DW2.

A.C.N. 007 550 923

### WELL PROGRESS REPORT

## **CASINO 4DW**

DATE: 24/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<b>INTERVAL</b>	LITHOLOGY	<u>GAS</u>
	Nil	

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS



#### **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

WHILE WAITING ON CEMENT, COMPLETE PRESSURE TESTING BOP STACK ON BLUE POD. FUNCTION TEST ON YELLOW POD. PULL OUT OF HOLE WITH TEST PLUG & LAYOUT SAME. PRESSURE TEST SURFACE EQUIPMENT. WHILE WAITING ON CEMENT MAKE UP 244mm (9.625") CASING HANGER RUNNING TOOL ASSEMBLY IN PREPARATION FOR NEXT JOB. LAYOUT MUD MOTOR & MWD TOOLSTRING (WITH ECCENTRICALLY WORN STABILISER). MAKE UP 311mm (12.25") ROCK BIT WITH GEOPILOT STEERABLE ASSEMBLY & MWD TOOLS. TOOLSTRING FAILED SURFACE TEST. LAYOUT FAULTY TOOLS. PICK UP ORIGINAL MWD TOOLSTRING & SURFACE TEST. RUN IN HOLE TO TAG TOP OF CEMENT (SOFT) AT 1176m. CLEAN OUT SOFT CEMENT TO TAG HARD CEMENT AT 1200m. ATTEMPT TO KICK-OFF FROM 1200m TO 1265m. SIDETRACK ATTEMPTS UNSUCCESSFUL.

#### 00:00-06:00 HOURS 25/05/05:

CIRCULATE BOTTOMS UP AT 1265m. PULL OUT OF HOLE TO PICK UP CEMENT STINGER.

#### **ANTICIPATED OPERATIONS:**

RUN IN HOLE WITH CEMENT STINGER. SET KICK-OFF PLUG #3: 1100m-1265m. WAIT ON CEMENT. RUN IN HOLE & KICK-OFF TO CASINO-4DW2.

A.C.N. 007 550 923

## WELL PROGRESS REPORT

## **CASINO 4DW1**

DATE: 25/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<u>INTERVAL</u>	LITHOLOGY	<u>GAS</u>
	Nil	

	GEOLOGICAL SUMMARY				
<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	GAS			

A.C.N. 007 550 923

### WELL PROGRESS REPORT

## CASINO 4DW1

DATE: 26/05/05

**REPORT NO: 5** 

(As at 2400 hours 25/05/05)

PROGRESS: 0m

PROGRESS (0600-0600 hrs): 0m

DAYS FROM SPUD : 5 DAYS ON WELL: 5

**RIG: OCEAN PATRIOT** 

**OPERATION:** RUNNING IN HOLE WITH TCI BIT & MOTOR ASSEMBLY.

**DEPTH :** 1662 m

(As at 0600 hours 26/05/05) **DEPTH**: 1662 m

**OPERATION**: PULLING OUT OF HOLE WITH TCI BIT & MOTOR ASSEMBLY.

#### AFE COST

#### **CUMULATIVE COST**

**340mm (13.375") CASING DEPTH**: 727.87m (In Casino-4)

**RT – MUDLINE: 92.8** m WATER DEPTH: 70.8 m PROGRAMMED TD: 2624m ROTARY TABLE: 22m LAT **MUD DATA** Wt: (SG/PPG) PV/YP: Mud Type: Vis: FL: Ph: KC1% C1: Rmf: 1.27 / 10.6 0.78 @ 78° F (2400 Hours) PHG 90 4.011.5 8.0 47000 17/36 **BIT DATA** No. Make Size (mm) Drilled Condition Type Hours (2400 Hours) 8 **DS43** 311 7 MSCS03 311 Hughes 1-2-WT-G-X-I-ER-BHA 6 Sec-DBS FS2663 311 20.3 354 SURVEYS: INC (°) AZIM (°T) CLOSURE (m) DIRECTION (°)  $\underline{MD}(m)$ 1605.77 37.79 310.41 1634.45 39.67 313.00 105 293

#### PREVIOUS 24 HOURS OPERATIONS SUMMARY:

CIRCULATE HOLE CLEAN AT 1265m. PULL OUT OF HOLE. RUN IN HOLE WITH 127mm (5") CEMENT STINGER TO 1265m. CIRCULATE BOTTOMS UP. RIG UP & PRESSURE TEST CEMENTING LINES. PUMP CEMENT & SET KICK-OFF PLUG #3: 1100m-1265m. PULL OUT OF HOLE SLOWLY THROUGH CEMENT TO 1070m. REVERSE CIRCULATE STRING CLEAN DUMPING CEMENT CONTAMINATED MUD. PULL OUT OF HOLE. WAIT ON CEMENT. LAYOUT GEOPILOT ASSEMBLY & FLEX JOINT. MAKE UP DIRECTIONAL ASSEMBLY WITH 311mm (12.25") PDC BIT & MOTOR (1.15° BEND). UNABLE TO LOWER BELOW WELLHEAD. PULL OUT, MAKE UP ADDITIONAL DRILL COLLAR AND ATTEMPT TO LOWER BELOW WELLHEAD, EXCESSIVE DRAG OBSERVED, PULL OUT. MAKE UP TCI BIT & RUN IN HOLE WITH MOTOR ASSEMBLY.

#### 00:00 - 06:00 HOURS 26/05/05 :

CONTINUE TO RUN IN HOLE WITH TCI BIT & MOTOR ASSEMBLY. UNABLE TO DESCEND BELOW WELLHEAD. PULL OUT OF HOLE. REMOVE STRING STABILISER & ATTEMPT TO LOWER BHA, ROTATING THROUGH HANG-UP POINTS. UNABLE TO LOWER BELOW 138m. PULL OUT OF HOLE. A TOTAL OF 4 BHA CONFIGURATIONS HAVE BEEN ATTEMPTED SO FAR.

#### **ANTICIPATED OPERATIONS:**

PULL OUT OF HOLE. EVALUATE OPTIONS. RUN IN HOLE WITH DIRECTIONAL BHA. TAG PLUG & KICK-OFF TO CASINO-4DW2.

A.C.N. 007 550 923

### WELL PROGRESS REPORT

## **CASINO 4DW1**

DATE: 26/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<u>INTERVAL</u>	LITHOLOGY	<u>GAS</u>
	Nil	

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS
A.C.N. 007 550 923

# WELL PROGRESS REPORT

# CASINO 4DW1

DATE: 27/05/05

**REPORT NO: 6** 

(As at 2400 hours 26/0	95/05)	DEPTH :	1146 m	PR	OGRESS:	<b>:</b> 64m	DAY: DAY:	5 FROM 5 ON WI	SPUD : ELL: 6	6
OPERATION:	ACTIVITIES TO CASINO-	CEASED 4DW2 AT	ON CASIN 00:00 HRS	IO-4DW1 ON 27-05	AT 24:00 -05.	HRS O	N 26-05-05.	WELL	SIDETRA	ACKED

## AFE COST

## CUMULATIVE COST

340mm (13.375") CASING DEPTH: 727.87m (In Casino-4)

**PROGRAMMED TD:** 2624m

**ROTARY TABLE:** 22m LAT

RIG: OCEAN PATRIOT RT – MUDLINE: 92.8 m WATER DEPTH: 70.8 m

MUD DATA (2400 Hours)	Mud ' PHG	Гуре: <b>V</b> 1	Vt: (SG/PPG) .27 / 10.6	Vis: 68	FL: 4.4	Ph: 11.0	KCl%) 8.0	Cl : 46000	PV/YP: 17 / 36	Rmf : 0.78 @ 78° F
<b>BIT DATA</b> (2400 Hours)	No. 9	Make Hycalog	Type DS43ST		Size (1 311	mm)	Hours 3.4	Drilled 64	С	Condition
SURVEYS:	<u>MD</u> ( 1111	(m) .9	<u>INC (°)</u> 3.5		<u>A</u> 1	<u>ZIM (</u> 95.6	<u>(°T)</u>	<u>CLOSI</u> -	<u>URE (m)</u>	DIRECTION (°)

## PREVIOUS 24 HOURS OPERATIONS SUMMARY:

CONTINUE TO RUN IN HOLE WITH TCI BIT & MOTOR ASSEMBLY TO 116m. STRING INTERMITTENTLY STANDING UP WITH 1.5m RIG HEAVE ON COMPENSATOR. PULL OUT OF HOLE. REMOVE STRING STABILISER & RUN IN WITH BHA TO 138m, ROTATING THROUGH HANG-UP POINTS. AT 138m, 1-2m RIG HEAVE PREVENTED MAKING PIPE CONNECTION WITH STRING STANDING UP INTERMITTENTLY. PULL OUT OF HOLE. INSPECT BHA - NO WEAR OBSERVED ON BHA. CHANGE OUT MOTOR SLEEVE, PICK UP 2 ADDITIONAL DRILL COLLARS, RUN IN HOLE WITH TCI BIT, MOTOR (1.15°) & ON A TEST DRIFT RUN TO 163m. PULL OUT OF HOLE TO CHANGE BIT. PICK UP PDC SIDETRACK BIT, MOTOR (1.15° BEND) ASSEMBLY, SHALLOW TEST MWD TOOLS AND RUN IN HOLE TO 1168m. WASH DOWN & TAG TOP OF CEMENT AT 1078.6m. WASH & REAM TO HARD CEMENT AT 1082m. DRILL CEMENT FROM 1082m WITH INCREASING RETURNS OF FORMATION TO 1145m (1096m-15% FORMATION, 1132m-50%, 1135m-80%, 1140m-90% FORMATION). SLIDE FROM 1145m TO 1146m AT 24:00m. <u>ACTIVITIES CEASED ON CASINO-4DW1 AT 24:00 HRS ON 26-05-05.</u>

## 00:00 - 06:00 HOURS 27/05/05 :

WELL SIDETRACKED TO CASINO-4DW2 FROM 1146m AT 00:00 HRS ON 27-05-05. ACTIVITIES TRANSFERRED TO CASINO-4DW2 AS OF 00:00 HRS ON 27-05-05

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW1**

DATE: 27/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<u>INTERVAL</u>	LITHOLOGY	GAS
	Nil	

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 27/05/05

**REPORT NO: 1** 

(As at 2400 hours 2 OPERATION:	26/05/05) ACTIVITIH TO CASIN	<b>DEPTH :</b> 114 ES CEASED ON O-4DW2 AT 00:	6 m CASE 00 HRS	P NO-4DW S ON 27-0	ROGRESS AT 24:00 5-05.	<b>S:</b> 0m ) HRS ON 20	DAYS F DAYS C 5-05-05. W	TROM SPUD : ON WELL: 0 Vell Sidetra	0 Acked
(As at 0600 hours 2	27/05/05)	<b>DEPTH :</b> 115	5 m	P	ROGRES	S (0600-0600 hr	s): 9m		
<b>OPERATION</b>	SIDETRAC	CKING WELL –	SLIDI	NG AT 11:	55m				
AFE COST		CU	MULA	TIVE CO	ST				
340mm (13.375") CASING DEPTH: 727.87m (In Casino-4) RIG: OCEAN PATRIOT   RT – MUDLINE: 92.8 m ROTARY TABLE: 22m LAT   WATER DEPTH: 70.8 m									
MUD DATA (2400 Hours)	Mud Type: PHG	Wt: (SG/PPG) 1.27 / 10.6	Vis: 68	FL: 4.4	Ph: K0 11.0 8.0	Cl% Cl : 0 46000	PV/YP: 17 / 36	Rmf : 0.78 @ 78° F	
<b>BIT DATA</b> (2400 Hours)	No. Make 9 Hycalo	Type og DS43ST		Size (mn 311	n) Hours 3.4	s Drillec 64	l C	ondition	
SURVEYS:	<u>MD</u> (m) 1111.9	<u>INC (°)</u> 3.5		<u>AZI</u> 195	<u>M (°T)</u> .6	<u>CLOS</u> -	<u>URE (m)</u>	DIRECTIO -	V <u>N (°)</u>

### **PREVIOUS 24 HOURS OPERATIONS SUMMARY:** ACTIVITIES CEASED ON CASINO-4DW1 AT 24:00 HRS ON 26-05-05.

#### 00:00 - 06:00 HOURS 27/05/05 :

WELL SIDETRACKED TO CASINO-4DW2 FROM 1146m AT 00:00 HRS ON 27-05-05. SLIDE FROM 1146m TO 1155m AT 06:00 HRS. (LOW RATE OF PENETRATION OBSERVED WITH PYRITE COMMON IN SAMPLES).

#### **ANTICIPATED OPERATIONS:**

TRIP TO PICK UP TCI BIT TO COMPLETE SIDETRACK BELOW HARD STRINGERS. TRIP TO PICK UP PDC BIT & GEOPILOT ASSEMBLY. DRILL DIRECTIONAL HOLE TO CASING POINT.

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 27/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<b>INTERVAL</b>	LITHOLOGY	GAS
	Nil	

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS
1146-1154m ROP: 0.5-60 Ave: 3.0 (Sliding)	MASSIVE SANDSTONE WITH MINOR SILTSTONE INTERBEDS SANDSTONE: Clear to translucent, pale grey, fine to coarse, dominantly med to coarse, moderately well sorted, subangular to subrounded, occasionally rounded, dominantly loose, occasional moderately hard aggregates with moderately hard siliceous cement, pyrite cement in part, common disseminated pyrite, common pyrite dispersed in quartz grains in slower sections, trace glauconite, poor to fair visual and inferred porosity, no fluorescence. SILTSTONE: Brown grey, olive grey, argillaceous to arenaceous in part, trace carbonaceous specks, trace disseminated pyrite, soft to firm, dispersive in part, subblocky.	Trace to 2 units 100 % C1



WELL SIDETRACKED TO CASINO-4DW2 FROM 1146m AT 00:00 HRS ON 27-05-05. DRILL 311mm (12.25") DIRECTIONAL HOLE FROM 1146m TO 1157m. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE DUE TO SLOW ROP. RUN IN HOLE WITH TCI BIT & MOTOR ASSEMBLY TO CASING SHOE. SLIP & CUT DRILLING LINE. RUN IN HOLE, DRILL DIRECTIONAL HOLE TO 1182m.

## 00:00 - 06:00 HOURS 28/05/05 :

DRILL DIRECTIONAL HOLE FROM1182m TO 1226m.

### **ANTICIPATED OPERATIONS:**

DRILL DIRECTIONAL HOLE TO CASING POINT.

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 28/05/05

(Preliminary Field Picks) (m)	(m)	) (n	ibsea f 1) (	m)	(m)

	HYDROCARBON SHOW SUMMARY	
<b>INTERVAL</b>	LITHOLOGY	GAS
	Nil	

	GEOLOGICAL SUMMARY							
INTERVAL ROP (m/hr)	<u>LITHOLOGY</u>	GAS						
1154-1226m ROP: 1-56 Ave: 7.7	MASSIVE SANDSTONE WITH MINOR INTERBEDDED SILTSTONE SANDSTONE: Clear to translucent, pale grey, fine to medium grained, minor coarse, moderately well sorted, subangular to subrounded, dominantly loose quartz, trace moderately hard aggregates with moderately hard siliceous cement, trace to locally common pyrite, rare glauconite, poor to fair visual and inferred porosity, no fluorescence. SILTSTONE: Medium grey, brown grey, arenaceous, common pyrite, trace glauconite, soft to dominantly firm, subblocky.	Trace to 5 units 99/1/trace %						

**RIG: OCEAN PATRIOT** 

# Santos

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 29/05/05

**REPORT NO: 3** 

(As at 2400 hours 28/	<b>DEPTH</b> : 1274 m	PROGRESS: 92m	DAYS FROM SPUD : 2 DAYS ON WELL: 2
<b>OPERATION:</b>	RUNNING IN HOLE WITH PDC BIT	& GEOPILOT STEERING	ASSEMBLY
(As at 0600 hours 29/	<b>DEPTH :</b> 1372 m	<b>PROGRESS</b> (0600-0600	<b>hrs</b> ): 146m
<b>OPERATION</b> :	DRILLING 311mm (12.25") DIRECTION	AL HOLE AT 20 M/HR	

#### AFE COST

## **CUMULATIVE COST**

340mm (13.375") CASING DEPTH: 727.87m (In Casino-4)

**RT – MUDLINE: 92.8** m WATER DEPTH: 70.8 m PROGRAMMED TD: 2624m ROTARY TABLE: 22m LAT MUD DATA Wt: (SG/PPG) Vis: Ph: KCl% PV/YP: Mud Type: FL: C1: Rmf: KCL/Poly 1.30 / 10.8 0.8 @ 78° F (2400 Hours) 53 3.8 10.0 8.0 47000 15/37 **BIT DATA** No. Make Type Size (mm) Hours Drilled Condition (2400 Hours) 11RR Sec-DBS FS2663 311 1-1-WT-A-E-I-NO-BHA 10 Security FXL12D 311 13.3 117 9 Hycalog DS43ST 311 3.4 11 3-4-CT-C-X-I-WT-PR INC (°) SURVEYS: AZIM (°T) CLOSURE (m) DIRECTION (°)  $\underline{MD}(m)$ 1287.3 10.5 234.5 1314.9 11.5 254.1 1342.9 13.0 274.4 29 222

## **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

DRILL FROM 1226m TO 1274m. PULL OUT OF HOLE, MAKE UP PDC BIT & GEOPILOT ASSEMBLY, RUN IN HOLE TO 1186m. WASH & REAM FROM 1186m TO 1200m.

#### 00:00 - 06:00 HOURS 29/05/05 :

WASH & REAM TO BOTTOM. DRILL 311mm (12.25") DIRECTIONAL HOLE FROM 1274m TO 1372m, BUILDING ANGLE.

**ANTICIPATED OPERATIONS:** 

DRILL DIRECTIONAL HOLE TO CASING POINT.

MWD OFFSETS FROM BIT: GAMMA RAY 11.1m, RESISTIVITY 13.4m, SURVEYS 19.97m (GAMMA RAY ON GEOPILOT 1.7m)

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 29/05/05

FORMATION TOPS:	MD RT	TVD RT	Subsea	H/L to Prognosis	H/L to Casino-4
(Preliminary Field Picks)	(m)	(m)	(m)	(m)	(m)

HYDROCARBON SHOW SUMMARY						
<u>INTERVAL</u>	LITHOLOGY	GAS				
	Nil					

	GEOLOGICAL SUMMARY							
<u>INTERVAL</u> <u>ROP (m/hr)</u>	<u>LITHOLOGY</u>	<u>GAS</u>						
1226-1274m ROP: 2 - 67 Ave: 24.4	MASSIVE SANDSTONE WITH MINOR INTERBEDDED SILTSTONE SANDSTONE: Clear to translucent, pale grey, fine to medium grained, occasionally coarse to very coarse grained, poorly sorted, angular to subrounded, dominantly subangular, commonly loose quartz, common fine to very fine aggregates with moderately hard siliceous cement, trace pyrite, rare glauconite, trace to common lithic fragments, poor to fair visual and inferred porosity, no fluorescence. SILTSTONE: Medium grey, medium olive brown, brown grey in part, arenaceous, common disseminated pyrite, minor glauconite, soft to dominantly firm, subblocky.	4 – 7 units 100/trace/trace %						
1274m-1306m ROP: 6 - 44 Ave: 20.4	INTERBEDDED SANDSTONE AND SILTSTONE SANDSTONE: Clear to translucent, pale grey, fine to coarse grained, poorly sorted, angular to subangular, moderately strong siliceous cement, trace pyrite cement, trace light brown argillaceous matrix, trace lithic fragments, trace glauconite, trace nodular pyrite, moderately hard to hard aggregates, common loose grains, poor visual and inferred porosity, no fluorescence. SILTSTONE: Dominantly medium to dark brown grey, olive grey in part, arenaceous, commonly grading to very fine grained Sandstone, locally common glauconite grains, common pyrite, common carbonaceous specks, soft to firm, subblocky to subfissile.	5 – 12 units 99/1/trace/trace %						

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 29/05/05

	GEOLOGICAL SUMMARY						
INTERVAL ROP (m/hr)	LITHOLOGY	GAS					
1306m-1370m ROP: 9-41 Ave: 23.2	MASSIVE SILTSTONE WITH MINOR SANDSTONE SILTSTONE: Medium to dominantly dark brown grey, olive grey in part, arenaceous, grades to very fine grained Sandstone in part, locally common glauconite grains, common pyrite decreasing with depth, trace carbonaceous specks, firm, subblocky to subfissile. SANDSTONE: Clear to translucent, pale grey, pale yellow brown in part, fine to coarse grained, poorly sorted, angular to subangular, moderately strong siliceous cement, minor pyrite cement, trace light brown argillaceous matrix, trace lithic fragments, trace glauconite, trace nodular pyrite, moderately hard to hard aggregates, common loose grains, poor visual and inferred porosity, no fluorescence.	5-12 units 99/1/trace/trace %					



DRILL 311mm (12.25") DIRECTIONAL HOLE FROM 1274m TO 1763m.

#### 00:00 - 06:00 HOURS 30/05/05 :

DRILL 311mm (12.25") DIRECTIONAL HOLE FROM 1763m TO 1796m. CIRCULATE WHILE WORKING ON TOP DRIVE (IBOP BACKED OUT DURING CONNECTION). CONTINUE TO DRILL AHEAD FROM 1796m TO 1834m , BUILDING ANGLE.

### **ANTICIPATED OPERATIONS:**

DRILL DIRECTIONAL HOLE TO CASING POINT. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE. RUN CASING.

MWD OFFSETS FROM BIT: GAMMA RAY 11.1m, RESISTIVITY 13.4m, SURVEYS 19.97m (GAMMA RAY ON GEOPILOT 1.7m)

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 30/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<b>INTERVAL</b>	LITHOLOGY	GAS
	Nil	

GEOLOGICAL SUMMARY						
<u>INTERVAL</u> <u>ROP (m/hr)</u>	<u>LITHOLOGY</u>	<u>GAS</u>				
1370m-1490m ROP: 11-52 Ave: 32.1	MASSIVE SILTSTONE SILTSTONE: Medium brown, light brown, dominantly argillaceous, occasionally arenaceous, trace glauconite, trace to locally common pyrite, trace lithic fragments, firm to moderately hard, subblocky.	10 – 27 units 98/1/1/trace %				
1490m-1545m ROP: 20-72 Ave: 44.9	INTERBEDDED SILTSTONE AND SANDSTONE SILTSTONE: Medium brown, medium brown grey, dark grey, light grey in part, dominantly argillaceous, occasionally arenaceous, trace glauconite, trace to locally common pyrite, trace lithic fragments, firm to moderately hard, subblocky. SANDSTONE: Light to medium grey brown, white to very light grey, dominantly fine to medium grained, occasionally coarse grained, moderately sorted, subangular to subrounded, common glauconite, minor pyrite, dominantly loose, trace weak siliceous cement, trace light brown argillaceous matrix, friable to moderately hard aggregates, poor to occasionally fair inferred porosity, no fluorescence.	20 – 53 units 99/1/trace/trace %				

A.C.N. 007 550 923

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 30/05/05

	GEOLOGICAL SUMMARY						
INTERVAL ROP (m/hr)	LITHOLOGY	<u>GAS</u>					
1545m-1592m ROP: 10-57 Ave: 33.3	INTERBEDDED SANDSTONE AND SILTSTONE: SANDSTONE: Clear to translucent, very light grey, light green, very fine to medium grained, subangular to subrounded, moderately sorted, trace moderately strong siliceous cement, trace pyrite, trace glauconite, dominantly loose quartz, poor visual porosity, poor to fair visual porosity, no fluorescence. SILTSTONE: Medium grey, brown grey, dark grey in part, argillaceous to arenaceous in part, occasionally grades to very fine grained Sandstone, common carbonaceous specks, trace to common glauconite, trace lithic fragments, firm to occasionally moderately hard, subblocky.	27 – 62 units 99/1/trace/trace %					
1592m-1825m ROP: 7 - 50 Ave: 23.3	MASSIVE SILTSTONE SILTSTONE: Medium brown to brown grey, dark brown grey in part, trace very light grey, dominantly argillaceous, slightly arenaceous in part, trace to common carbonaceous specks, trace glauconite, firm to moderately hard, subblocky.	25 – 57 units 98/2/trace/trace/trace %					



## WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 31/05/05

**REPORT NO: 5** 

(As at 2400 hours	30/05/05)	DE	<b>PTH :</b> 199 174	98 mMl 3 mTV	D 7D	PRO	<b>GRESS:</b> 23	5 mMD	DAYS DAYS	S FROM SPUD : 4 S ON WELL: 4
OPERATION	BAC	KREAMIN	G OUT OF	TIGH	T HOLI	E AT 1	708m			
(As at 0600 hours )	31/05/05)	DE	<b>PTH :</b> 199 174	98 mMI 3 mTV	D 7D	PRO	GRESS (060	00-0600 hrs	s): 164m	
OPERATION	: BAC	KREAMIN	G OUT OF	TIGH	T HOLI	E AT 1	278m			
AFE COST			CU	MULA	ATIVE	COST				
340mm (13.37	5") CAS	ING DEPT	<b>H</b> : 727.87n	n (In C	asino-4)	)		RI	G: OCEA	N PATRIOT
PROGRAMM	ED TD:	2624m	RO	TARY	TABL	<b>E:</b> 221	m LAT	RT WA	– MUDI ATER DE	L <b>INE: 92.8</b> m C <b>PTH: 70.8</b> m
MUD DATA (2400 Hours)	Mud Ty KCL/Po	vpe: Wt: (a bly 1.29 /	SG/PPG) 10.8	Vis: 54	FL: 4.6	Ph: 8.5	KC1% 8.0	Cl : 46000	PV/YP: 20 / 34	Rmf : 0.8 @ 78° F
BIT DATA	No.	Make	Туре		Size (1	mm)	Hours	Drilled	(	Condition
(2400 Hours)	11	Sec-DBS	FS2663		311		29.1	724	Ι	N HOLE
	10 9	Security Hycalog	FXL12D DS43ST		311 311		13.3 3.4	117 11	1 3	-1-WT-A-E-I-NO-BHA -4-CT-C-X-I-WT-PR
SURVEYS:	<u>MD</u> (m 1918.3	1)	<u>INC (°)</u> 71.0		1	AZIM ( 288.1	<u>(T°)</u>	CLOS	<u>URE (m)</u>	DIRECTION (°)
	1946.7 1975.0		73.2 76.3			288.8 287.9		444		293

## **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

DRILL 311mm (12.25") DIRECTIONAL HOLE FROM 1763m TO 1796m. CIRCULATE WHILE WORKING ON TOP DRIVE (LOWER IBOP BACKED OUT DURING CONNECTION). DRILL AHEAD FROM 1796m TO THE CASING POINT AT 1998m. PUMP HI-VIS SWEEP & CIRCULATE HOLE CLEAN. BACKREAM OUT OF TIGHT HOLE TO 1708m.

## 00:00 - 06:00 HOURS 31/05/05 :

CONTINUE TO BACKREAM OUT OF TIGHT HOLE FROM 1708m TO 1278m AT 06:00 HRS.

## **ANTICIPATED OPERATIONS:**

WIPER TRIP. PULL OUT OF HOLE. RUN 244mm (9.625") CASING.

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# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 31/05/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	·
INTERVAL	LITHOLOGY	GAS
1992m-1998m ROP: 9 - 26 Ave: 18.1	SANDSTONE: Clear to translucent, very light grey, fine to coarse grained, dominantly fine to medium grained, moderately to poorly sorted, angular to subrounded, occasional rounded, dominantly loose clean quartz, trace nodular pyrite, trace glauconite, occasional aggregates with weak to moderately strong siliceous cement, poor visual porosity, fair inferred porosity, no fluorescence.	37 – 135 units 97/2/1/trace/trace%

<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	<u>GAS</u>
1825m-1992m ROP: 7 - 50 Ave: 26.6	MASSIVE SILTSTONE SILTSTONE: Medium brown to brown grey, dark brown grey in part, trace very light grey, dominantly argillaceous, arenaceous in part, trace carbonaceous specks, common glauconite, firm to moderately hard, subblocky.	26 – 77 units 97/3/trace/trace/trace %
1992m-1998m ROP: 9 - 26 Ave: 18.1	SANDSTONE: Clear to translucent, very light grey, fine to coarse grained, dominantly fine to medium grained, moderately to poorly sorted, angular to subrounded, occasional rounded, dominantly loose clean quartz, trace nodular pyrite, trace glauconite, occasional aggregates with weak to moderately strong siliceous cement, poor visual porosity, fair inferred porosity, no fluorescence.	37 – 135 units 97/2/1/trace/trace%



# WELL PROGRESS REPORT

# CASINO 4DW2

DATE: 01/06/05

**REPORT NO: 6** 

(As at 2400 hours 3	31/05/05)	DE	<b>PTH :</b> 199 174	8 mMI 3 mTV	) D	PRO	G <b>RESS:</b> 0 n	nMD	DAYS DAYS	FROM SPUD	: 5
<b>OPERATION:</b>	PULL	ED OUT O	F HOLE W	/ITH I	DIRECT	TIONAL	LASSEMB	LY - BR	EAKING	OUT BIT.	
(As at 0600 hours 0	01/06/05)	DE	<b>PTH :</b> 199 174	8 mMI 3 mTV	D D	PRO	GRESS (060	0-0600 hrs	a): 0m		
<b>OPERATION</b>	RUN	NING 244m	m (9 5/8")	CASI	NG – 23	8 OF 16	0 JOINTS F	RUN.			
AFE COST			CU	MULA	TIVE	соят					
340mm (13.375") CASING DEPTH: 727.87m (In Casino-4) RIG: OCEAN PATRIOT   PROGRAMMED TD: 2624m ROTARY TABLE: 22m LAT RIG: OCEAN PATRIOT   WATER DEPTH: 70.8 m WATER DEPTH: 70.8 m											
MUD DATA (2400 Hours)	Mud Tyj KCL/Pol	be: Wt: (S ly 1.29 /	G/PPG) 10.76	Vis: 52	FL: 5	Ph: 8.6	KCl% 8.0	Cl : 44000	PV/YP: 17 / 30	Rmf : -	
<b>BIT DATA</b> (2400 Hours)	No. 11 10 9	Make Sec-DBS Security Hycalog	Type FS2663 FXL12D DS43ST		Size (1 311 311 311	nm)	Hours 29.1 13.3 3.4	Drilled 724 117 11	C 1 1 3	Condition -1-WT-A-X-I-NO -1-WT-A-E-I-NO -4-CT-C-X-I-WT-	-TD -BHA PR
SURVEYS:	<u>MD</u> (m) 1918.3 1946.7 1975.0	)	<u>INC (°)</u> 71.0 73.2 76.3		<u>1</u> 2 2 2	AZIM ( 288.1 288.8 287.9	° <u>T)</u>	<u>CLOS</u> 444	<u>URE (m)</u>	DIRECTIC 293	<u>DN (°)</u>

## PREVIOUS 24 HOURS OPERATIONS SUMMARY:

BACKREAM OUT OF HOLE TO 1050m. PULL OUT FROM 1050m TO 965m. CIRCULATE BOTTOMS UP. RUN IN HOLE TO 1670m. WASH & REAM FROM 1670m TO BOTTOM. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE TO RUN CASING. DOWNLOAD MWD MEMORY DATA. BREAK OUT BIT.

### 00:00 - 06:00 HOURS 01/06/05 :

RUN IN HOLE & RETRIEVE WEAR BUSHING. RIG UP TO RUN CASING. RUN IN HOLE WITH 244mm (9 5/8") CASING. 23 OF 160 JOINTS RUN AT 06:00 HRS.

#### **ANTICIPATED OPERATIONS:**

RUN, LAND AND CEMENT 244mm (9 5/8") CASING. RUN WEAR BUSHING. MAKE UP 216mm (8.5") ASSEMBLY.

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 01/06/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

HYDROCARBON SHOW SUMMARY						
INTERVAL	LITHOLOGY	GAS				

	GEOLOGICAL SUMMARY	
<u>INTERVAL</u> <u>ROP (m/hr)</u>	LITHOLOGY	GAS



RETRIEVE WEAR BUSHING. RIG UP CASING RUNNING EQUIPMENT. RUN IN HOLE WITH 244mm (9 5/8") CASING. LAND & CEMENT CASING. SET & PRESSURE TEST SEAL ASSEMBLY. PULL OUT OF HOLE WITH LANDING STRING.

## 00:00 - 06:00 HOURS 02/06/05 :

LAYOUT LANDING STRING & CEMENT STAND. LAYOUT 311mm (12.25") BHA.

## **ANTICIPATED OPERATIONS:**

MAKE UP 216mm (8.5") DIRECTIONAL BHA WITH GEOPILOT & MWD. RUN IN HOLE, DRILL CEMENT & SHOE TRACK, DRILL 216mm (8.5") PRODUCTION HOLE.

## MWD SENSOR OFFSETS (216mm Section):

GR (Geopilot) 1.4m, GR (MWD) 11.4m, Resistivity 13.8m, Density 21.3m, Neutron 24.5m

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 02/06/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

HYDROCARBON SHOW SUMMARY						
<u>INTERVAL</u>	LITHOLOGY	GAS				

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS



MUD DATA (2400 Hours)	Mud T FLOP	Sype:   Wt: (%     RO   1.26 /	SG/PPG) / 10.5	Vis: 56	FL: 4.9	Ph: 8.9	KCl% 8.9	Cl : 127000	PV/YP: 12 / 23	Rmf : -
<b>BIT DATA</b> (2400 Hours)	No. 12 11	Make Security Sec-DBS	Type FMF3553 FS2663		Size (1 216 311	nm)	Hours 0.2 29.1	Drilled 3 724	Cor - 1-1-	ndition -WT-A-X-I-NO-TD
SURVEYS:	<u>MD</u> (1 2020.9 2049.6 2078.3	m) 04 51 86	<u>INC (°)</u> 76.66 78.9 82.46		<u>4</u> 2 2 2	AZIM ( 288.38 288.51 287.26	°T)	<u>CLOSU</u> 545	<u>RE (m)</u>	DIRECTION (°) 292

## **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

LAYOUT CEMENTING HEAD ASSEMBLY AND LANDING STRING. LAYOUT 311mm (12.25") ASSEMBLY. MAKE UP 216mm (8.5") DIRECTIONAL BHA WITH GEOPILOT STEERING UNIT AND MWD TOOLS. RUN IN HOLE TO 283m. SERVICE TOP DRIVE SYSTEM. CONTINUE TO RUN IN HOLE TO TAG TOP OF CEMENT AT 1960m. DRILL CEMENT, PLUGS, SHOE TRACK AND RATHOLE. DISPLACE HOLE TO FLOPRO MUD SYSTEM. DRILL 216mm (8.5") DIRECTIONAL HOLE FROM 1998m TO 2001m.

#### 00:00 - 06:00 HOURS 03/06/05 :

DRILL 216mm (8.5") DIRECTIONAL HOLE FROM 2001m TO 2107m.

## **ANTICIPATED OPERATIONS:**

DRILL 216mm (8.5") PRODUCTION HOLE, HOLDING ANGLE AT 88°.

## **MWD SENSOR OFFSETS (216mm Section):**

GR 11.4m, SURVEY 9m, RESISTIVITY 13.8m, DENSITY 21.3m, NEUTRON 24.5m

## **RIG: OCEAN PATRIOT**

WATER DEPTH: 70.8 m

**RT – MUDLINE: 92.8** m

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 03/06/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<b>INTERVAL</b>	LITHOLOGY	GAS
	FULL 216mm SECTION – SEE BELOW	

INTERVAL ROP (m/hr)	<u>LITHOLOGY</u>	GAS
1998m-2082m ROP: 7-46 Ave 18.8	SANDSTONE INTERBEDDED WITH SILTSTONE SANDSTONE: Clear to translucent, off white to occasionally light brown, common translucent brown, fine to medium grained, subangular to subrounded, predominately aggregates, abundant loose medium quartz grains, common coarse quartz grains, moderately strong calcareous cement, common light grey argillaceous to silty matrix, common lithic fragments, fair inferred porosity, poor visual porosity, no fluorescence. SILTSTONE: Medium to dark grey, arenaceous, common very fine Sandstone laminations, common carbonaceous specks, firm, subblocky-subfissile	9 – 529 units 97/2/1/trace/trace %

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# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 03/06/05

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS
2082m-2103m ROP: 35-54 Ave: 42.9	SANDSTONE: Clear to translucent, fine to very coarse grained, subangular to subrounded, poorly sorted, trace weak siliceous cement, predominately clean and loose quartz, trace light grey argillaceous matrix, trace lithic fragments, trace carbonaceous specks, good inferred porosity, poor to fair visual porosity, no fluorescence.	530-956 units 97/2/1/trace/trace %
2103m-2112m ROP: 14-47 Ave: 32.1	SANDSTONE: Clear to translucent, medium to coarse grained, subangular to subrounded, moderately sorted, trace weak siliceous cement, predominately clean and loose quartz, with trace light grey argillaceous matrix, trace lithics, trace carbonaceous specks, good inferred porosity, fair visual porosity, no fluorescence.	374-939 units 97/2/1/trace/trace %



## WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 04/06/05

**REPORT NO: 9** 

(As at 2400 hours 03/06/05) D		DE	<b>DEPTH :</b> 2358 mMD 1775 mTVD			PROGRESS: 357 mMD			DAYS F DAYS (	FROM SPUD : 8 ON WELL: 8
OPERATION	: DRIL	LING 216n	nm (8.5") D	IRECT	FIONAI	L HOLI	Ξ.			
(As at 0600 hours 04/06/05) <b>DEPTH</b> : 2404 mMD <b>PROGRESS</b> (0600-0600 hrs): 297m 1786 mTVD										
OPERATION	<b>OPERATION</b> : RUNNING BACK TO BOTTOM ON WIPER TRIP AT TOTAL DEPTH									
AFE COST			CU	MULA	TIVE	COST				
340mm (13.37) 244mm (9.625	5") CASI	ING DEPT	H: 727.87	m (Cas	sino-4)			RIG	: OCEAN	PATRIOT
PROGRAMM	ED TD:	2624m	RO	TARY	TABL	<b>E:</b> 22n	n LAT	RT - WA	- MUDLII FER DEP	<b>NE: 92.8</b> m <b>TH: 70.8</b> m
MUD DATA (2400 Hours)	Mud Ty FLO PR	pe: Wt: ( O 1.26 /	SG/PPG) ( 10.5	Vis: 54	FL: 4.0	Ph: 10.3	KCl% 6	Cl : 120000	PV/YP: 12 / 23	Rmf : 0.05 @ 73°F
<b>BIT DATA</b> (2400 Hours)	No. 12 11	Make Security Sec-DBS	Туре FMF3553 FS2663		Size (r 216 311	nm)	Hours 19.38 29.1	Drilled 360 724	Cor - 1-1	ndition -WT-A-X-I-NO-TD
SURVEYS:	<u>MD</u> (m 2336.6 2365.2 2394.2	))	<u>INC (°)</u> 82.2 80.0 79.8		<u>/</u> 2 2 2	AZIM (° 287.8 287.5 267.7	<u>°T)</u>	<u>CLOSU</u> 858	<u>RE (m)</u>	DIRECTION (°) 291

## **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

DRILL 216mm (8.5") DIRECTIONAL HOLE FROM 2001m TO 2358m.

#### 00:00 - 06:00 HOURS 04/06/05 :

DRILL 216mm (8.5") DIRECTIONAL HOLE FROM 2358m TO 2404m. TOTAL DEPTH REACHED AT 03:30 HRS 04-06-05. CIRCULATE BOTTOMS UP. PULL OUT OF HOLE TO CASING SHOE. CIRCULATE & RUN BACK IN HOLE ON WIPER TRIP.

## **ANTICIPATED OPERATIONS:**

CIRCULATE HOLE CLEAN AT BOTTOM. PULL OUT OF HOLE TO RUN LOWER COMPLETION.

# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 04/06/05

FORMATION TOPS: (Preliminary Field Picks)	MD RT (m)	TVD RT (m)	Subsea (m)	H/L to Prognosis (m)	H/L to Casino-4 (m)

	HYDROCARBON SHOW SUMMARY	
<u>INTERVAL</u>	LITHOLOGY	GAS
1212m-2362m	SEE SUMMARY BELOW	100 – 950 units 97/2/1/trace/trace %

	GEOLOGICAL SUMMARY	
INTERVAL ROP (m/hr)	LITHOLOGY	GAS
1212-2238m ROP: 7-52 Ave: 22.9	SANDSTONE: Clear to translucent, trace orange to yellow, fine to medium, subangular to subrounded, generally well sorted, predominantly loose and clean, occasional aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace quartz overgrowths, trace angular siliceous fragments in slower sections, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.	400 – 950 units 97/2/1/trace/trace %

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# WELL PROGRESS REPORT

# **CASINO 4DW2**

DATE: 04/06/05

<u>INTERVAL</u> <u>ROP (m/hr)</u>	<u>LITHOLOGY</u>	<u>GAS</u>
2238m-2362m ROP: 6-30 Ave: 18.9	SANDSTONE: Clear to translucent, very pale grey, fine to medium grained, locally fine to coarse grained, subangular to subrounded, moderately well sorted becoming moderately sorted to poorly sorted with depth, trace weak siliceous cement in aggregates, trace light grey argillaceous matrix, trace carbonaceous specks, trace to locally common black lithic fragments, locally common coarse angular siliceous fragments (chert?), trace pyrite increasing occasionally in the slower sections, poor to fair visual porosity, fair to good inferred porosity, no fluorescence.	103 – 617 units 97/2/1/trace/trace %
2362m-2404m ROP: 5-31 Ave: 15.7	SANDSTONE: Clear to translucent, pale grey to off white, very fine to very coarse grained, predominately fine to coarse grained, subangular to angular, very poorly sorted, abundant moderately hard aggregates, common loose quartz grains, trace to locally common moderately strong siliceous to calcareous cement/matrix, common white argillaceous matrix, common carbonaceous matter and micro-laminations, common lithic fragments, trace glauconite grains, occasional pale brown to off white hard blocky calcareous fragments, friable to hard, poorly visual and poor to fair inferred porosity, no fluorescence. SILTSTONE: Medium to dark grey, olive brown, arenaceous grading to very fine Sandstone in part, abundant carbonaceous micro-laminations and detritus, firm to hard, subblocky to subfissile.	18 – 147 units 97/2/1/trace/trace %



PERFORM WIPER TRIP TO SHOE. CIRCULATE HOLE CLEAN. PULL OUT OF HOLE. LAYOUT DIRECTIONAL BHA. FUNCTION TEST PIPE RAMS. RUN SAND EXCLUSION SCREENS.

#### 00:00 - 06:00 HOURS 05/06/05 :

CONTINUE TO RUN IN HOLE WITH SAND EXCLUSION SCREENS ON TUBING. MAKE UP LOWER COMPLETION PACKER ASSEMBLY. CONTINUE TO RUN SAND SCREENS ON DRILLPIPE.

#### **ANTICIPATED OPERATIONS:**

COMPLETE RUNNING SAND SCREENS. CASING SCRAPER RUN. RUN & SET UPPER PACKER.

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# WELL PROGRESS REPORT

# CASINO 4DW2

DATE: 06/06/05

**REPORT NO: 11** 

(As at 2400 hours 05/06/05) DEPTH :			<b>PTH:</b> 24 17	2404 mMD <b>PROGRESS:</b> 0 n 1786 mTVD			nMD <b>DAYS FROM SPUD : 11</b> <b>DAYS ON WELL: 11</b>			: 11 1	
OPERATION	PRE	PARING BR	INE AND	MAK	NG UP	CASI	NG SCRAPI	ER ASSEN	MBLY.		
(As at 0600 hours 06/06/05) <b>DEPTH</b> : 2404 mMD 1786 mTVD <b>PROGRESS</b> (0600-0600 hrs): 0m											
OPERATION	: SCR	APING CAS	SING @ 15	80m A	ND CL	EANIN	IG RISER S	IMULTA	NEOUSLY	Ι.	
AFE COST			CU	MULA	TIVE	COST					
340mm (13.37 244mm (9.625	5") CAS	ING DEPT	H: 727.87	m (Ca	sino-4)			RIG	: OCEAN	PATRIOT	
PROGRAMM	ED TD:	2624m	RO	TARY	TABL	. <b>E:</b> 221	n LAT	RT - WA	- MUDLII FER DEP	NE: 92.8 m TH: 70.8 m	
MUD DATA (2400 Hours)	Mud T <u>y</u> FLO Pl	ype: Wt: ( RO 1.28 /	SG/PPG) 10.66	Vis: 54	FL: 3.8	Ph: 9.7	KC1% 6	Cl : 120000	PV/YP: 17 / 37	Rmf : 0.05 @ 73°F	
<b>BIT DATA</b> (2400 Hours)	No. 12 11	Make Security Sec-DBS	Type FMF3553 FS2663	i	Size (1 216 311	mm)	Hours 22.4 29.1	Drilled 406 724	Cor 1-2 1-1	ndition -CT-G-X-I-NO- -WT-A-X-I-NO-	TD TD
SURVEYS:	<u>MD</u> (n 2336.6 2365.2	n)	<u>INC (°)</u> 82.2 80.0 70.8			<u>AZIM (</u> 287.8 287.5	<u>°T)</u>	<u>CLOSU</u>	<u>RE (m)</u>	DIRECTIO	<u>N (°)</u>
	2394.2		/9.0		2	207.7		020		291	

## PREVIOUS 24 HOURS OPERATIONS SUMMARY:

CONTINUE TO RUN IN HOLE WITH SAND EXCLUSION SCREENS ON TUBING. MAKE UP LOWER COMPLETION PACKER ASSEMBLY. CONTINUE RUNNING THE LOWER COMPLETION STRING TO BOTTOM, SET THE PACKER. PULL OUT WITH DRILLPIPE AND PACKER SETTING TOOL AND LAY OUT SETTING TOOL. PREPARE BRINE AS PER PROGRAM. MAKE UP CASING SCRAPER ASSEMBLY AND RIG UP TO RUN IN HOLE.

## 00:00 - 06:00 HOURS 06/06/05 :

RUN IN HOLE CASING SCRAPER ASSEMBLY WITH RISER CLEANING TOOLS (RISER BRUSHES), AND BEGIN CLEANING CASING FROM 1550M TO 1580M WHILE CLEANING RISER SIMULTANEOUSLY.

## **ANTICIPATED OPERATIONS:**

COMPLETE CASING SCRAPER RUN TO 1645M. DISPLACE THE HOLE TO CALCIUM CHLORIDE BRINE. POOH CASING SCRAPER STRING.



COMPLETE CASING SCRAPER RUN TO 1645M. DISPLACE THE HOLE TO CALCIUM CHLORIDE BRINE. POOH CASING SCRAPER STRING. RETRIEVE BORE PROTECTOR AND JET THE XTREE / BOPs IN BRINE. MAKE UP UPPER COMPLETION TAILPIPE / PACKER / CHEMICAL CUT SUB. RUN IN HOLE UPPER COMPLETION 7" TUBING.

## 00:00 - 06:00 HOURS 07/06/05 :

RUN IN HOLE UPPER COMPLETION 7" TUBING TO 1525M. MAKE UP TUBING RETRIEVABLE SUB SURFACE SAFETY VALVE (TRSV), TEST AND RIH.

#### **ANTICIPATED OPERATIONS:**

CONTINUE TO RUN IN HOLE UPPER COMPLETION 7" TUBING TO 1600M. MAKE UP TUBING HANGER AND TERMINATE TRSV. (SEE POINTS 9 & 10 ON ATTACHED PLAN). NB. WELL TESTING TO BEGIN ABOUT 39 HOURS FROM NOW ACCORDING TO PLAN.

Step	Operation Description	Time (Hrs)
1	Function blind & 10 ¾"rams. Scrape 9 5/8" casing and riser & jet BOP's.	14
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6
5	Retrieve bore protector & jet the XT / BOP's in brine	1
6	Run upper completion tailpipe and packer and chemical cut sub	2
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9
8	Make up SSSV and test	2
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5
10	Make up TH and terminate SSSV.	4
11	Install THRT/SSTT onto TH and function test.	4.5
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6
14	Displace approx. 205bbl diesel cushion for underbalance.	2
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8
16	Perform pre flow checks. Clean up and test the well.	26
17	Shut in well and Perform build up.	24
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4
15	Inflow test SSSV. Run and set lower plug on slickline in TH.	2
16	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6
17	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2
18	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6
19	Pull BOP's.	20
20	Run XT debris cap.	3
21	Pull anchors & move to next well	12
		107

Total (Hrs)	197
Total (Days)	8.2



RUN IN HOLE UPPER COMPLETION 7" TUBING TO 1525M. MAKE UP TUBING RETRIEVABLE SUB SURFACE SAFETY VALVE (TRSV), TEST AND RIH.CONTINUE TO RUN IN HOLE UPPER COMPLETION 7" TUBING TO 1600M. MAKE UP TUBING HANGER AND TERMINATE TRSV. INSTALL THRT / SSTT ONTO TH AND FUNCTION TEST. RIH COMPLETION ON 9 5/8" LANDING STRING. INSTALL LUBRICATOR VALVE. INSTALL FLOWHEAD AND RIG UP / TEST WELLTEST LINES AND SLICKLINE PRESSURE CONTROL EQUIPMENT.

## 00:00 - 06:00 HOURS 08/06/05 :

CONTINUE RIGGING UP FLOWHEAD LINES AND PRESSURE CONTROL EQUIPMENT, RUN PRESSURE TESTS.

## **ANTICIPATED OPERATIONS:**

LAND OFF COMPLETION AND LOCK AND TEST TUBING HANGER. (SEE POINT 13 ON ATTACHED PLAN). **NB. WELL TESTING TO BEGIN ABOUT 20 HOURS FROM NOW ACCORDING TO PLAN.** 

Step	Operation Description	Time (Hrs)
1	Function blind & 10 ¾"rams. Scrape 9 5/8" casing and riser & jet BOP's.	14
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6
5	Retrieve bore protector & jet the XT / BOP's in brine	1
6	Run upper completion tailpipe and packer and chemical cut sub	2
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9
8	Make up SSSV and test	2
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5
10	Make up TH and terminate SSSV.	4
11	Install THRT/SSTT onto TH and function test.	4.5
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6
14	Displace approx. 205bbl diesel cushion for underbalance.	2
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8
16	Perform pre flow checks. Clean up and test the well.	26
17	Shut in well and Perform build up.	24
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4
15	Inflow test SSSV. Run and set lower plug on slickline in TH.	2
16	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6
17	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2
18	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6
19	Pull BOP's.	20
20	Run XT debris cap.	3
21	Pull anchors & move to next well	12
		10-

Total (Hrs)	197
Total (Days)	8.2



CONTINUE RIGGING UP FLOWHEAD LINES AND PRESSURE CONTROL EQUIPMENT, RUN PRESSURE TESTS. LAND OFF COMPLETION AND LOCK AND TEST TUBING HANGER. RUN TH WIRELINE SHORT PROTECTION SLEEVE ON SLICKLINE. DISPLACE COMPLETION STRING WITH 205 BBLS DIESEL CUSHION. RUN STANDING VALVE ON SLICK LINE AND INSTALL IN THE 4.625" QN LANDING NIPPLE, POOH WITH SLICK LINE.

00:00 - 06:00 HOURS 09/06/05 :

PERFORM PRESSURE TESTS AS REQUIRED WITH CMT UNIT. PERFORM PRE FLOW TESTS, CLEAN UP, FLARING DIESEL.

## **ANTICIPATED OPERATIONS:**

TEST WELL, SHUT IN AND PERFORM BUILD UP

Step	Operation Description			
1	Function blind & 10 ¾"rams. Scrape 9 5/8" casing and riser & jet BOP's.	14		
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12		
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9		
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6		
5	Retrieve bore protector & jet the XT / BOP's in brine	1		
6	Run upper completion tailpipe and packer and chemical cut sub	2		
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9		
8	Make up SSSV and test	2		
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5		
10	Make up TH and terminate SSSV.	4		
11	Install THRT/SSTT onto TH and function test.	4.5		
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12		
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6		
14	Displace approx. 205bbl diesel cushion for underbalance.	2		
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8		
16	Perform pre flow checks. Clean up and test the well.	26		
17	Shut in well and Perform build up.	24		
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4		
15	Inflow test SSSV. Run and set lower plug on slickline in TH.	2		
16	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6		
17	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2		
18	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6		
19	Pull BOP's.	20		
20	Run XT debris cap.	3		
21	Pull anchors & move to next well	12		

Total (Hrs)	197
Total (Days)	8.2



PERFORM PRESSURE TESTS AS REQUIRED WITH CMT UNIT. PERFORM PRE-FLOW TESTS, CLEAN UP, AND FLARE DIESEL. CHANGE TO GAS FLARE (INITIALLY WITH 1" CHOKE), THEN TEST WELL WITH  $\frac{1}{2}$ " CHOKE FOR 6 HOURS.

#### 00:00 - 06:00 HOURS 10/06/05 :

SHUT-IN AND CHANGE CHOKE. PERFORM FLOW TEST WITH <sup>3</sup>/<sub>4</sub>" CHOKE FOR 6 HOURS. **ANTICIPATED OPERATIONS:** CHANGE TO 62/64" CHOKE AND TEST WELL FOR 6 HOURS. IF NO PROBLEMS, SHUT IN AND PERFORM

CHANGE TO 62/64" CHOKE AND TEST WELL FOR 6 HOURS. IF NO PROBLEMS, SHUT IN AND PERFORM BUILD UP FOR 15+ HOUR PERIOD.

Step	Operation Description					
1	Function blind & 10 ¾"rams. Scrape 9 5/8" casing and riser & jet BOP's.	14				
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12				
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9				
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6				
5	Retrieve bore protector & jet the XT / BOP's in brine	1				
6	Run upper completion tailpipe and packer and chemical cut sub	2				
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9				
8	Make up SSSV and test	2				
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5				
10	Make up TH and terminate SSSV.	4				
11	Install THRT/SSTT onto TH and function test.	4.5				
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12				
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6				
14	Displace approx. 205bbl diesel cushion for underbalance.	2				
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8				
16	Perform pre flow checks. Clean up and test the well.	26				
17	Shut in well and Perform build up.	24				
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4				
15	Inflow test SSSV. Run and set lower plug on slickline in TH.	2				
16	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6				
17	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2				
18	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6				
19	Pull BOP's.	20				
20	Run XT debris cap.	3				
21	Pull anchors & move to next well	12				
		107				

Total (Hrs)	197
Total (Days)	8.2

Santos	1
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# WELL PROGRESS REPORT

# CASINO 4DW2

DATE: 11/06/05

**REPORT NO: 16** 

(As at 2400 hours 10/06/05) D		DE	<b>DEPTH :</b> 2404 mMD 1786 mTVD			PROGRESS: 0 mMD		mMD	DAYS FROM SPUD:16 DAYS ON WELL:16		
OPERATION	SHUT	IN AND F	PERFORM	BUIL	D UP.						
(As at 0600 hours	11/06/05)	DE	<b>PTH:</b> 24 17	04 mM 86 mT	D VD	PRO	GRESS (0	600-0600 hrs)	: 0m		
OPERATION	: RUN PROT	IN TO ECTION S	RETRIEV LEEVE.	/E SI	LICKLI	NE C	AUGES	AND RE	COVER	WIRELINE	SHORT
AFE COST			CU	MULA	ATIVE	COST					
340mm (13.37 244mm (9.625	5") CASI ") CASI	NG DEPTI NG DEPTI	H: 727.87 H: 1990m	/m (Ca	sino-4)			RIG	: OCEAN	N PATRIOT	
PROGRAMM	ED TD:	2624m	RO	TARY	TABL	E: 22	m LAT	RT WA	– MUDLI TER DEI	INE: 92.8 m PTH: 70.8 m	
MUD DATA (2400 Hours)	Mud Typ FLO PR	oe: Wt: (1 0 1.28 /	SG/PPG) 10.66	Vis: 54	FL: 3.8	Ph: 9.7	KCl% 6	C1 : 120000	PV/YP: 17 / 37	Rmf : 0.05 @ 73°F	,
<b>BIT DATA</b> (2400 Hours)	No. 12 11	Make Security Sec-DBS	Туре FMF3553 FS2663		Size (n 216 311	nm)	Hours 22.4 29.1	Drilled 406 724	Co 1-: 1-	ondition 2-CT-G-X-I-NO 1-WT-A-X-I-NO	-TD )-TD
SURVEYS:	<u>MD</u> (m) 2336.6 2365.2 2394.2	)	<u>INC (°)</u> 82.2 80.0 79.8		<u>A</u> 2 2 2	<u>ZIM (</u> 87.8 87.5 67.7	<u>°T)</u>	<u>CLOSU</u> 858	J <u>RE (m)</u>	DIRECTION	<u>ON (°)</u>

## **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

FINISH TESTING WELL WITH <sup>1</sup>/<sub>2</sub>" CHOKE. SHUT-IN AND CHANGE CHOKE. PERFORM FLOW TEST WITH <sup>3</sup>/<sub>4</sub>" CHOKE FOR 6 HOURS. CHANGE TO 62/64" CHOKE AND TEST WELL FOR 6 HOURS. THEN SHUT IN AND PERFORM BUILD UP FOR 15 HOUR PERIOD.

**00:00 – 06:00 HOURS 11/06/05 :** CONTINUE TO PERFORM BUILD UP WITH WELL SHUT IN UNTIL 04:00 HRS. RUN IN TO RETRIEVE SLICKLINE GAUGES AND RECOVER WIRELINE SHORT PROTECTION SLEEVE.

## **ANTICIPATED OPERATIONS:**

RUN INFLOW TEST ON SUB-SURFACE SAFETY VALVE (SSSV). RUN AND SET LOWER PLUG ON SLICKLINE IN TUBING HANGER. (SEE POINT 19 BELOW). APPROX. 50 HOURS UNTIL BEGIN MOVE TO NEXT WELL.

## Casino 4DW Completion & Test Time Estimate

Step	Operation Description				
1	Function blind & 10 <sup>3</sup> / <sub>4</sub> "rams. Scrape 9 5/8" casing and riser & jet BOP's.	14			
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12			
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9			
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6			
5	Retrieve bore protector & jet the XT / BOP's in brine	1			
6	Run upper completion tailpipe and packer and chemical cut sub	2			
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9			
8	Make up SSSV and test	2			
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5			
10	Make up TH and terminate SSSV.	4			
11	Install THRT/SSTT onto TH and function test.	4.5			
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12			
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6			
14	Displace approx. 205bbl diesel cushion for underbalance.	2			
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8			
16	Perform pre flow checks. Clean up and test the well.	26			
17	Shut in well and Perform build up.	24			
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4			
19	Inflow test SSSV. Run and set lower plug on slickline in TH.	2			
20	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6			
21	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2			
22	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6			
23	Pull BOP's.	20			
24	Run XT debris cap.	3			
25	Pull anchors & move to next well	12			

Total (Hrs)	197
Total (Days)	8.2
A.C.N. 007 550 923

## WELL PROGRESS REPORT

## CASINO 4DW2

DATE: 12/06/05

**REPORT NO: 17** 

(As at 2400 hours	11/06/05)	DE	<b>PTH:</b> 24	04 mM 86 mTV	D VD	PRO	GRESS: 0 n	mMD DAYS FROM SPUD : 1 DAYS ON WELL: 17					
OPERATION	POOL	H THRT/SS	TT, LAYI	NG DC	WN 9 :	5/8" LA	NDING ST	RING AN	DLV.				
(As at 0600 hours	12/06/05)	DE	<b>PTH:</b> 24	04 mM 86 mTV	D VD	PRO	GRESS (060	00-0600 hrs): 0m					
OPERATION	: BEGI	N RUN AN	D SET / T	EST IT	C ON T	THRT /	SSTT.						
AFE COST			CU	MULA	TIVE	COST							
340mm (13.375") CASING DEPTH: 727.87m (Casino-4)       RIG: OCEAN PATRIOT         244mm (9.625") CASING DEPTH : 1990m													
PROGRAMM	ED TD:	2624m	RO	TARY	TABL	2 <b>E:</b> 221	n LAT	RT - WA	- MUDLIN FER DEP	NE: 92.8 m FH: 70.8 m			
MUD DATA (2400 Hours)	Mud Ty FLO PR	pe: Wt: (S O 1.28 /	Wt: (SG/PPG) 28 / 10.66		FL: 3.8	Ph: 9.7	KCl% 6	Cl : 120000	PV/YP: 17 / 37	Rmf : 0.05 @ 73°F			
BIT DATA (2400 Hours)	DATA No. Make Type Hours) 12 Security FMF 11 Sec-DBS FS26			Size (r 3553 216 63 311			Hours 22.4 29.1	Drilled 406 724	Cor 1-2- 1-1-	-TD -TD			
SURVEYS:	URVEYS: <u>MD</u> (m) <u>INC</u> 2336.6 82.7 2365.2 80.0				<u>1</u> 2 2	<u>AZIM (</u> 287.8 287.5	<u>°T)</u>	<u>CLOSU</u>	RE (m) DIRECTION		<u>)N (°)</u>		
	2394.2		79.8		2	267.7		858		291			

#### PREVIOUS 24 HOURS OPERATIONS SUMMARY:

CONTINUE TO PERFORM BUILD UP WITH WELL SHUT IN UNTIL 04:00 HRS. RUN IN TO RETRIEVE SLICKLINE GAUGES AND RECOVER WIRELINE SHORT PROTECTION SLEEVE. RUN INFLOW TEST ON SUB-SURFACE SAFETY VALVE (SSSV). RUN AND SET LOWER PLUG ON SLICKLINE IN TUBING HANGER. UNLATCH THRT FROM TH. RIG DOWN SURFACE LINES, SLICKLINE PCE AND FLOWHEAD. POOH THRT/SSTT, LAYING DOWN 9 5/8" LANDING STRING AND LV.

00:00 - 06:00 HOURS 12/06/05 : RIH AND JET TH / XT. BEGIN RUN AND SET / TEST ITC ON THRT / SSTT.

#### **ANTICIPATED OPERATIONS:**

CONTINUE RUN AND SET / TEST ITC ON THRT / SSTT. POOH. PULL BOPs. (SEE POINT2 22 & 23 BELOW). APPROX. 35 HOURS UNTIL BEGIN MOVE TO NEXT WELL.

Step	Operation Description	Time (Hrs)
1	Function blind & 10 <sup>3</sup> / <sub>4</sub> "rams. Scrape 9 5/8" casing and riser & jet BOP's.	14
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6
5	Retrieve bore protector & jet the XT / BOP's in brine	1
6	Run upper completion tailpipe and packer and chemical cut sub	2
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9
8	Make up SSSV and test	2
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5
10	Make up TH and terminate SSSV.	4
11	Install THRT/SSTT onto TH and function test.	4.5
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6
14	Displace approx. 205bbl diesel cushion for underbalance.	2
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8
16	Perform pre flow checks. Clean up and test the well.	26
17	Shut in well and Perform build up.	24
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4
19	Inflow test SSSV. Run and set lower plug on slickline in TH.	2
20	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6
21	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2
22	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6
23	Pull BOP's.	20
24	Run XT debris cap.	3
25	Pull anchors & move to next well	12

Total (Hrs)	197
Total (Days)	8.2



#### **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

RIH AND JET TH / XT. RUN AND SET / TEST ITC ON THRT / SSTT. ENCOUNTER PROBLEM SETTING AND LOCKING ITC. POOH AND RE-RUN. CONFIRM LOCK ON NEXT ATTEMPT. PRESSURE TEST AND POOH.

00:00 – 06:00 HOURS 13/06/05 : CONTINUE POOH AFTER UNLATCHING THRT FROM ITC. PREPARE TO PULL BOPs.

#### **ANTICIPATED OPERATIONS:**

PULL BOPS. (SEE POINTS 23 BELOW). APPROX. 30 HOURS UNTIL BEGIN MOVE TO NEXT WELL.

Step	Operation Description	Time (Hrs)
1	Function blind & 10 <sup>3</sup> / <sub>4</sub> "rams. Scrape 9 5/8" casing and riser & jet BOP's.	14
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6
5	Retrieve bore protector & jet the XT / BOP's in brine	1
6	Run upper completion tailpipe and packer and chemical cut sub	2
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9
8	Make up SSSV and test	2
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5
10	Make up TH and terminate SSSV.	4
11	Install THRT/SSTT onto TH and function test.	4.5
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6
14	Displace approx. 205bbl diesel cushion for underbalance.	2
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8
16	Perform pre flow checks. Clean up and test the well.	26
17	Shut in well and Perform build up.	24
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4
19	Inflow test SSSV. Run and set lower plug on slickline in TH.	2
20	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6
21	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2
22	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6
23	Pull BOP's.	20
24	Run XT debris cap.	3
25	Pull anchors & move to next well	12
	Total (Hrs)	197
		0.0

	197
Total (Days)	8.2



#### **PREVIOUS 24 HOURS OPERATIONS SUMMARY:**

CONTIUED PULL BOP'S / RUN XT DEBRIS CAP / POOH RUNNING TOOL / START PULLING ANCHORS / LAY OUT DP

00:00 - 06:00 HOURS 13/06/05: CONTINUED LAYING OUT DP / PULL ANCHORS

#### **ANTICIPATED OPERATIONS:**

PULL ANCHORS AND MOVE RIG TO NEXT LOCATION

PAGE 2

Step	Operation Description	Time (Hrs)
1	Function blind & 10 ¾"rams. Scrape 9 5/8" casing and riser & jet BOP's.	14
2	Make up sintered sand screens, 6 5/8" tubing & Lower Completion Packer Assembly.	12
3	RIH Lower Completion on Drill pipe to 2600m & set packer and unlatch running tools.	9
4	Cycle open SABS and displace 9 5/8" casing to inhibited calcium chloride brine at 1700m. POOH running tools.	6
5	Retrieve bore protector & jet the XT / BOP's in brine	1
6	Run upper completion tailpipe and packer and chemical cut sub	2
7	RIH upper completion 7" 13Cr80 KSBear tubing to 1500m	9
8	Make up SSSV and test	2
9	RIH upper completion 7" 13Cr80 KSBear tubing to 1600m	0.5
10	Make up TH and terminate SSSV.	4
11	Install THRT/SSTT onto TH and function test.	4.5
12	RIH Completion on 9 5/8" New Vam landing string. Install LV. Install flowhead and rig up / test welltest lines and slickline PCE.	12
13	Land off completion and lock and test TH. Retrieve Isolation sleeve and run TH wireline short protection sleeve on slickline.	6
14	Displace approx. 205bbl diesel cushion for underbalance.	2
15	Run standing valve on slickline and set packer. Pressure test completion, retrieve standing valve. Run pressure gauges on slickline and set in 4.625" QN nipple (1700m).	8
16	Perform pre flow checks. Clean up and test the well.	26
17	Shut in well and Perform build up.	24
18	Retrieve pressure gauges from 4.625" QN nipple. Retrieve TH wireline short protection sleeve from THRT.	4
19	Inflow test SSSV. Run and set lower plug on slickline in TH.	2
20	Unlatch THRT from TH. Rig down surface lines, slickline PCE and flowhead.	6
21	POOH THRT/SSTT laying down 9 5/8" land string and LV.	2
22	RIH and jet TH / XT. Run and set / test ITC (c/w upper plug) on THRT/SSTT. POOH.	6
23	Pull BOP's.	20
24	Run XT debris cap.	3
25	Pull anchors & move to next well	12

Total (Hrs)	197
Total (Days)	8.2

## SECTION 6: DAILY DRILLING REPORTS

							Chris		Det King								
					r c		Chris	Wise /	Pat King								
					C		Sean	De Frei	tas								
Well D	Data											_					
Country			Australia	M. D	epth		15	574.0m	Cur. Hole S	ize	311mm	AFE C	ost				
Field			Casinc	TVD			15	560.0m	Casing OD		340mm	AFE N	0.	5746022			
Drill Co.			DOGC	Prog	ress		4	266.0m	Shoe TVD		727.9m	Daily C	Cost				
Rig		Ocea	an Patrio	t Days	from sp	ud		0.60	F.I.T. / L.O.	Т.	0sg / 0sg	Cum C	Cost				
Wtr Dpt	h(LAT)		70.8m	Days	on well			0.60				Planne	ed TD	2642.0m			
RT-ASL	(LAT)		22.0m	urre	ent Op @	0600	PC	OH with 3	11 mm (12 1	/4") BHA at	1300 m to	repair T	DS.				
RT-ML			92.8m	Plan	ned Op		Continue to POH to shoe @ 728 m. Repair TDS. Replace Module ( and continue drilling 311 mm (12 1/4") directional hole from 1599 n							on Pump #3. RIH			
Summ	nary of F	Period	0000 t	o 2400	Hrs				-								
Drilled 3	311mm (12	2 1/4") si	detrack of	off Casin	o 4 from	1308 m t	to 1574m	1.									
Opera	tions Fo	or Peri	od 000	0 Hrs	to 240	0 Hrs o	n 21 M	av 200	5								
Phse	Cls	Op	From	То	Hrs	Depth	י <b>יבי וו</b> י	ay 200	•	Acti	vity Descri	ption					
	(RC)		1	T	1												
IH	Р	DA	0930	1100	1.50	1335.0n	n Drille angl Sam	ed 311mi e with Ge	m (12 1/4") d eoPilot rotary 3 m - 70% for	irectional ho steerable E mation	ole from 13 3HA.	08 m to	1335 m, atte	mpting to build			
IH	Р	DA	1100	1200	1.00	1337.0n	n Drille m/hr	Drilled 311 mm (12 1/4") directional hole from 1335 m to 1337 m. ROP reduced to < m/hr. Difficulty building angle due to low ROP and torque. Suspected bit balled.									
ІН	Р	OA	1200	1230	0.50	1337.0r	n Pick Atter	ed up off npted to	bottom and a drill ahead.	attempted to No ROP res	o clear bit. ponse.						
IH	Р	OA	1230	1400	1.50	1337.0n	n POH to 1280 m. Pumped 7.95m3 (50 bbl) drill water pill and rotated (190 rpm balled bit.										
							13:4	0 Inspec	ted noise cor	ning from T	DS. Oiler p	ump bea	aring suspec	ted.			
IН 	P	11	1400	1415	0.25	1337.0n		Drilled 311 mm (12 $1/4$ ) directional hole from 1337 m to 1350 m									
ІН	Р	DA	1415	1530	1.25	1350.0r	n Drille build	ed 311 m ling angle	m (12 1/4") c e to approx 7	lirectional h 7.5 deg	ole from 13	337 m to	1350 m				
ІН	Р	DA	1530	1630	1.00	1370.0n	n Drille	ed 311 m	im (12 1/4") c	lirectional h	ole from 13	350 m to	1370 m				
IH	Р	DA	1630	1800	1.50	1411.0n	n Drille inclir	ed ahead	311 mm (12 approx. 13 d	1/4") direct	tional hole t	from 137	70 m to 1411	m			
ІН	Р	DA	1800	2000	2.00	1472.0r	n Drille inclir	ed ahead	311 mm (12 approx. 20 d	1/4") direct eg.	tional hole t	from 141	11 m to 1472	m			
IH	Ρ	DA	2000	2400	4.00	1574.0n	n Drille inclir	ed ahead	311 mm (12) approx. 31 d	1/4") direct	tional hole t	from 147	72 m to 1574	m			
Opora	tions Ec	r Dori	od 000		10 060		n 22 M	2 100K S	<b>5</b>	m.							
Opera		or Peri						ay 200	5	<b>.</b>							
Phse	(RC)	Ор	From	10	Hrs	Deptr	1			Acti	vity Descri	ption					
IH	Р	DA	0000	0130	1.50	1599.0r	n Drille stee	ed 311 m rable BH	m (12 1/4") o A, inclination	lirectional h at approx.	ole from 15 33 deg.	574 m to	1599 m with	GeoPilot rotary			
ІН	TP (RE)	RR	0130	0200	0.50	1599.0n	n Faul Racl	t in TDS ked back	oiler pump m first stand of	otor during f bottom. (1	connectior 570 m)	n. No rot	ary operatior	on TDS.			
ІН	TP (RE)	RR	0200	0230	0.50	1599.0n	n Wor	ked pipe	whilst rigging	g up cement	ting hose a	nd circul	lating sub.				
IH	TP (RE)	СНС	0230	0330	1.00	1599.0n	n Wor Note	ked pipe e: 02:30 F	whilst circula Pump #3 Moo	ting bottom lule washed	s up and b d.	oosted r	iser until sha	kers clean.			
IH	TP (RE)	тот	0330	0600	2.50	1599.0r	n (IN F mm spot	PROGRE (12 1/4") s from 14	SS) Rigged rotary steera 128 m to 117	down ceme able BHA fro 0 m. Max 23	nting hose om 1570 m 3 t (50000 l	and circ to 1170 b) overp	ulating sub. I m. Worked t oull.	POH with 311 hrough tight			
WBM	Data																
Mud Typ	e.		יחא	EI ·	۸.	-m <sup>3</sup> /20	CI		15000	Solida		96	Viscositv:	0sec/l			
maa ryp	KCL/IDCAF	P-D/Polym		· L.	40				40000	June		2.0	PV:	0.019Pa/s			
Sample	-From:	Pi	it 3	r-Cake:		1mm	K+C*100	00:	8%	H2O:		89%	YP:	0.187MPa			
Time <sup>.</sup>		20.		IP-FL:	00	cm <sup>3</sup> /30m	Hard/Ca	:	560	Oil:		0%	Gels 10s: Gels 10m:	0.067			
Woicht		4 00	HTH	IP-Cake:		0mm	MBT:		11	Sand:			Fann 003:	12			
vveight:		1.20	isy os				PM:		0.5	pH:		10	Fann 006:	15			
Temp:		0	°C°				PF		0.1	ΡΗΡΔ·		Onnh	Fann 100:	37			
									0.1	ане <b>д</b> .		ohhn	Fann 200:	49 58			
													Fann 600:	77			
Comme	nt		IDC	AP-D = 3	ppb												

																	1	
Bit # 6						We	ar	I	01		D	L		В	G	02	R	
Size ("):		311mm	IADC#		S323		Nozz	zles		Dril	led over la	ast 24 hi	rs	Calculated over Bit Run				
Mfr:	SECUR	ITY-DBS	WOB(a	ava)	0.68mt	No	-	Size	Pro	are	ess	266	.0m	Cum.	Progress		266.0m	
Type:		PDC	RPM(a	va)	165	0		46/22	nd" On	Bo	ottom Hrs	12	24h	4h Cum. On E		Irs	12.24h	
Serial No	1	0387397	F Rate		785lnm	9	9 10/32110			 0C	Drill Hrs 14.80h		80h	Cum L	ADC Drill	Hrs	14 80h	
Bit Model	•	ES2663	SPP	220	)63kPa		Total Revs C					0	Cum Total Pays					
Depth In		1308.0m	TFA	220	1 767		POP(a)(a) 21 73 m/br $POP(a)(a)$						5 2	0 1 73 m/hr				
Depth M		1000.0111			1.707				i to	. (6	uvg)	21.701		1.01 (0	<i>v</i> g)	-		
Bun Commer	ava B		conner	ction														
	n		Drilled	from 12	273 m (t	top cer	ment p	olug) to	KOP @	13	08m in Ca	sino 4.						
BHA # 7																		
Weight(Wet)		0.91mt	Length	1			167.0	m To	orque(ma	ix)		0	Nm	D.C. (	1) Ann Ve	elocity		
Wt Below Jar	(Wet)	1.54mt	String				9.98	mt To	orque(Off	f.Bt	tm)	5440.0	Nm	D.C. (	2) Ann Ve	elocity		
			Pick-U	D			9.98	mt To	oraue(On	.Bt	tm)	0	Nm	H.W.C	).P. Ann V	√elocitv		
			Slack	r ∩ff			0.08	mt			)	·			nn Veloc	ity.		
			Slack-			044	9.90				)		Deres	D.F. F			(0")	
	scription		Float S	Sub, X/0	74) ыі, Э, 9 х 12	244 m 27 mm	n (5") F	HWDP,	X/O, 20	203 3 n	nm (8") Jar	s, X/O, 9	9 x 12	7, Spen 27 mm	(5") HWD	NVVD, 203 )P	mm (o )	
	Equipn	nent			Lenç	gth	O	)	ID		Seria	l #			Con	nment		
Bit					0.6	64m	311	mm	0mm	n	10387397		SDE	BS FS2	2663 Bit #	6		
Geopilot Stee	erable Tool				6.6	62m	245	mm	0mm	n	GP1225 T	LOG						
NM Flex Pon	у				2.8	30m	203	mm	0mm	n	CP773036	;						
FEWD Tools					14.2	25m	203	mm	0mm	n			FEV	ND - DI	M900725	23XH1 WR	G8	
													Puls	ser - 10	645028			
Float Sub					1.0	)5m	203	mm	0mm	n	49079		Por	ted Flo	at			
X/O					1.0	09m	203	mm	0mm	n	SANTOS							
HWDP					83.1	17m	162	mm	0mm	n								
X/O					1.1	13m	203	mm	0mm	n	186-010							
Jar					9.6	67m	207	mm	0mm	n	DAH03786	6						
					1.0	)2m	191	mm	0mm	n	186-011							
					45.0	59111	101	mm	Unn	1								
Survey					~								_					
MD (m)	Incl Deg (deg)	Cor (d	r. Az leg)	T (	VD m)	'V	' Sect (m)		Dogleg (deg/30m	)	N/S (m)		E/ (n	VV n)		ΤοοΙ Τγρε	e	
1404.64	12.3	280.6		1402.	78	8.92		4.5	57		-17.61	-1	5.70		MWD			
1433.44	15.6	293.2		1430.	74	15.7	9	4.6	65		-15.53	-2	2.26		MWD			
1462.22	19.3	300.1		1458.	20	24.3	2	4.4	41		-11.63	-2	29.92		MWD			
1490.95	22.1	304.6		1485.	08	34.1	8	3.3	35		-6.19	-3	88.46		MWD			
1519.82	26.1	307.7		1511.4	44	45.4	4	4.3	36		0.77	-4	7.94		MWD			
1548.46	30.5	308.9		1536.	66	58.2	8	4.6	67		9.17	-5	58.58		MWD			
Bulk Stoc	ks							Pe	ersonn	nel	On Boa	rd						
Na	me	Unit	In	U	sed A	Adjust	Balar	nce			Com	pany				Pax		
Fuel		m3		0	17.6	0	334	.7 Sa	antos						4			
Drill Water		m3		0 4	42.3	0	438	8.7 DC	OGC						49			
Potable Wate	er	m3	3	33 2	21.9	0	184	.7 ES	SS						8			
Gel		SX		0	0	0	868	8.0 Do	owell						2			
Cement sx 0 0				0	2,309			~~					2					
KCI Brine		SX bbl		0	0	0	1,976			38					03			
NCI Blille		DDI		0	0	0		.o ru .sr	agio perry-Sur	n					5			
								Ba	aker Atlas	s					1			
								Ca	ameron						3			
								Ex	kpro						3			
								W	eatherfor	rd					4			
														Т	otal 90			
								L										

HSE Summary         Events       Date of Last       Days Since       Remarks         Abandon Drill       15 May 2005       6 Days       Abandon Drill         BOP Test       12 May 2005       9 Days       BOP Test         Environmental Incident       02 May 2005       19 Days       None reported since commencement of campaign.         Fire Drill       15 May 2005       6 Days       Fire Drill         First Aid       04 May 2005       17 Days       Person struck on nose with metal bar										
EventsDate of LastDays SinceRemarksAbandon Drill15 May 20056 DaysAbandon DrillBOP Test12 May 20059 DaysBOP TestEnvironmental Incident02 May 200519 DaysNone reported since commencement of campaign.Fire Drill15 May 20056 DaysFire DrillFirst Aid04 May 200517 DaysPerson struck on nose with metal bar										
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Fire Drill15 May 20056 DaysFire DrillFirst Aid04 May 200517 DaysPerson struck on nose with metal bar										
First Aid 04 May 2005 17 Days Person struck on nose with metal bar										
Lost Time Incident 02 May 2005 19 Days None reported since commencement of campaign.										
Man Overboard Drill 02 May 2005 19 Days None undertaken since commencement of campaign.	None undertaken since commencement of campaign.									
Near Miss 02 May 2005 19 Days None reported since commencement of campaign.	None reported since commencement of campaign.									
Safety Meeting 15 May 2005 6 Days Weekly Safety Meeting	Weekly Safety Meeting									
Stop Cards 21 May 2005 0 Days 9 Stop Cards	s 9 Stop Cards									
Weather check on 21 May 2005 at 2400 Rig Support										
Visibility Wind Speed Wind Dir. Pressure Air Temp. Wave Height Wave Dir. Wave Period Anchors	ensio	on (mt)								
14.8km 37km/h 293deg 1017.00bar 15.0C° 0.5m 293deg 2m/sec 1	9.9	98								
	8.8	30								
Koli Pitch Heave Swell Height Swell Dir. Swell Period Weather Comments	7.6	32								
1.0deg 1.0deg 0.50m 1.0m 293deg 2m/sec 4	4 8.3									
Rig Dir.   Ris. Tension   VDL   Comments   5	8.8	30								
249.0deg 12.25mt 212.92mt 6	6 9.89									
7	10.7	70								
8	10.3	39								
Boats         Arrived (date/time)         Departed (date/time)         Status         Bulks										
Far Grip         Ocean Patriot         Item         Un	it	Quantity								
Fuel	M3	359								
Drill Water	M3 M3	387								
Potable Viater	MT	37								
Gel	MT	42.3								
Cement	MT	0								
KCI Brine	bbl	1000								
Pacific Portland Item Un	it	Quantity								
Wrangler	М3	536								
Fuel	140	000								
Fuel Drill Water	IVI3	303								
Fuel Drill Water Potable Water	M3 M3	303								
Fuel Fuel Drill Water Potable Water Barite Got	M3 M3 MT	303 325 0								
Fuel     Drill Water       Potable Water     Barite       Gel     Cement	M3 M3 MT MT	303 325 0 0								

	From : Chris Wise / Pat King															
					C	DIM : S	Sean De Freit	as								
Well D	Data															
Country			Australia	M. C	epth		1575.0m	Cur. Hole Size	311mm	AFE Cost						
Field			Casino	TVD			1560.0m	Casing OD	340mm	AFE No.	5746022					
Drill Co.		_	DOGC	Prog	ress		88.0m	Shoe TVD	727.9m	Daily Cost						
Rig	( <b>1</b> • <b>-</b> )	Ocea	n Patriot	Day	s from sp	ud	1.60	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost						
Wtr Dpt	h(LAI)		70.8m	Days	s on well	0000	1.60	1 (40 4 (411) -line	ational DLLA (a/	Planned ID	2642.0m					
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	work throug	KIH WITN 311 mm (12 1/4") directional BHA (c/w mud motor) at 87 m, attempting to work through wellhead.								
			92.011	Plan	ned Op		RIH with 31 mm (12 1/4	1 mm (12 1/4") dire ) directional hole t	ectional BHA (c/v o section TD.	w mud motor) to	o 1662 mMD. Drill 311					
Summ	nary of I	Period	0000 t	o 240	0 Hrs											
Drilled 3 1662 m.	811 mm (1 POH to c	2 1/4") d hange B	irectiona HA.	l hole fr	om 1574	m to 1599 r	n. POH to repai	r TDS. RIH. Drilleo	1 311 mm (12 1/4	4") directional he	ole from 1599 m to					
Opera	Operations For Period 0000 Hrs to 2400 Hrs on 22 May 2005															
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descrip	otion						
IH	Ρ	DA	0000	0130	1.50	1599.0m	Drilled 311 m steerable BH	m (12 1/4") directio A, inclination at app	nal hole from 15 prox. 33 deg.	574 m to 1599 m	with GeoPilot rotary					
IH	TP (RE)	RR	0130	0200	0.50	1599.0m	Fault in TDS of Racked back	oiler pump motor d first stand off botto	uring connectior m. (1570 m)	n. No rotary ope	ration on TDS.					
IH	TP (RE)	RR	0200	0230	0.50	1599.0m	Worked pipe	whilst rigging up ce	ementing hose a	nd circulating su	ıb.					
IH	TP (RE)	CHC	0230	0330	1.00	1599.0m	Worked pipe Note: 02:30 P	whilst circulating bo ump #3 Module wa	ottoms up and bo ashed.	oosted riser unti	l shakers clean.					
IH	TP (RE)	тот	0330	0800	4.50	1599.0m	Rigged down cementing hose and circulating sub. POH with 311 mm (12 1/4") ro steerable BHA from 1570 m to 1170 m. Worked through tight spots from 1428 m 1170 m. Max 23 t (50000 lb) overpull.									
ІН	TP (RE)	тот	0800	0900	1.00	1599.0m	Circulated bottoms up to clean hole.									
ІН	TP (RE)	тот	0900	1000	1.00	1599.0m	Continued to	POH from 1170 m	to 727 m (340 m	nm (13 3/8") cas	ing shoe)					
IH	TP (RE)	RR	1000	1200	2.00	1599.0m	Changed out whilst changing	TDS oiler pump mo ig out motor)	otor. (Partially se	erviced TDS blo	ck and dolly rollers					
IH	TP (RE)	тот	1200	1400	2.00	1599.0m	RIH from 727 circulation and	m to 1565 m. Tool d washed / reamed	k weight (13.6 t / I to 1599 m.	30,000 lb) at 1	565 m. Broke					
IH	Р	DA	1400	1430	0.50	1610.0m	Drilled 311 mi mudstone with	n (12 1/4") directio n GeoPilot rotary s	nal hole from 15 teerable BHA.	i99 m to 1610 m	n in Skull Creek					
H	P	CHC	1430	1500	0.50	1610.0m	Picked up off shakers.	bottom and circula	ted at reduced ra	ate (400 gpm) to	o kerb losses at					
	P	DA	1500	1730	2.50	1662.0m	Drilled 311 mi mudstone.	m (12 1/4") directio	nal hole from 16	610 m to 1622 m	n in Skull Creek					
	P	CHC	1730	1930	2.00	1662.0m	built to reach	e clean whilst wait target)	ing on further ins	struction. (Insum						
ш 1	P	нвна	2230	2230	1.50	1662.0m	at shoe and b	efore BHA through	BOP)	t $X/O$ jars and s						
Opera	tions Fo	or Peri	od 000	0 Hrs	to 060	) Hrs on	23 May 200	5	Di IA, laying ou	t 700, jais and t						
Phse	Cls (RC)	Ор	From	То	Hrs	Depth		-	Activity Descrip	otion						
ІН	Ρ	HT	0000	0030	0.50	1662.0m	Attempted to FEWD tool.	download FEWD n	nemory. Could n	ot establish con	nmunication with					
ІН	Р	нт	0030	0130	1.00	1662.0m	Laid out FEW	D, Directional (DM	) sub and Pulse	r sub.						
IH	Р	HT	0130	0200	0.50	1662.0m	Broke out bit.	Laid out Geopilot t	ool.							
IH	Ρ	HBHA	0200	0230	0.50	1662.0m	Picked up 244 #7. Set bent s	I mm (9-5/8") Sper ub to 1.5 deg.	ry Lobe 6/7 Mud	Motor and mac	de up same to PDC Bit					
IH	Ρ	HT	0230	0500	2.50	1662.0m	Picked up NM Made up sam Confidence te	Bottleneck X/O, s e. Aligned scribes sted, initialised and	tabiliser, FEWD, and oriented mu d programmed F	, Directional (DN Id motor for high EWD tools.	/I) sub, Pulser sub. n side of hole.					
IH	Ρ	HBHA	0500	0600	1.00	1662.0m	Changed out (12 1/4") direct wellhead.	elevators to handle tional BHA (c/w m	e 127 mm (5") H ud motor) to 87	WDP. Comment m. Attempted to	ced RIH with 311 mm work BHA through					

## DRILLING MORNING REPORT # 2 Casino 4DW ( 22 May 2005 )

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WBM Data													
Mud Type:	API FL	: 4	cm³/30m	CI:			47000	Solids:		4.8	Viscosity:		0sec/L
KCL/IDCAP-D/Polymer	Filter-C	Cake:	1mm	K+C*	1000:		8%	H2O:		87%	PV: YP:		0.022Pa/s 0.182MPa
Sample-From: Suction	HTHP-	HTHP-FL: 0cm <sup>3</sup>		Hard	/Ca:		560	Oil:		0%	Gels 10s:		0.057
Time: 19:00	нтнр.	HTHP-Cake		MBT			12	Sand			Gels 10m:		0.125
Weight: 1.29sg		oune.	omm		•		0.25			10	Fann 003: Fann 006:		12
Temp: 0C°							0.25	pupa.		0	Fann 100:		42
				PF:			0.1	PHPA:		aqqu	Fann 200: Fann 300:		55 60
											Fann 600:		82
Comment	IDCAP	-D = 3 ppb											
Bit # 6				We	ar I		01	D	L	В	G	O2	R
Size ("): 3	811mm	IADC#	S323		Nozzles	;	Dril	led over la	ast 24 hr	s	Calculated	d over Bi	t Run
Mfr: SECURIT	Y-DBS	WOB(avg)	0.82mt	No.	Siz	Э	Progre	ess	88.	0m Cum.	Progress		354.0m
Туре:	PDC	RPM(avg)	150	9	16	/32nd"	On Bo	ottom Hrs	3.4	40h Cum.	On Btm H	rs	15.64h
Serial No.: 103	87397	F.Rate	3596lpm				IADC	Drill Hrs	15.2	20h Cum	IADC Drill	Hrs	30.00h
Bit Model F	Bit Model FS2663 SPP						Total	Revs		0 Cum	Total Revs	;	0
Depth In 13	Depth In 1308.0m TFA				ROP(avg) 25.88 m/hr						r ROP(avg) 22.63 m/hr		
Depth Out 16													
Run Comment		Integral Stat	iliser Slee 1273 m (t	eve, B op cer	ox up cor ment plug	nectior ) to KO	n. P @ 13	808m in Ca	asino 4.				
BHA # 7													
Weight(Wet)	0.91mt	Length		167.0m Torq			e(max)		0	Nm D.C.	(1) Ann Ve	locity	
Wt Below Jar(Wet)	1.54mt	String			0mt	Torqu	e(Off.Btm) 0N			Jm D.C. (2) Ann Velocity			
		Pick-Up			0mt	Torque(On.Btm) 0Nr			Im H.W.D.P. Ann Velocity				
		Slack-Off			0mt					D.P. Ann Velocity			
BHA Run Description		311 mm (12 Float Sub, X	1/4") Bit, /O, 9 x 12	244 m 27 mm	nm (9 5/8' ו (5") HWI	) Geop DP, X/C	ilot, 203 ), 203 n	3 mm (8") nm (8") Ja	NM Flex rs, X/O, 9	Pony, Sper x 127 mm	ry FEWD/I (5") HWD	WWD, 20 P	3 mm (8")
Equipme	nt		Leng	gth	OD	I	D	Seria	al #		Com	ment	
Bit			0.6	64m	311mm	1	0mm	10387397	,	SDBS FS	2663 Bit #0	6	
Geopilot Steerable Tool			6.6	62m	245mm	1	0mm	GP1225 T	LOG				
NM Flex Pony			2.8	30m	203mm		0mm	CP773036	6				
FEWD Tools 14					203mm		0mm			FEWD - D DM Sub - Pulser - 10	M9007252 128402 0645028	23XH1 W	RG8
Float Sub			1.0	)5m	203mm		0mm	49079		Ported Flo	bat		
X/O			1.0	)9m	203mm		0mm	SANTOS					
HWDP			83.1	7m	162mm		0mm						
X/O			1.1	3m	203mm	1	0mm	186-010					
Jar			9.6	67m	207mm		0mm	DAH0378	6				
			1.0	)2m	191mm		0mm	186-011					
5in HWDP			45.5	9m	161mm	1	0mm						

Bulk Sto	cks						Personnel C	n Board			
N	ame	Unit	In	Used	Adjust	Balance		Company		Pax	(
Fuel		m3	199.8	20.5	0	514.0	Santos			4	
Drill Water		m3	0	48.3	0	390.4	DOGC			49	
Potable Wat	ter	m3	35.9	30.5	0	190.1	ESS			8	
Gel		sx	0	0	0	868.0	Dowell			2	
Cement		sx	0	0	0	2.309.0	MI			2	
Barite		SX	0	359	0	1.617.0	Geoservices			6	
KCI Brine		bbl	0	0	0	0.0	Fuaro			3	
			•	Ŭ	•	0.0	Sperry-Sun			5	
							Baker Atlas			1	
							Cameron			3	
							Expro			3	
							Weatherford			1	
							Weathenord		Total	4	
									TOTAL	90	
HSE Sum	nmary										
E	Events	Date of	Last D	Days Sinc	e			Ren	narks		
Abandon Dr	ill	22 May	2005 0	Days	Abar	ndon Drill					
BOP Test		12 May	2005 10	) Days	BOP	PTest					
Environmen	tal Incident	02 May :	2005 20	) Days	None	e reported	since commence	ement of cam	paign.		
Fire Drill		22 May 1	2005 0	Days	Fire	Drill					
First Aid		04 May	2005 18	3 Days	Pers	on struck	on nose with met	tal bar			
Lost Time In	ncident	02 May 1	2005 20	) Days	None	e reported	since commence	ement of cam	paign.		
Man Overbo	oard Drill	02 May 1	2005 20	) Days	None	e underta	ken since comme	ncement of c	ampaign.		
Near Miss		02 May 3	2005 20	) Days	None	e reported	since commence	ement of cam	paign.		
Safety Meet	ing	22 May 2	2005 0	Days	Wee	kly Safety	/ Meeting				
Stop Cards		22 May 2	2005 0	Days	6 Sto	op Cards					
Marine											
Weather che	eck on 22 May	/ 2005 at 240	0						Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressu	re Air	Temp.	Wave He	ight Wave Dir.	Wave Period	Anchors	Tensio	on (mt)
14.8km	22km/h	293deg	1018.00	bar 1	3.0C°	0.5m	293deg	2m/sec	1	10.	.30
Roll	Pitch	Heave	Swell He	eight Sv	vell Dir.	Swell Per	riod Weather C	Comments	2	8.9	98 62
1.0deg	1.0deg	0.50m	1.5m	n 29	93deg	2m/se	с		3	7.0	02 21
Rig Dir	Ris Tension	VDI		Co	mments				5	8.	62
	40.05mt	045 50mt		00					6	9.0	62
249.0deg	12.25mt	215.50mt							7	10.	.70
									8	10.	.39
Boats	Arrive	ed (date/time	e)	Departe	ed (date/	/time)	Statu	IS		Bulks	
Far Grip							Ocean Patriot		Item	Unit	Quantity
									Fuel Drill Water	M3	340 689
									Potable Water	M3	585
									Barite	MT	37
									Gel	MT	42.3
									KCI Brine	bbl	0
Pacific Wrangler							Portland		Item	Unit	Quantity
-									Drill Water	M3	319.3
									Potable Water	M3	315
									Barite Gel	MT MT	0
									Cement	MT	0
							1		KCI Brine	bbl	2000

#### DRILLING MORNING REPORT # 22 Casino 4DW ( 23 May 2005 )

		From :	Chris Wise /	Pat King			
		OIM :	Sean De Frei	tas			
Well Data							
Country	Australia	M. Depth	1662.0m	Cur. Hole Size	311mm	AFE Cost	
Field	Casino	TVD	1630.0m	Casing OD	340mm	AFE No.	5746022
Drill Co.	DOGC	Progress	88.0m	Shoe TVD	727.9m	Daily Cost	
Rig	Ocean Patriot	Days from spud	21.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	2.60			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	Completing	pressure test of su	rface equipmer	nt. Preparing to make	e up 311 mm (12
RT-ML	92.8m		1/4") Geop	ilot directional BHA.			
		Planned Op	RIH with 3 <sup>-</sup> mm (12 1/4	11 mm (12 1/4") Geo 4") directional hole to	opilot Directiona o secion TD.	al BHA. Kick-off from	1200 m. Drill 311

#### Summary of Period 0000 to 2400 Hrs

Laid out 311 mm (12 1/4") Geopilot directional BHA. Made up 311 mm (12 1/4") directional BHA w/ mud motor. Attempted to RIH. POH. Set kick-off plug from 1200 m to 1350 m. Commenced testing BOP whilst waiting on cement.

#### Operations For Period 0000 Hrs to 2400 Hrs on 23 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
IH	Ρ	HT	0000	0030	0.50	1662.0m	Attempted to download FEWD memory. Could not establish communication with FEWD tool.
ін	Р	ΗΤ	0030	0130	1.00	1662.0m	Laid out FEWD, Directional (DM) sub and Pulser sub.
IH	Р	ΗT	0130	0200	0.50	1662.0m	Broke out bit. Laid out Geopilot tool.
IH	Ρ	HBHA	0200	0230	0.50	1662.0m	Picked up 244 mm (9-5/8") Sperry Lobe 6/7 Mud Motor and made up same to PDC Bit #7. Set bent sub to 1.5 deg.
IH	Ρ	ΗT	0230	0500	2.50	1662.0m	Picked up NM Bottleneck X/O, stabiliser, FEWD, Directional (DM) sub, Pulser sub. Made up same. Aligned scribes and oriented mud motor for high side of hole. Confidence tested, initialised and programmed FEWD tools.
ІН	Ρ	НВНА	0500	0700	2.00	1662.0m	Changed out elevators to handle 127 mm (5") HWDP. Commenced RIH with 311 mm (12 1/4") directional BHA (c/w mud motor) to 87 m. Worked BHA through BOPs and 476 mm (18 3/4") wellhead. Unable to pass 340 mm (13 3/8") casing at approx 100 m due to excessive drag. Picked up above BOP.
IH	TP (OTH)	RS	0700	0730	0.50	1662.0m	Serviced TDS, blocks and rollers whilst waiting on forward plan.
IH	TP (OTH)	HBHA	0730	0900	1.50	1662.0m	POH with 311 mm (12 1/4") BHA and racked back same. Broke off PDC Bit #7.
ІН	Р	ТΙ	0900	1200	3.00	1662.0m	Made up 127 mm (5") mule shoe to 127 mm (5") drill pipe and RIH to 1450 m.
ін	Р	CHC	1200	1315	1.25	1662.0m	Circulated bottoms up. Spotted 9.5 m3 (60 bbl) hi-vis pill at 1450 m
IH	Ρ	то	1315	1345	0.50	1662.0m	POH with 127 mm (5") cementing string from 1450 m 1350 m. Rigged up surface cementing lines.
н	Ρ	CMP	1345	1445	1.00	1662.0m	Set kick-off cement plug from 1200 m to 1350 m (14.8 m3 / 93 bbl, 1.98sg / 16.5 ppg, 495 sx Class G)
							<ul> <li>13:47 Pumped 0.8 m3 (5 bbl) drill water</li> <li>13:50 Pressure tested surfcace cementing lines to 7000 kPa (1000 psi)</li> <li>13:58 Pumped 0.8 m3 (5 bbl) drill water</li> <li>14:05 Mixed and pumped 14.8 m3 (93 bbl) cement slurry</li> <li>14:30 Pumped 0.19 m3 drill water</li> <li>14:32 Displaced cement with 10.4 m3 (65.3 bbl) mud using cement unit</li> <li>14:41 Bled off pressure</li> </ul>
IH	Ρ	то	1445	1600	1.25	1662.0m	Broke out cement stand. POH with 127 mm (5") cementing string from 1350 m to 1150 m.
IH	Ρ	CHC	1600	1630	0.50	1662.0m	Rigged up surface lines and reverse circulated string clean. (Noted pressure increase at bottoms up. Dumped 7.15 m3 / 45 bbl contaminated mud )
IH	Р	то	1630	1830	2.00	1662.0m	POH with 127 mm (5") cementing string from 1150 m to 290 m.
IH	Ρ	BOP	1830	1900	0.50	1662.0m	Made up Cameron test plug assembly and RIH on 127 mm (5") drill pipe (cementing string).
IH	TP (VE)	BOP	1900	2045	1.75	1662.0m	Attempted to pressure test BOP. Tested lower pipe rams - failed. Tested upper pipe rams - failed. Fluid up drill string. Test plug seals passing.
IH	TP (VE)	BOP	2045	2115	0.50	1662.0m	POH with test plug. Set down weight on tool at surface to test seal. Seal not energising.
IH	TP (VE)	OA	2115	2300	1.75	1662.0m	Laid out and troubleshooted test plug. Installed new inner and outer seals.
IH	Р	BOP	2300	2330	0.50	1662.0m	Made up test plug and RIH. Landed out in wellhead.
IH	Ρ	BOP	2330	2400	0.50	1662.0m	Commenced pressure testing BOP. Lower pipe rams tested - 1400 kPa (200 psi)/5 mins; 27500 kPa (4000 psi) / 10 mins.

#### Operations For Period 0000 Hrs to 0600 Hrs on 24 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Dept	ı				А	ctivity Descrip	otion			
IH	Ρ	BOP	0000	0300	3.00	1662.0	m Conti rams mins kPa ( with y	inued to and lov Testeo (3000 p	o press wer fai d annu si). Te	sure tes Isafes t Ilars and sted Ch	t BOP wi o 1400 kF d upper fa noke Man	th blue pod fro Pa (200 psi) / ailsafes to 140 ifold to 27500	om drille 5 mins a 00 kPa ( kPa (40	er's remote and 27500 200 psi) / 000 psi). F	e panel. Te kPa (400 5 mins an function te	ested pipe 0 psi) / 10 d 20700 ested BOP
ІН	Ρ	BOP	0300	0415	1.25	1662.0	m POH and c	with Bo	OP tes	t plug a	ind laid o	ut same. POH	10 star	nds of 127	mm (5") (	drill pipe
IH	Ρ	BOP	0415	0600	1.75	1662.0	m Rigge manu	ed up p Jal IBO	ressur P to 14	e test h 400 kPa	ose to TE a (200 psi	DS. Tested #1 ) / 5 min and 2	standp 27500 k	ipe valve, Pa (4000 j	auto IBOF psi) / 10 m	P, lower nin.
WBM	Data															
Mud Typ			API	FL:	3	cm <sup>3</sup> /30m	CI:			48000	Solids:		4.8	Viscosity:		0sec/L
Sample	From:	-D/Polym	Filte	r-Cake:		1mm	K+C*100	0:		8%	H2O:		87%	PV: YP:		0.019Pa/s 0.177MPa
Time:	n iom.	20.		IP-FL:	0	cm³/30m	Hard/Ca:			1200	Oil:		0%	Gels 10s:		0.062
Moight:		1 20.	HTH	IP-Cake:		0mm	MBT:			13	Sand:			Fann 003:		11
Tompi		1.29	sy				PM:			0.2	pH:		9	Fann 006:		14
remp.		0	C				PF:			0.05	PHPA:		0ppb	Fann 200:		35 48
														Fann 300:		56 75
Comme	nt		IDC	AP-D = 3	ppb									Fann 600.		15
Bit # (	6						Wear	I		01	D	L	В	G	O2	R
	-							0		1	WT	G	Х	I	NO	BHA
Size ("):			311m	m IADO	C#	S323	No	ozzles	·	Drill	ed over l	ast 24 hrs	C	Calculated	l over Bit	Run
Mfr:		SECU	RITY-DB	s woe	B(avg)	0.82mt	No.	Size		Progre	SS	88.0m	Cum.	Progress		442.0m
Type:			PD	C RPM	l(avg)	150	9	16/3	82nd"	On Bo	ttom Hrs	3.40h	Cum.	On Btm Hr	s	19.04h
Serial N	lo.:		1038739	7 F.Ra	ite 3	3596lpm				IADC I	Drill Hrs	15.20h	Cum I	ADC Drill I	Hrs	45.20h
Bit Mod	el		FS266	3 SPP	20	684kPa				Total F	Revs	0	Cum T	otal Revs		0
Depth In	า		1308.0	m TFA		1.767				ROP(a	avg)	25.88 m/hr	ROP(a	avg)	2	23.21 m/hr
Depth C	Dut		1662.0	m												
Run Co	mment			Integ Drille	ral Stab	iliser Slee I 273 m (t	eve, Box ι op cemen	ip conn it plug)	ection to KO	P @ 13	08m in Ca	asino 4.				
Bit #7	7						Wear	I		01	D	L	В	G	O2	R
Size ("):			311mi	m IADC	C#	M223	No	ozzles		Drill	ed over l	ast 24 hrs	C	Calculated	l over Bit	Run
Mfr:			SMIT	H WOE	B(avg)	0mt	No.	Size		Progre	SS	0m	Cum.	Progress		0m
Type:			PD	C RPM	l(avg)	0	7	20/3	82nd"	On Bo	ttom Hrs	0h	Cum.	On Btm Hr	S	0h
Serial N	lo.:		JT690	1 F.Ra	te	0lpm				IADC I	Drill Hrs	0h	Cum I	ADC Drill I	Hrs	0h
Bit Mod	el		MA89P	X SPP		0kPa				Total F	Revs	0	Cum T	otal Revs		0
Depth Ir	า		1662.0	m TFA		2.148				ROP(a	avg)	N/A	ROP(a	avg)		0.00 m/hr
Depth C	Dut		1662.0	m												
Run Co	mment			BHA	POH af	ter hangi	ng up in 3	40 mm	(13 3/	8") casi	ng.					
Bitwear	Comment			Bit n	ot run.											
BHA #	<b># 8</b>												1			
Weight(	(Wet)		0.91m	nt Leng	gth		168	3.4m <sup>-</sup>	Torque	e(max)		0Nm	D.C. (	1) Ann Vel	locity	
Wt Belo	w Jar(We	t)	1.54n	nt Strin	g			0mt	Torque	e(Off.Bt	m)	0Nm	D.C. (	2) Ann Vel	locity	
				Pick	-Up			0mt	Torque	e(On.Bt	m)	0Nm	H.W.C	D.P. Ann V	elocity	
				Slac	k-Off			0mt					D.P. A	nn Velocit	ty	
BHA Ru	ın Descrip	tion		311 203 Jars	mm (12 mm (8") , 9 x 127	1/4") Bit, Continge ' mm (5")	244 mm ( ency Sub, HWDP	9 5/8") Sperry	Sperr FEWI	y Mud N D/MWD	/lotor, 203 , 203 mm	3 mm (8") NM , X/O, 9 x 127	X/O, 29 7 mm (5	92 mm (11 ") HWDP,	1/2") Stri 171 mm (	ng Stab, 6 3/4")

Equipment						Length OD ID				Comment		
Bit					0.	38m	311mm	nm 0mm JT6901		Smith MA89P>	( Bit #7	
9.625in Mote	or				8.	56m	245mm	0mm	963116	1.5 deg bend		
NM X/O					1.	05m	203mm	0mm	A554	c/w Ported Flo	at	
String Stabil	liser				1.	90m	241mm	0mm	7090449			
Contingency	/ Sub				1.	22m	203mm	0mm	10659402			
FEWD Tools	S				15.	54m	203mm	0mm FEWD - WF			V8	
										DM Sub - 1284	102	
X/O					1	00m	19m 203mm		SANITOS	Puiser - 10645	028	
					83	17m	203mm	Omm	SANTOS			
lar					00. Q	87m	165mm	Omm	MAH00160			
5in HWDP					45	59m	161mm	0mm	100100			
Bulk Stor	cks							Personne	l On Board			
		Linit	In		o.d	A diuct	Polonoo		Compony		Dov	
ING	ame	Unit	IN	US	ea .	Adjust	Balance		Company		Pax	
Fuel		m3	0	_	22	0	492.0	Santos			4	
Drill Water		m3	0		2.3	0	318.1	DOGC			49	
Potable vvat	ter	m3	28		5.9	0	212.2	ESS			8	
Gel		SX	0		0	0	868.0	Dowell			2	
Cement		SX	0	3	20	0	1,947.0	IVII Cooconviceo			2	
KCI Brino		58	0	1	20	0	1,409.0	Geoseivices			2	
KCI BIIIIe		וטט	0		0	0	0.0	Sporn/-Sup			5	
								Baker Atlas			1	
								Cameron			3	
								Expro			3	
								Weatherford			4	
							-			Total	90	
	mon						l					
		<b>D</b> ( )			<u>.</u>							
E	vents	Date of	Last	Days	Since				Rem	arks		
Abandon Dr	ill	22 May	2005 1	Day		Abai	ndon Drill					
BOP Test	(all hard dates)	12 May	2005 1	1 Day	S	BOF	' lest					
Environmen	tal incident	02 May	2005 2	1 Day	S	Non	e reported	since comme	encement of cam	paign.		
Fire Drill Firet Aid		22 May	2005 1		•	Fire	Drill on otruck	on noon with	motal har			
	voidont	04 May	2005 1	9 Day	5	Non	o reported		necomont of com	naian		
Man Overbo	ard Drill	02 May	2005 2	1 Day	5 c	Non	e reporteu o undortak		mencement of c	paigii.		
Near Miss		02 May	2005 2	1 Day	5 c	Non			ancement of cam	naign.		
Safety Meet	ina	22 May	2005 2	Dav	3	Wee	kly Safety	Meeting		baigh.		
Stop Cards	ing	22 May	2005 0	Days		7 St	on Cards	weeting				
Marine	Stop Cards   23 May 2005   0 Days											
Weather che							Rig Support					
Visibility	Wind Speed	Wind Dir	Press	ure	Air T	emp	Wave Heid	nht Wave Di	r Wave Period	Anchors	Tension (mt)	
1/ 8km	26km/h	023404	1010 0	Obar	15	000	0.5m	022400	2m/coc	1	10.20	
14.0KIII		UZSUEY	0.0.0	Judi	10.		0.511	UZSUEg		2	8.98	
Roll	Pitch	Heave	Swell H	eight	Swe	II Dir.	Swell Peri	oa Weath	er Comments	3	7.62	
1.0deg	1.0deg	0.50m	2.0r	n	225	deg	2m/sec	:		4	8.21	
Rig Dir.	Ris. Tension	VDL			Com	ments				5	8.62	
249.0deg	12.25mt	219.99mt								6	9.62	
	1	1	1					1		7	10.70	
1										ŏ	10.39	

Boats	Arrived (date/time)	Departed (date/time)	Status	lks		
Far Grip		23 May 05 18:00	Portland	Item	Unit	Quantity
				Fuel	M3	330
				Drill Water	M3	689
				Potable Water	M3	562
				Barite	MT	37
				Gel	MT	42.3
				Cement	MT	0
				KCI Brine	bbl	0
Pacific			Ocean Patriot	Item	Unit	Quantity
wrangier				Fuel	M3	309.2
				Drill Water	M3	303
				Potable Water	M3	310
				Barite	MT	0
				Gel	MT	0
				Cement	MT	0
				KCI Brine	bbl	2000

#### DRILLING MORNING REPORT # 23 Casino 4DW ( 24 May 2005 )

		From :	Chris Wise /	Jeff Thomson			
		OIM :	Sean De Freit	tas			
Well Data							
Country	Australia	M. Depth	1575.0m	Cur. Hole Size	311mm	AFE Cost	
Field	Casino	TVD	1560.0m	Casing OD	340mm	AFE No.	5746022
Drill Co.	DOGC	Progress	64.0m	Shoe TVD	727.9m	Daily Cost	
Rig	Ocean Patriot	Days from spud	22.77	F.I.T. / L.O.T.	0sg / 2.14sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	3.60			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	Pull BHA pi	rior to RIH with ce	menting string	- H	
RT-ML	92.8m	Planned Op	RIH and se 311mm (12	t kick off plug #3, s 1/4") hole section	sidetrack well. Co n.	ommence drilling Ca	asino-4DW2
-							

#### Summary of Period 0000 to 2400 Hrs

While WOC, tested BOPs, IBOPs, #1 standpipe, made up casing hangar, deep sea express assembly, laid out 9.625" motor assembly, made up Geopilot 311mm (12 1/4") BHA, attempted todownload to MWD failed, changed out FEWD, RIH to 165m, surface tested MWD/ Geopilot, RIH, tagged TOC at 1176mRT MD, washed/rotated to 1200mRT MD, attempted to KO from 1200m - 1265mRT MD - unsuccessful.

#### Operations For Period 0000 Hrs to 2400 Hrs on 24 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
IH	Ρ	BOP	0000	0300	3.00	1662.0m	Continued to pressure test BOP with blue pod from driller's remote panel. Tested pipe rams and lower failsafes to 1400 kPa (200 psi) / 5 mins and 27500 kPa (4000 psi) / 10 mins. Tested annulars and upper failsafes to 1400 kPa (200 psi) / 5 mins and 20700 kPa (3000 psi). Tested Choke Manifold to 27500 kPa (4000 psi). Function tested BOP with yellow pod.
IH	Р	BOP	0300	0415	1.25	1662.0m	POH with BOP test plug and laid out same. POH 10 stands of 127 mm (5") drill pipe and cementing mule shoe.
IH	Р	хт	0415	0600	1.75	1662.0m	Rigged up pressure test hose to TDS. Tested #1 standpipe valve, auto IBOP, lower manual IBOP to 1400 kPa (200 psi) / 5 min and 27500 kPa (4000 psi) / 10 min.
IH	Р	RRC	0600	0830	2.50	1662.0m	Made up and laid out 244mm (9 5/8") casing hanger and deep sea express assembly.
IH	TU (DTF)	HBHA	0830	1000	1.50	1662.0m	Laid down 244mm (9 5/8") Sperry Lobe 6/7 downhole motor and MWD assembly with worn integral stabiliser.
IH	TU (DTF)	HBHA	1000	1200	2.00	1662.0m	Picked up BHA #9 - 311mm (12 1/4") Geopilot BHA.
IH	TU (DTF)	HBHA	1200	1300	1.00	1662.0m	Unable to function test and program Sperry Sun MWD at surface.
IH	TU (DTF)	HBHA	1300	1430	1.50	1662.0m	Tool failure, MWD not functioning, laid out MWD and picked up original MWD.
IH	TU (DTF)	HBHA	1430	1530	1.00	1662.0m	Successfully function tested MWD.
IH	Р	ТΙ	1530	1630	1.00	1662.0m	RIH with BHA #9 to 165mRT MD and surface tested Geopilot / MWD.
ІН	Р	ST	1630	1830	2.00	1662.0m	RIH to 1120mRT MD, washed down to TOC at 1176mRT MD.
IH	Р	ST	1830	1900	0.50	1662.0m	Drilled/washed through soft cement to 1200mRT MD.
IH	Р	ST	1900	2400	5.00	1662.0m	Attempted to sidetrack well from 1200mRt MD to 1265mRT MD (unsuccessful).

#### Operations For Period 0000 Hrs to 0600 Hrs on 25 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
IH	TP (OTH)	ST	0000	0130	1.50	1662.0m	Circulated 1.5 x bottoms up. Checked shakers and observed abundant cement returns. Circulated until shakers cleaned up.
IH	TP (OTH)	ST	0130	0500	3.50	1662.0m	Conducted flow check, POOH from 1265m - 1140mRT MD, pumped slug, POOH.
IH	TP (OTH)	ST	0500	0600	1.00	1662.0m	Flow checked at BOPs, Pulled and racked back BHA.

#### WBM Data

WBIII Butu									
Mud Type:	P-D/Polymer	API FL:	3cm <sup>3</sup> /30m	CI:	46000	Solids:	13	Viscosity:	0sec/L
Sample-From:	Suction	Filter-Cake:	1mm	K+C*1000:	8%	H2O:	87%	YP:	0.168MPa
Time:	08:00	HTHP-FL:	0cm <sup>3</sup> /30m	Hard/Ca:	1200	Oil:	0%	Gels 10s: Gels 10m:	0.053 0.096
Weight:	1.28sg	HTHP-Cake:	0mm	MBT:	15	Sand:		Fann 003:	11
Temp:	0C°			PM:	0	pH:	8.4	Fann 006: Fann 100:	13 35
- 1				PF:	0.05	PHPA:	0ppb	Fann 200:	46
								Fann 300:	55
								Fann 600:	75
Comment		IDCAP-D = 3 pp	b						

				14/0			01			1	D	C	00	Р
Bit # 8				vve			01	D			D	G	02	ĸ
Size ("):	311mm	IADC#			Nozzles	5	Dri	lled over	last 24 hr	s	C	alculate	d over Bit	t Run
Mfr: Hughes Ch	ristensen	WOB(avg)	) 0.14r	nt No	Siz	e	Progr	ess	64	.0m	Cum. I	Progress		64.0m
Type:	Rock	RPM(avg)	7	5	0.2	•	On B	ottom Hrs	3.	90h	Cum. (	On Btm H	Irs	3.90h
Serial No	5031197	F Rate	3218lp	m				Drill Hrs	0.	0h	Cum L	ADC Drill	Hrs	0h
Bit Model	MXCS03	SDD	1551345				Total	Rove		0	Cum T	otal Rev	-	0
	1176.0m		0.00	a					16 /1 -	0 n/hr			5	16.41 m/br
Depth III	0.000	IFA	0.00				RUF	(avg)	10.411	11/111	KUP(a	ivy)		10.41 11/11
	Um	TOO 4470												
Run Comment		TOC 1176	m											
BHA # 9											<b>T</b>			
Weight(Wet)	1.09mt	Length			165.3m	Torqu	e(max)		0	Nm	D.C. (	1) Ann Ve	elocity	
Wt Below Jar(Wet)	1.36mt	String			0mt	Torqu	e(Off.B	stm)	0	Nm	D.C. (2	2) Ann Ve	elocity	
		Pick-Up			0mt	Torqu	e(On.B	stm)	0	Nm	H.W.D	.P. Ann	Velocity	
		Slack-Off			0mt						D.P. A	nn Veloc	itv	
		211 mm (	10 1/4") #	ook bit d		244 m	m (0 E	/9") Coopi	ilot 202 m	m /0			( Sporn (	
BHA KUII Description		FEWD/MV	VD, 203 r	nm (8")	Float Sub	, 244 II , X/O, 9	9 x 127	mm (5") F	HWDP, 16	65 mr	n (6.5")	Jars, 9 x	(127 mm)	(5") HWDP
Equipr	nent		Le	ength	OD		ID	Ser	ial #			Con	nment	
Bit				).34m	311mm	1	0mm	5031197		Roc	ck bit			
Near Bit Stabiliser				0.46m	311mm	1 7	76mm	1062580	7	Sta	biliser s	leeve		
Geopilot Steerable Tool				5.62m	245mm	n l	0mm	GP1225	TLO62					
NM Flex Pony				2.80m	203mm	n	0mm	CP77303	36					
FEWD Tools			1	4.32m	203mm	n	0mm			FE\	WD - W	RG8		
										DM	Sub - 1	28402		
Elect Out				1.05	000		0	40070		Pul	ser - 10	645028		
				1.00m	20300		0mm	49079 SANTOS		POI	led Floa	al		
			0	1.09m	203000 162mm		0mm	SANTUS	<b>)</b>					
lar			0.	2.09111 2.87m	165mm		73mm		160					
5in HWDP			4	5.07m	161mm	, <i>'</i>	0mm		100					
Bulk Stocks						Pors	onne	l On Bo	ard					
Duik Stocks	1.1	1.4	Llaad	۸ <u>مانی م</u>	Deleves	1 613							Dev	
Name	Unit	In	Used	Adjust	Balance			Cor	npany				Pax	<
Fuel	m3	0	28.1	0	463.9	Santo	S					4		
Drill Water	m3	0	78.4	0	239.7	DOG	3					49		
Potable Water	m3	30	42.2	0	200.0	ESS						8		
Gel	SX	0	0	0	868.0	Dowe	11					2		
Cement	SX	0	0	0	1,947.0		onviooo					2		
KCI Brino	5X bbl	0	0	0	1,469.0	Eugro	ervices					2		
NCI DIIIle	ומט	0	0	0	0.0	Sperm	v-Sun					5		
						Came	eron					3		
						Expro						3		
						Weath	nerford					4		
											Т	otal 89		
HSE Summary														
Events	Date o	oflast D	ave Sinc	2					Remark	ke				
L Ventos				-					Reman	1.5				
Abandon Drill	22 May	/ 2005 21	Jays	Aba	naon Drill									
DUP Test Environmental Insident	24 IVIA)		Days	BOH		Loinco	~~~~-	noomaat	of compet	an				
	02 IVIA)	2005 22	Days	INON		SINCE	comme	encement	oi campai	yn.				
		2005 21	Days	Pare		00 000	o with	matal har						
Lost Timo Insident	04 IVIA)	2005 20	Days	Pers					of composi	an				
Man Overboard Drill		/ 2005   22 / 2005   22	Dave	Non		i SIIICE		mencemo	or campal	yıı. naiar	n			
Near Miss	02 May	/ 2005 22	Dave	Non		l since	comme	ncement	of campai	paiyi an				
Safety Meeting	22 May	2005 21	Davs	Wee	kly Safet	/ Meetii	na	nooment	or campai	y				
Stop Cards	24 May	/ 2005 01	Days	8 St	op Cards		5							

Marine										
Weather che	eck on 24 May	/ 2005 at 2400	0					Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Heig	ght Wave Dir.	Wave Period	Anchors	Tensio	on (mt)
14.8km	46km/h	270deg	1014.00bar	12.0C°	0.5m	315deg	2m/sec	1	10	39
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Peri	od Weather	Comments	2	8.	89
1 0deg	1 0deg	0.50m	2 0m	248deg	2m/sec			3	7.	48
1.0deg	1.0deg	0.5011	2.011	ZHOUEY	211/360	,		4	7.	80
Rig Dir.	Ris. Tension	VDL		Comments				5	8.4	48
249.0deg	12.25mt	216.09mt						6	9.8	80
								7	9.	62
								8	10	.39
Boats	Arrive	ed (date/time)	De	parted (date	/time)	Stat	us	I	Bulks	
Far Grip				23 Ma	y 05 18:00	Portland		ltem	Unit	Quantity
								Fuel	M3	330
								Drill Water	M3	689
								Potable Water	M3	562
								Gel	MT	42.3
								Cement	MT	0
								KCI Brine	bbl	0
Pacific						Ocean Patriot		ltem	Unit	Quantity
wrangier								Fuel	M3	298.9
								Drill Water	M3	303
								Potable Water	M3	305
								Gal	MT	0
								Cement	MT	0
								KCI Brine	bbl	2000
Helicopte	r Moveme	nt	÷							
Flight #	Time		Desti	nation			Com	ment		Pax
1	10:26	Ocean P	atriot							8
1	10:40	Essendo	n							9

					F	rom:	Chris Wise /	Jeff Thomson			
					c	DIM:	Sean De Frei	tas			
Well D	Data										
Country	,		Australia	M. D	epth		1265.0m	Cur. Hole Size	311mm	AFE Cost	
Field			Casino	TVD			1265.0m	Casing OD	340mm	AFE No.	5746022
Drill Co.			DOGC	Prog	ress		64.0m	Shoe TVD	727.9m	Daily Cost	
Rig		Ocea	an Patriot	Days	s from sp	ud	23.77	F.I.T. / L.O.T.	0sg / 2.14sg	Cum Cost	
Wtr Dpt	h(LAT)		70.8m	Days	s on well		4.60			Planned TD	2642.0m
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	Wait on cer	ment, POOH with v	with TCI bit / mot	or assembly.	
RT-ML			92.8m	Plan	ned Op		Make up st PDC assen	eering BHA,RIH to nbly.	TOC and sidetra	ack hole. Trip to c	hange to Geopilot /
Summ	nary of	Period	0000 t	o 2400	) Hrs						
Circulat bits and	ed hole cl extra 203	ean, PO 3mm (8")	OH, ran s drill colla	sidetrack ar to test	c plug #3 ability to	, WOC. Wh	ile WOC, condu o bottom.	ucted dummy trips	with 1.15 deg be	end motor assemb	Iy BHA w/ PDC, TCI
Opera	tions F	or Peri	od 000	0 Hrs	to 240	0 Hrs on	25 May 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
ІН	TP	ST	0000	0130	1 50	1662.0m	Circulated 1	5 x bottoms up. Ch	ecked shakers a	and observed abur	idant cement
	(OTH)	0.	0000	0100	1.00	1002.011	returns. Circu	lated until shakers	cleaned up.		
IH	TP (OTH)	ST	0130	0500	3.50	1662.0m	Conducted flo	ow check, POOH fi	rom 1265m - 114	40mRT MD, pump	ed slug, POOH.
ІН	TP (OTH)	ST	0500	0630	1.50	1662.0m	Flow checked	d at BOPs, Pulled a	and racked back	BHA.	
ІН	TP (OTH)	ті	0630	1000	3.50	1662.0m	Made up 127	mm (5") cementing	g string and RIH	to1265mRT MD.	
ІН	TP (OTH)	CMD	1000	1100	1.00	1662.0m	Circulated ho	le at 1265mRt MD	- 3800 LPM (10	00 GPM)	
н	TP (OTH)	СМР	1100	1200	1.00	1662.0m	Rigged up su Set kick off p (16.3 m3 (10) 11:02 pumpe 11:08 pressu 11:10 pumpe 11:13 mixed 11:54 displac	Irface cementing lir lug from 1265mRT 2.6 bbls), 1.98 SG, d 0.8 m3 (5 bbls) c re tested surface li d 0.8 m3 (5 bbls) c and pumped 16.3 r æd cmt with 60 bbl	nes. - 1100 mRT. cmt slurry at 12 drill water nes to 6890 kPa drill water m3 (102.6 bbls) s drilling mud	65mRT MD). (1000 psi) of 1.98 SG (16.5 p	opg) cmt slurry
ІН	TP (OTH)	то	1200	1300	1.00	1662.0m	Rigged down	cement stand, and	d POOH to to 10	70mRT MD.	
IH	TP (OTH)	CMP	1300	1330	0.50	1662.0m	Rigged up su of cement co	Irface lines and rev	verse circulated s	string clean. Dump	ed 9.5 m3 (60 bbls)
IH	TP (OTH)	то	1330	1600	2.50	1662.0m	Rigged down	surface lines and	POOH from 107	0mRT MD, laid ou	t mule shoe.
ін	TP (OTH)	HBHA	1600	1700	1.00	1662.0m	Wait on ceme access. OK.	ent. RIH with GeoP	Pilot assembly (B	HA #9) to check w	vellhead/casing
ІН	TP (OTH)	HBHA	1700	1800	1.00	1662.0m	Laid down NI	M flex joint and Ge	opilot assembly.		
IH	TP (OTH)	ті	1800	2100	3.00	1662.0m	Picked up 24 motor bend a made up TDS swedge) - un	4mm (9.625") Sper tt 1.15deg. RIH and S, compensated an able to progress/m	rry 6/7 lobe moto d took 2.25 MT ( nd re-orientated. nake connection,	or assembly, DS43 5 klb) weight at 89 Ran into 98mRT ( string standing up	PDC bit and set m (bit at wellhead), bit at casing intermittently.
IH	TP (OTH)	ті	2100	2300	2.00	1662.0m	POOH and m RIH and re-o Constant dra compensator	nade up 1 x 203mm rientated w/ TDS ir g was experienced when not running	n (8") additional on attempt to redu I with the drillstrin in hole.	drill collar and ran ice drag at 98 mR ng heaving up to 1	in to 89mRT MD. T to 116mRT MD. .5 metre on the
IH	TP (OTH)	HBHA	2300	2400	1.00	1662.0m	POOH, laid o	out PDC bit, made u	up HC MXCS03	TCI bit and RIH w	ith assembly.
Opera	tions F	or Peri	od 000	0 Hrs	to 060	) Hrs on	26 May 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
IH	TP (OTH)	HBHA	0000	0100	1.00	1662.0m	RIH with mot drag at 89m a compensator Attempted to	or assembly and T and 98m. RIH to 11 break out TDS - st	CI bit, re-orienta 16mRT and took tring moved up ir	ted w/ TDS at in a weight with 1.5 m n slips on breaking	ttempt to reduce etre heave on the gout connection,
н	TP (OTH)	ті	0100	0500	4.00	1662.0m	chasing TDS POOH with m to 138mRT M 98mRT and 1	notor assembly, TC ID whilst re-orienta 117mRT. At 138mF	CI bit and laid out ating to reduce di RT, 1-2 metre str	t 292mm (11.5") si rag with link tilt/pip ing heave on com	tring stabiliser. RIH be handler at 89mRt, pensator prevented

Phse	Cls (RC)	Ор	From	Тс	o Hrs	s Deptl	ו				A	ctivity Des	cripti	ion			
							mak	ing co	nnectio	n.							
IH	TP (OTH)	то	0500	060	0 1.00	1662.0	m Com wea	imenc r on N	ed POC BS or E	DH with <sup>-</sup> BHA.	TCI bit/ m	otor assen	nbly.	Inspe	cted tools	, no indic	ation of
WBM	Data																
Mud Typ	e:		AP	I FL:		3cm <sup>3</sup> /30m	CI:			46000	Solids:			11	Viscosity:		0sec/L
	KCL/IDC/	AP-D/Polyn	ner Filt	er-Cak	e:	1mm	K+C*10	00:		8%	H2O:			89%	PV: YP:		0.018Pa/s 0.163MPa
Sample	-From:	Suct	ion HT	HP-FL:		0cm <sup>3</sup> /30m	Hard/Ca	:		1000	Oil:			0%	Gels 10s:		0.053
Time:		08	:00   HT	HP-Ca	ke:	0mm	MBT:			12.5	Sand:			trace	Gels 10m:		0.172
Weight:		1.27	7sg				₽М∙			0	nH.			11.8	Fann 006:		10
Temp:		C	°C							0.45				Opph	Fann 100:		33
							F1.			0.45	FTIFA.			oppo	Fann 300:		43 52
															Fann 600:		70
Comme	ent		ID	CAP-D	= 3 ppb												
Bit #	7						Wear		I	01	D	L		В	G	02	R
-																	
Size (")	:		311r	nm IA	DC#	M223	N	ozzles	5	Drill	ed over l	ast 24 hrs	;	C	alculated	l over Bi	it Run
Mfr:			SMI	TH W	OB(avg)	0mt	No.	Siz	е	Progre	SS	(	)m (	Cum. I	Progress		0m
Type:			PI	DC R	PM(avg)	0	7	20	)/32nd"	On Bo	ttom Hrs		0h (	Cum. (	On Btm H	rs	0h
Serial N	No.:		JT69	01 F.	Rate	0lpm				IADC I	Drill Hrs		0h (	Cum I/	ADC Drill	Hrs	0h
Bit Mod	lel		MA89	PX SI	PP	0kPa				Total F	Revs		0 0	Cum T	otal Revs		0
Depth I	n		1662.	Dm TI	=A	2.148				ROP(a	avg)	N	I/A I	ROP(a	ivg)		0.00 m/hr
Depth (	Dut		1662.	Dm													
Run Co	omment			В	HA POH	after hangi	ng up in 3	340 m	m (13 3	/8") casi	ng.						
Bitwear	Comme	nt		Bi	t not run												
Bit #	8						Wear		I	O1	D	L		В	G	02	R
Size (")	:		311r	nm IA	DC#		N	ozzles	5	Drill	ed over l	ast 24 hrs	;	C	alculated	l over Bi	it Run
Mfr:	1	Hughes C	hristens	en W	OB(avg)	0.14mt	No.	Siz	е	Progre	ss	64.0	)m (	Cum. I	Progress		128.0m
Type:			Ro	ock R	PM(avg)	75				On Bo	ttom Hrs	3.9	0h	Cum. (	On Btm H	rs	7.80h
Serial N	No.:		50311	97 F.	Rate	3218lpm				IADC I	Drill Hrs		0h (	Cum I/	ADC Drill	Hrs	0h
Bit Mod	lel		MXCS	03 S	PP	15513kPa				Total F	Revs		0 0	Cum T	otal Revs		0
Depth I	n		1176.	Dm TI	=A	0.000				ROP(a	avg)	16.41 m	/hr l	ROP(a	ivg)		16.41 m/hr
Depth (	Dut			Dm													
Run Co	mment			Т	DC 1176	m											
BHA	#9																
Weight	(Wet)		1.09	mt Lo	ength		16	5.3m	Torqu	e(max)		0N	Im	D.C. (*	1) Ann Ve	locity	
Wt Bel	ow Jar(W	et)	1.36	mt S	tring			0mt	Torqu	e(Off.Bt	m)	0N	Im	D.C. (2	2) Ann Ve	locity	
	``	,	-	Р	ick-Up			0mt	Torqu	e(On.Bt	<i>,</i> m)	ON	Im	н.w.D	.P. Ann V	elocity	
				s	lack-Off			0mt		,	,			D.P. A	nn Veloci	ty	
BHA R	un Descr	iption		3 F	11 mm (1 EWD/MV	2 1/4") rocł VD, 203 mn	k bit, stb n (8") Flo	sleeve at Sub	, 244 m , X/O, §	nm (9 5/8 9 x 127 r	3") Geopil mm (5") H	ot, 203 mn IWDP, 165	n (8") 5 mm	) NM F (6.5")	Flex Pony, Jars, 9 x	Sperry 127 mm	(5") HWDP

	Equip	oment		Le	ength	OD	ID	Serial #		Comment
Bit					0.34m	311mm	0mm	5031197	Rock bit	
Near Bit Sta	biliser				0.46m	311mm	76mm	10625807	Stabiliser sleev	/e
Geopilot Ste	erable Tool				6.62m	245mm	0mm	GP1225 TLO62		
NM Flex Por	ny				2.80m	203mm	0mm	CP773036		
FEWD Tools	6			1.	4.32m	203mm	0mm		FEWD - WRG8	3
									DM Sub - 1284	02
									Pulser - 10645	028
Float Sub					1.05m	203mm	0mm	49079	Ported Float	
X/O					1.09m	203mm	0mm	SANTOS		
HWDP				8	2.69m	162mm	0mm			
Jar					9.87m	165mm	73mm	MAH 00160		
5in HWDP				4	6.07m	161mm	0mm			
Bulk Stoc	cks						Personne	l On Board		
Na	ame	Unit	In	Used	Adjust	Balance		Company		Pax
Fuel		m3	0	22.6	0	441.3	Santos			4
Drill Water		m3	0	101.7	0	138.0	DOGC			49
Potable Wat	er	m3	30	25	0	205.0	ESS			8
Gel		sx	0	0	0	868.0	Dowell			2
Cement		sx	0	29	0	1,918.0	MI			2
Barite		sx	0	209	0	1,280.0	Geoservices			6
KCI Brine		bbl	0	0	0	0.0	Fugro			3
ļ <del>.</del>							Sperry-Sun			5
							Cameron			3
							Expro			3
							Weatherford			3
									Total	88
HSE Sum	mary									
	innar y	Data a		0.	_			Dama		
E	vents	Date of	Last D	ays Sinc	e			Rema	arks	
Abandon Dri	ill	22 May	2005 3 E	Days	Abar	ndon Drill				
BOP Test		12 May	2005 13	Days	BOP	' lest				
Environment	tal Incident	02 May	2005 23	Days	None	e reported	since comme	encement of camp	aign.	
Fire Drill		22 May	2005 3 L	Days	Fire	Drill				
First Aid		04 May	2005 21	Days	Pers	on struck	on nose with i	metal bar		
Lost Time In	cident	02 May	2005 23	Days	None	e reported	since comme	encement of camp	aign.	
Man Overbo	ard Drill	02 May	2005 23	Days	None	e undertak	ten since com	mencement of ca	mpaign.	
Near Miss		02 May	2005 23	Days	None	e reported	since comme	encement of camp	aign.	
Safety Meet	ing	22 May	2005 3 0	Days	Wee	kly Safety	Meeting			
Stop Cards		25 May	2005 0 0	Days	4 Sto	op Cards				
Marine										
Weather che	eck on 25 May	/ 2005 at 240	00						Rig Support	
Visibility	Wind Speed	Wind Dir.	Pressur	e Air	Temp.	Wave Heig	ght Wave Dir	r. Wave Period	Anchors	Tension (mt)
14.8km	46km/h	225deg	1027.00	par 16	6.0C°	1.0m	225deg	2m/sec	1	10.30
Roll	Pitch	Heave	Swell Hei	ght Sw	vell Dir.	Swell Peri	od Weath	er Comments	2	8.48
1 Odea	1 Odea	0.50m	3.0m	- 22	25deg	2m/sec	2		3	6.89
D:= D'	Dia T '		0.011	^		2.11/ 000	·		4	7.48
Kig Dir.	KIS. LENSION	VDL	1	Cor	nments				5	8.8U 0.08
249.0deg	12.25mt	214.19mt							7	9.80
									8	11.02

Boats	Arrived (d	ate/time)	Departed (date/time)	Status	В	ulks	
Far Grip				Ocean Patriot	Item	Unit	Quantity
					Fuel	M3	509
					Drill Water	M3	689
					Potable Water	M3	550
					Barite	MT	37
					Gel	MT	42.3
					Cement	MT	0
					KCI Brine	bbl	0
Pacific			25 May 05 18:00	Portland	Item	Unit	Quantity
wrangiei					Fuel	M3	287.9
					Drill Water	M3	303
					Potable Water	M3	301
					Barite	MT	0
					Gel	MT	0
					Cement	MT	0
					KCI Brine	bbl	2000
Helicopter	Movement						
Flight #	Time		Destination		Comment		Pax
1	10:42	Ocean Patriot					6
1	15:07	Essendon					7

#### DRILLING MORNING REPORT # 25 Casino 4DW ( 26 May 2005 )

		From :	Chris Wise /	Jeff Thomson			
		OIM :	Sean De Frei	tas			
Well Data							
Country	Australia	M. Depth	1146.0m	Cur. Hole Size	311mm	AFE Cost	
Field	Casino	TVD	1146.0m	Casing OD	340mm	AFE No.	5746022
Drill Co.	DOGC	Progress	128.0m	Shoe TVD	727.9m	Daily Cost	
Rig	Ocean Patriot	Days from spud	24.77	F.I.T. / L.O.T.	0sg / 2.14sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	5.60			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	Slide drillin	g at 1155mRT MD	on Casino-4DW	2	
RT-ML	92.8m	Planned Op	POOH to ri (12-1/4") he	un Geopilot rotary ole section.	steerable assem	bly and drill Casino-	4DW2 311mm

#### Summary of Period 0000 to 2400 Hrs

RIH with 244mm (9.625") steerable motor assembly and TCI bit to 116mRT. POOH due to excess drag/string heave, removed string stabiliser from assembly and RIH to 138mRT, POOH due to excess drag/string heave. Changed motor stab. sleeve to 305mm (12"). Added 2 extra 8" drill collars, RIH to 160mRT. POOH, changed bit to DS43 PDC sidetrack bit, RIH to 1050mRT. Reamed down to TOC at 1078.6mRT. Hard cement at 1082mRT. Drilled in rotary mode to 1145mRT. Slide drilled and sidetracked hole.

#### Operations For Period 0000 Hrs to 2400 Hrs on 26 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	n			Activit	y Description		
IH	TP (OTH)	HBHA	0000	0100	1.00	1662.0r	m	WOC - RIH with heave on the cor Attempt to break chasing TDS.	motor ass npensato out TDS	sembly and TC r and 4-5 klb c - string moved	CI bit. Assembly t drag. d up in slips on b	taking weigl reaking out	ht with 1.5 metre connection,
IH	TP (OTH)	ТІ	0100	0530	4.50	1662.0r	m	WOC - POOH wi to 138mRT MD. making connection motor to re-orien	th motor At 138mR on. Attach tate bit wl	assembly and RT, 1-2 metre s ned cement ho hile moving pi	TCI bit and laid string heave on o use to string and oe. No improvem	out 11.5" st compensato circulated a nent.	ring stabiliser. RIH or prevented t 150 gpm through
IH	TP (OTH)	то	0530	0600	0.50	1662.0r	m	WOC - Commen indication of wea	ced POO r on NBS	H with TCI bit/ or BHA.	motor assembly	v. Inspected	tools, no
ІН	TP (OTH)	CMD	0600	0730	1.50	1662.0r	m	Boosted riser and	d conditio	ned cement c	ontaminated surf	ace mud sy	vstem
IH	TP (OTH)	HBHA	0730	1200	4.50	1662.0r	m	Changed out 244 extra 203mm (8" problens, POOH	lmm (9.62 ) drill colla	25") motor sle ars. Made up 3	eve stabiliser to 3 311mm TCI bit, F	305mm (12 RIH to 163m	") and picked up 2 IRT MD without
IH	TP (OTH)	HBHA	1200	1300	1.00	1662.0r	m	Broke out TCI bit Conducted surfa	and mad	le up DS43 PI bad to MWD to	DC sidetrack bit t	o assembly	·.
ІН	TP (OTH)	ТІ	1300	1500	2.00	1662.0r	m	RIH with 311mm with 850 gpm.	(12.25")	sidetrack moto	or assembly to 52	2mRT, shal	low tested MWD
ІН	TP (OTH)	ті	1500	1730	2.50	1662.0r	m	RIH with sidetrac	k assemt	oly to 1040mR a 344mm (13	T MD, Experiend 375") casing.	ced approxi	mately 4.5t (10
ІН	TP (OTH)	DC	1730	1900	1.50	1662.0r	m	Recorded slow c 1078.6mRT MD.	irculation Reamed/	rates, RIH to washed to ha	1068m, washed/ rd cement at 108	reamed dow 32mRt MD v	wn to TOC at vith 5klb WOB.
IH	TP (OTH)	DC	1900	2330	4.50	1662.0r	m	Drilled cement fro MD. 900 GPM, 9	om 1082r 0 surface	nRt MD with ir RPM, 5-10, 2	ncreasing returns 0-60 m/hr	s of formatic	on to 1145mRT
								15% formation @ 60% formation @ 80% - 90% forma	2 1096m 2 1105m ation @ 1	122 - 1140mR	т		
IH	TP (OTH)	ST	2330	2400	0.50	1662.0r	m	Slide drilled from 27th May 05 at 1	1145mR 146mRT	T - 1146mRT. MD.	Well sidetracked	d to Casino	4DW2 at 0000hrs
								850 GPM 112 RF	PM (down	hole) 5-30klb	WOB		
WBM	Data												
Mud Typ			API	FL:	30	cm³/30m	CI:		45000	Solids:	12	Viscosity:	Osec/L
Comple		P-D/Polyn	Filte	er-Cake:		1mm	K+	C*1000:	8%	H2O:	88%	PV: YP:	0.019Pa/s 0.163MPa
Sample	-From:	Sucti	HTH	IP-FL:	00	cm³/30m	На	rd/Ca:	800	Oil:	0%	Gels 10s:	0.053
Time:		08:	00   НТН	-IP-Cake		0mm	MF	3T·	10	Sand <sup>.</sup>	trace	Gels 10m:	0.172
Weight:		1.27	sg	ii cuitoi		0		A.	47		10.4	Fann 005. Fann 006:	10
Temp:		0	C°				PIV	n.	1.7	μп.	10.1	Fann 100:	34
							PF	:	0.3	PHPA:	0ppb	Fann 200:	43
												Fann 300:	53
Commo	nt			ΔP-D - 2	nnh							i ann 000.	12
Comme	an.		iDC	$\pi - D = 3$	hhn								

Bit # 7			Wear	I		01	D	L		В	G	O2	R
Size ("): 311mm		M223	No	77105		Dril	led over la	ast 24 hr	2		Calculater	l over Bit	Run
Mfr. SMITH	WOB(avg)	Omt	No	Sizo		Progr		ast 24 mi	• 0m	Cum	Progress	i over bit	Om
	RPM(avg)	0	7	Size	0	On Br	ottom Hrs		0h	Cum (	On Rtm H	rs	0h
Serial No IT6901	F Rate	0lpm	1	20/32	2nd"		Drill Hrs		0h	Cum L		Hrs	0h
Bit Model MA89PX	SPP	0kPa				Total	Revs		0	Cum T	Total Revs		0
Depth In 1662 0m	TFA	2 148				ROP	ava)	٢	J/A	ROP			0 00 m/hr
Depth Out 1662.0m		2.110					u g)		.,, .		,		0.00 11/11
Run Comment	BHA POH afte	er hangir	ng up in 34	10 mm (	(13 3/	/8") cas	ing.						
Bitwear Comment	Bit not run.	5	5 1		(	,	5						
Bit # 8			Wear	I		01	D	L		В	G	O2	R
Size ("): 311mm	IADC#		No	zzles		Dril	led over la	ast 24 hr	5	C	Calculated	d over Bit	Run
Mfr: Hughes Christensen	WOB(avg)	0.14mt	No.	Size		Progr	ess	64.	0m	Cum.	Progress		192.0m
Type: Rock	RPM(avg)	75				On Bo	ottom Hrs	3.9	90h	Cum.	On Btm H	rs	11.70h
Serial No.: 5031197	F.Rate 32	218lpm				IADC	Drill Hrs		0h	Cum I	ADC Drill	Hrs	0h
Bit Model MXCS03	SPP 155	513kPa				Total	Revs		0	Cum T	otal Revs		0
Depth In 1176.0m	TFA	0.000				ROP(	avg)	16.41 m	/hr	ROP(a	avg)	1	6.41 m/hr
Depth Out 0m													
Run Comment	TOC 1176m												
Bit # 9			Wear	I		01	D	L		В	G	O2	R
Sizo ("): 211mm		6122	No	77100		Dril	lad over li	act 24 hr			Soloulator	l over Bit	Dun
		0mt	NO	zzies		Drogr		ast 24 nr	5 0m	Cum		I Over Dit	Kun 64.0m
		70	NO.	Size				04.		Cum.		ro	04.0111 2.40b
PDC	RPIVI(avg)	70						3.4		Cum.		15	5.400
Serial No.: 209747	F.Rate 32					Tatal		5.0	oun			HIS	5.60N
Bit Model DS4351		0.000				Total	Revs	10.00 ~	0		otal Revs		
Depth In 1078.6m		0.000				ROP(	avg)	10.02 11	/11	ROP(a	avg)	I	0.02 11/11
Run Comment	Top of cement	t at 1078	3.6m										
ВНА # 9													
Weight(Wet) 1.09mt	Length		165	.3m   T	orque	e(max)		10	١m	D.C. (	1) Ann Ve	locity	
Wt Below Jar(Wet) 1.36mt	String			0mt T	orque	e(Off.B	tm)	10	١m	D.C. (	2) Ann Ve	locity	
	Pick-Up			0mt T	orque	e(On.B	tm)	10	١m	H.W.C	0.P. Ann V	elocity	
	Slack-Off			0mt						D.P. A	nn Veloci	ty	
BHA Run Description	311 mm (12 1, FEWD/MWD,	/4") rocł 203 mm	t bit, stb sl n (8") Floa	eeve, 2 t Sub, X	44 m (/O, 9	m (9 5/ x 127	8") Geopile mm (5") H	ot, 203 m WDP, 16	m (8 5 mn	") NM F n (6.5")	Flex Pony, Jars, 9 x	Sperry 127 mm (	5") HWDP
Equipment		Leng	ith C	DD	I	D	Seria	al #			Com	ment	
Bit		0.3	4m 31	1mm		0mm	5031197		Roc	k bit			
Near Bit Stabiliser		0.4	6m 31	1mm	7	6mm	10625807		Stat	oiliser s	sleeve		
Geopilot Steerable Tool		6.6	2m 24	l5mm		0mm	GP1225 T	LO62					
NM Flex Pony		2.8	0m 20	)3mm		0mm	CP773036	6					
FEWD Tools		14.3	2m 20	)3mm		0mm			FEV DM Puls	VD - W Sub - 1 ser - 10	'RG8 128402 0645028		
Float Sub		1.0	5m 20	)3mm		0mm	49079		Port	ted Floa	at		
X/O		1.0	9m 20	)3mm		0mm	SANTOS						
HWDP		82.6	9m 16	62mm		0mm							
Jar		9.8	7m 16	65mm	7	3mm	MAH 0016	60					
5in HWDP		46.0	7m 16	61mm		0mm							

BHA # 10												
Weight(Wet)		1.81mt	Length				247.4m	Torque(max)		0Nm	D.C. (1) A	nn Velocity
Wt Below Ja	r(Wet)	2.27mt	String				0mt	Torque(Off.B	tm)	0Nm	D.C. (2) A	nn Velocity
			Pick-Up				0mt	Torque(On.B	tm)	0Nm	H.W.D.P.	Ann Velocity
			Slack-O	ff			0mt				D.P. Ann \	/elocity
BHA Run De	escription		311 mm	(12 1/	4") P[	DC side	etrack bit, 2	244mm motor,	Geopilot, 241 m	ım (9.5	") Float sub,	cont sub, Sperry
			FEWD/N	/WD, :	203 m	m (8")	Float Sub,	X/O, 9 x 127	mm (5") HWDP,	165 m	m (6.5") Jars	s, 9 x 127 mm (5") HWDP
	Equip	oment			Ler	ngth	OD	ID	Serial #			Comment
Bit					0	.17m	311mm	0mm	5031197	DS	43 PDC side	etrack bit
9.625in Moto	or				8	.56m	311mm	156mm	963116	Sp	erry 6/7 lobe	e mud motor
Float Sub	<b>.</b> .				1	.05m	241mm	76mm	A544			
Contingency	Sub				1	.22m	203mm	0mm	10659402			
FEWD Tools	5				14	.32m	203mm	Umm		DN	WD - WRG8 1 Sub - 1284	3 •02
										Pu	lser - 10645	028
Drill Collar					26	.59m	203mm	0mm				
X/O					1	.09m	203mm	0mm	SANTOS			
HWDP					138	.37m	162mm	Umm 72mm				
Jar 5in HW/DP					9 46	.87m 12m	165mm	73mm Omm	MAH 00160			
Bulk Stor	ko					12111	TOTTIM	Porconno	On Board			
BUIK SLOC	/N3	11-14			1	A	Delenee	reisoille				Davi
IN8	ame	Unit	in	Us	ea	Adjust	Balance	0	Company			Pax
		m3	0	1	1.1	0	430.2	Santos				4
Drill Water	<b>~</b> *	m3 m2	0	1	2.1	0	125.9					48
	ei		30		30	0	204.0	ESS				0
Cement		SX SY	0		0	0	1 918 0	MI				2
Barite		SA	0		0	0	1,310.0	Geoservices				6
KCI Brine		bbl	0		0	0	0.0	Fuaro				3
Itol Blille		001	0		U	U	0.0	Sperry-Sun				5
								Cameron				3
								Expro				5
								Weatherford				3
											Total	89
HSE Sum	mary											
E	vents	Date of	Last	Days	Since				Rem	arks		
Abandon Dri	II	22 Mav	2005 4	Davs		Aba	ndon Drill					
BOP Test		12 May	2005 1	4 Day	'S	BOF	P Test					
Environment	al Incident	02 May	2005 2	24 Day	'S	Non	e reported	since comme	ncement of cam	paign.		
Fire Drill		22 May	2005	- I Days		Fire	Drill					
First Aid		04 May	2005 2	22 Day	'S	Pers	son struck	on nose with r	metal bar			
Lost Time In	cident	02 May	2005 2	24 Day	'S	Non	e reported	since comme	ncement of cam	paign.		
Man Overbo	ard Drill	02 May	2005 2	24 Day	'S	Non	e undertak	en since com	mencement of ca	ampaig	n.	
Near Miss		02 May	2005 2	24 Day	'S	Non	e reported	since comme	ncement of cam	paign.		
Safety Meeti	ng	22 May	2005 4	l Days		Wee	ekly Safety	Meeting				
Stop Cards		25 May	2005 1	Day		3 St	op Cards					
Marine												
Weather che	eck on 26 May	/ 2005 at 240	00							Rig Su	upport	
Visibility	Wind Speed	Wind Dir.	Press	ure	Air T	emp.	Wave Hei	ght Wave Dir	. Wave Period		Anchors	Tension (mt)
7.4km	56km/h	247deg	1021.0	0bar	16.	0C°	2.5m	247deg	2m/sec		1	10.89
Roll	Pitch	Heave	Swell H	leight	Swe	ll Dir.	Swell Per	od Weath	er Comments		2	9.12
1.0deg	1.8deg	1.80m	3.0	m	247	'deg	2m/sec	;			4	7.39
Rig Dir.	Ris. Tension	VDL	1		Com	ments					5	8.21
249.0dea	12.25mt	210.60mt									6	9.30
										1	7	9.71
1											8	11.11

Boats	Arrived (d	late/time)	Departed (date/time)	Status	E	Bulks	
Far Grip				Ocean Patriot	Item	Unit	Quantity
					Fuel	M3	493
					Drill Water	M3	689
					Potable Water	M3	538
					Barite	MT	37
					Gel	MT	42.3
					Cement	MT	0
					KCI Brine	bbl	0
Pacific			25 May 05 18:00	Portland	Item	Unit	Quantity
wrangier					Fuel	M3	0
					Drill Water	M3	303
					Potable Water	M3	301
					Barite	MT	0
					Gel	MT	0
					Cement	MT	0
					KCI Brine	bbl	2000
Helicopter	Movement						
Flight #	Time		Destination		Comment		Pax
1	10:14	Ocean Patriot					12
1	10:27	Essendon					11

#### DRILLING MORNING REPORT # 26 Casino-4DW2 ( 27 May 2005 )

					F	rom :	Chris Wise J	eff Thomson			
					C	DIM :	Sean De Frei	tas			
Well D	)ata										
Country			Australia	M. D	epth		1182.0m	Cur. Hole Size	311mm	AFE Cost	
Field			Casino	TVD			1182.0m	Casing OD	340mm	AFE No.	5746022
Drill Co.			DOGC	Prog	ress		36.0m	Shoe TVD	727.9m	Daily Cost	
Rig		Ocea	n Patriot	Days	s from sp	ud	25.77	F.I.T. / L.O.T.	0sg / 2.14sg	Cum Cost	
Wtr Dptł	h(LAT)		70.8m	Days	s on well		1.00			Planned TD	2642.0m
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	Drilling 311	mm (12.25") hole	at 1226mRT.	-	
RT-ML			92.8m	Plan	ned Op		Continue to wellpath re	o slide/rotate with r v 6.	motor assembly i	n accordance with	Casino-4DW2
Summ	nary of I	Period	0000 t	o 2400	) Hrs						
Casino-4 up TCI b MD.	4DW2 cor bit, added	nmenced string sta	d at 0000 ab, RIH t	)hrs 27 N o 344mi	May 05. F m shoe, s	Proceeded slip and cu	to slide drill mo t drilling line, RI	nitoring inclination H to bottom, drilled	/ azimuth to 115 d in slide / rotary	7mRT. POOH due mode from 1157mF	to low ROP, made RT MD to 1182mRt
Operat	tions Fo	or Peri	od 000	0 Hrs	to 240	) Hrs on	27 May 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
IH	TP (OTH)	ST	0000	0730	7.50	1157.0m	Sidetracked	to Casino-4DW2 a	t 0000 hrs 27 Ma	ny 05	

	(OTH)						
							Slide drilled with motor assembly from 1146mRT - 1157mRT MD 850 GPM, 5-32 klb WOB, 0-5 m/hr. Very low ROP while drilling hard stringer 1152mRT - 1154.9mRT MD. Qtz and pyrite noted in samples.
IH	TP (OTH)	TUC	0730	1100	3.50	1157.0m	POOH, racked back BHA, laid out DS43ST sidetrack PDC bit, downloaded Sperry Sun MWD tool at surface.
ІН	TP (OTH)	НВНА	1100	1300	2.00	1157.0m	Made up Security FXL12D TCI bit. checked motor alignment, picked up 292mm (11.5") string stabiliser, RIH w/ BHA and shallow tested MWD w/ 3300 LPM (850 gpm).
IH	TP (OTH)	ТІ	1300	1500	2.00	1157.0m	RIH, worked through wellhead and casing swedge. Experienced up to 20klb drag as BHA entered 344mm (13.375") casing.
IH	TP (OTH)	тот	1500	1600	1.00	1157.0m	RIH with 311mm (12-1/4") assembly to 708m.
ІН	TP (OTH)	SLK	1600	1830	2.50	1157.0m	Held pre job safety meeting, hung off blocks and slipped and cut drilling line. Difficulties experienced with hang-off line due to weather conditions.
ІН	TP (OTH)	ТΙ	1830	2000	1.50	1157.0m	Continued RIH to 1157mRT MD
ІН	TP (OTH)	DM	2000	2215	2.25	1168.0m	Slide drilled from 1157mRT - 1168mRT MD. Very low ROP drilling stringer at 1167mRT.
ІН	TP (OTH)	DA	2215	2330	1.25	1177.8m	Drilled in rotary mode from 1168mRT - 1177.8mRT. Stringer drilled at 3-8 m/hr.
ІН	TP (OTH)	DM	2330	2400	0.50	1182.0m	Slide drilled from 1177.8mRT - 1182mRT at 3-5 m/hr. 850 GPM, 110 bit RPM, 10-15 klb WOB

Operations For Period 0000 Hrs to 0600 Hrs on 28 May 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
ІН	TP (OTH)	DM	0000	0200	2.00	1191.0m	Drilled with motor assembly from 1182mRT - 1191m RT in slide mode
ІН	TP (OTH)	DM	0200	0300	1.00	1202.0m	Drilled from 1191mRT - 1202mRT in rotary mode.
ІН	TP (OTH)	DM	0300	0430	1.50	1220.0m	Drilled from 1202mRT - 1220mRT in slide mode.
IH	TP (OTH)	DM	0430	0600	1.50	1226.0m	Drilled from 1220mRT - 1226mRT in rotary mode. Conducted SCRs at 1224mRT.

WBM Data

Ti Din Dala									
Mud Type:		API FL:	4cm <sup>3</sup> /30m	CI:	45000	Solids:	11	Viscosity:	0sec/L
KCL/IDCAF	P-D/Polymer	Filter Calver	1	K . C*1000.	00/	1120.	0.00/	PV:	0.017Pa/s
Sample-From:	Suction	Filter-Cake:	Trnm	K+C 1000:	8%	H2O:	89%	YP:	0.201MPa
		HTHP-FL:	0cm <sup>3</sup> /30m	Hard/Ca:	920	Oil:	0%	Gels 10s:	0.062
Time:	08:30		•	MOT	10	<u> </u>		Gels 10m:	0.091
Weight <sup>.</sup>	1.26sg	HTHP-Cake:	Umm	MB1:	10	Sand:	trace	Fann 003:	12
rreigna	009			PM:	1.4	pH:	10.8	Fann 006:	15
Temp:	0C°							Fann 100:	39
				PF:	0.3	PHPA:	0ppb	Fann 200:	50
								Fann 300:	59
								Fann 600:	76
Comment		IDCAP-D = 3 ppt	)						

B1/ # 6				۱۸/-	or	1	01		Р	I		P	$\hat{}$	00	D
Bit # 9				vve	ai	3	4		СТ	C		ь Х	X I WT		PR
Size ("):	311mm	IADC#	S132		Nozz	zles	D	rill	led over la	ast 24 hr	s	C	Calculated	l over Bit	t Run
Mfr:	HYCALOG	WOB(avg)	0mt	No.		Size	Pro	gre	ess	11.	0m	Cum.	Progress		11.0m
Туре:	PDC	RPM(avg)	70	1		20/32n	nd" On	Во	ottom Hrs	6.9	90h	Cum.	On Btm H	rs	6.90h
Serial No.:	209747	F.Rate	3218lpm	3		18/32n	nd" IAD	CI	Drill Hrs	7.	10h	Cum I	ADC Drill I	Hrs	7.10h
Bit Model	DS43ST	SPP	17926kPa				Tota	al F	Revs		0	Cum T	otal Revs		0
Depth In	1078.6m	TFA	1.052				RO	P(a	avg)	1.59 n	n/hr	ROP(a	avg)		1.59 m/hr
Depth Out	0m														
Run Comment		Top of cem	ent at 1078	3.6m			1					1			
Bit # 10				We	ear	I	01		D	L		В	G	02	R
		1				1	1		WT	Α		Е	I	NO	BHA
Size ("):	311mm	IADC#			Nozz	zles	D	Prill	led over la	ast 24 hr	S	C	Calculated	l over Bi	t Run
Mfr:	SECURITY-DBS	WOB(avg)	0.68mt	No.	:	Size	Pro	gre	ess	25.	0m	Cum.	Progress		25.0m
Туре:	Rock	RPM(avg)	0				On	Bo	ottom Hrs	3.4	40h	Cum.	On Btm H	rs	3.40h
Serial No.:	748557	F.Rate	3218lpm				IAD	CI	Drill Hrs	5.2	20h	Cum I	ADC Drill I	Hrs	5.20h
Bit Model	FXL12D	SPP	17237kPa				Tota	al F	Revs		0	Cum T	otal Revs		0
Depth In	1157.0m	TFA	0.000				RO	P(a	avg)	7.35 n	n/hr	ROP(a	avg)		7.35 m/hr
Depth Out	1274.0m														
Bitwear Comment		Slight gaug	e reductior	า <1/3	32"										
BHA # 10															
Weight(Wet)	1.59mt	Length			247.4	m Tor	rque(ma	x)		0	Nm	D.C. (	1) Ann Ve	locity	
Wt Below Jar(Wet)	2.27mt	String			Or	mt Tor	rque(Off	.Bt	im)	0	Nm	D.C. (	2) Ann Ve	locity	
		Pick-Up			Or	mt Tor	rque(On	.Bt	tm)	0	Nm	H.W.C	D.P. Ann V	elocity	
		Slack-Off			Or	mt						D.P. A	nn Veloci	ty	
BHA Run Description	on	311 mm (1 mm (8") Fl	2 1/4") PD( oat Sub. X/	C side	etrack b x 127 n	oit, 244n nm (5")	mm moto HWDP.	or, 16	241 mm (9 5 mm (6.5	9.5") Floa ") Jars. 9	at sul ) x 12	b, cont 27 mm	sub, Sper (5") HWD	ry FEWD, P	/MWD, 203
	Equipment	( )	Leng	th	OD		ID		Seria	ul #			Com	ment	
Bit			0.1	7m	311	mm	0mm	1	5031197		DS4	43 PDC	sidetrack	bit	
9.625in Motor			8.5	6m	311	mm	156mm	n I	963116		Spe	erry 6/7	lobe mud	motor	
Float Sub			1.0	)5m	241	mm	76mm	n  .	A544			,			
Contingency Sub			1.2	2m	203	mm	0mm	۱	10659402						
FEWD Tools			14.3	82m	203	mm	0mm	۱			FE\	ND - W	'RG8		
											DM	Sub - 10	128402		
Drill Collar			26.5	9m	203	mm	0mm				FUI		043020		
X/O			1.0	)9m	203	mm	0mm		SANTOS						
HWDP			138.3	87m	162	mm	0mm		0						
Jar			9.8	87m	165	mm	73mm	n	MAH 0016	60					
5in HWDP			46.1	2m	161	mm	0mm	۱							
BHA # 11															
Weight(Wet)	1.59mt	Length			249.4	m Tor	rque(ma	x)		0	Nm	D.C. (	1) Ann Ve	locity	
Wt Below Jar(Wet)	2.27mt	String			Or	mt Tor	rque(Off	.Bt	im)	0	Nm	D.C. (	2) Ann Ve	locity	
		Pick-Up			Or	mt Tor	rque(On	.Bt	im)	0	Nm	H.W.C	).P. Ann V	elocity	
		Slack-Off			Or	mt						D.P. A	nn Veloci	ty	
BHA Run Descriptio	on	311 mm (1 203 mm (8	2 1/4") TCI ") Float Sul	bit, 2 b, X/C	244mm D, 9 x 1	motor, s 27 mm	string sta (5") HW	ab, /DF	, 241 mm P, 165 mm	(9.5") Flo (6.5") Ja	at su ars, S	ub, con ) x 127	t sub, Spe mm (5") H	rry FEWD IWDP	D/MWD,

Leap Julin         Leap Julin         Description         Description <thdescription< th=""> <thdescription< th=""></thdescription<></thdescription<>	Equipment					Longth OD			ID	Sorial #		Commor	
Bit     Bit     John	D'/	Equip	ment			Lei	igui	00	70	Senai #	EV! 40D	Commen	
Mach         Mach         Same         Same <thsame< th="">         Same         Same         <th< td=""><td>Bit</td><td></td><td></td><td></td><td></td><td>0</td><td>.34m</td><td>311mm</td><td>76mm</td><td>5031197</td><td>FXL12D</td><td>h</td><td>1</td></th<></thsame<>	Bit					0	.34m	311mm	76mm	5031197	FXL12D	h	1
Partial Sub Samig Stabilizer Continging Stab         I. John Samig Stabilizer I. J. Zhu J. Zhu Samig Stabilizer I. J. Zhu J. Zhu J	9.625IN MOto	or				8	.56m	311mm	156MM	963116	Sperry 6/7 lo	be mua mo	tor
String Submiser Centing on Submiser FEWD Tools         I. Submit I. Submit	Float Sub					1	.00m	241mm	76mm	A544			
Contingency Sub         I.22m         2.35mm         Omm         Income         PEWD Tools	String Stabil	iser				1	.90m	203mm	76mm	7090449			
PEVN 100s						1.22m 203			Omm	10659402		<u></u>	
Dill Collar X0 NO HVDP 3n HVDP 3n HVDP         V         25.5m         23.3mn         0mm         SANTOS 0mm         Pulser - 10648028           3n HVDP 3n HVDP         138.37n         165mn         0mm         0mm         SANTOS         0mm         SANTOS           3n HVDP 3n HVDP         1ncl Deg (m)         0ncl Deg (m)         0ncl Deg (m)         0ncl Deg (m)         0ncl Deg (m)         Tool Type           1148.00         4.3         194.0         1148.00         4.00         0.2         3.17         -0.04         MWD           1148.00         4.3         194.0         146.31         -1.10         1.57         -4.61         -0.46         MWD           1148.00         1.3         1.10         1.57         -4.61         -0.46         MWD           1148.00         1.3         1.1         0         8.5         0.0         4.00         8.67         DOCC         4.8           1148.00         1.3         0         9.5         0         4.00         8.67         DOCC         4.8           Public Warr         m3         3.1         3.65         0.00         9.7         5.6         3.1         3.6         3.1         3.6         0.9         9.6         1.9	FEVUD TOOR	5				14	.3∠m	203mm	Umm		DM Sub - 12	G8 8402	
Drill Collar Joon         226.5m         0mm         ANTOS           HWDP I Jar         38.7m         0mm         ANTOS         ANTOS           Bin HWDP         9.87m         166.7m         0mm         MAH 00160         Tool Type           M0         refease         Core Ac         VID         VID         0mm         MAH 00160         Tool Type           M0         refease         Core Ac         VID         VID         0mm         ANTOS         FMM         Tool Type           M0         refease         Core Ac         VID         VID         0         -3.00         0         Tool Type           1146.00         4.3         194.2         1148.30         -1.02         0.2         -3.17         -0.04         MWD           1146.80         4.3         194.2         148.0         -1.02         0.2         -3.17         -0.04         MWD           1165.80         Tool Type         MD         0.0         0         0.0         0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         -0.0         0.0         -0.0         -0.0 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Pulser - 106</td><td>45028</td><td></td></td<>											Pulser - 106	45028	
X/O         I         10 m         203 mm         0 mm         SANTO 3 0 mm         SANTO 3 0 mm           3in HWDP         10 fm         98 7m         16 mm         0 mm         SANTO 3 0 mm         0 mm         SANTO 3 0 mm         NAH 00160           3in HWDP         1 ml Deg         Corr. Az         1146.00         4.3         194.0         1146.00         3.00         0         Tel in           1146.00         4.3         194.0         1146.00         3.00         0         Tel in         mm           1146.00         4.3         194.2         1148.30         1.1 U         0.23         3.07         0.04         MWD           1165.38         2.2         10.73         166.51         1.1 U         1.2         0.23         3.17         0.04         MWD           1148.40         4.3         194.2         1.1 U         1.27         4.61         0.04         MWD           1148.30         1.0         Use         Adjus         Baine         Company         Pex         Pex           Polable War         m3         3.0         0.0         0         9.67.0         Dowell         2         2           Camano Drill         sx         0	Drill Collar					26	.59m	203mm	0mm				
HWDP         Jar         Jas         Jas </td <td>X/O</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>.09m</td> <td>203mm</td> <td>0mm</td> <td>SANTOS</td> <td></td> <td></td> <td></td>	X/O					1	.09m	203mm	0mm	SANTOS			
jar         9.87m         166mm         73mm         MAH 00160           Survey         46.20         60mm         0mm         0mm         0mm         0mm         0mm         0mm         0mm         100160         0mm         Tool Type           1146.00         4.3         194.0         1146.00         1.3         0.0         0         0.0         <	HWDP					138	.37m	162mm	0mm				
Sin HWDP       46.12m       161mm       0mm         Survey       Survey       46.12m       161mm       0mm       NS       ErW       Tool Type         MD       Ind Dog (deg)       Corr. Az       TWD       V. Sect       Dogleg (deg)Corr.       N.N       ErW       Tool Type         1146.00       4.3       194.2       1148.30       -1.02       0.23       3.17       0.04       MWD         Bulk Stocks       Personel Or Board       Resonel Or Board       None       Company       Pax       48.9         Fuel       m3       0       9.5       0       420.5       Santos       4       4       48.9         Potable Water       m3       0       9.5       0       420.5       Santos       4       4       48.9         Potable Water       m3       31       36.5       0       188.7       2       2       3       3       36.5       0       98.7       2       3       3       36.5       0       98.7       2       3       3       36.5       0       98.7       2       3       3       36.5       0       98.7       2       3       3       3       36.5       0	Jar					9	.87m	165mm	73mm	MAH 00160			
Survey         Survey         Sect         Dogleg         Nm         EAW         Tool Type           1146.00         4.3         194.0         1146.00         3.30         0         -3.00         0         -3.00         0         Tein           1148.00         4.3         194.2         1148.39         -1.02         0.2         -3.17         -0.04         MWD           1148.08         5.2         197.9         1166.31         -1.1         1.57         -4.61         -0.46         MWD           Bulk Stocks         m3         0         9.5         0         420.5         Santos         4           Paule         m3         0         9.5         0         420.5         Santos         4           Drill Water         m3         0         9.5         0         420.5         Santos         4           Cement         ax         0         0         0         166.5         DorOc         48           Gal         cement         ax         0         0         0         0         0         2           Barrie         ax         0         0         0         0         0         0         5 <td< td=""><td>5in HWDP</td><td></td><td></td><td></td><td></td><td>46</td><td>.12m</td><td>161mm</td><td>0mm</td><td></td><td></td><td></td><td></td></td<>	5in HWDP					46	.12m	161mm	0mm				
Mo         Incl Deg (m)         Carr. Az (deg)         TVD (m)         V. Sact (deg)         Dogleg (m)         NS (m)         E/W         Tool Type           1146.00         4.3         194.0         1146.00         -3.00         0         -3.00         0.0         Te in (deg)         0.0         MWD           1146.04         4.3         194.2         1148.39         -1.02         0.23         -3.17         -0.04         MWD           1146.38         5.2         197.9         1168.38         1.0         1.57         -4.61         MWD           Bulk Stocks         Unit         In         Used         Adjust Balance         Company         Pax           Fuel         m3         0         9.5         0         420.5         Santos         4           Potable Water         m3         31         36.5         0 0.0         SoCoC         48           Cement         sx         0         0         0.164.0         Geoservices         6           KCI Brine         bbl         0         0         0.0         0.0         Fugo         2           Barrie         sx         0         0         0.0         0.0         Seprry-Sun         6<	Survey												
interview         <	MD	Incl Deg	Corr.	Az	τv	D	'\	/' Sect	Dogleg	N/S	E/W	To	ol Type
1146.00     4.3     194.0     1146.00     3.00     0     3.00     0     Tein       1146.00     4.3     197.9     1166.31     -1.0     0.2     0.23     3.07     -0.04     MWD       Interim tein       Buik Stocks     Personnel On Board       Company     VmVD       Participation tein       Resource       Participation tein	(m)	(deg)	(deg	)	(n	ר)		(m)	(deg/30m)	(m)	(m)		
11148.40       4.3       194.2       1148.39       1.02       0.23       -3.17       -0.04       MWD         Buik Stocks       Personnel Or Board         Buik Stocks       Personnel Or Board       Personnel Or Board       Pax         Name       Unit       In       Used       Adjust       Balance       Company       Pax         Pote       m3       0       9.5       0       420.5       Santos       4         Dill Water       m3       0       9.5       0       420.5       Santos       4         Cemert       sx       0       0       0       867.0       Dowell       2       2         Barite       sx       0       0       0       177.0       1,164.0       Geoservices       6         KCIBrine       bbl       0       0       0       0       0       0       100.7       100.7         BOP Test       sx       0       117.0       1,164.0       Geoservices       5       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0       100.0 <td>1146.00</td> <td>4.3</td> <td>194.0</td> <td></td> <td>1146.0</td> <td>0</td> <td>-3.0</td> <td>0</td> <td>0</td> <td>-3.00</td> <td>0</td> <td>Tie in</td> <td></td>	1146.00	4.3	194.0		1146.0	0	-3.0	0	0	-3.00	0	Tie in	
1166.38       5.2       197.9       1166.31       -1.10       1.57       4.61       0.46       MWD         Buik Stocks         Park       Unit       In       Used       Adjust       Balance       Company       Pax         Fuel       m3       0       9.5       0       420.5       Santos       4         Drill Water       m3       0       40.4       0       86.5       DOGC       48         Gel       sx       0       0       0       186.7       Ess       8         Gel       sx       0       0       0       166.00       III       2       2         Barite       sx       0       0       0       0.0       167.00       Fugo       3         Barite       sx       0       0       0       0.0       167.00       Fugo       3         Barite       sx       0	1148.40	4.3	194.2		1148.3	9	-1.0	2	0.23	-3.17	-0.04	MWD	
Bulk Stocks         Personnel On Board           Name         Unit         In         Used         Adjust         Balance         Company         Pax           Fuel         m3         0         9.5         0         420.5         Santos         4           Dill Water         m3         0         0.40.4         0         66.5         DOGC         48.           Potable Water         m3         31         36.5         0         198.7         ESS         8           Gel         sx         0         0         0         117.7         0         1,164.0         Geoservices         6           Cemert         sx         0         117         0         1,164.0         Geoservices         6           Cameron         s         3         Sperty-Sun         6         Cameron         3           BAndon Drill         22 May 2005         5 Days         Abandon Drill         BOP Test         Total         01           BOP Test         12 May 2005         5 Days         None reported since commencement of campaign.         Fire Drill         22 May 2005         5 Days         None reported since commencement of campaign.         Man Ovehoard Drill         22 May 2005	1166.38	5.2	197.9		1166.3	1	-1.1	0	1.57	-4.61	-0.46	MWD	
Name         Unit         In         Used         Adjust         Balance         Company         Pax           Fuel         m3         0         9,5         0         420,5         Santos         4           Drill Water         m3         0         40,4         0         86,5         DOGC         48,5           Drill Water         m3         31         36,5         0         198,7         ESS         8           Gel         sx         0         0         0         1,266,0         MI         2           Cement         sx         0         0         0         0,0         Park         8           KCI Brine         bbl         0         0         0         0         0         0         6           KCI Brine         bbl         0         0         0         0         0         0         7         8           KCI Brine         bbl         0         0         0         0         0         7         8         9           KCI Brine         12         May 2005         15 Days         BOP Test         Remarks         8         8         8           BOP Test <td< td=""><td>Bulk Stor</td><td>cks</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Personne</td><td>l On Board</td><td></td><td></td><td></td></td<>	Bulk Stor	cks							Personne	l On Board			
Fuel         m3         0         9.5         0         420.5         Santos         4           Drill Water         m3         0         40.4         0         86.5         DOC         48           Potable Water         m3         31         36.5         DOC         48         48           Gel         sx         0         0         198,7         ESS         8         2           Cement         sx         0         0         1,17         0         1,164.0         Geoservices         6           Barite         sx         0         0         0         0.0         Fugo         3           KCI Brine         bbl         0         0         0         0.0         Geoservices         6           Barite         sx         0         0         0         0.0         Fugo         3           Sperry-Sun         Cameron         sa         Sperry-Sun         6         3           BOP Test         Date of Last         Days Since         Remarks         4         4           Lot May 2005         25 Days         None reported since commencement of campaign.         5         5           Fire Drill	N	ame	Unit	In	Us	ed	Adjust	Balance		Compan	y		Pax
Drill Water     m3     0     40.4     0     86.5     DOGC     48       Potable Water     m3     31     36.5     0     198.7     ESS     8       Gel     sx     0     0     0     86.5     Dowell     2       Cement     sx     0     117     0     1,184.0     Geoservices     6       Barite     sx     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     bbl     0     0     0     0     0     0     0     0       KCI Brine     0     0 <td>Fuel</td> <td></td> <td>m3</td> <td></td> <td>0</td> <td>9.5</td> <td>0</td> <td>420.5</td> <td>Santos</td> <td></td> <td></td> <td>4</td> <td></td>	Fuel		m3		0	9.5	0	420.5	Santos			4	
Potable Water Gel         m3         31         36.5         0         198.7         ESS         8           Gel         sx         0         0         0         198.7         Dowell         2           Generat         sx         0         0         117         0         1,164.0         Geoservices         6           Barite         sx         0         117         0         1,164.0         Geoservices         6           KCI Brine         bbl         0         0         0         0         0         0         0         0           KCI Brine         bbl         0	Drill Water		m3		0 4	0.4	0	86.5	DOGC			48	
Gel         sx         0         0         0         0         867.0         Dowell         2           Cement         sx         0         0         117         0         1,266.0         MI         2           Barite         sx         0         0         117         0         1,164.0         Geoservices         6           KCI Brine         bbl         0         0         0         0         0         0         6           KCI Brine         bbl         0	Potable Wat	er	m3	3	1 3	6.5	0	198.7	ESS			8	
Cement         sx         0         0         1,266.0         M         M         2           Barite         sx         0         117         0         1,164.0         Geoservices         6           KCI Brine         bbl         0	Gel		sx		0	0	0	867.0	Dowell			2	
Barite KCI Brine         isx bbl         0         117         0         1,184.0 0         Geoservices         6           KCI Brine         bbl         0         0         0         0.0         Fugro         3           KCI Brine         bbl         0         0         0.0         Fugro         3           Sperry-Sun         Cameron         3         5         5           Weatherford         4         4           Total         91         1         4           BOP Test         Date of Last         Days         BOP Test         Remarks           BOP Test         12 May 2005         5 Days         None reported since commencement of campaign.         Fire Drill           Fire Drill         02 May 2005         25 Days         None reported since commencement of campaign.         Kone undersken since commencement of campaign.           Fire Drill         02 May 2005         25 Days         None reported since commencement of campaign.         Kone undersken since commencement of campaign.           Near Miss         02 May 2005         25 Days         None undersken since commencement of campaign.         Kone undersken since commencement of campaign.           Near Miss         02 May 2005         5 Days         None undersken since commencement of ca	Cement		SX		0	0	0	1.266.0	MI			2	
CAL Brine         Dit         O         Fund         O	Barite		SY			17	0	1 164 0	Geoservices			6	
Kon Durit         Date         O         <	KCI Brine		bbl		0	0	0	0.0	Fugro			3	
Levents         Date of Last         Days Since         Remarks           Abandon Drill         22 May 2005         5 Days         Abandon Drill           BOP Test         12 May 2005         5 Days         Abandon Drill           BOP Test         12 May 2005         5 Days         Mone reported since commencement of campaign.           Fire Drill         22 May 2005         5 Days         None reported since commencement of campaign.           Fire Drill         22 May 2005         5 Days         None reported since commencement of campaign.           Fire Drill         22 May 2005         5 Days         None reported since commencement of campaign.           Lost Time Incident         02 May 2005         25 Days         None reported since commencement of campaign.           Near Miss         02 May 2005         25 Days         None reported since commencement of campaign.           Near Miss         02 May 2005         25 Days         None reported since commencement of campaign.           Near Miss         02 May 2005         5 Days         S Statety Meeting           Statety Meeting         22 May 2005         5 Days         S Statety Meeting           State Meeting         22 May 2005         15 Nog         22 May           Yisbillity         Wind Dir.         Preson         Yise	Roi Blille		001		0	U	0	0.0	Sperry-Sup			6	
Expro         5           Weatherford         4           Total         91           HSE Summary         Remarks           Abandon Drill         22 May 2005         5 Days         Abandon Drill           BOP Test         12 May 2005         5 Days         Abandon Drill         24 May 2005         5 Days           BOP Test         12 May 2005         5 Days         Mone reported since commencement of campaign.         5           Fire Drill         22 May 2005         5 Days         Person struck on nose with metal bar         -           Isoft May 2005         25 Days         None reported since commencement of campaign.         -         -           Fire Drill         22 May 2005         25 Days         None reported since commencement of campaign.         -           Man Overboard Drill         02 May 2005         25 Days         None reported since commencement of campaign.         -           Near Miss         02 May 2005         25 Days         None reported since commencement of campaign.         -           Near Miss         02 May 2005         25 Days         None reported since commencement of campaign.         -           Safety Meeting         22 May 2005         5 Days         Weekly Safety Meeting         -         -									Cameron			3	
Lapid         4           Weatherford         91           HSE Summary           Events         Date of Last         Days Since         Remarks           Abandon Drill         22 May 2005         5 Days         Abandon Drill         Remarks           BOP Test         12 May 2005         15 Days         BOP Test         Remarks         Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Colspan="2"           Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"           Colspan="2"         Colspan="2"         Colspan="2"           Colspan= Colspan="2"         Colspan= Colspan="2" <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>Expro</td><td></td><td></td><td>5</td><td></td></t<>									Expro			5	
Team number of Last       Date of Last       Days Since       Remarks         Remarks         Abandon Drill       22 May 2005       5 Days       Abandon Drill         BOP Test         Environmental Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Fire Drill       22 May 2005       25 Days       None reported since commencement of campaign.       Image: Colspan="5">Commencement of campaign.         Fire Drill       22 May 2005       25 Days       None reported since commencement of campaign.       Image: Colspan="5">Commencement of campaign.         Man Overboard Drill       02 May 2005       25 Days       None reported since commencement of campaign.       Image: Colspan="5">Commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.       Image: Colspan="5">Commencement of campaign.         Near Miss       02 May 2005       S Days       Weekly Safety Meeting         Stop Cards       Z May 2005       S Days       Weekly Safety Meeting         Visibility       Wind Spee       Marine         Visi									Weatherford			4	
HSE Summary         Remarks         Abandon Drill       22 May 2005       5 Days       Abandon Drill       Remarks         BOP Test       12 May 2005       5 Days       Abandon Drill       BOP Test       BOP Test         Environmental Incident       12 May 2005       25 Days       None reported since commencement of campaign.       Fire Drill         Fire Drill       22 May 2005       25 Days       Person struck on nose with metal bar       Commencement of campaign.         Lost Time Incident       02 May 2005       25 Days       None reported since commencement of campaign.       Man Overboard Drill       02 May 2005       25 Days       None reported since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.       Statey Meeting       Stap 2005       25 Days       None reported since commencement of campaign.         Statey Meeting       22 May 2005       25 Days       None reported since commencement of campaign.       Stap Cards       Stap Cards       Stap Cards       Stap 2005       10 Days       5 Stop Cards       Stap Cards       Anchors       Tension (mt)         18.5km       46km/h       225deg </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>weathenord</td> <td></td> <td>Tot</td> <td>al 91</td> <td></td>									weathenord		Tot	al 91	
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BOP 1est       12 May 2005       15 Days       BOP Test         Environmental Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Fire Drill       22 May 2005       5 Days       Person struck on nose with metal bar         Lost Time Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Man Overboard Drill       02 May 2005       25 Days       None reported since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       Weekly Safety Meeting         Stop Cards       27 May 2005       10 Days       5 Stop Cards         Rig Support         Weather ch=ck on 27 May 2005 at 24/U       Yers Mar Temp.       Wave Height       Wave Dir.       Wave Period       Annchors       Tension (mt)         18.5km       46km/h       225deg       10.02.0	Abandon Dr	ill	22 May	2005	5 Days		Aba	ndon Drill					
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Fire Drill       22 May 2005       5 Days       Fire Drill         First Aid       04 May 2005       23 Days       Person structs on nose with metal bar         Lost Time Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Man Overboard Drill       02 May 2005       25 Days       None undertaken since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       None reported since commencement of campaign.         Stop Cards       27 May 2005       5 Days       None reported since commencement of campaign.         Marine       27 May 2005       0 Days       5 Stop Cards         Weather check on 27 May 2005 at 2400       Visibility       Wind Speed       Wind Dir.       Presure       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       1022.00bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       Free       4       7.30         1.0deg       1.25mt       206.38mt	Environmen	tal Incident	02 May	2005	25 Day	S	Non	e reported	since comme	encement of car	npaign.		
First Aid       04 May 2005       23 Days       Person struck on nose with metal bar         Lost Time Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Man Overboard Drill       02 May 2005       25 Days       None reported since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       None reported since commencement of campaign.         Stop Cards       27 May 2005       5 Days       Weekly Safety Meeting         Stop Cards       27 May 2005       0 Days       5 Stop Cards         Weather check on 27 May 2005 at 2400       0 Days       5 Stop C       Mare         Visibility       Wind Speed       Wind Dir.       Presure       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       102:0bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         Roll       Pitch       Heave       Swell Dir.       Swell Dir.       Swell Period       Weather Comments	Fire Drill		22 May	2005	5 Days		Fire	Drill					
Lost Time Incident       02 May 2005       25 Days       None reported since commencement of campaign.         Man Overboard Drill       02 May 2005       25 Days       None undertaken since commencement of campaign.         Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Safety Meeting       22 May 2005       5 Days       Weekly Safety Meeting         Stop Cards       27 May 2005       0 Days       5 Stop Cards         Rig Support         Weather check on 27 May 2005 at 2400         Visibility       Wind Speed       Wind Dir.       Presure       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       1022.00bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       4       7.30         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       5       8.71         249.0deg       12.25mt       206.38mt       Comments       5       8.71       6       9.80         1.1.70       10.30       8       11.7	First Aid		04 May	2005	23 Day	S	Pers	son struck	on nose with	metal bar			
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Near Miss       02 May 2005       25 Days       None reported since commencement of campaign.         Safety Meeting Stop Cards       22 May 2005       5 Days       Weekly Safety Meeting         27 May 2005       0 Days       5 Stop Cards         Marine       Rig Support         Weather check on 27 May 2005 at 2400       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       1022.00bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         Roll       Pitch       Heave       Swell Height       Swell Dir.       Swell Period       Weather Comments       3       6.99         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       4       7.30         Rig Dir.       Ris. Tension       VDL       Comments       5       8.71       6       9.80         249.0deg       12.25mt       206.38mt       E       E       E       E       6       9.80         7       10.30       8       11.70       8       11.70       10.30	Man Overbo	ard Drill	02 May	2005	25 Day	S	Non	e undertak	ken since com	mencement of	campaign.		
Safety Meeting Stop Cards       22 May 2005       5 Days       Weekly Safety Meeting 5 Stop Cards         Marine       Rig Support         Weather check on 27 May 2005 at 2400       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       102.0bar       15.0C°       1.5m       225deg       2m/sec       1       Anchors       Tension (mt)         10.deg       1.5deg       3.00m       4.0m       225deg       3m/sec       3       6.99       4       7.30         Rig Dir.       Ris. Tension       VDL       Comments       3m/sec       4       5       8.71       6       9.80         249.0deg       12.25mt       206.38mt       I       <	Near Miss		02 May	2005	25 Day	S	Non	e reported	since comme	encement of car	npaign.		
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Rig Support         Weather cbcck on 27 May 2005 at 2400*       Pressure       Air Temp.       Wave Height       Wave Dir.       Wave Period       Anchors       Tension (mt)         18.5km       46km/h       225deg       1022.00bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         Roll       Pitch       Heave       Swell Height       Swell Dir.       Swell Period       Weather Comments       2       8.89         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       4       7.30         Rig Dir.       Ris. Tension       VDL       Comments       5       8.71         249.0deg       12.25mt       206.38mt       I       I       I       10.30         K       12.25mt       206.38mt       I       I       I       10.30         K       I       I       I       I       I       I       I         K       I       I       I       I       I       I       I       I         Roll       1.100       I       I       I       I       I       I       I       I       I       I       I       I       I       <	Marine												
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18.5km       46km/h       225deg       1022.00bar       15.0C°       1.5m       225deg       2m/sec       1       10.89         Roll       Pitch       Heave       Swell Height       Swell Dir.       Swell Period       Weather Comments       3       6.99         1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       4       7.30         Rig Dir.       Ris. Tension       VDL       Comments       5       8.71         249.0deg       12.25mt       206.38mt       Image: Comments in the image: Comment	Visibility	Wind Speed	Wind Dir.	Pres	sure	Air <sup>-</sup>	Гетр.	Wave Heig	ght Wave D	r. Wave Period	Anchors		Tension (mt)
Roll         Pitch         Heave         Swell Height         Swell Dir.         Swell Period         Weather Comments         2         8.89         3         6.99         3         6.99         4         7.30         7.30         4         7.30         5         8.71         6         9.80         7         10.30         8         11.70         10.30         8         11.70         8         11.70         10.30         8         11.70         10.30         8         11.70         10.30 </td <td>18.5km</td> <td>46km/h</td> <td>225deg</td> <td>1022.</td> <td>00bar</td> <td>15</td> <td>.0C°</td> <td>1.5m</td> <td>225deg</td> <td>g 2m/sec</td> <td>1</td> <td></td> <td>10.89</td>	18.5km	46km/h	225deg	1022.	00bar	15	.0C°	1.5m	225deg	g 2m/sec	1		10.89
1.0deg       1.5deg       3.00m       4.0m       225deg       3m/sec       3       6.99         Rig Dir.       Ris. Tension       VDL       Comments       4       7.30         249.0deg       12.25mt       206.38mt       -       -       5       8.71         6       9.80       -       -       -       10.30         8       11.70       -       -       -       -	Roll	Pitch	Heave	Swell	Height	Swe	ell Dir.	Swell Peri	iod Weath	ner Comments	2		8.89
Rig Dir.     Ris. Tension     VDL     Comments     5     8.71       249.0deg     12.25mt     206.38mt     6     9.80       7     10.30       8     11.70	1.0dea	1.5dea	3.00m	4.0	0m	22	5dea	3m/sec	;		3		6.99
249.0deg         12.25mt         206.38mt         5         6         9.80           7         10.30         8         11.70	Rig Dir	Ris Tension	וחע	1		Com	mente				4 5		7.30 8.71
249.0deg         12.25mt         206.38mt         7         10.30           8         11.70						001					6		9.80
8 11.70	249.0deg	12.25mt	206.38mt								7		10.30
											8		11.70

Boats	Arrived (d	late/time)	Departed (date/time)	Status		Bulks	
Far Grip				Ocean Patriot	ltem	Unit	Quantity
					Fuel	M3	482
					Drill Water	M3	689
					Potable Water	M3	530
					Barite	MT	37
					Gel	MT	42.3
					Cement	MT	0
					KCI Brine	bbl	0
Pacific			25 May 05 18:00	Portland	ltem	Unit	Quantity
wrangier					Fuel	M3	0
					Drill Water	M3	303
					Potable Water	M3	301
					Barite	MT	0
					Gel	MT	0
					Cement	MT	0
					KCI Brine	bbl	2000
Helicopter	r Movement						
Flight #	Time		Destination		Comment		Pax
1	10:18	Ocean Patriot					14
1	10:32	Essendon					12

					F	rom :	С	hris Wise J	eff Thomso	on				
					C	DIM :	S	ean De Frei	tas					
Well D	Data													
Country			Australia	M. D	epth			1274.0m	Cur. Hole S	lize	311mm	AFE C	ost	
Field			Casino	TVD				1272.4m	Casing OD		340mm	AFE N	0.	5746022
Drill Co.			DOGC	Prog	ress			25.0m	Shoe TVD		727.9m	Daily C	Cost	
Rig		Ocea	an Patriot	Days	from sp	ud		26.77	F.I.T. / L.O.	T. 0s	g / 2.14sg	Cum C	Cost	
Wtr Dpt	h(LAT)		70.8m	Days	on well			2.00				Planne	ed TD	2642.0m
RT-ASL	(LAT)		22.0m	Curre	ent Op @	0600		Drill ahead	and survey 3	311mm (12	.25") hole v	vith FEW	D / Geopilot	assembly.
RT-ML			92.8m	Plan	ned Op			Drill with 31	1mm (12.25	") Geopilot	assembly t	o 244mr	n (9.625") ca	asing point
Summ	nary of	Period	0000 t	o 2400	) Hrs									
Drilled f 1186mF	rom 1182ı RT, Worke	mRT - 12 d and re	274mRT amed thr	with 244 ough ha	mm (9.6 ng up po	25") moto pints at 11	or a 186	ssembly. POC mRT, 1200mF	H, made up	311mm (9.	625") Geop	oilot rotai	y steerable	assembly. RIH to
Opera	tions Fe	or Peri	od 000	0 Hrs	to 240	0 Hrs o	n 2	28 May 200	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	۱			Act	ivity Descri	ption		
IH	TP (OTH)	DM	0000	0200	2.00	1191.0r	n	Drilled with m	otor assemb	ly from 118	82mRT - 11	91m RT	in slide mod	le
ІН	TP (OTH)	DM	0200	0300	1.00	1202.0r	n	Drilled from 1	191mRT - 12	202mRT in	rotary mod	e.		
ІН	TP (OTH)	DM	0300	0430	1.50	1220.0r	n	Drilled from 1	202mRT - 12	220mRT in	slide mode	).		
IH	TP (OTH)	DM	0430	0600	1.50	1226.0r	n	Drilled from 1 Conducted S	220mRT - 12 CRs at 1224	226mRT in mRT.	rotary mod	e.		
ІН	TP (OTH)	DM	0600	1030	4.50	1274.0r	n	Continued drilling in slide/rotary mode from 1182mRT - 1274mRT.						
ІН	TP (OTH)	CHC	1030	1130	1.00	1274.0r	n	n Circulated bottoms up at 3400lpm (900 gpm).						
IH	TP (OTH)	то	1130	1430	3.00	1274.0r	n	POOH 127m	m (5") DP					
IH	TP (OTH)	то	1430	1630	2.00	1274.0r	n	POOH and ra and FLX12D	ack back BH/ bit.	A. Downloa	ded MWD	while lay	ing out 244n	nm (9.625") motor
IH	TP (OTH)	HBHA	1630	2030	4.00	1274.0r	n	Picked up 31 Uploaded and	1mm (12.25" d shallow tes	) Security F ted MWD a	-S2663 bit, at 3220 LPN	244mm ⁄I (850 G	(9.625") Ge PM).	opilot, MWD.
IH	TP (OTH)	TI	2030	2330	3.00	1274.0r	n	RIH slowly th 1186m.	rough wellhe	ad with BH	A due to w	eather co	onditions. Co	ontinue to RIH to
IH	TP (OTH)	RW	2330	2400	0.50	1274.0r	n	Took weight a minimal hole	at 1186mRT drag after rea	and 1200m aming.	RT. Conne	ected TD	S and reame	ed tight sections -
Opera	tions Fe	or Peri	od 000	0 Hrs	to 060	0 Hrs o	n 2	29 May 200	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	٦			Act	ivity Descri	ption		
IH	TP (OTH)	RW	0000	0100	1.00	1274.0r	n	Washed / rea stands.	med from 12	18mRT to	bottom (12	74mRT).	Precautiona	ary reamed last 2
IH	TP (OTH)	DA	0100	0600	5.00	1662.0r	n	(IN PROGRE from 1274mF	SS) Drilled 3 T - 1662mR	11mm (12. T. AVG RC	25") hole w P 27m/hr.	ith Geor	bilot rotary st	eerable assembly
WBM	Data													
Mud Typ	e:		API	FL:	00	cm <sup>3</sup> /30m	CI:		47000	Solids:		12	Viscosity:	0sec/L
	KCL/IDCA	P-D/Polym	ner Filte	r-Cake:		1mm	K+	·C*1000:	8%	H2O:		88%	PV: VP·	0.018Pa/s
Sample	-From:	Sucti	ion HTH	IP-FI ·	00	cm <sup>3</sup> /30m	На	urd/Ca	1000	Oil		0%	Gels 10s:	0.072
Time:		04:	30		00	0			1000	On.		070	Gels 10m:	0.105
Weight:		1.29	le l	IC-Cake:		umm		51:	10	Sana:		trace	Fann 003:	11
Temp:		46.0	C°				ΡN	A:	0.8	pH:		10.2	Fann 100:	42
<b>P</b> . 1							PF	:	0.2	PHPA:		0ppb	Fann 200:	53
													Fann 300:	63
Commo	nt			<u>ہ</u> م	nnh					I			Fann 600:	81
Comme	nu		IDC	чr-D = 3	o hhn									

								1	1			L		1	
Bit # 10				Wear	·		01	D	L		B	G	02	R	
Size ("):	311mm	IADC#			Nozzles		Dril	lled over la	A ast 24 hrs	5					
Mfr:	SECURITY-DBS	WOB(avg)	0.68mt	No.	Size	,	Progr	ess	25.	0m	Cum.	Progress		50.0m	
Type:	Rock	RPM(avg)	0		OIEC	-	On Bo	ottom Hrs	3.4	10h	Cum.	On Btm H	rs	6.80h	
Serial No.:	748557	F.Rate 32	218lpm				IADC	Drill Hrs	5.2	20h	Cum I	ADC Drill I	Hrs	10.40h	
Bit Model	FXL12D	SPP 172	37kPa				Total	Revs		0	Cum T	otal Revs		0	
Depth In	1157.0m	TFA	0.000				ROP(	avg)	7.35 m	n/hr	ROP(a	avg)		7.35 m/hr	
Depth Out	1274.0m														
Bitwear Comment		Slight gauge re	eductior	า <1/32"						1					
Bit # 11				Wear	· I		01	D	L		В	G	O2	R	
					1		2	WT	G		Х	I	NO	BHA	
Size ("):	311mm	IADC#	S323	I	Nozzles		Dril	lled over la	ast 24 hrs	s	C	Calculated	l over Bit	Run	
Mfr:	SECURITY-DBS	WOB(avg)	0.54mt	No.	Size	9	Progr	ess		0m	Cum.	Progress		0m	
Туре:	PDC	RPM(avg)	125	9	16/	'32nd"	On Bo	ottom Hrs		0h	Cum.	On Btm H	rs	0h	
Serial No.:	10387397	F.Rate 36	672lpm				IADC	Drill Hrs		0h	Cum I	ADC Drill I	Hrs	0h	
Bit Model	FS2663	SPP 206	84kPa				Total	Revs		0	Cum T	otal Revs		0	
Depth In	1274.0m	TFA	1.767				ROP(	avg)	١	N/A	ROP(a	avg)		0.00 m/hr	
Depth Out	0m														
Run Comment Integral Stabiliser Ste Drilled from 1273 m					k up con ent plug)	nection to KO	i. P @ 13	308m in Ca	isino 4 an	nd fro	om 130	8m - 1662	m in Casi	no-4DW	
BHA # 11															
Weight(Wet)	1.59mt	Length		2	49.4m	Torque	e(max)		10	١m	D.C. (	1) Ann Ve	locity		
Wt Below Jar(Wet)	2.27mt	String		0mt	Torque	e(Off.B	tm)	10	١m	D.C. (	2) Ann Ve	locity			
		Pick-Up			0mt	Torque	e(On.B	tm)	10	١m	H.W.C	.P. Ann V	elocity		
		Slack-Off			0mt						D.P. A	nn Veloci	ty		
BHA Run Descripti	on	311 mm (12 1/ 203 mm (8") F	/4") TCI loat Sul	bit, 244 b, X/O, 9	mm mot 9 x 127 ı	tor, stri mm (5"	ng stab ) HWD	o, 241 mm P, 165 mm	(9.5") Floa i (6.5") Ja	at su irs, 9	ub, cont x 127	t sub, Spe mm (5") H	rry FEWD IWDP	/MWD,	
	Equipment		Leng	jth	OD	I	D	Seria	al #			Com	ment		
Bit			0.3	34m	311mm	7	6mm	5031197		FXL	12D				
9.625in Motor			8.5	6m	311mm	15	6mm	963116		Spe	erry 6/7	lobe mud	motor		
Float Sub			1.0	)5m	241mm	7	6mm	A544							
String Stabiliser			1.9	0m	203mm	7	6mm	7090449							
Contingency Sub			1.2	2m	203mm		0mm	10659402							
FEWD Tools			14.3	32m	203mm		0mm			FEV	VD - W Sub - 2	RG8			
										Puls	ser - 10	645028			
Drill Collar			26.5	i9m	203mm		0mm								
X/O			1.0	)9m	203mm		0mm	SANTOS							
HWDP			138.3	87m	162mm		0mm								
Jar			9.8	87m	165mm	7	3mm	MAH 0016	60						
			46.1	2m	161mm		Umm								
BHA # 12	4.00	L e e ette			00.7	Tamar	- ()		0	Inc		1) Ann 1/2	1		
vveignt(vvet)	1.36mt	Length		2	.∠∪./m	Torque	e(inax)	()	Uľ	NITI	D.C. (	i) Ann Ve			
vvt Below Jar(Wet)	1.59mt	String			Umt	I orque	e(Off.B	tm)	10	NM	D.C. (	2) Ann Ve	IOCITY		
		Pick-Up			0mt	Torque	e(On.B	tm)	10	١m	H.W.C	).P. Ann V	in Velocity		
		Slack-Off			0mt						D.P. A	nn Veloci	ty		
BHA Run Descripti	on	311 mm (12 1/ Float Sub, X/C	/4") Bit, ), 15 x 1	244 mn 127 mm	n (9 5/8") (5") HW	) Geop /DP, 16	ilot, 203 5 mm	3 mm (8") I (6.5") Jars,	NM Flex F X/O, 5 x	Pony 127	, Sperr mm (5	y FEWD/N ") HWDP	MWD, 203	8 mm (8")	

		Length OD			ID	Serial #		Comment					
Bit					0.6	64m	311mm	0mm	10387397	SDBS FS26	63 Bit #	# 11 (RR#6)	
Geopilot Ste	erable Tool				6.6	52m	245mm	0mm	GP1225 TI OG				
NM Flex Por	nv				2.8	0m	203mm	0mm	CP773036				
FEWD Tools	s				14.3	2m	203mm	0mm	0	FEWD - DM	900725	322	
I LWD 1000	5				14.0	,2111	20011111	011111		DM Sub - 12	28402		
										Pulser - 106	45028		
Float Sub					1.0	)5m	203mm	0mm	49079	Ported Float			
X/O					1.0	9m	203mm	0mm	SANTOS				
HWDP					138.3	87m	162mm	0mm					
Jar					9.8	87m	165mm	0mm	DAH03786				
5in HWDP					45.5	i9m	161mm	0mm					
Survey													
MD	Incl Deg	Corr.	Az	TVI	C	'V	" Sect	Dogleg	N/S	E/W		Tool Type	
(m)	(deg)	(deg	<b>]</b> )	(m	)		(m)	(deg/30m)	(m)	(m)			
1196.52	7.0	204.4		1196.28	3	-0.99	9	1.93	-7.58	-1.64	MWD		
1225.28	9.1	213.0		1224.75	5	-0.30	)	2.53	-11.10	-3.61	MWD		
1250.01	10.2	216.2		1249.13	3	0.78		1.49	-14.52	-5.98	MWD		
1257.46	10.2	218.8		1256.46	6	1.19		1.90	-15.56	-6.78	MWD		
Bulk Stor	cks							Personne	l On Board				
N	ame	Unit	In	Use	ed A	djust	Balance		Company			Pax	
Fuel		m3	C	) 6	.4	0	414.1	Santos			4		
Drill Water		m3	C	27	.9	0	58.6	DOGC			48		
Potable Wat	ter	m3	22	2 24	.8	0	195.9	ESS			8		
Gel		SX			0	0	867.0	Dowell			2		
Cement		SY.			0	0	1 266 0	MI			2		
Barite		5A 6V			50	0	1,200.0	Geoservices			6		
KCI Brino		bbl			0	0	0.0	Eugro			2		
NOI BIIIIe		DDI		,	0	0	0.0	Sperny-Sup			6		
								Comoron			2		
								Cameron			5		
								Explo			D A		
								weathenoid		Tot	4		
										TU	ai 91		
HSE Sum	nmary												
E	vents	Date of	Last	Days S	Since	1			Ren	narks			
Abandon Dr	ill	22 May	2005	6 Days		Abar	ndon Drill						
BOP Test	tel la s'ale at	24 May		4 Days	_	BOP		-:					
Environmen	tal incident	02 May	2005	26 Days	5	NON	е геропеа	since comme	ncement of cam	ipaign.			
Fire Drill		22 May	2005	b Days		Fire	Drill						
First Aid		04 May	2005	24 Days	6	Pers	on struck	on nose with r	metal bar				
Lost Time In	ncident	02 May	2005	26 Days	6	None	e reported	since comme	ncement of cam	ipaign.			
Man Overbo	bard Drill	02 May	2005	26 Days	5	None	e undertak	en since com	mencement of c	ampaign.			
Near Miss		02 May	2005	26 Days	6	None	e reported	since comme	ncement of cam	ipaign.			
Safety Meet	ing	22 May	2005	6 Days		Wee	kly Safety	Meeting					
Stop Cards		28 May	2005	0 Days		4 Sto	op Cards						
Marine													
Weather che	eck on 28 May	2005 at 240	00							Rig Support			
Visibility	Wind Speed	Wind Dir.	Press	sure	Air Te	mp.	Wave Heig	ght Wave Dir	. Wave Period	Anchors		Tension (mt)	
18.5km	37km/h	220deg	1029.0	00bar	14.0	C°	2.0m	220deg	2m/sec	1		10.39	
Roll	Pitch	Heave	Swell H	leight	Swell	Dir.	Swell Peri	od Weath	er Comments	2		8.71	
2.0deg	1.5deg	2.00m	6.0	m	225d	leg	3m/sec	;		3		6.99	
Ria Dir	Ris Tension	וחע	1		Comm	ente	1			5		8.62	
040.04	40.05				0.01111	5.110				6		10.39	
249.0deg	12.25Mt	200.64Mt								7		10.61	
										8		9.62	

Boats	Arrived (date/time)	Departed (date/time)	Status	Bu	Bulks			
Far Grip			Ocean Patriot	Item	Unit	Quantity		
				Fuel	M3	470		
				Drill Water	M3	689		
				Potable Water	M3	522		
				Barite	MT	37		
				Gel	MT	42.3		
				Cement	MT	0		
				KCI Brine	bbl	0		
Pacific		25 May 05 18:00	Portland	Item	Unit	Quantity		
wrangier				Fuel	M3	0		
				Drill Water	M3	303		
				Potable Water	M3	301		
				Barite	MT	0		
				Gel	MT	0		
				Cement	MT	0		
1				KCI Brine	bbl	2000		
#### DRILLING MORNING REPORT # 28 Casino-4DW2 ( 29 May 2005 )

					F	rom :	Cł	hris Wi	se Jef	f Thoms	on					
					C	DIM :	Se	ean De	Freita	IS						
Well D	Data															
Country			Australia	M. D	epth			1763.	.0m	Cur. Hole	Size	311mm	AFE C	Cost	\$ 40,	100,000
Field			Casino	TVD				1662.	.0m	Casing OI	)	340mm	AFE N	lo.	:	5746022
Drill Co.			DOGC	Prog	ress			489.	.0m	Shoe TVE	)	727.9m	Daily (	Cost	\$	400,000
Rig		Ocea	in Patriot	Days	from sp	ud		27	7.77	F.I.T. / L.C	D.T.	0sg / 2.14sg	Cum (	Cost	\$ 13,	250,000
Wtr Dpt	h(LAT)		70.8m	Days	on well			3	3.00				Planne	ed TD		2642.0m
RT-ASL	(LAT)		22.0m	Curre	ent Op @	0600		Drilling	g 311m	ım (12.25'	) hole at ?	1834mRT MI	).			
RT-ML			92.8m	Planr	ned Op			Drill to rig up	244m and ru	m (9.625" n 244mm	) casing p (9.625") c	oint, circulate asing. Ceme	e hole cle nt casing	an, POOH J.	, pull wea	r bushing,
Summ	nary of F	Period	0000 to	o 2400	Hrs											
Washed	and ream	ed from	1218RT	to botto	m (1274	mRT), dr	illed	311mm	(12.25	") hole fro	m 1274m	RT - 1763mF	εT.			
Opera	tions Fo	or Peri	od 000	) Hrs	to 240	) Hrs o	n 2	9 May	2005							
Phse	Cls	Ор	From	То	Hrs	Depth	า				/	Activity Desc	ription			
	(RC)	D\//	0000	0100	1.00	1274.04	~ 1	Washad	1/1000	ad from 1	210mDT		)74mPT)	Drocoutic		ad last 2
	(OTH)		0000	1000	1.00	1274.01		stands.			210111K1			. Flecaulic		
IH 	(OTH)	DA	0100	1830	17.50	1662.0r	n	1662mR	RT. AV	(12.25°) r G ROP 27	m/hr.	seopilot rotai	y steerat	ie assemt	bly from 12	2/4mRT -
н	Р	DA	1830	2400	5.50	1763.0r	n	Drilled 3 1763mR	811mm RT. AV0	(12.25") h G ROP 24	iole with C m/hr.	Seopilot rotai	y steerat	ole assemb	bly from 16	62mRT -
Opera	tions Fo	or Peri	od 000	) Hrs	to 060	) Hrs o	n 3	0 May	2005							
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	٦				/	Activity Desc	ription			
IH	Р	DA	0000	0130	1.50	1796.0r	n	Drilled 3	311mm	(12.25") ł	ole from	1763mRT - 1	796mRT	MD. Avera	age ROP (	30 m/hr.
IH	TP	DA	0130	0330	2.00	1796.0r	m	Backed	out low	/er IBOP \	vhile brea	king TDS co	nnection	at 1796mF	RT MD. La	id out
	(RE)							single, p 650 GPI and re-ir up single	oulled a M for 3 nstalled e and d	ind racked 0 minutes d lower IB circulated	l back one while bre OP to TD 1 stand to	e stand. Rigg aking out lov S. Broke circ bottom.	ed up cir ver IBOP ulation wi	culating ho from single ith TDS for	e. Laid out 5 minutes	culated at single s, picked
IH	Р	DA	0330	0600	2.50	1834.0r	n	Drilled 3	311mm	(12.25") ł	ole from	1796mRT - 1	834mRT	MD. Avera	age ROP 2	22 m/hr.
WBM	Data						Со	ost Too	day \$	2,570						
Mud Typ	e:		API I	FL:	00	;m³/30m	CI:			47000	Solids:		13	Viscosity:		0sec/L
	KCL/IDCAF	P-D/Polym	Filter	-Cake:		1mm	K+C	C*1000:		8%	H2O:		87%	PV: YP:		0.019Pa/s 0.225MPa
Sample	-From:	Sucti	on   HTH	P-FI ·	00	m3/30m	Har	d/Ca		1280	Oil		0%	Gels 10s:		0.072
Time:		05:	00		00	,,,,,	1 Iai	u/0a. T		1200			. 070	Gels 10m:		0.110
Weight:		1.29	sg HIH	P-Cake:		Umm	MB	1:		10	Sand:		trace	Fann 003:		14
Temp:		51.0	C°				PM:	:		0.3	pH:		9.5	Fann 006: Fann 100:		45
			-				PF:			0.1	PHPA:		3ppb	Fann 200:		57
														Fann 300:		66
Comme	nt			P-D - 3	nnh									Fann 600:		85
Comme			100,		ppp		14/			01	5			0	00	<b>D</b>
Bit # '	11						VV	ear	1	01		L	ь В	G	02	R DUA
Sizo (")			211mr		`#	6333		Nozz				last 24 brs	^			BIIA
Size ( ):		0501			,# ./ \	5323		NOZZ	les		lied over	last 24 nrs			Over bit	Run
Mfr:		SECU	RILA-DR	S WOE	s(avg)	0.68mt	No.	5	Size	Prog	ess	489.0r	n Cum.	Progress		489.0m
Type:			PDO		(avg)	125	9		16/32r	<sub>id"</sub> On B	ottom Hrs	18.70	n Cum.	On Btm H	S	18.70h
Serial N	lo.:		1038739	7 F.Ra	te 3	672lpm				IADC	Drill Hrs	22.37	n Cum I	ADC Drill I	Hrs	22.37h
Bit Mod	el		FS266	3 SPP	22	753kPa				Total	Revs		Cum <sup>-</sup>	Total Revs		0
Depth In	n		1274.0r	n TFA		1.767				ROP	avg)	26.15 m/h	r ROP(	avg)	2	6.15 m/hr
Depth C	Dut		Or	n												
Run Co	mment			Integ	ral Stabi	liser Slee	eve, l	Box up o	connec	tion.						
				Drille	d from 1	273 m (to	op ce	ement pl	lug) to	KOP @ 1	308m in C	asino 4 and	from 130	8m - 1662	m in Casir	no-4DW

#### DRILLING MORNING REPORT # 28 Casino-4DW2 ( 29 May 2005 )

BHA # 12	2												
Weight(Wet)	)	1.36mt	Length				220.7m	Torque(max)	)		0Nm	D.C. (1) A	nn Velocity
Wt Below Ja	ar(Wet)	1.59mt	String				0mt	Torque(Off.B	8tm)		0Nm	D.C. (2) A	nn Velocity
			Pick-Up				0mt	Torque(On.B	8tm)		0Nm	H.W.D.P.	Ann Velocity
			Slack-Off	:			0mt					D.P. Ann \	/elocity
BHA Run De	escription		311 mm Float Sub	(12 1/4' o, X/O,	') Bit, 2 15 x 12	244 m 27 mi	nm (9 5/8") m (5") HW	) Geopilot, 20 DP, 165 mm	3 mi (6.5	m (8") NM Fle ") Jars, X/O, 4	ex Pony 5 x 127	y, Sperry FE ' mm (5") H\	EWD/MWD, 203 mm (8") WDP
	Equip	oment			Lengt	th	OD	ID		Serial #			Comment
Bit					0.64	4m	311mm	0mm	103	387397	SD	BS FS2663	Bit # 11 (RR#6)
Geopilot Ste	erable Tool				6.62	2m	245mm	0mm	GP	1225 TLOG			
NM Flex Por	ny				2.80	Dm	203mm	0mm	СР	773036			
FEWD Tools	S				14.32	2m	203mm	0mm			FE' DN Pul	WD - DM90 I Sub - 1284 ser - 10645	072522 402 028
Float Sub					1.05	5m	203mm	0mm	490	079	Po	rted Float	
X/O					1.09	9m	203mm	0mm	SA	NTOS			
HWDP					138.37	7m	162mm	0mm					
Jar					9.87	7m	165mm	0mm	DA	H03786			
5in HWDP					45.59	9m	161mm	0mm					
Bulk Stor	cks							Personne	0	n Board			
N	ame	Unit	In	Used	d Ac	djust	Balance			Company			Pax
Fuel		m3	0	12.	3	0	401.8	Santos					4
Drill Water		m3	600	39.	3	0	619.3	DOGC					48
Potable wat	ter	m3	29	37.	3	0	187.6	ESS					8
Gel		SX	818		0	0	1,685.0	Dowell					2
Barita		SX SX	545		0	0	1,200.0	Geoservices					2
KCI Brine		bbl	0		0	0	1,005.0	Fuaro					3
Itel Bille		551	Ű		•	0	0.0	Sperrv-Sun					6
								Cameron					3
								Expro					5
							-	Weatherford					4
												Total	91
HSE Sum	nmary												
E	vents	Date of	f Last	Days Si	ince					Rem	arks		
Abandon Dr	ill	29 May	2005 0	Days		Abar	ndon Drill						
BOP Test		24 May	2005 5	Days		BOP	Test						
	tal Incident	02 May	2005 2	/ Days		None	e reported	since comme	ence	ment of camp	aign.		
Firet Aid		29 May	2005 0	Days 5 Dove		Porc	Dilli on struck	on noco with i	mot	albar			
Lost Time In	ncident	04 May 02 May	2005 2	7 Days		None	e reported	since comme	ence	ment of camr	aian		
Man Overbo	bard Drill	02 May	2005 2	7 Davs		None	e undertak	en since com	mer	ncement of ca	mpaig	n.	
Near Miss		02 May	2005 2	7 Days		None	e reported	since comme	ence	ment of camp	aign.		
Safety Meet	ing	29 May	2005 0	Days		Wee	kly Safety	Meeting			•		
Stop Cards		29 May	2005 0	Days		9 Sto	op Cards						
Marine													
Weather che	eck on 29 May	/ 2005 at 24	00								Rig Su	ipport	
Visibility	Wind Speed	Wind Dir.	Pressu	ure	Air Ten	np.	Wave Heig	ght Wave Dir	r.	Wave Period		Anchors	Tension (mt)
18.5km	28km/h	240deg	1031.0	Obar	14.00	C°	1.0m	240deg	<b>j</b>	1m/sec		1	10.61
Roll	Pitch	Heave	Swell He	eight	Swell [	Dir.	Swell Peri	od Weath	er C	omments		2	8.89
1.0deg	1.0deg	1.00m	3.0n	n	200de	eg	2m/sec	:				3 4	0.0∠ 6.71
Rig Dir.	Ris. Tension	VDL	1		Comme	ents	1					5	8.89
249.0dea	12.25mt	216.41mt										6	9.80
												7	10.21
1												8	8.71

#### DRILLING MORNING REPORT # 28 Casino-4DW2 ( 29 May 2005 )

Boats	Arrived (date/time)	Departed (date/time)	Status	Bulks		
Far Grip			Ocean Patriot	Item	Unit	Quantity
				Fuel	M3	456
				Drill Water	M3	0
				Potable Water	M3	514
				Barite	MT	0
				Gel	MT	0
				Cement	MT	0
				KCI Brine	bbl	0
Pacific			Ocean Patriot	ltem	Unit	Quantity
wrangier				Fuel	M3	466.5
				Drill Water	M3	303
				Potable Water	M3	315
				Barite	MT	0
				Gel	MT	0
				Cement	MT	86

#### DRILLING MORNING REPORT # 29 Casino-4DW2 ( 30 May 2005 )

					F	rom :	Chris Wise J	leff Thomso	on								
					C	DIM :	Sean De Fre	itas									
Well	Data																
Country	y		Australia	M. D	epth		1998.0m	Cur. Hole S	Size	311mm	AFE C	ost					
Field			Casino	TVD			1743.0m	Casing OD		340mm	AFE N	0.	5746022				
Drill Co	).		DOGC	Prog	ress		235.0m	Shoe TVD		727.9m	Daily C	Cost					
Rig		Ocea	an Patrio	t Days	from sp	ud	28.77	F.I.T. / L.O.	T. Osg	/ 2.14sg	Cum C	Cost					
Wtr Dp	th(LAT)		70.8m	Days	on well		4.00				Planne	ed TD	2642.0m				
RT-AS	L(LAT)		22.0m	Curre	ent Op @	0600	POOH at 1	278mRT MD	. Backreamir	ng tight ho	le.						
RT-ML			92.8m	n Planı	ned Op		Wiper trip	to TD @ 1998	BmRT MD, P	ΟΟΗ, rig ι	up and r	un 244mm (9	9.625") casing.				
Sumr	nary of	Period	0000 t	o 2400	Hrs												
Drilled	311mm (1	2.25" hol	e from 1	763mRT	- 1998m	RT MD. I	Pumped hi vis sv	veep, circulate	ed 3 x bottom	ns up. POC	ЭН						
backrea	aming and	reworkir	ng tight s	tands.			-										
Opera	ations F	or Peri	od 000	0 Hrs	to 240	0 Hrs o	n 30 May 200	)5									
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	1		Activ	rity Descrip	otion						
IH	Р	DA	0000	0130	1.50	1796.0r	n Drilled 311m	m (12.25") ho	ble from 1763	3mRT - 17	96mRT	MD. Average	e ROP 30 m/hr.				
IH	TP	DA	0130	0330	2.00	1796.0r	n Backed out I	ower IBOP w	hile breaking	TDS conr	nection a	at 1796mRT	MD. Laid out				
	(RE)						single, pulled	d and racked	back one sta	nd. Rigge		culating hose	and circulated at				
							and re-instal	led lower IBO	P to TDS. Br	roke circul	ation wi	th TDS for 5	minutes, picked				
							up single an	d circulated 1	stand to both	tom.			,				
IH	Ρ	DA	0330	1230	9.00	1970.0r	n Drilled 311m from 1945m	m (12.25") ho mRT prior to o	ble from 1796 drilling format	6mRT - 19 tion	70mRT	MD. Limited	ROP to <25m/hr				
ІН	Ρ	DA	1230	1330	1.00	1970.0r	Om Took survey at 1970mRT MD, cycled pumps several times to communicate survey to surface.										
IH	Р	DA	1330	1600	2.50	1998.0r	n Drilled 311m Limited ROF	Drilled 311mm (12.25") hole from 1970mRT - 1998mRT MD. Limited ROP to <25m/hr.									
IH	Р	СНС	1600	1800	2.00	1998.0r	n Circulated 9. mud system	5m3 (60 bbl), (3 x bottoms	, weighted hig up whilst rota	gh viscosit ating and v	ty sweer working	o, circulated pipe at 150r	and conditioned				
ІН	Р	то	1800	1930	1.50	1998.0r	n Backreamed	out 3 stands	at 150RPM.	Pumped 4	4000 str	okes per sta	nd @ 950 gpm.				
ІН	TP	то	1930	2000	0.50	1998.0r	n Backed out	saver sub whi	le breaking o	out TDS at	connec	tion. Reinsta	lled saver sub.				
	(RE)																
ІН	Ρ	то	2000	2400	4.00	1998.0r	n Attempted to 1827mRT - in tight section	o pull w/o pum 1708m RT @ ons at 1855 -	nps, tight hole 150 rpm, 950 1850mRT, 1	e ~60 klb ( 0 gpm. Hiç 821mRT, i	D/P max gh torqu intermitt	. Backreame e (max 15kft ent jarring do	ed out from lbs) encountered own required to				
0			l 000	0.11			break free. F	Reamed back	through tight	t sections.							
Opera	ations F	or Peri	<u>od 000</u>	UHrs	10 060	J Hrs o	n 31 May 200	15	•								
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	1		Activ	rity Descrip	otion						
IH	Ρ	то	0000	0345	3.75	1998.0r	n Continued P Backreamed top Skull Cre kftlbs) and ir Losses of 2r Abundant cu	OOH backrea slowly from f eek Formation itermittent jarn n3 (12 bbl) /hi ittings observe	aming out from 1585mRT - 1 a (1585mRT - ring down to r occurred wh ed at shakers	m 1708mF 550mRT M - 1550mR break free hile backre s.	RT - 150 MD throw T MD) w a. Rewor eaming i	6m RT @ 15 ugh tight sec /ith occasion ked tight sec n the Paarat	50 rpm, 950 gpm. tion when BHA at al high torque (15 tions. te Formation.				
IH	Р	то	0345	0400	0.25	1998.0r	n Reworked st	and w/o pum	ps or rotation	after bac	kreamin	g @ 1532mF	RT with minimal				
ІН	Р	то	0400	0600	2.00	1998.0r	n Continued b	empted to pui ackreaming s	tands from 1	506mRT -	1250ml	RT MD @ 15	50 Kib 0/P. 50rpm, 900 gpm				
							with occasio sections.	nal high torqu	ie (10 kftlbs)	and intern	nittent ja	rring down. I	Rereamed tight				
WRM	Data					1	4										
	Data					- /	-					\/ieeeeitr#	0000/				
Mua Ty	pe: KCL/IDCA	P-D/Polyn	ner API	FL:	40	;m³/30m	CI:	46000	Solids:		14	PV:	0.020Pa/s				
Sample	-From:	Suct	ion   Filte	r-Cake:		1mm	K+C*1000:	8%	H2O:		86%	YP:	0.206MPa				
Time		21		IP-FL:	50	;m³/30m	Hard/Ca:	1160	Oil:		0%	Gels 10s: Gels 10m <sup>.</sup>	0.067				
		4.00	HTH	IP-Cake:		0mm	MBT:	12.5	Sand:		trace	Fann 003:	13				
vveight	•	1.29	sg				PM:	0.15	pH:		8.5	Fann 006:	16				
Temp:		50.0	)C°				PF	0.05	PHPA·		3nnh	Fann 100: Fann 200:	39				
								0.05			oppu	Fann 300:	63				
												Fann 600:	83				
Comme	ent		IDC	AP-D = 3	daa												

#### DRILLING MORNING REPORT # 29 Casino-4DW2 ( 30 May 2005 )

										_	· · ·			-		_
Bit # 11						Wea	ar		01 2	D WT	G		В Х	G	O2 NO	R BHA
Size ("):		311mm	IADC#		S323		Nozzles	<u> </u>	_ Dri	lled over	last 24 h	rs	(	Calculate	d over Bit	Run
Mfr:	SECUR	ITY-DBS	WOB(a	va) (	).68mt	No.	Siz	e	Progr	ess	23	5.0m	Cum.	Progress		724.0m
Type:		PDC	RPM(av	(g)	125	9	16	/32nd"	On B	ottom Hrs	10	.40h	Cum.	On Btm ⊢	Irs	29.10h
Serial No.:	1	0387397	F.Rate	36	72lpm		10	/02110	IADC	Drill Hrs	18	.38h	Cum I	ADC Drill	Hrs	40.75h
Bit Model		FS2663	SPP	227	53kPa				Total	Revs		0	Cum 1	Fotal Reve	6	0
Depth In		1274.0m	TFA		1.767				ROP(	(avg)	22.60	m/hr	ROP(a	avg)	2	4.88 m/hr
Depth Out		1998.0m														
Run Comment	t		Integral Drilled f	Stabilis rom 12	ser Slee 73 m (t	eve, B op cer	ox up cor nent plug	nection ) to KO	P @ 1;	308m in C	asino 4 a	and fro	om 130	8m - 1662	2m in Casir	no-4DW
BHA # 12																
Weight(Wet)		1.36mt	Length				220.7m	Torque	e(max)		13.	6Nm	D.C. (	1) Ann Ve	elocity	
Wt Below Jar(	Wet)	1.59mt	String				9.98mt	Torque	e(Off.B	tm)	6.	BNm	D.C. (	2) Ann Ve	elocity	
			Pick-Up	)			10.89mt	Torque	e(On.B	stm)	9.	5Nm	H.W.D	D.P. Ann \	/elocity	
	Slack-Off						9.07mt						D.P. A	Ann Veloc	ity	
BHA Run Des	cription	4") Bit,	244 m	nm (9 5/8	') Geop	ilot, 20	3 mm (8")	NM Flex	Pony	/, Speri	ry FEWD/	MWD, 203	mm (8")			
	Equips	nont	Float Si	JD, X/O	), 15 x 1	127 mr	m (5") HV	VDP, 16	5 mm	(6.5") Jar	s, X/O, 5	x 127	mm (5	) HWDP	mont	
Dit	Lquipi		4	211 mm	1	0	4020720	1al #	20							
Geonilot Steel	rable Tool	0.0	2m	245mm		0mm	GP1225		50	DO F 02	2003 DIL #	11 (KK#0)				
NM Flex Pony					2.8	30m	243mm	' 1	0mm	CP7730	36					
FEWD Tools					14.3	32m	203mm	n	0mm			FE	ND - D	M900725	22	
												DM	Sub -	128402		
Float Sub					1.0	)5m	203mm		0mm	49079		Por	ted Flo	043020 at		
X/O					1.0	9m	203mm	1	0mm	SANTOS	6	1 01	104110	u		
HWDP					138.3	87m	162mm	n	0mm							
Jar					9.8	87m	165mm	n	0mm	DAH037	86					
5in HWDP					45.5	i9m	161mm	n	0mm							
Survey																
MD (m)	Incl Deg (deg)	Corr (de	: Az eg)	TV (n	'D n)	'V'	' Sect (m)	Dog (deg	gleg /30m)	N/ (n	S າ)	/E (r	W n)		Tool Type	9
1803.18	67.0	288.6		1680.1	9	282.9	99	3.42		121.23	-	257.2	6	MWD		
1861.05	70.0	287.8		1701.3	9	336.8	31	1.60		138.03	-	308.4	1	MWD		
1889.71	70.3	288.5		1711.1	3	363.7	75	0.77		146.43	-	334.0	2	MWD		
1918.35	71.0	288.1		1720.6	2	390.7	77	0.88		154.94	-	359.6	7	MWD		
1946.76	73.2	288.9		1729.3	4	417.8	30	2.45		163.51	-	385.3	1	MWD		
1975.04	76.3	287.9		1736.7	1	445.0	78	3.38 Doro		172.11		411.2	1	MIVVD		
DUIK Stock		Linit	ln		od ^	diuct	Polonoo	Pers	onne						Dov	
Fuel	lie	m3		1	eu A 6.7	n n	385.1	Santo		CO	прапу			4	Fax	
Drill Water		m3		13	2.4	0	486.9	DOGC	;					48		
Potable Water		m3	34	4	34	0	187.6	ESS						8		
Gel sx 0 0					0	0	1,685.0	Dowel	I					2		
Cement		sx	(	0	0	0	1,266.0	MI						2		
Barite		sx	(	0	90	0	1,569.0	Geose	rvices					6		
KCI Brine		bbl	(	)	0	0	0.0	Fugro						3		
								Sperry	-Sun					6		
								Came	ron					3		
								Expro	orford					5		
								vveath	enoid				т	otal 91		
													I			

#### DRILLING MORNING REPORT # 29 Casino-4DW2 ( 30 May 2005 )

HSE Sun	nmary												
E	Events	Date of	f Last	Days	Since					Ren	narks		
Abandon Di	rill	29 May	2005	1 Day		Aba	ndon Drill						
BOP Test		24 May	2005	6 Days		BOF	P Test						
Environmer	tal Incident	02 May	2005	28 Day	S	Non	e reported	sind	ce commenc	ement of cam	paign.		
Fire Drill		29 May	2005	1 Day		Fire	Drill						
First Aid		04 May	2005	26 Day	S	Pers	son struck o	on r	nose with me	tal bar			
Lost Time Ir	ncident	02 May	2005	28 Day	S	Non	e reported	sind	ce commenc	ement of cam	paign.		
Man Overbo	oard Drill	02 May	2005	28 Day	S	Non	e undertak	en s	since comme	ncement of c	ampaign.		
Near Miss		02 May	2005	28 Day	S	Non	e reported	sind	ce commenc	ement of cam	paign.		
Safety Meet	ting	29 May	2005	1 Day		Wee	kly Safety	Me	eting				
Stop Cards	Stop Cards     26 May 2005     4 Days     8 Stop Cards												
Marine													
Weather ch	eck on 30 Ma	y 2005 at 240	00								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pre	essure	Air Te	mp.	Wave Heig	ght	Wave Dir.	Wave Period	Anchors	Tensio	on (mt)
18.5km	22km/h	001deg	1030	).00bar	14.0	C°	1.0m		260deg	1m/sec	1	10.	.80
Roll	Pitch	Heave	Swe	l Height	Swell	Dir	Swell Perio	od I	Weather (	Comments	2	8.8	89
	0.0dog	1.00m	2	0m	2250	log	200/000				3	6.3	30
0.ouey	0.9deg	1.0011	5	.011	2200	ley	211/360				4	6.8	89
Rig Dir.	Ris. Tension	VDL			Comm	ients					5	8.3	39
249.0deg	12.25mt	218.31mt									6	9.8	39 44
	-1										· /	11.	17
									<b>.</b>		0	9.	12
Boats	Arrive	ed (date/time	e)	Dep	barted	(date	/time)		Statu	IS	B	ulks	
Far Grip								Oce	ean Patriot		ltem	Unit	Quantity
											Fuel	M3	443
											Potable Water	M3	506
											Barite	MT	0
											Gel	MT	0
											Cement	MT	0
											KCI Brine	bbl	0
Pacific Wranglor								Oce	ean Patriot		Item	Unit	Quantity
Wrangier											Fuel	M3	455.8
											Drill Water Retable Water	M3	303
											Barite	MT	310
											Gel	MT	0
											Cement	MT	86
											KCI Brine	bbl	1000

#### DRILLING MORNING REPORT # 30 Casino-4DW2 ( 31 May 2005 )

					F	rom: I	Ron King Jef	f Thomson								
					C	DIM: S	Sean De Frei	tas								
Well [	Data															
Country	1		Australia	Μ.	Depth		1998.0m	Cur. Hole Size	311mm	AFE Cost						
Field			Casino	TV	D		1763.0m	Casing OD	340mm	AFE No.	5746022					
Drill Co.			DOGC	Pro	ogress		0m	Shoe TVD	727.9m	Daily Cost						
Rig		Ocea	an Patrio	Da	ys from sp	ud	29.77	F.I.T. / L.O.T.	0sg / 2.14sg	Cum Cost						
Wtr Dpt	h(LAT)		70.8m	Da	ys on well		5.00			Planned TD	2642.0m					
RT-ASL	(LAT)		22.0m	Cu	rrent Op @	0600	Running 24	4mm (9.625") casi	ng at 300 mRT							
RT-ML			92.8m	Pla	inned Op		Run and ce up 216mm	ement 244mm (9.62 (8.5") BHA, RIH to	25") casing to 19 TOC.	91mRT MD, run we	ear bushing, make					
Summ	nary of I	Period	0000 t	o 24(	00 Hrs											
Continu reaming	ed back re g and wasl	eaming o hing in h	out of hol ole from	e from 1670m	1708mRT RT. Circul	to 1050mR ated hole cl	T MD, pulled w lean and conidt	vithout pumps to 96 ion mud, POOH, ra	5mRT, circulate acked back BHA	d bottoms up, RIH t , downloaded MWD	o TD at 1998mRT,					
Opera	tions Fo	or Peri	od 000	0 Hrs	s to 2400	) Hrs on	31 May 200	5								
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption						
IH	Ρ	то	0000	0345	3.75	1998.0m	Continued PC Backreamed 1585mRT - 1 kftlbs) and jar /hr occurred observed at s	DOH backreaming slowly from 1585m 550mRT MD with c rring down to break while backreaming shakers.	out from 1708ml RT - 1550mRT occasional high t free. Reworked Abundant cuttin	RT - 1506m RT @ ´ MD through tight se orque (15 tight sections. Loss gs	150 rpm, 950 gpm. ction when BHA at ses of 2m3 (12 bbl)					
ін	Р	то	0345	0400	0.25	1998.0m	0m Reworked stand w/o pumps or rotation after backreaming @ 1532mRT with minimal overpull. Attempted to pull w/o pumps from 1506mRT - experienced 60 klb O/P.									
IH	Ρ	то	0400	0730	3.50	1998.0m	Continued backreaming stands from 1506mRT - 1050mRT MD @ 150rpm, 900 gpm with occasional high torque (10 kftlbs) and intermittent jarring down. Rereamed tight sections.									
IH	Р	то	0730	0800	0.50	1998.0m	POOH from 1	1050mRT to 965mF	RT MD without T	DS, minor drag obs	erved.					
IH	Р	то	0800	0830	0.50	1998.0m	Circulated bo	ttoms up at 965mR	RT MD while boo	sting riser.						
ін	TP (HC)	WΤ	0830	1000	1.50	1998.0m	RIH without p	oumps to 965mRT I	MD, string took v	weight at 1670mRT	MD					
IH	TP (HC)	WΤ	1000	1500	5.00	1998.0m	Washed and	reamed from 1670	mRT to 1998mR	T MD with low rpm	and flow rate.					
ін	TP (HC)	WΤ	1500	1700	2.00	1998.0m	Circulated ho pipe. GPM 90	le clean and condit 00, RPM 150.	tioned mud at 19	98mRT while slowl	y reciprocating					
IH	TP (HC)	WΤ	1700	2130	4.50	1998.0m	POOH withou MD with mino overpull, pum	ut pumps re-workin or overpull. Pulled f nped slug at 1250 n	g through tight s rom 1500 mRT t nRT MD.	ections from 1998m o 965 mRT MD with	nRT to 1500mRT n occasional					
IH	Ρ	то	2130	2400	2.50	1998.0m	POOH from 9 data while bro	965mRT MD with meaking out bit.	ninimal overpull.	Racked back BHA,	downloaded MWD					
Opera	tions Fo	or Peri	od 000	0 Hrs	s to 0600	) Hrs on	01 Jun 200	5								
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption						
IC	Ρ	RRC	0000	0200	2.00	1998.0m	RIH to retriev circulated wa with 40klbs o wash tool. W	e wear bushing on sh tool through wel verpull. Set index li ear bushing on retr	HWDP. HWDP Ilhead, latched o ine marker and F ievable was four	previously drifted w nto wear bushing a POOH, washing thro nd to be damaged.	ith 67mm (2.625"), nd pulled same bugh wellhead with					
IC	Ρ	RRC	0200	0230	0.50	1998.0m	Rigged up to FMS.	run 244mm (9.625	") casing string,	picked up casing ha	andling gear, ran					
IC	Р	SM	0230	0245	0.25	1998.0m	Held JSA for	244mm (9.625") ca	asing run.							
IC	Ρ	CRN	0245	0345	1.00	1998.0m	Ran and Bak installed on fi	er-locked shoe trac rst three joints.	ck joints, tested f	loats with sea wate	r - ok. Centralisers					
IC	Р	CRN	0345	0430	0.75	1998.0m	Rigged up TA	M packer and 350	ton side door el	evators.						
IC	Р	CRN	0430	0600	1.50	1998.0m	Ran 244mm	(9.625") casing to 3	300 mRT MD.							

#### DRILLING MORNING REPORT # 30 Casino-4DW2 ( 31 May 2005 )

WBM Data													
Mud Type:	API FL	:	5cm3/30n	n CI:		4	14000	Solids:		13	Viscosity:		0sec/L
Sample-From: Suction	Filter-C	Cake:	1mn	n K+C'	*1000:		8%	H2O:		87%	PV: YP:		0.017Pa/s 0.144MPa
Time: 04:30	, HTHP-	·FL:	0cm3/30n	h Hard	/Ca:		1000	Oil:		0%	Gels 10s: Gels 10m:		0.048
Weight: 1 20cc	, HTHP-	Cake:	0mn	n MBT	:		15	Sand:		trace	Fann 003:		10
Temp: 53.000				PM:			0.1	pH:		8.6	Fann 006:		13
Temp. 55.00				PF:			0.05	PHPA:		3ppb	Fann 200:		30
											Fann 300:		47
Comment	IDCAP	-D = 3 ppb									Faill 000.		04
Dit # 11				We	ar I	(	D1	D	1	В	G	02	R
Dit # 11					1		1	WT	A	X	I	NO	TD
Size ("):	311mm	IADC#	S32:	3	Nozzles	;	Drill	led over la	ast 24 hrs	s (	Calculated	l over B	it Run
Mfr: SECURI	TY-DBS	WOB(avg)	0.68m	t No.	Size	ə F	Progre	ess		0m Cum.	Progress		724.0m
Туре:	PDC	RPM(avg)	12	5 9	16	/32nd" (	On Bo	ttom Hrs		0h Cum.	On Btm H	rs	29.10h
Serial No.: 10	)387397	F.Rate	3672lpn	۱		L	IADC I	Drill Hrs		0h Cum I	ADC Drill	Hrs	40.75h
Bit Model	FS2663	SPP	22753kPa	a		Г	Total F	Revs		0 Cum	Total Revs		0
Depth In 1	274.0m	TFA	1.76	7		F	ROP(a	avg)	1	V/A ROP(	avg)		24.88 m/hr
Depth Out 1	998.0m												
Run Comment		Integral Sta Drilled from	abiliser SI n 1273 m	eeve, B (top cei	ox up con ment plua	nection.	@ 13	08m in Ca	sino 4 an	d from 130	)8m - 1662	m in Ca	sino-4DW
RUA # 12				(		,							
	4.00	Lawath			000 7	<b>T</b>	(		40.00		(1) Area \/a	la a'tu i	
	1.36mt	Length			220.7m	Torque(I	max)		13.6	vm D.C. (	(1) Ann ve		
Wt Below Jar(Wet)	1.59mt	String			9.98mt	I orque(	Off.Bt	m)	6.8	Nm D.C. (	2) Ann Ve	locity	
		Pick-Up			10.89mt	Torque(	On.Bt	m)	9.51	Mm H.W.I	D.P. Ann V	elocity	
		Slack-Off			9.07mt					D.P. /	Ann Veloci	ty	
BHA Run Description		311 mm (1 Float Sub,	2 1/4") Bi X/O, 15 >	t, 244 n 127 m	nm (9 5/8" m (5") HW	) Geopilo /DP, 165	ot, 203 mm (	8 mm (8") N 6.5") Jars,	M Flex F X/O, 5 x	Pony, Sper 127 mm (5	ry FEWD/N 5") HWDP	/WD, 20	03 mm (8")
Equipm	ent		Lei	ngth	OD	ID		Seria	l #		Com	ment	
Bit			0	.64m	311mm	Or	mm	10387397		SDBS FS2	2663 Bit #	11 (RR#	6)
Geopilot Steerable Tool			6	.62m	245mm	Or	mm	GP1225 T	LOG				
NM Flex Pony			2	.80m	203mm	Or	mm	CP773036	5		M0007050		
FEWD TOOIS			14	.32m	203mm	Ur	mm			DM Sub -	128402	.2	
Float Sub			1	05m	203mm	Or	mm	19079		Pulser - 10 Ported Flo	J645028		
X/O			1	.09m	203mm	Or	mm	SANTOS		i oneu i ic	at		
HWDP			138	.37m	162mm	Or	mm						
Jar			9	.87m	165mm	Or	mm	DAH03786	6				
5in HWDP			45	.59m	161mm	Or	mm						
Bulk Stocks						Perso	nnel	On Boa	rd				
Name	Unit	In	Used	Adjust	Balance			Com	pany			Pa	ix
Fuel	m3	0	8.9	0	376.2	Santos					5		
Drill Water	m3	0	84.3	0.1	402.7	DOGC					45		
Potable Water	m3	30	30	-0.2	187.4	ESS					8		
Cement	5X SY	0	0	0	1,000.0	MI					2		
Barite	sx	0	16	2	1,200.0	Geoserv	vices				6		
KCI Brine	bbl	0	0	0	0.0	Fugro					3		
I					<b></b>	Sperry-S	Sun				6		
						Camero	n				3		
						Expro					5		
						Weather	rford			-	4		
											otal 89		

#### DRILLING MORNING REPORT # 30 Casino-4DW2 ( 31 May 2005 )

HSE Sum	mary												
		Data at	1 1	Davis	0					D			
E	vents	Date of	Last	Days	Since					Rer	narks		
Abandon Dr	rill	29 May 2	2005	2 Days	6	Abar	ndon Drill						
BOP Test		24 May 2	2005	7 Days	5	BOP	Test						
Environmen	tal Incident	02 May 2	2005	29 Day	/S	None	e reported	sin	ce commend	ement of carr	ipaign.		
Fire Drill		29 May 2	2005	2 Days	6	Fire	Drill						
First Aid		04 May 2	2005	27 Day	/S	Pers	on struck	on r	nose with me	etal bar			
Lost Time Ir	ncident	02 May 2	2005	29 Day	/S	None	e reported	sin	ce commend	ement of cam	ipaign.		
Man Overbo	oard Drill	02 May 2	2005	29 Day	/S	None	e undertak	en :	since comme	encement of c	ampaign.		
Near Miss		02 May 2	2005	29 Day	/S	None	e reported	sin	ce commend	ement of carr	ipaign.		
Safety Meet	ting	29 May 2	2005	2 Days	3	Wee	kly Safety	Me	eting				
Stop Cards	0	31 May 2	2005	0 Days	6	10 S	top Cards		Ū				
Marine		· ·					-						
Weather che	eck on 31 Ma	y 2005 at 2400	0								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pre	essure	Air Te	emp.	Wave Heig	ght	Wave Dir.	Wave Period	Anchors	Tensi	on (mt)
18.5km	30km/h	225deg	1029	0.00bar	13.0	)C°	1.0m		225deg	1m/sec	1	10	.61
Roll	Pitch	Heave	Swel	l Height	Swell	Dir.	Swell Peri	od	Weather	Comments	2	8.	89
0.7deg	0.6deg	0.60m	2	.5m	2020	deg	2m/sec	;	Mainly	Cloudy	- 3	6. 6	49 99
Rig Dir	Ris Tension	VDI			Comm	ments Conditions				ditions	5	8.	39 39
	40.05mt	040 70 mt							-		6	11	.11
249.0deg	12.25mt	219.78mt									7	10	.89
											8	8.	80
Boats	Arrive	ed (date/time)	)	De	parted	(date/	'time)		Stat	us		Bulks	
Far Grip							18:00	Por	rtland		Item	Unit	Quantity
											Fuel	M3	433
											Drill Water Retable Water	M3	0
											Barite	MT	0
											Gel	MT	0
											Cement	MT	0
Pacific								Oce	ean Patriot		Item	Unit	Quantity
Wrangler											Fuel	M3	445.8
											Drill Water	M3	303
											Potable Water	M3	305
											Barite	MT	0
											Cement	MT	0
											KCI Brine	bbl	1000
Helicopte	er Moveme	ent											
Flight #	Time			Desti	nation					Con	nment		Pax
1	12:12	Ocean P	atriot										11
1	12:23	Essendo	n										13
L													

#### DRILLING MORNING REPORT # 31 Casino-4DW2 (01 Jun 2005)

					F	rom :	Ron King / Jeff Thomson	
					C	DIM :	Sean De Freitas	
Well [	Data							
Country	1		Australia	M. D	epth		1998.0m Cur. Hole Size 311mm AFE Cost	-
Field			Casino	TVD			1743.0m Casing OD 340mm AFE No. 574602	2
Drill Co			DOGC	Prog	ress		0m Shoe TVD 727.9m Daily Cost	
Rig		Ocea	an Patriot	Days	s from sp	ud	30.77 F.I.T. / L.O.T. 0sg / 2.14sg Cum Cost	
Wtr Dpt	h(LAT)		70.8m	Days	s on well		6.00 Planned TD 2642.0	m
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	Prepare to run 216mm (8.5") drilling assembly and preparing drill-in fluid.	
RT-ML			92.8m	Plan	ned Op		RIH with 216mm (8.5"), drill cement, floats and shoe. Drill ahead	
Sumn	nary of	Period	0000 t	o 2400	) Hrs			
Run 24 assemb	4mm (9.62 ly, POOH	25") casir with land	ng joints ding strin	to 1900ı g.	nRT, RI⊦	l with landi	ing string to 1989mRT, land out casing, pressure test lines, cement casing, set seal	
Opera	tions F	or Peri	od 000	0 Hrs	to 2400	) Hrs on	01 Jun 2005	
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description	
IC	Р	RRC	0000	0200	2.00	1998.0m	RIH to retrieve wear bushing on HWDP. HWDP previously drifted with 67mm (2.629 circulated wash tool through wellhead, latched onto wear bushing and pulled same with 40klbs overpull. Set index line marker and POOH, washing through wellhead v	5"), vith
IC	Р	RRC	0200	0230	0.50	1998.0m	wash tool. Rigged up to run 244mm (9.625") casing string, picked up casing handling gear,	
	D	SM	0220	0245	0.25	1008.0m	Installed FMS.	
IC	P	CRN	0230	0245	1.00	1998.0m	Ran and Baker-locked shoe track joints, tested floats with sea water - ok. Centralise	ərs
	D	CDN	0345	0420	0.75	1008.0m	Installed on first three joints. Biggod up TAM packet and 250 ten side door elevators	
	Г		0345	1220	0.75	1990.000 1009.0m	Rigged up TAM packet and 350 ton side door elevators.	
	P		1220	1330	9.00	1998.0m	Ran 244mm (9.625) casing to 1700mR 1 MD.	
	F D		1600	1800	2.50	1990.000 1008.0m	Made up landing string assembly, casing banger and Deen Sea Express plug bask	is. ot
		CIXIN	1000	1000	2.00	1990.011	washed in on 127mm (5") HWDP @ 1520 lpm (400 gpm). and landed casing hange in wellhead with 36MT (80 klb) weight down. Engaged CHSART per Cameron directions and held 18 MT (40 klb) overpull at CHSART.	ər, ər
IC	Р	CIC	1800	1930	1.50	1998.0m	Circulated casing while holding cementing JSA, staging up flow rate to 1520 LPM, 4 gpm. No losses observed.	100
IC	Ρ	CMC	1930	2200	2.50	1998.0m	Connected and pressure tested cement lines to 34500 kPa (5000 psi). Cemented 244mm (9.625") casing with shoe at 1989.5mRT MD: Preflush 10bbls drill water. Pressure tested lines to 34500 kPa (5000 psi) Bottom plug release pressure: 13800 kPa (2000 psi) Lead: 12.7 m3 (80 bbls) 1.5sg (12.5ppg) Class G Tail: 7.15 m3 (45 bbl) 1.9sg (15.8ppg) Class G Top plug release pressure: 6900 kPa (1000 psi) Displacement: 0.3 m3 (2 bbl) slurry, 1.6 m3 (10 bbls) drill water, 72 m3 (448bbls) drilling fluid. Bumped plug to 3450 kPa (500 psi) over final circulating pressure. Tested casing to 25800 kPa (4000 psi) for 10 minutes	
IC	Р	CMC	2200	2230	0.50	1998.0m	Set 20 klb down weight, pressured to 34500 kPa (5000 psi) with cement unit to set seal assembly.	
IC	Р	CRN	2230	2300	0.50	1998.0m	Rigged up cement unit to choke line, closed pipe rams pressure testeds seal assembly to 34500 kPa (5000 psi) for 10 minutes.	
IC	Ρ	CRN	2300	2400	1.00	1998.0m	Applied 4.5 MT (10 klb) overpull to CHSART, released CHSART and commenced POOH with landing string.	
Opera	tions F	or Peri	od 000	0 Hrs	to 0600	) Hrs on	02 Jun 2005	
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description	
IC	Р	WOC	0000	0100	1.00	1998.0m	Continued laying out cement head, landing string	
IC	Р	CRF	0100	0200	1.00	1998.0m	Changed out bails, cleared casing running equipment from rig floor.	
IC	Р	HT	0200	0300	1.00	1998.0m	Rig down Deep Sea Express cement head assembly, laid out cmt head, HWDP.	
IC	Р	HT	0300	0330	0.50	1998.0m	Laid out wear bushing running tool assembly.	
IC	Р	HBHA	0330	0600	2.50	1998.0m	Laid out 311mm (12.25") rotary steerable BHA, 3 x 203mm (8") DCs	

#### DRILLING MORNING REPORT # 31 Casino-4DW2 ( 01 Jun 2005 )

WBM Data									
Mud Type:	Suction	API FL:	5cm <sup>3</sup> /30m	CI:	43000	Solids:	13	Viscosity:	0sec/L
Comple Frame								PV:	0.017Pa/s
Sample-From:		Filter-Cake:	4mm	K+C*1000:	7.8%	H2O:	87%	YP:	0.144MPa
Time:	9:00		$0 \text{ cm}^{3/3} \text{ 0m}$	Hard/Ca:	880	Oil·	0%	Gels 10s:	0.048
		· · · · · · · ·	001170011	naru/oa.	000	011.	070	Gels 10m:	0.115
Weight:	1.29sg	HTHP-Cake:	0mm	MBT:	15	Sand:	Trace	Fann 003:	9
Temp:	49.0C°			PM∙	0.1	nH·	85	Fann 006:	12
- F				1 101.	0.1	pri.	0.0	Fann 100:	30
				PF:	0.05	PHPA:	3ppb	Fann 200:	39
								Fann 300:	47
								Fann 600:	64

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Fuel	m3	0	16.5	0	359.7	Santos	5
Drill Water	m3	0	24.1	0	378.6	DOGC	45
Potable Water	m3	31	28.3	0	190.1	ESS	8
Gel	sx	0	0	0	1,685.0	Dowell	2
Cement	sx	0	488	0	778.0	MI	2
Barite	sx	0	0	0	1,555.0	Geoservices	6
KCI Brine	bbl	0	0	0	0.0	Fugro	3
						Sperry-Sun	6
						Cameron	3
						Expro	5
						Weatherford	4
						Total	89

HSE Summary			
Events	Date of Last	Days Since	Remarks
Abandon Drill	29 May 2005	3 Days	Abandon Drill
BOP Test	24 May 2005	8 Days	BOP Test
Environmental Incident	02 May 2005	30 Days	None reported since commencement of campaign.
Fire Drill	29 May 2005	3 Days	Fire Drill
First Aid	04 May 2005	28 Days	Person struck on nose with metal bar
Lost Time Incident	02 May 2005	30 Days	None reported since commencement of campaign.
Man Overboard Drill	02 May 2005	30 Days	None undertaken since commencement of campaign.
Near Miss	02 May 2005	30 Days	None reported since commencement of campaign.
Safety Meeting	29 May 2005	3 Days	Weekly Safety Meeting
Stop Cards	01 Jun 2005	0 Days	4 Stop Cards
Marine			

Warne									
Weather che	eck on 01 Jun	2005 at 240	0					Rig Support	
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Tension (mt)
18.5km	19km/h	202deg	1029.00bar	13.0C°	0.5m	202deg	1m/sec	1	10.61
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather	Comments	2	8.89
0.5.1		0.00	0.5	000 da a	0	0	0	3	6.49
0.5deg	0.5deg	0.20m	2.5m	202deg	2m/sec	Overcast	Conditions	4	7.12
Rig Dir.	Ris. Tension	VDL		Comments				5	8.48
249 0dea	12 25mt	211 66mt						6	11.02
g		2						7	10.89
								8	8.98

#### DRILLING MORNING REPORT # 31 Casino-4DW2 ( 01 Jun 2005 )

Boats	Arrived (date/time)	Departed (date/time)	Status	Βι	lks	
Far Grip	23:00		Portland	Item	Unit	Quantity
				Fuel	M3	515
				Drill Water	M3	550
				Potable Water	M3	490
				Barite	MT	37
				Gel	MT	43
				Cement	MT	0
				KCI Brine	bbl	0
Pacific			Ocean Patriot	ltem	Unit	Quantity
wrangier						
				Fuel	M3	434.3
				Fuel Drill Water	M3 M3	434.3 303
				Fuel Drill Water Potable Water	M3 M3 M3	434.3 303 300
				Fuel Drill Water Potable Water Barite	M3 M3 M3 MT	434.3 303 300 0
				Fuel Drill Water Potable Water Barite Gel	M3 M3 M3 MT MT	434.3 303 300 0 0
				Fuel Drill Water Potable Water Barite Gel Cement	M3 M3 M3 MT MT MT	434.3 303 300 0 0 86

#### DRILLING MORNING REPORT # 32 Casino-4DW2 ( 02 Jun 2005 )

					F	rom :	Ron King Je	ff Thomson	ı			
					C	DIM :	Sean De Frei	itas				
Well [	Data											
Country	1		Australia	M. D	epth		2001.0m	Cur. Hole S	Size 216mm	AFE C	ost	
Field			Casino	TVD			1743.1m	Casing OD	244mm	AFE N	lo.	5746022
Drill Co.			DOGC	Prog	gress		3.0m	Shoe TVD	1742.0m	Daily 0	Cost	
Rig		Ocea	an Patriot	Days	s from sp	ud	31.77	F.I.T. / L.O.	.T. 0sg / 0sg	Cum C	Cost	
Wtr Dpt	h(LAT)		70.8m	Days	s on well		7.00			Planne	ed TD	2642.0m
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	Drilling 216	6mm (8.5") ho	ole with rotary steeral	ole assem	bly at 2107m	NRT MD.
RT-ML			92.8m	Plan	ned Op		Drill 216m	m (8.5") hole	to section TD. Circula	ate hole c	lean, POOH	
Summ	nary of	Period	0000 t	o 2400	0 Hrs							
Laid out	t cementii	ng head,	landing s	tring, w	ear bush	ing runnir	ng tool & 311mm	(12.25") rotai	ry steerable assembly	y. Made u	ıp 216mm (8	5")
rat-hole	. Pumpec	otary ste	erable Bl	A. Serv	the hole	to Flo-Pr	o 1948mRT. Rea o mud svstem. C	imed/washed	rilling ahead.	rilled cem	ient, plugs, fl	oats, shoe and
Opera	tions F	or Peri	od 000	0 Hrs	to 240	0 Hrs o	n 02 Jun 200	5				
Phse	Cls	01 1 011 Op	From		Hrs	Depth		•	Activity Desc	ription		
1 1100	(RC)	Οp	1 Iom	10	110	Dopu			Floating 2000	npuon		
IC	Р	WOC	0000	0100	1.00	1998.0r	n Continued la	ying out cem	ent head, landing stri	ng		
IC	Р	CRF	0100	0200	1.00	1998.0r	n Changed out	bails, cleare	d casing running equ	ipment fro	om rig floor.	
IC	Р	HT	0200	0300	1.00	1998.0r	n Rig down De	ep Sea Expre	ess cement head ass	embly, la	id out cmt he	ad, HWDP.
IC	Р	HT	0300	0330	0.50	1998.0r	n Laid out wea	r bushing run	ning tool assembly.			
IC	Р	HBHA	0330	0630	3.00	1998.0r	n Laid out 311	mm (12.25") ı	rotary steerable BHA	, 3 x 203r	nm (8") DCs	
IC	Р	HBHA	0630	0900	2.50	1998.0r	n Made up 216	60 Smm (8.5") G	eopilot/FEWD assem	bly with S	Security FMF	3553 PDC bit.
IC	Р	HBHA	0900	1000	1.00	1998.0n	n Downloaded	to FEWD too	ol and loaded radioac	tive sourc	es.	
IC	Ρ	HBHA	1000	1130	1.50	1998.0n	n RIH with BH, replacement	A to 140mRT	MD, laid out used 16	6.50 Some (6.5	5") jars and p	icked up a new
IC	Р	HBHA	1130	1200	0.50	1998.0r	n RIH on drillp gpm) and 28	ipe to 283mR 40 lpm (750 g	T MD, tested FEWD gpm).	/ Geopilo	t assembly a	t 2460 lpm (650
IC	Р	HBHA	1200	1300	1.00	1998.0r	n Conducted s	ervice of top	drive, block and dolly	rollers.		
IC	Р	HBHA	1300	1400	1.00	1998.0r	n Made up cof	lex test hose	to test line in derrick.			
IC	Р	HBHA	1400	1730	3.50	1998.0r	n Continued to washed/rear	RIH with 216	6mm (8.5") rotary ste t stand to TOC at 196	erable dri 60mRT.	lling assemb	y to 1948mRT,
IC	Р	HBHA	1730	2115	3.75	1998.0r	n Drilled 4m of	cement, DSE	E plug at 1964mRT a	nd float a	t 1966mRT,	
IC	Р	DC	2115	2300	1.75	1998.0n	n Drilled ceme clear debris	nt to top of flo from drilled pl	oat shoe. Varied drillin lugs from BHA.	ng param	eters and wo	rked string to
IC	Р	DFS	2300	2315	0.25	1998.0r	n Drilled 244m	m (12.25") flo	oat shoe 1989.5mRT.			
IC	Р	CMD	2315	2400	0.75	2001.0r	n Reamed thro	ough shoe, dr	illed rathole cement a	and pump	ed 5 m3 (30	bbl) high vis
							sweep with f	louroscene dy 98mRT - 200	ye, displaced hole to	new Flo-F	Pro drilling flu	iid. Drilled new
Opera	tions F	or Peri	od 000	0 Hrs	to 060	0 Hrs o	n 03 Jun 200	5				
Phse	Cls	Op	From	To	Hrs	Depth	1	<u> </u>	Activity Desc	ription		
	(RC)		T			1						
IC	Р	DA	0000	0600	6.00	2001.0r	n Drilled 216m 2107mRT pe	m (8.5") hole	with rotary steerable wellplan.	drilling as	ssembly from	2001mRT to
	Dete						Conducted	OCRS @ 2034	IMR I (IVIUA Density I	.265G)		
WBIN	Data		AD								Minnerity	0"
Mua Typ	e:	KCI / IDC	AP API	FL:	50	cm³/30m	CI:	0	Solids:	14	PV:	0.020Pa/s
Sample	-From:	Suct	ion Filte	r-Cake:		1mm	K+C*1000:	8%	H2O:	86%	YP:	0.163MPa
Time:		22	00 HTH	IP-FL:	00	cm³/30m	Hard/Ca:	0	Oil:	0%	Gels 10s:	0.067
Weight:		1.28	sg HTH	IP-Cake:	:	0mm	MBT:	0	Sand:	tr	Gels 10m: Fann 003:	0.125
Temp:		C	C°				PM.	0	nH.	2 Q	Fann 006:	14
			-					-		0.9	Fann 100:	35
							PF:	0	PHPA:	3ppb	Fann 200:	45
											Fann 300: Fann 600:	54
Comme	nt		Drill	ed ceme	ent and sh	oe track w	vith old mud form p	previous hole s	section		1	1

#### DRILLING MORNING REPORT # 32 Casino-4DW2 ( 02 Jun 2005 )

											· ·		-			_
Bit # 12						We	ar	I	01	D	L		В	G	O2 NO	R
Size ("):		216mm	IADC#		M423		Nozzle	s	Dri	lled over	last 24 hi	s	С	alculate	d over Bit	Run
Mfr:	SECUR	ITY-DBS	WOB(a	ivg) (	0.59mt	No.	Si	ze	Progr	ess	3	.0m	Cum. F	Progress		3.0m
Type:		PDC	RPM(a	vg)	104	5	1	6/32nd	" On B	ottom Hrs	0.	20h	Cum. C	Dn Btm H	rs	0.20h
Serial No.:	1	0708926	F.Rate	22	290lpm	Ū		0/02110	IADC	Drill Hrs	7.	00h	Cum IA	ADC Drill	Hrs	7.00h
Bit Model	F	- MF3553	SPP	151	68kPa				Total	Revs		0	Cum T	otal Revs	;	0
Depth In		1998.0m	TFA		0.982				ROP	ava)	15.00 r	n/hr	ROP(a	va)		15.00 m/hr
Depth Out		0m												57		
Run Commer	nt		Wash of circulat	down ar e new r	nd tag T mud sys	OC @ stem.	2 1960m	RT MC	, drill ou	t cement,	wiper pluç	gs, Flo	pat colla	ar, shoe t	rack, float	shoe and
BHA # 13																
Weight(Wet)		1.09mt	Length				140.5m	Torc	ue(max)		10.9	Nm	D.C. (1	) Ann Ve	locity	
Wt Below Jar	(Wet)	0.82mt	String				9.53m	Torc	ue(Off.B	tm)	6.8	Nm	D.C. (2	2) Ann Ve	locity	
		·	Pick-II	n			0 08mi	Toro	ue(On B	tm)	8.2	Nm	нш	P Ann V	/elocity	
				р Э."			0.07	1010		unj	0.2				elocity	
			Slack-	JII			9.07m						D.P. A	nn veloci	ty	
BHA Run De	scription		216 mi Sub, 6	n (8.5") x 127 r	Bit, 17 nm (5")	1 mm HWD	(6.75") ( P, 165 n	Geopilo nm (6.5	t, 171 m 5") Jars, 9	m (6.75") 5 x 127 mi	NM Pony m (5") HW	DC, S /DP	Sperry	FEWD, 1	71 mm (6.	75") Float
	Equipr	nent			Leng	gth	OD		ID	Seri	al #			Com	ment	
Bit					0.4	12m	216m	m	0mm	1070892	6	FMF	3553			
Geopilot Stee	erable Tool				7.0	)8m	171m	m	51mm	7600-084	Ļ					
NM Pony Dril	l Collar				2.8	30m	171m	m	73mm	CD77368	34					
6.75in FEWD	Tools				18.7	′9m	171m	m	49mm			FEW DM 3 Puls	/D - 90 Sub - 9 er - 10	073263 0074558 599301		
Float Sub					0.7	79m	171m	m	73mm	A-263		Porte	ed Floa	at with To	tco	
5in HWDP					55.2	28m	127m	m	76mm			1: 18 2: 18 3: 18 4: 18 5: 18 6: 50	36-002 36-017 36-006 36.014 36-018 36-018	7		
Jar 5in HWDP					9.2 46.1	24m I2m	165m 127m	m m	70mm 76mm	DAH 011	14	1: 50 2: 18 3: 50 4: 18 5: 18	06A510 36-025 06A598 36-012 36-022	) 30		
Survey																
MD (m)	Incl Deg (deg)	Corr (de	r. Az eg)	T∖ (r	/D n)	'V	' Sect (m)	D (de	ogleg eg/30m)	N/\$ (m	S )	E/V (m	V i)		Tool Type	e
2020.94	76.7	288.4		1747.5	51	489.	69	0.39		186.00	-4	53.62	2	MWD		
2049.61	79.0	288.5		1753.5	6	517.	71	2.41		194.87	-4	80.20	)	MWD		
2078.36	82.5	287.3		1758.1	9	546.	07	3.93		203.58	-5	07.20	)	MWD		
Bulk Stoc	ks							Per	sonne	l On Bo	ard					
Na	me	Unit	In	Us	ed A	djust	Balanc	е		Cor	npany				Pax	
Fuel		m3	20	0 1	9.4	0	540.3	San	os					5		
Drill Water		m3		0 4	8.2	0	330.4	DOC	SC					45		
Potable Wate	er	m3	3	1 2	5.4	0	195.7	ESS						8		
Gel		sx		0	0	0	1,685.0	Dow	ell					2		
Cement		SX		0	0	0	778.0	MI						2		
Barite		SX		U	0	0	1,555.0	Geo	services					6		
KCI Brine		bbl		U	0	0	0.0	Fugi	0					3		
								Sper	iy-Sun					6		
								Cam	ieron					3		
								Expi	U thorford					5		
								vvea					т	4 11 80		
													10	Jai 09		

#### DRILLING MORNING REPORT # 32 Casino-4DW2 ( 02 Jun 2005 )

HSE Sum	nmary												
E	vents	Date of	Last	Days	Since					Ren	narks		
Abandon Dr	ill	29 May	2005	4 Days		Aban	don Drill						
BOP Test		24 May	2005	9 Days		BOP	Test						
Environmen	tal Incident	02 May	2005	31 Day	S	None	e reported	sind	ce commenc	ement of cam	paign.		
Fire Drill		29 May	2005	4 Days		Fire [	Drill						
First Aid		04 May	2005	29 Day	S	Perso	on struck o	on n	nose with me	tal bar			
Lost Time In	ncident	02 May	2005	31 Day	S	None	e reported	sind	ce commenc	ement of cam	paign.		
Man Overbo	pard Drill	02 May	2005	31 Day	S	None	undertak	en s	since comme	encement of c	ampaign.		
Near Miss		02 May	2005	31 Day	S	None	e reported	sind	ce commenc	ement of cam	paign.		
Safety Meet	ing	29 May	2005	4 Days		Week	kly Safety	Me	eting				
Stop Cards		02 Jun 2	2005	0 Days		9 Sto	p Cards						
Marine													
Weather che	eck on 02 Jun	2005 at 240	0								Rig Support		
Visibility	Wind Speed	Wind Dir.	Pre	essure	Air Te	emp.	Wave Heig	ht	Wave Dir.	Wave Period	Anchors	Tensi	on (mt)
18.5km	6km/h	270deg	1029	0.00bar	14.0	C°	0.1m		270deg	0m/sec	1	10	.30
Roll	Pitch	Heave	Swel	l Height	Swell	Dir.	Swell Perio	bd	Weather (	Comments	2	8.	71
0 3deg	0 3deg	1.00m	3	0m	2020	lea	2m/sec		Mainly	Cloudy	- 3	6.	49
D: D:	0.0009	1.0011	0	.0111	2020		211/000		wianny	Cloudy	4	7.	12
Rig Dir.	RIS. LENSION	VDL			Comm	ients					5	0.	40 20
249.0deg	12.25mt	212.88mt									7	10	.29 70
											8	8.	80
Boats	Arrive	ed (date/time	e)	Der	parted	(date/t	time)		Stat	IS	B	ulks	
Ear Grin			·)	201	Juitou	(4410/1		Por	tland		ltem	Unit	Quantity
								1 01	lana		Fuel	M3	302
											Drill Water	M3	550
											Potable Water	M3	482
											Barite	MT	37
											Cement	MT	43
											KCI Brine	bbl	0
Pacific			23:10				02:00	Oce	ean Patriot		Item	Unit	Quantity
wrangier											Fuel	M3	425.5
											Drill Water	M3	448
											Polable Water Barite	M3 MT	315
											Gel	MT	0
											Cement	MT	86
											KCI Brine	bbl	650

#### DRILLING MORNING REPORT # 33 Casino-4DW2 ( 03 Jun 2005 )

					F	rom :	Ron King,	Jeff Thomso	n				
					C	DIM :	Sean De F	reitas					
Well D	Data												
Country	1	ŀ	Australia	M. D	epth		2358.0	m Cur. Hole S	Size	216mm	AFE C	ost	
Field			Casino	TVD			1774.9	m Casing OD		244mm	AFE N	0.	5746022
Drill Co.			DOGC	Prog	ress		357.0	m Shoe TVD		1741.0m	Daily C	Cost	
Rig		Ocea	n Patrio	Days	from sp	ud	32.7	7 F.I.T. / L.O.	т.	0sg / 0sg	Cum C	Cost	
Wtr Dpt	h(LAT)		70.8m	Days	on well		8.0	00			Planne	ed TD	2642.0m
RT-ASL RT-ML	(LAT)		22.0m 92.8m	Curre	ent Op @	0600	Back rea TD with	amed from TD (2 out rotating.	2404 m N	/ID) to 1990 m	n MD (9-	5/8" shoe).	Started to RIH to
				Planı	ned Op		Continue to run lo	e to RIH to TD v wer completion.	vithout ro	tating. Circula	ate hole	until shaker	s are clean. POOH
Summ	nary of	Period	0000 t	o 2400	) Hrs								
Drilled 2	216mm (8	5") hole f	rom 200	1m MD	to 2358	m MD.							
Opera	tions F	or Perio	od 000	0 Hrs	to 240	0 Hrs o	n 03 Jun 2	005					
Phse	Cls	Ор	From	То	Hrs	Depth	1		A	ctivity Descri	ption		
	(RC)												
PH	Р	DA	0000	0600	6.00	2107.0r	n Drilled 210 2107 m pe	6 mm (8-1/2") ho er directional pla	ole with ro in, in Wa	otary steerabl arre A formati	e drilling on.	assembly	from 2001 m to
PH	Р	DA	0600	2400	18.00	2358.0r	n Continued MD. Repa	to drill 216 mm aired pump #2,3	(8-1/2")	hole section to	o 2358 n	n	
							Avg paran	neters (24 MPa	(3500 ps	i), 740 gpm, 9	90 rpm, 8	3.2 MT (18	klb) WOB)
							Conducte	d SCRs @ 2318	m MD (N	/ud Densitv 1	.27 sa)		
Opera	tions F	or Perio	od 000	0 Hrs	to 060	0 Hrs o	n 04 Jun 2	005		,	0/		
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	1		A	Activity Descri	ption		
PH	Ρ	DA	0000	0330	3.50	2404.0r	n Drilled 210 total depth	6 mm (8-1/2") ho n at 2404 m MD	ole with re	otary steerabl	e drilling	assembly	from 2358 m MD
								_					
							Final surv	ey @ 2394.21 n	n MD (17	84.98 m TVD	) Inc 79.	83 Az 287.7	71
PH	P -	CHC	0330	0400	0.50	2404.0r	n Circulated	I hole at TD whil	e prepari	ng for trip, co	nducted	15 minute	flow check.
PH	Р	то	0400	0600	2.00	2404.0r	n Backream experienc	ed out to the sh ed.	oe at 199	90 m MD @ 2	300 lpm	(600 gpm).	No hole problems
Gene	ral Com	ments											
		Comme	ents				Rig Requ	uirements			Les	ssons Lear	nt
NOPSA Continu	A reviewed	l well test elltest RL	ing area	l.									
Flepale	eu comple	tion equip	oment.										
WBM	Data												
Mud Typ	e:	Flo P	ro API	FL:	40	cm <sup>3</sup> /30m	CI:	120000	Solids:		15	Viscosity:	0sec/L
Sample	-From:	Suctio	on Filte	r-Cake		1mm	K+C*1000	6%	H2O.		85%	PV:	0.016Pa/s
Time:		16.0			0.	a ma 3/20 ma		200	011		00/	Gels 10s:	0.168MPa 0.062
Woight:		4 07		17-FL:	00	unv30m		280			0%	Gels 10m:	0.081
weight:		1.279	°9   HT⊦	IP-Cake:		0mm	MBT:	0	Sand:		0.25	Fann 003:	12
Temp:		60.00	C°				PM:	1.4	pH:		10.3	Fann 006: Fann 100:	15
							PF:	0.1	PHPA:		0ppb	Fann 200:	44
												Fann 300:	51
												Fann 600:	67

#### DRILLING MORNING REPORT # 33 Casino-4DW2 ( 03 Jun 2005 )

Bit # 12						We	ar	I		01		D	L		В	G	O2	R
Size ("):		216mm	IADC#		M423		Noz	zles		Dri	lled	l over la	ast 24 I	hrs	(	Calculated	d over Bit	Run
Mfr:	SECURIT	Y-DBS	WOB(a	/g) 0	).82mt	No.		Size		Progr	ress	;	35	7.0m	Cum.	Progress		360.0m
Туре:		PDC	RPM(av	rg)	90	5		16/3	32nd"	On Bo	ottor	m Hrs	19	9.18h	Cum.	On Btm H	rs	19.38h
Serial No.:	10	708926	F.Rate	28	01lpm			, .	2.14	IADC	Dril	ll Hrs	22	2.75h	Cum I	ADC Drill	Hrs	29.75h
Bit Model	FN	/F3553	SPP	2068	84kPa					Total	Rev	vs		0	Cum 1	Total Revs	;	0
Depth In	1	998.0m	TFA		0.982					ROP(	(avg	<b>j</b> )	18.61	m/hr	ROP(a	avg)		18.58 m/hr
Depth Out																		
Run Comment			Continu	e Drillin	ng 216n	nm 8.	5" hol	e with	n geop	iliot as	sem	nbly in th	he Waa	arre A	sand. F	Reached T	D POOH	
BHA # 13																		
Weight(Wet)		1.09mt	Length				140.	5m	Torqu	e(max)	)		25.	.8Nm	D.C. (	1) Ann Ve	locity	
Wt Below Jar(	Wet)	0.82mt	String				9.07	mt	Torqu	e(Off.B	8tm)		12.	.9Nm	D.C. (	2) Ann Ve	locity	
			Pick-Up	1			11.34	Imt	Torqu	e(On.B	8tm)		23.	.1Nm	H.W.E	D.P. Ann V	elocity	
			Slack-C	ff			7.71	mt							D.P. A	Ann Veloci	ty	
BHA Run Des	cription		216 mm	n (8.5")	Bit, 17	1 mm	(6.75	") Ge	opilot,	171 m	m (6	6.75") N	IM Pon	y DC,	Sperry	FEWD, 1	71 mm (6.	75") Float
			Sub, 6	(127 m	ım (5")	HWD	P, 16	5 mm	ı (6.5")	) Jars, 5	5 x 1	127 mm	n (5") H	WDP				
	Equipme	ent			Leng	jth	0	D		ID		Seria	al #			Com	ment	
Bit					0.4	2m	216	3mm		0mm	107	708926		FM	F3553			
Geopilot Steer	able Tool				7.0	8m	17	1 mm	5	51mm	760	00-084						
NIVI Pony Drill	Collar				2.8	ium ium	17	1mm		3mm	CD	0773684	ł			072262		
0.75III FEVUD	10015				10.7	9111	17		2	•911111				DM	Sub - 90 Ser - 10	90074558 9599301		
Float Sub					0.7	'9m	17	1mm	7	73mm	A-2	263		Por	ted Flo	at with To	tco	
5in HWDP					55.2	8m	127	7mm	7	76mm				1: 1	86-002	2		
														2:1	86-017	7		
														4: 1	86.014	ļ		
														5:1	86-018	} 17		
Jar					92	4m	165	5mm	-	70mm	DA	H 0111	4	0. 0		17		
5in HWDP					46.1	2m	127	7mm	-	76mm	27.			1: 5	506A51	0		
														2: 1	86-025	5		
														3: 5	86-012	80 2		
														5: 1	86-022	2		
Survey																		
MD (m)	Incl Deg	Corı (d	r. Az ea)	TV (m	D 1)	'V	" Sect	t	Do (deo	gleg 1/30m)		N/S (m)		E/ (I	′W m)		Tool Typ	е
2193.21	87.8	290.6	57	1764.6	, 3	660.	70		0.46	, ,	24	41.92		-615.2	2	MWD		
2221.71	87.3	289.7		1765.8	5	689.	17		1.10		2	51.73		641.9	5	MWD		
2250.28	85.9	289.2		1767.5	4	717.	69		1.51		26	61.24	-	-668.8	4	MWD		
2279.03	86.3	289.3		1769.4	9	746.	37		0.39		27	70.69	-	-695.9	2	MWD		
2307.85	85.4	288.4		1771.5	8	775.	11		1.32		27	79.96	-	-723.1	3	MWD		
2336.65	82.2	287.8		1774.7	0	803.	73		3.35		28	88.86	-	-750.3	4	MWD		

#### DRILLING MORNING REPORT # 33 Casino-4DW2 ( 03 Jun 2005 )

Bulk Sto	cks							Personnel C	On Board			
N	ame	Unit	In	Us	ed	Adjust	Balance		Company		Ра	x
Fuel		m3	(	0 1	9.8	0	520.5	Santos			7	
Drill Water		m3		0 6	0.2	0	270.2	DOGC			45	
Potable Wa	ter	m3	3	2 2	6.5	0	201.2	ESS			8	
Gel		sx		0	0	0	1,685.0	Dowell			2	
Cement		sx	(	0	0	0	778.0	MI			2	
Barite		sx	(	0	0	0	1,555.0	Geoservices			6	
KCI Brine		bbl	(	0 10	000	1000	0.0	Fugro			3	
								Sperry-Sun			6	
								Cameron			3	
								Expro			7	
								Weatherford			5	
										Total	94	
HSE Sum	nmary											
E	vents	Date of	Last	Days	Since	Э			Ren	narks		
Abandon Dr	ill	29 May	2005	5 Days		Abar	ndon Drill					
BOP lest	المما المعا	24 May	2005	10 Day	'S	BOP	IESI		amont of or	noian		
Environmen	tal Incident	02 May	2005	32 Day	'S	None	e reported	since commenc	ement of cam	paign.		
Fire Drill		29 May	2005	5 Days		Fire	Drill					
First Aid		04 May	2005	30 Day	/S	Pers	on struck	on nose with me	tal bar			
Lost Time Ir	ncident	02 May	2005	32 Day	/S	None	e reported	since commenc	ement of cam	paign.		
Man Overbo	oard Drill	02 May	2005	32 Day	/S	None	e underta	ken since comme	encement of c	ampaign.		
Near Miss		02 May	2005	32 Day	/S	None	e reported	since commenc	ement of cam	paign.		
Safety Meet	ing	29 May	2005	5 Days		Wee	kly Safety	/ Meeting				
Stop Cards		03 Jun 2	2005	0 Days	i	8 Sto	op Cards					
Marine												
Weather che	eck on 03 Jun	2005 at 240	0							Rig Support		
Visibility	Wind Speed	Wind Dir.	Pres	sure	Air	Temp.	Wave He	ight Wave Dir.	Wave Period	Anchors	Tens	ion (mt)
18.5km	9km/h	045deg	1024.	00bar	13	3.0C°	0m	045deg	0m/sec	1	1(	).48
Roll	Pitch	Heave	Swell	Height	Sw	ell Dir.	Swell Per	iod Weather	Comments	2	8	.89 .80
0.3deg	0.3deg	0.80m	3.0	Dm	20	2deg	2m/se	c Cl	ear	4	7	.39
Rig Dir.	Ris. Tension	VDL			Con	nments				5	8	.39
249 0dea	12 25mt	197 74mt								6	11	1.11
2.0100009										7	10	).70
										8	8	.80
Boats	Arrive	ed (date/time	e)	Dej	parte	d (date/	time)	State	us		Bulks	
Far Grip								Ocean Patriot		ltem	Unit	Quantity
										Fuel Drill Weter	Ma	3 290
										Potable Water	Ma	3 550
										Barite	M	37
										Gel Cement	TM TM	- 43
										KCI Brine	bb	1 0
Pacific Wranglor								Ocean Patriot		ltem	Unit	Quantity
wrangier										Fuel	Ma	3 414.2
										Potable Water	Ma	3 310
										Barite	МТ	- (
										Gel Cement	M1 M1	- 86
Holioont	vr Moyomo	t								KCI Brine	bb	I 650
Flight #		:IIL		Destir	nation	<b>.</b>			Com	iment		Pav
1 light #	10:40	0	Dotr!-+	Destil	auUl				COIL			1 0.1
	10:12	Ucean H	atriot									14
	10:29	Essendo										9
2	15:20	Ocean F	atriot									4
2	15:29	Essende	on					1				4

#### DRILLING MORNING REPORT # 34 Casino-4DW2 (04 Jun 2005)

		From :	Ron King, Pr	nil Deshon			
		OIM :	Sean De Frei	tas			
Well Data							
Country	Australia	M. Depth	2404.0m	Cur. Hole Size	216mm	AFE Cost	
Field	Casino	TVD	1786.0m	Casing OD	244mm	AFE No.	5746022
Drill Co.	DOGC	Progress	46.0m	Shoe TVD	1740.8m	Daily Cost	
Rig	Ocean Patriot	Days from spud	33.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	9.19			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	RIH lower of	completion on drill p	ipe in preparati	on to tag TD and set	t packer. Current
RT-ML	92.8m		depth 1370	) m MD.			
		Planned Op	Continue R Set packer assembly.	IH with sand screer at approx. 1690 m I	ns and 168mm ( MD and POOH.	(6-5/8") tubing with p . RIH casing scraper	backer assembly. and riser cleaning

#### Summary of Period 0000 to 2400 Hrs

Drilled ahead from 2358m MD to TD at 2404m MD. Circulated sample up, made a wiper trip to shoe and ran in back to TD and circulated hole clean. POOH with 216 mm (8-1/2") directional tools. Rigged up and RIH lower completion string (sand screens). Ran in 31 joints of sand screens to 256 m.

#### Operations For Period 0000 Hrs to 2400 Hrs on 04 Jun 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
PH	Ρ	DA	0000	0330	3.50	2404.0m	Drilled 216 mm (8-1/2") hole with rotary steerable drilling assembly from 2358 m MD total depth at 2404 m MD.
							Final survey @ 2394.21 m MD (1784.98 m TVD) Inc 79.83 Az 287.71
PH	Р	CHC	0330	0400	0.50	2404.0m	Circulated hole at TD while preparing for trip, conducted 15 minute flow check.
PH	Р	то	0400	0600	2.00	2404.0m	Backreamed out to the shoe at 1990 m MD @ 2300 lpm (600 gpm). No hole problems experienced.
PH	Р	тι	0600	0700	1.00	2404.0m	Flow checked and RIH to TD @ 2404 m MD.
PH	Р	CHC	0700	0800	1.00	2404.0m	Circulated hole until shakers clean, boosting riser and rotating and reciprocating pipe.
PH	Р	то	0800	1300	5.00	2404.0m	POOH to 244 mm (9-5/8") casing shoe at 1990 m MD and circulated bottoms up (riser boost on) until shakers clean. Flow checked, pumped slug and POOH.
PH	Р	HBHA	1300	1500	2.00	2404.0m	Unloaded radioactive sources from directional tools and laid down directional tools and geo-pilot.
СТВ	Р	RCM	1500	1700	2.00	2404.0m	Held JSA and picked up Halliburton Black Cat packer and drifted pup joint. Function tested 273 mm (10-3/4") pipe rams and shear rams.
СТВ	Р	SM	1700	1715	0.25	2404.0m	Conducted JSA prior to lower completion operations.
СТВ	Ρ	RCM	1715	1815	1.00	2404.0m	Picked up lower completion sub assembly 168 mm (6-5/8") guide shoe. Attempted to make up sintered sand screen #52 to top of guideshoe. Insufficient torque obtained before thread shouldered. Backed out screen and observed damage to thread. First thread stripped. Laid out screen #52.
СТВ	Р	RCM	1815	1845	0.50	2404.0m	Replaced collar on guideshoe with collar from 168 mm (6-5/8") pup joint. Picked up and made up sintered sand screen #51 to guideshoe.
СТВ	Р	RCM	1845	2400	5.25	2404.0m	Made up and ran 168mm (6-5/8") sand screens as per tally.
СТВ	Р	RIC	1930	2400	4.50	2404.0m	Continued running sand screens as per tally.
Opera	tions Fo	or Peri	od 000	0 Hrs	to 060	) Hrs on	05 Jun 2005
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
CTB	P	RIC	0000	0100	1.00	2404 0m	Ran final 402 m of 168 mm (6-5/8") 24# 13-Cr KS Rear sand screens

	()						
СТВ	Р	RIC	0000	0100	1.00	2404.0m	Ran final 402 m of 168 mm (6-5/8") 24# 13-Cr KS Bear sand screens.
CTB	Р	RIC	0100	0400	3.00	2404.0m	Ran 27 joints of 168 mm (6-5/8") 24# 13-Cr KS Bear tubing.
СТВ	Р	RIC	0400	0430	0.50	2404.0m	Held JSA prior to making up Lower Completion packer. Witnessed installing 6 x 1720 kPa (250 psi) shear pins and adjusted set sleeve.
СТВ	Ρ	RIC	0430	0600	1.50	2404.0m	RIH with lower completion on 127 mm (5") drill pipe to 1370 m MD. Ran slowly through wellhead with packer. Limited run speed with packer to 15 m/min. Drifted drillpipe whilst RIH.

#### DRILLING MORNING REPORT # 34 Casino-4DW2 (04 Jun 2005)

WBM Data																
Mud Type:	Flo Pro	API FL	.:	4cm	1³/30m	CI:		1	20000	Solids:			15	Viscosity:		0sec/L
Sample-From:	Suction	Filter-C	Cake:		1mm	K+C*10	00:		6%	H2O:			85%	PV: YP:		0.017Pa/s 0.187MPa
Time:	20:00	HTHP-	·FL:	0cm	1³/30m	Hard/Ca	a:		280	Oil:			0%	Gels 10s:		0.062
Weight:	1.28sg	HTHP-	Cake:		0mm	MBT:			0	Sand:			0.25	Gels 10m: Eann 003:		0.081
Temp:	0C°				•	PM.			14	nH.			97	Fann 006:		16
									0.1				0nnh	Fann 100:		39
									0.1	1111 7.			oppo	Fann 300:		49 56
														Fann 600:		73
Bit # 12						Wear	I		01	D	L		В	G	02	R
<b>-</b> (11)							1		2	СТ	G		X		NO	TD
Size ("):	25011517	216mm	IADC#		M423	N	ozzles		Dril	led over la	ast 24 ł	nrs	C	alculated	l over Bi	t Run
Mfr:	r: SECURITY-DBS		WOB(a	vg) C	).82mt	No.	Size	•	Progre	ess	4	6.0m	Cum. F	Progress		406.0m
Type:	/pe: PDC			vg)	80	5	16/	32nd"	On Bo	ttom Hrs	:	3.02h	Cum. (	Jn Btm Hi	'S	22.40h
Serial No.:	10	708926	F.Rate	28	01lpm				IADC	Drill Hrs		3.30h	Cum I/	ADC Drill I	Hrs	33.05h
Bit Model	FN	11-3553	SPP	2378	87kPa				I otal I	Revs		0	Cum I	otal Revs		0
Depth In	n In 1998.0m				0.982				ROP(a	avg)	15.23	m/hr	ROP(a	ivg)		18.12 m/hr
Depth Out	. 24	104.0m	O satis	D.CHE		0.5"				a sector to a sector	L - \A/			h l T		
Run Commen	un Comment Continue Drilling 21					nm 8.5 r	nole wit	n geopi	liot ass	embly in t	ne waa	rre A	sand. R	eached I	DPOOH	
BHA # 13			1										1			
Weight(Wet)		1.09mt	Length			14	10.5m	Torque	e(max)		25.	8Nm	D.C. (′	1) Ann Ve	locity	
Wt Below Jar	(Wet)	0.82mt	String			9.	.07mt	Torque	e(Off.Bt	m)	13.	6Nm	D.C. (2	2) Ann Ve	locity	
			Pick-U	С		11.	.34mt	Torque	e(On.Bt	m)	23.	1Nm	H.W.D	.P. Ann V	elocity	
			Slack-0	Off		7.	.71mt						D.P. A	nn Velocit	İy	
BHA Run Des	cription		216 mr	n (8.5")	Bit, 17	1 mm (6.	75") Ge	opilot,	171 mr	n (6.75") N	M Pon	y DC,	Sperry	FEWD, 17	71 mm (6	5.75") Float
			Sub, 6	x 127 m	ım (5")	HWDP,	165 mm	า (6.5")	Jars, 5	x 127 mn	n (5") H	WDP				
	Equipme	ent			Leng	jth	OD	I	D	Seria	al #			Com	ment	
Bit					0.4	2m 2	216mm	(	0mm	10708926	6	FM	F3553			
Geopilot Stee	rable Tool				7.0	18m 1	171mm	5	1mm	7600-084						
NM Pony Drill	Collar				2.8	0m 1	171mm	73	3mm	CD77368	4			070000		
6.75IN FEVUD	10015				18.7	9m	171mm	4	9mm			DM	Sub - 90	073263		
												Pul	ser - 10	599301		
Float Sub					0.7	'9m 1	171mm	7	3mm	A-263		Por	ted Floa	at with Tot	CO	
5in HWDP					55.2	28m 1	127mm	7	6mm			1:1	86-002 86-017			
												3: 1	86-006			
												4:1	86.014			
												6: 5	606A-61	7		
Jar					9.2	4m 1	165mm	7	0mm	DAH 0111	14					
5in HWDP					46.1	2m 1	127mm	7	6mm			1:5	06A510	)		
												3:5	66-025 66A598	30		
												4:1	86-012			
0												o: 1	00-022			
Survey		~			_			-							<b>-</b> · -	
MD (m)	Incl Deg (deg)	Deg Corr. Az TVD deg) (deg) (m)			'V' Se (m	ect ı)	Dog (deg/	jieg (30m)	N/S (m)		E/ (r	vv n)		I OOI TY	De	
2365.23	80.0	287.5		1779.1	2	2 831.95 2.32 297.43 -777.24 MWD										
2394.21	79.8	287.7		1784.1	9	860.47		0.27		306.06	-	804.4	4	MWD		

#### DRILLING MORNING REPORT # 34 Casino-4DW2 (04 Jun 2005)

Bulk Sto	cks						Personnel C	On Board			
N	ame	Unit	In	Used	Adjust	Balance		Company		P	ax
Fuel		m3	0	17.5	0	503.0	Santos			7	
Drill Water		m3	0	42.1	0	228.1	DOGC			45	
Potable Wat	er	m3	30	23	0	208.2	ESS	8			
Gel		sx	0	0	0	1,685.0	Dowell 2				
Cement		SX	0	0	0	778.0	MI 2				
Barite		SX	0	0	0	1,555.0	Geoservices			2	
KCI Brine		bbl	0	0	0	0.0	Fugro			3	
							Sperry-Sun			6	
							Cameron			3	
							Expro			7	
							Weatherford			5	
									Total	90	
HSE Sum	mary										
E	vents	Date of	Last [	Days Sind	e			Ren	narks		
Abandon Dr	ill	29 May	2005 6	Days	Aba	ndon Drill					
BOP Test		24 May	2005 11	I Days	BOF	PTest					
Environmen	nmental Incident 02 May 2005 33 Days None reported since commencement of campaign.										
Fire Drill	ire Drill 29 May 2005 6 Days Fire Drill										
First Aid	-1-1	04 May	2005 31	I Days	Pers	on struck	on nose with me	tal bar			
Lost Time In	Icident	02 May	2005 33	B Days	Non	e reported		ement of carr	ipaign.		
Noor Mico	ard Drill	02 May	2005 33	Days	Non			amont of com	ampaign.		
Sofoty Moot	ina	02 May	2005 6	Days	NON Woo	e reported	Mooting	ement of carr	ipaign.		
Stop Cards	ing		2005 0	Days	10 9	ton Cards	, weeting				
Marina		04 0011 2	000 0	Duyo	100		,				
Warme		0005 -+ 0.40	0								
Vveather che	Nind Creed	2005 at 240	0 Decem	A:	. <b>T</b>	\A/=		Maria Daria d	Rig Support		
VISIDIIITY	wind Speed	wind Dir.	Pressu		r Temp.	wave Hel	gnt wave Dir.	wave Period	Anchors	Ier	ision (mt)
18.5km	9km/h	315deg	1021.00	bar 2	2.0C°	0m	315deg	0m/sec	1		10.48 • • •
Roll	Pitch	Heave	Swell He	eight Sv	well Dir.	Swell Per	iod Weather	Comments	2		6.00 6.71
0.2deg	0.2deg	0.30m	2.0m	า 2	25deg	2m/se	c Part	Cloud	4		7.21
Rig Dir.	Ris. Tension	VDL		Co	mments	1			5		8.48
249.0dea	12.25mt	216.07mt							6		11.20
									7		10.80
									8		8.89
Boats	Arrive	ed (date/time	e)	Depart	ed (date	/time)	Stat	us	1	Bulks	
Far Grip							Ocean Patriot		ltem	Unit	Quantity
									Fuel Drill Water	1	M3 278 M3 550
									Potable Water	ľ	M3 466
									Barite Gel	N	ИТ 37 ИТ 43
									Cement	N	AT C
<b>D</b>						47.04			KCI Brine	ł	obl (
Pacific Wrangler						17:24	Portland		Item	Unit	Quantity
-									Drill Water		vis 404.4 vis 448
									Potable Water	1	M3 312
									Barite Gel	N	ИТ С ИТ С
									Cement	Ν	ИТ 86
									NOI BLING		וטכ 650
Helicopte		ent	-	<b>.</b>							
Flight #	Time		E	Jestinatio	n		T	Com	iment		Pax
1	12:43	Ocean F	Patriot								1
1	12:53	Essendo	on								5

#### DRILLING MORNING REPORT # 34 Casino-4DW2 (04 Jun 2005)

Lessons Lea	Lessons Learned										
Categories		Event Descr.	Post Event Descr.	Lesson							
Short Descr.	Sand screen handling section too short	Handling neck at the top of the Scintered sand screens are only just long enough to permit the slips	Tied slip handles with rope before removing elevators. Attached dog collar immediately. Elevators kept	Specifcation of sand screens should include sufficient handling section length. Suggest ~2m.							
Phase	Completion	removed to permit the dog collar to	latched for any delay in operation.								
Category		be attached. In addition the short									
Resp. Party	Santos	the make up tongs.									
Closed/Open	Open										

#### DRILLING MORNING REPORT # 35 Casino-4DW2 ( 05 Jun 2005 )

		From :	Ron King, Pl	nil Deshon			
		OIM :	Sean De Frei	itas			
Well Data							
Country	Australia	M. Depth	2404.0m	Cur. Hole Size	216mm	AFE Cost	
Field	Casino	TVD	1786.0m	Casing OD	244mm	AFE No.	5746022
Drill Co.	DOGC	Progress	0m	Shoe TVD	1740.8m	Daily Cost	
Rig	Ocean Patriot	Days from spud	34.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	10.19			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	RIH with S	craper BHA and rise	er brush. Currer	nt depth 1560m MD.	
RT-ML	92.8m	Planned Op	Continue to mud at ma brine until o	o Scrape packer set x. rate and brush ris clean returns are ob	ting depth (155 er. Circulate vis served. POOH.	4 - 1645 m MD) while scous brine pill and fo Retrieve XT Bore P	st circulating with ollow with CaCl2 rotector.
-							

#### Summary of Period 0000 to 2400 Hrs

RIH with lower completion, tagged TD at 2404m MD, pulled up and set packer at 1690m MD. Confirmed packer slips set by setting 13.6 t (30 klbs) overpull. Pressure tested packer against upper rams. Difficulty experienced in unstabbing from packer. POOH. Tested BOPs.

#### Operations For Period 0000 Hrs to 2400 Hrs on 05 Jun 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
СТВ	Р	RIC	0000	0100	1.00	2404.0m	Ran final 402 m of 168 mm (6-5/8") 24# 13-Cr KS Bear sand screens.
СТВ	Р	RIC	0100	0400	3.00	2404.0m	Ran 27 joints of 168 mm (6-5/8") 24# 13-Cr KS Bear tubing.
СТВ	Ρ	RIC	0400	0430	0.50	2404.0m	Held JSA prior to making up Lower Completion packer. Witnessed installing 6 x 1720 kPa (250 psi) shear pins and adjusted set sleeve.
СТВ	Ρ	RIC	0430	0600	1.50	2404.0m	RIH with lower completion on 127 mm (5") drill pipe to 1370 m MD. Ran slowly through wellhead with packer. Limited run speed with packer to 15 m/min. Drifted drillpipe whilst RIH.
СТВ	Р	RPK	0600	0900	3.00	2404.0m	Continued RIH with lower completion and tagged TD at 2404 m MD.
СТВ	Р	RPK	0900	0930	0.50	2404.0m	Dropped setting ball and spaced out at 2400 m MD to set packer at 1690m MD.
СТВ	Ρ	RPK	0930	1030	1.00	2404.0m	Circulated/seated ball and set packer, staging up in 3447 kPa (500 psi) increments to 23440 kPa (3400 psi), holding 15 minutes at each stage. Packer set at 11700 kPa (1700 psi). Confirmed packer slips set with 13.6 t (30 klbs) overpull and slacked off.
СТВ	Ρ	RPK	1030	1100	0.50	2404.0m	Pressure tested packer elements to 6890 kPa (1000 psi) for 10 min against upper rams.
СТВ	TP (DTF)	RPK	1100	1330	2.50	2404.0m	Attempted to release packer running tool. String torquing up. Worked torque into string and rotated approx 30 turns. Unable to pull running tool out of packer with 29.5 t (65 klbs) overpull. Pressured up on drill pipe with 17200 kPa (2500 psi). Rotated drill pipe a further 12 turns. Pulled running tool free with 15.9 t (35 klbs) overpull.
СТВ	Р	RIC	1330	1830	5.00	2404.0m	Flow checked well at 1690m MD and POOH. Flow checked well at BOPs.
СТВ	P	RIC	1830	2400	5.50	2404.0m	Picked up jetting sub and weight set test tool and RIH. Jetted BOP and wellhead and circulated 1.25 times riser volume. Pressure tested BOP. Tested annular to 1380 kPa (200 psi) / 5 min and 20700 kPa (3000 psi) / 10 min. Tested pipe rams to 1380 kPa (200 psi) / 5 min and 27600 kPa (4000 psi) / 10 min. Rigged down pressure test hose and unseated test plug.

#### Operations For Period 0000 Hrs to 0600 Hrs on 06 Jun 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	A	ctivity Description			
СТВ	P	BOP	0000	0215	2.25	2404.0m	Jetted through wellhead and BOP a laid out BOP test tool. Variable ram (connector).	and circulated 1.25 times riser volume. POOH and is measured at 3.12m from bottom joint			
СТВ	Р	SM	0215	0230	0.25	2404.0m	Held JSA on RIH with casing scrap	er and checked depths.			
СТВ	Р	HBHA	0230	0300	0.50	2404.0m	Made up 244mm (9-5/8") scraper B	SHA.			
СТВ	Р	ТΙ	0300	0530	2.50	2404.0m	RIH with casing scraper BHA.				
СТВ	Ρ	CHC	0530	0600	0.50	2404.0m	(IN PROGRESS) Commenced scraping 244mm (9-5/8") casing (3 times per stand) from 1554 m MD. Made up riser brush tool. Continued to scrape casing to 1645 m M and brushed riser to 3 m above flex joint. Rotated at 60 rpm and circulated mud @ 3 m3/min (1000 gpm) during scraping.				
Gene	General Comments										
Comments						Rig Requirements Lessons Learnt					
Conducted Sentes Induction proportations offer					offer						

Conducted Santos Induction presentations after	
each safety meeting.	

#### DRILLING MORNING REPORT # 35 Casino-4DW2 ( 05 Jun 2005 )

WBM Dat	а												
Mud Type:	FloP	ro API FL:		4cm <sup>3</sup> /30	Эm	CI:		120000	Solids:	15	Viscos	sity:	0sec/L
Sample-From	n: Suctio	on Filter-Ca	ıke:	1n	nm	K+C*	1000:	6%	H2O:	85%	PV: YP:		0.017Pa/s
Time:	21:0	00 HTHP-F	1.	0cm <sup>3</sup> /3	)m	Hard	/Ca·	280	Oil	0%	Gels 1	0s:	0.062
Weight:	1 28			0011170		MRT		200	Can du	0.05	Gels 1	0m:	0.081
Tomp		~•   ~•	ake.	UI		WIDT.		5	Sanu.	0.25	Fann ( Fann (	003: 006:	12
remp.	00					PM: 1.4 pH		pH:	9.7	Fann <sup>2</sup>	100:	33	
						PF:		0.1	0ppb	Fann 2	200:	42	
											Fann 3 Fann 6	300: 600:	54
Comment		Daily cos	st adjust	ment made	e to 1	023 b	bls CaCl b	rine of \$ 27,621	(not in yesterda	ays report).			
Bulk Stocks								Personnel	On Board				
Na	ame	Unit	Unit In Used Adjus			djust	Balance		Company				Pax
Fuel		m3	C	8.3		0	494.7	Santos				7	
Drill Water		m3	C	30.1		0	198.0	DOGC				45	
Potable Wat	er	m3	30	) 23.1		0	215.1	ESS				8	
Gel		SX	C	0 0		0	1,685.0	Dowell				2	
Cement		SX	C	0 0		0	778.0	MI				2	
Barite		SX	C	0 0		0	1,555.0	Geoservices				2	
KCI Brine		bbl	C	) 0		0	0.0	Fugro			:	3	
								Halliburton				1	
								Cameron				4	
								Expro				11 -	
								Weatherford			:	5	
								Baker Oil Tool	S			1	
										10	otal	91	
HSE Sum	mary	_											
E	vents	Date of	Last	Days Sin	се				Ren	narks			
Abandon Dri	ill	05 Jun 2	2005 (	0 Days		Abar	ndon Drill						
BOP Test		05 Jun 2	2005 (	0 Days		BOP	Test						
Environment	tal Incident	02 May	2005 3	34 Days		None	e reported	since commen	cement of cam	paign.			
Fire Drill		29 May	2005	7 Days		Fire I	Drill						
First Aid		04 May	2005	32 Days		Pers	on struck	on nose with m	ietal bar				
Lost Time In	cident	02 May	2005 3	34 Days		None	e reported	since commen	icement of cam	paign.			
Man Overbo	ard Drill	02 May	2005	34 Days		None	e undertak	en since comm	nencement of c	ampaign.			
Near Miss		02 May	2005	34 Days		None	e reported	since commen	icement of cam	paign.			
Safety Meet	ing	05 Jun 2		Days		vveel	kiy Safety	weeting					
Marino		05 Jun 2	2005   0	J Days		4 510	p Carus						
Weather che	ck on 05 Jun	2005 at 240	0							Rig Support			
Visibility	Wind Speed	Wind Dir.	Press	sure A	ir Ter	mp.	Wave Hei	oht Wave Dir.	Wave Period	Anchors			Tension (mt)
18.5km	26km/h	112dea	1012 (	)0bar 1	7 00	<u>.</u> .	0.5m	112dea		1			10.30
Dell	Ditch	Hoove	Swall!					ad Masthe		2			8.71
	PIICN	neave	Sweii F	reigni S	weiil	ווט.	Swell Peri	ou vveathe	Comments	3			6.71
0.2deg	0.2deg	0.60m	2.0	m 1	12de	eg	2m/sec	; Par	t Cloud	4			7.39
Rig Dir.	Ris. Tension	VDL		Co	omme	ents	s 5 8.6			8.62			
249.0deg	12.25mt	208.63mt					6			11.20			
			I		7			10.48					
										0			0.02

#### DRILLING MORNING REPORT # 35 Casino-4DW2 ( 05 Jun 2005 )

Boats	Arrived (c	late/time)	Departed (date/time)	Status	В	ulks	
Far Grip			20:40	Portland	Item	Unit	Quantity
					Fuel	M3	0
					Drill Water	M3	0
					Potable Water	M3	0
					Barite	MT	0
					Gel	MT	0
					Cement	MT	0
					KCI Brine	bbl	0
Pacific		05:50		Ocean Patriot	Item	Unit	Quantity
wrangiei					Fuel	M3	386.2
					Drill Water	M3	448
					Potable Water	M3	300
					Barite	MT	0
					Gel	MT	0
					Cement	MT	86
					KCI Brine	bbl	503
Helicopter	Movement						
Flight #	Time		Destination		Comment		Pax
1	10:17	Ocean Patriot					11
1	10:32	Essendon					10

#### **DRILLING MORNING REPORT # 36** Casino-4DW2 (06 Jun 2005)

		From :	Ron King, Mi	ike Andronov, Pł	nil Deshon				
		OIM :	Sean De Frei	itas					
Well Data									
Country	Australia	M. Depth	2404.0m	Cur. Hole Size	216mm	AFE Cost			
Field	Casino	TVD	1786.0m	Casing OD	244mm	AFE No.	5746022		
Drill Co.	DOGC	Progress	0m	Shoe TVD	1740.8m	Daily Cost			
Rig	Ocean Patriot	Days from spud	35.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost			
Wtr Dpth(LAT)	70.8m	Days on well	11.19			Planned TD	2642.0m		
RT-ASL(LAT)	22.0m	Current Op @ 0600	Terminating	g and testing SSSV	assembly at RT	•			
RT-ML	92.8m	Planned Op Finish terminating SSSV control line to SSSV assembly. RIH upper completion and make up tubing hanger (UC06-01). Install THRT/SSTT. RIH completion on 244mm (9-5/8") L80 New Vam tubing. Install flowhead and slickline PCE. Landoff upper completion and pressure test XT and completion. Displace diesel underbalance.							
Summary of I	Period 0000 to	2400 Hrs							
Scraped 244 mm BOP ram and ann	(9-5/8") 13Cr casir nular cavities. Com	ng and brushed riser as menced RIH upper com	per programme. D pletion.	Displaced casing wit	h CaCl2 brine. F	Retrieved Bore Pro	tector, Jetted XT,		

#### Operations For Period 0000 Hrs to 2400 Hrs on 06 Jun 2005

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description			
СТВ	P	BOP	0000	0215	2.25	2404.0m	Jetted through wellhead and BOP and circulated 1.25 times riser volume. POOH and laid out BOP test tool. Variable rams measured at 3.12m from bottom joint (connector).			
СТВ	Р	SM	0215	0230	0.25	2404.0m	Held JSA on RIH with casing scraper and checked depths.			
СТВ	Р	HBHA	0230	0300	0.50	2404.0m	Made up 244mm (9-5/8") scraper BHA.			
СТВ	Р	ТΙ	0300	0530	2.50	2404.0m	RIH with casing scraper BHA.			
СТВ	Ρ	СНС	0530	0730	2.00	2404.0m	Commenced scraping 244mm (9-5/8") casing (3 times per stand) from 1554 m MD. Made up riser brush tool. Continued to scrape casing to 1645 m MD and brushed riser to 3 m above flex joint. Rotated at 60 rpm and circulated mud @ 3.8 m3/min (1000 gpm) during scraping.			
СТВ	Ρ	CMD	0730	1430	7.00	2404.0m	At 1656 m MD pumped 9.5 m3 (60 bbl) high viscosity brine pill. Cleaned surface lines, flushed choke and kill lines with sea water and displaced same to CaCl2 brine. Displaced mud and viscous pill from drillpipe/casing with 1.21sg (10.1 ppg) CaCl2 brine @ 3.8 m3/min (1000 gpm) / 15860 kPa (2300 psi) dumping returns. POOH with riser brush tool (no debris in junk basket) and 244mm (9-5/8") casing scraper BHA. Small amount of rubber missing from riser brush tool.			
СТВ	Р	XT	1430	1530	1.00	2404.0m	Picked up and RIH jetting sub and Bore Protector Running and Retrieval tool on 127mm (5") drill pipe. Set down 2.3 t (5 klbs) and latched into Bore Protector.			
СТВ	Ρ	СНС	1530	1630	1.00	2404.0m	Attempted to pull Bore Protector with 20.4 t (45 klbs) overpull with no success. Sheared out secondary pins with 52.6 t (116 klbs) overpull. Jetted XT and BOP rams and annular cavities, whilst boosting riser to lift debris. POOH Bore Protector, retreival tool and jet sub. Bore Protector in good condition and o-rings intact.			
СТВ	Р	SM	1630	1900	2.50	2404.0m	Cleared rig floor and rigged up to run upper completion. Conducted JSA on handling and running chrome tubulars and completion assemblies.			
СТВ	Р	RIC	1900	1945	0.75	2404.0m	Made up mule shoe (UC01-01), QN Nipple (UC02-01), Production packer (UC03-01) and Chemical Cut Sub (UC04-01) as per upper completion tally.			
СТВ	Р	RIC	1945	2400	4.25	2404.0m	RIH upper completion on 178mm (7") 13Cr80 KSBear to 733 m MD.			
Opera	Operations For Period 0000 Hrs to 0600 Hrs on 07 Jun 2005									
Dhaa		0	<b>F</b> _****	T-	1.1	Danth	Activity Departmention			

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
СТВ	Р	RIC	0000	0500	5.00	2404.0m	RIH upper completion on 178mm (7") 13Cr80 KSBear tubing as per upper completion tally 1524m MD.
СТВ	Ρ	SM	0500	0600	1.00	2404.0m	Conducted JSA on making up and running SSSV sub assembly (UC05-01) and RU SSSV sheave. Made up SSSV and 1 joint of 178mm (7") 13Cr80 KSBear tubing. Commenced termination of SSSV control line.
Gene	ral Com	ments	5				

#### **General Comments**

Comments	Rig Requirements	Lessons Learnt
Expro Pressure tested Flowhead, SSTT and SSLV. Function tested where appropriate.		
Pressure tested slickline pressure control equipment and prepared running tools.		
Installed IWOCS umbilical onto x-tree. Function and pressure tested IWOCS noted leak on SSSV control line (see subsea report). Preparing ROV to recover IWOCS.		

#### DRILLING MORNING REPORT # 36 Casino-4DW2 ( 06 Jun 2005 )

WBM Data														
Mud Type:	CaCl2 Brine	API FL	:	0cr	n³/30m	CI:		226000	) 5	Solids:	0	Visco	osity:	0sec/L
Sample-From:	Suction	Filter-C	ake.		0mm	K+C	*1000	0%	ί μ	H2O.	0%	PV:		0Pa/s
Time:	21.00			0	2/00		1000.	070		01	070	Gels	10s:	0MPa 0
Mainte	4.04		FL:	UCI	n9/30m	паго	/Ca:	0		OII:	0%	Gels	10m:	0
vveight:	1.21sg	HTHP-	Cake:		0mm	MBT		0	) (5	Sand:		Fanr	n 003:	0
Temp:	0C°					PM:		0	) p	pH:	0	Fanr	1 006: 1 100:	0
						PF:		0	F	PHPA:	0ppb	Fann	1 200:	0
												Fann	n 300:	0
												Fanr	n 600:	0
BHA # 14														
Woight(Wot)		Omt	Longth				140 5m		<u>۱</u>	25.9		1) /		sits /
		Unit	Lengui				140.511		)	20.0		1) AI		
Wt Below Jar(W	/et)	0mt	String				0mt	Torque(Off.B	3tm)	) 13.6	Nm D.C. (	2) Ai	nn Veloc	city
			Pick-U	р			0mt	Torque(On.B	3tm)	) 23.1	Nm H.W.E	D.P. /	Ann Velo	ocity
			Slack-0	Off			0mt				D.P. A	۱ ۱	/elocity	
BHA Run Descr		n (8.5")	Bit (No	zzles	Removed	), Bit Sub & X	O to	to 114 mm (4.5")	IF, 127 mm	(5")	DP, 244	mm (9-5/8")		
			Scrape	er								( )		, , , , , , , , , , , , , , , , , , ,
	Equipme	ent		Leng	gth	OD	ID		Serial #			Comme	ent	
Bit					0.2	25m	216mm	0mm						
Bit Sub					0.9	95m	0mm	0mm						
5in HWDP					9.5	58m	127mm	76mm						
9.625in Casing	Scraper				2.1	7m	222mm	49mm	SF	PS5445	Razor Bac	k Ca	ising Cle	an-Up Tool.
Bulk Stocks	5							Personne	el C	On Board				
Name	9	Unit	In	Us	sed A	djust	Balance			Company				Pax
Fuel	r	n3		0 1	02	, 0	484 5	Santos					7	
Drill Water	r	n3	43	80	87	0	541.0	DOGC					43	
Potable Water	r	n3	2	9 2	23.5	0	220.6	FSS					8	
Gel		SX SX	_	0	0	0	1.685.0	Dowell					2	
Cement	s	SX		0	0	0	778.0	MI					2	
Barite	s	sx		0	0	0	1.555.0	Geoservices					2	
KCI Brine	t	bl		0	0	0	0.0	Fugro					6	
					1			Halliburton					1	
								Cameron					4	
								Expro					11	
								Weatherford					4	
								Baker Oil Too	ols				1	
								Expro					1	
											Т	otal	92	
HSE Summa	ary						[							
Ever	nts	Date	of Last	Days	Since					Remar	ks			
Abandon Drill		05 Jun	2005	1 Day		Aba	ndon Drill							
BOP Test		05 Jun	2005	1 Day		BOF	P Test							
Environmental I	ncident	02 Ma	y 2005	35 Day	ys	Non	e reported	since comme	ence	ement of campai	gn.			
Fire Drill		29 Ma	y 2005	8 Days	5	Fire	Drill							
First Aid		04 Ma	y 2005	33 Da	ys	Pers	son struck	on nose with r	met	tal bar				
Lost Time Incide	ent	02 Ma	y 2005	35 Da	ys	Non	e reported	since comme	ence	ement of campai	gn.			
Man Overboard	Drill	02 Ma	y 2005	35 Da	ys	Non	e undertak	en since com	nme	encement of cam	paign.			
Near Miss		02 Ma	y 2005	35 Da	ys	Non	e reported	since comme	ence	ement of campai	gn.			
Safety Meeting		05 Jun	2005	1 Day		Wee	kly Safety	Meeting						
Stop Cards		06 Jun	2005	0 Davs	3	9 St	op Cards							

#### DRILLING MORNING REPORT # 36 Casino-4DW2 ( 06 Jun 2005 )

Marine										
Weather che	eck on 06 Jun	2005 at 2400	)					Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Heigh	nt Wave Dir.	Wave Period	Anchors	Tensi	on (mt)
18.5km	22km/h	023deg	1019.00bar	12.0C°	0.5m	023deg	0m/sec	1	10	.30
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Perio	d Weather	Comments	2	8.	80
0.2400	0.2dog	0.60m	1.5m	225dog	2m/coc	Port	Cloud	3	6.	71
0.2deg	0.2deg	0.0011	1.511	zzouey	211/360	Fait	Ciouu	4	7.	21
Rig Dir.	Ris. Tension	VDL		Comments				5	8.	39
249.0deg	12.25mt	206.67mt						6	11	.02
								7	10	.48
								8	8.	71
Boats	Arrive	ed (date/time	) Dej	parted (date	e/time)	Stat	us		Bulks	
Far Grip					F	Portland		ltem	Unit	Quantity
								Fuel	M3	0
								Drill Water	M3	0
								Potable Water Barite	M3 MT	0
								Gel	MT	0
								Cement	MT	0
								KCI Brine	bbl	0
Pacific					(	Ocean Patriot		ltem	Unit	Quantity
wrangier								Fuel	M3	375.1
								Drill Water	M3	0
								Potable Water	M3	245
								Gel	MT	0
								Cement	MT	86
								KCI Brine	bbl	503
Helicopte	er Moveme	nt								
Flight #	Time		Destir	nation			Com	nment		Pax
1	10:05	Ocean P	atriot							5
1	10:14	Essendo	n							4

#### DRILLING MORNING REPORT # 37 Casino-4DW2 ( 07 Jun 2005 )

					F	From : I	Ron King, Mi	ke Andronov					
					C	DIM:	Sean De Freit	as					
Well	Data												
Country	/		Australia	a M.C	Depth		2404.0m	Cur. Hole Size	216mm	AFE Cost			
Field			Casino	D TVD	)		1786.0m	Casing OD	244mm	AFE No.	5746022		
Drill Co			DOGC	C Prog	gress		0m	Shoe TVD	1740.8m	Daily Cost			
Rig		Ocea	an Patrio	t Day	s from sp	oud	36.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost			
Wtr Dp	th(LAT)		70.8m	n Day	s on well		12.19			Planned TD	2642.0m		
RT-AS	_(LAT)		22.0m	n Curr	rent Op @	0600	Landing off	tubing hanger in X	Г.				
RT-ML			92.8m	n Plar	nned Op		Pressure te valve. Set p	st completion and > roduction packer. I	(T. Circulate die nstall gauges. F	esel underbalance Prepare to flow we	. Install standing II.		
Sumr	nary of	Period	0000 t	o 240	0 Hrs								
Made u Installe	ıp SSSV a d coflexip	nd TH. I and slick	nstalled T dine pres	THRT to sure co	TH. RIH	with 244mr ipment.	n (9-5/8") L80 N	lew Vam landing st	ring. Installed L	ubricator Valve. N	lade up flowhead.		
Opera	tions F	or Peri	iod 000	0 Hrs	to 240	0 Hrs on	07 Jun 200	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption			
СТВ	Р	RIC	0000	0500	5.00	2404.0m	RIH upper co tally 1524m M	mpletion on 178mm 1D.	ו (7") 13Cr80 K	SBear tubing as p	er upper completion		
СТВ	Ρ	SM	0500	0700	2.00	2404.0m	Conducted JS assembly (UC 178mm (7") 1 tested to 5170	SA on making up ar C05-01) and rigging 3Cr80 KSBear tubi 00 kPa (7500 psi) /	nd running Sub- up SSSV shea ng. Terminated 15 minutes.	sea Safety Valve ve. Made up SSS SSSV control line	(SSSV) sub V and 1 joint of and pressure		
CTB	Р	SM	0700	0730	0.50	2404.0m	RIH 178mm (	7") 13Cr80 KSBear	tubing installing	g control line clam	ips.		
СТВ	Р	SM	0730	0800	0.50	2404.0m	Held JSA on	making up/RIH Tub	ing Hanger (TH	). Made up TH (U	C06-01).		
СТВ	Р	PT	0800	0930	1.50	2404.0m	<ul> <li>Removed TH Helix Terminated SSSV control line to TH and performed SSSV function tests.</li> <li>Pressure tested SSSV control line to 51720 kPa (7,500 psi) / 15 minutes [opening pressure @ 11030 kPa (1600 psi) and closing pressure @ 8275 kPa (1200 psi)] and 34475 kPa (5,000 psi) / 5 minutes [opening pressure @ 11030 kPa (1600 psi) and closing pressure @ 11030 kPa (1600 psi) and closing pressure @ 2100 psi)</li> </ul>						
СТВ	Ρ	RCM	0930	1000	0.50	2404.0m	Re-installed T degrees port	TH Helix. Turned str of forward. Landed	ing to align tubi TH in rotary tab	ng hanger produc le (RT) and remo	tion bore 45 ved Tubing Hanger		
СТВ	Р	RCM	1000	1015	0.25	2404.0m	Rigged up to	run 244mm (9-5/8")	). 180 New Vam	landing string.			
СТВ	P	SM	1015	1230	2.25	2404.0m	Conducted JH Running Tool	A on Installing Exp (THRT)/Sub-sea T	oro IWOCS sheatest Tree (SSTT	ave and picking up ) assembly. Instal atched in elevator	o Tubing Hanger led Expro IWOCS s.		
СТВ	Ρ	PT	1230	1300	0.50	2404.0m	Set TH into lo function tests interface conr 34475 kPa (5 lock. Unlocke pressures rea	cked position using . Stabbed THRT int nection test - 34475 000 psi) / 5 minuted d TH and installed dy for running. Loc	1 THRT/SSTT a o TH. Latched kPa (5000 psi) s. Functioned TI 2 shear pins into ked in pressure	ssembly. Perform THRT to TH. Perfor / 5 minutes. SSS H lock and confirm o actuator ring. Ch s and removed jui	ed THRT/SSTT ormed TH/THRT V confidence test - ned returns from TH necked control line mpers.		
СТВ	Ρ	RCM	1300	1345	0.75	2404.0m	Picked up and assembly inst shear pins int	d removed landing alled 111 t / (245 k o TH circuit ring.	bowls - Comple bs). Removed p	tion weight with The protection from The section from The	HRT/SSTT I seals. Installed		
СТВ	Р	RIC	1345	1515	1.50	2404.0m	Rigged up 50 landing string	8mm (20") split bov	vls and slips. RI	H on 244mm (9-5	/8") L80 New vam		
СТВ	Ρ	RCM	1515	1615	1.00	2404.0m	Installed Lubr tested.	icator Valve. Made	up control line	to lubricator valve	(LV) and function		
CTB	Р	RIC	1615	1645	0.50	2404.0m	RIH LV and 2	joints 244mm (9-5	/8") L80 New va	im landing string.			
СТВ	Р	RCM	1645	1800	1.25	2404.0m	Removed the drive. Installe	4.6 m (15 ft) bails. d 6.8 m (22 ft) bails	Installed top dri and shackled 1	ve sub and slicklin 4 m (45 ft) bails to	ne tugger onto top o 6.8 m (22 ft) bails.		
СТВ	Р	SM	1800	1815	0.25	2404.0m	JSA on pickin	g up flowhead from	deck.				
СТВ	P	SM	1815	1945	1.50	2404.0m	Picked up and landing string elevators onto	d installed no cross . Picked up flowhea o flowhead. Connec	coupling on the ad from deck to ted bails to the	244mm (9-5/8")   drill floor. Installed elevators.	L80 New Vam 1 273 mm (10-3/4")		
СТВ	Ρ	SM	1945	2200	2.25	2404.0m	Held JSA on Picked up flov and 244mm ( casing tongs.	picking up flowhead whead to vertical po 9-5/8") L80 flowhea	I to vertical posi osition. Torqued Id landing joint t	tion. Removed bri up 244mm (9-5/8 o the landing strin	dle from flowhead. ") L80 saver pup g. Rigged down		
СТВ	P	RCM	2200	2400	2.00	2404.0m	Held JSA on i Installed cofle head.	nstalling coflexip an exip. Commenced ri	nd slickline pres gging up slicklir	sure control equip ne pressure contro	oment to flowhead. I equipment on flow		

Operations For Period 0000 Hrs to 0600 Hrs on 08 Jun 2005

#### DRILLING MORNING REPORT # 37 Casino-4DW2 ( 07 Jun 2005 )

Phse	Cls (RC)	Ор	From	То	Hrs	Dep	oth			Activity	Description			
СТВ	Р	RCM	0000	0345	3.75	2404.0	0m	Continued Installed D	rigging up slick rain line sub, B	line pressure co OPs and Lubric	ontrol equipmer ator.	nt. Clos	sed Swa	b Valve.
СТВ	Р	RCM	0345	0515	1.50	2404.0	Om	Conducted flowhead a	JSA on pressu gainst lubricato	ire testing of we or valve / choke	ell test surface l manifold and s	ines. F wab va	Pressure alve 344	tested 75 kPa (5000
СТВ	Ρ	RIC	0515	0600	0.75	2404.0	Om	Conducted New Vam I	JSA on RIH ar anding string. (	nd landing off. F Checked pick up	Pulled bushings p and slackoff w	and R veight	lH 244 r 127 t (28	nm (9-5/8") L80 30 klbs).
WBM	Data								tubing nunger	good maloation				
Mud Typ	<u>р.</u>	CaCl2 Br		1.	0	-m3/20m	CI		226000	Solide:	0	Viscosit	v:	0sec/L
Sample	From:	Suct		L. Caka:	0	0mm		*1000.	220000		0%	PV:		0Pa/s
Time					0	0000		- 1000.	0 %	H2O.	0%	YP: Gels 10	s:	0MPa 0
Maiahti		4.04	HIH	'-FL:	0	cm3/30m	Har	d/Ca:	0	OII:	0%	Gels 10	m:	0
vveight:		1.21	SG HTHE	P-Cake:		0mm	MB'	T:	0	Sand:		Fann 00	03:	0
Temp:		C	°C°				PM		0	pH:	9	Fann 00 Fann 10	06: 00:	0
							PF:		0	PHPA:	0ppb	Fann 20	00:	0
												Fann 30	00:	0
												Fann 60	JU:	0
Bulk	Stocks	6							Personnel	On Board				
	Nam	e	Unit	I	n l	Jsed	Adjus	t Balance		Company				Pax
Fuel			m3		0	10.7	C	473.8	Santos			7		
Drill Wa	ter		m3		0	30.1	C	510.9	DOGC			4	2	
Potable	Water		m3		27	24.2	C	223.4	ESS			8		
Gel			SX		0	0	C	1,685.0	Dowell			2		
Cement	t		SX		0	0	C	778.0	Geoservices			2		
Barite			SX		0	0	C	1,555.0	Fugro			6	i	
KCI Brir	ne		bbl		0	0	C	0.0	Halliburton			1		
									Cameron			4		
									Expro			1	0	
									Reker Oil Teel	c		4		
									Expro	5		1		
									Слріо		Т	otal 9	4	
	Summ	arv												
	5umm	ary	Dete		Dev	:				Dee				
	Ever	nts	Date	of Last	Day	s Since				Ren	narks			
Abando	n Drill		05 Ju	in 2005	2 Da	/S	Aba	andon Drill						
BOP 16	est	ا به ما ما م	05 JU	in 2005		/S	BO	P Test	:					
Environ	mentai	Inclaent	02 M	ay 2005	36 D	ays	NO		I since commer	icement of cam	ipaign.			
Fire Dri	1		29 M	ay 2005	9 Da	/S	FILE	e Dfill	on noon with m	atal har				
	u na Incid	ont	04 M	ay 2005	26 0	ays	Nor	son sinuck		icial bal	naian			
Man Ov			02 IVI	ay 2005 ay 2005	36 0	ays	Nor			pencement of carri	ampaign			
Near M	iee		02 M	ay 2000	36 0	ave	Nor			coment of cam	anipaign. Inaian			
Safety I	Meetina		05.1	in 2005	2 Da	4y5 /s	We	ekly Safety	Meeting		paigii.			
Stop Ca	ards		06 Ju	in 2005	1 Da	/	9.5	top Cards	mooting					
Marin	Δ		10000		1	/	1							
Weathe	r check	on 07 Jun	2005 at 2	400							Rig Support			
Vieihili	tv W	ind Speed	Wind Di	P	ressure	Δir T	emp	Wave Hei	aht Wave Dir	Wave Period	Anchors		-	Tension (mt)
18 5	- <i>,</i> v	10km/h	045404	101	9 00ho	. 15	000	0.5m	045dea		1	,	I	10.30
10.0K		Ditob	Loour			0		Swoll Der	ind West		2			8.62
Roll			rieave	5₩6	en meight	Swe	n Dir.	Swell Per	iou vveathe		3			6.80
0.2de	g	0.2deg	0.60m		1.0m	225	deg	2m/sec	Par	t Cloud	4			7.30
Rig Di	r. Ri	s. Tension	VDL			Com	ments				5			8.48
249.0d	eg	12.25mt	202.44n	nt							6			11.11

10.61

8.71

7

8

#### DRILLING MORNING REPORT # 37 Casino-4DW2 ( 07 Jun 2005 )

Boats	Arrived (	date/time	e)	Departed (date/time)	Status		Bu	lks	
Far Grip			22:40		Ocean Patriot		ltem	Unit	Quantity
						Fuel		M3	449
						Drill Wate	er	M3	730
						Potable V	Vater	M3	442
						Barite		MT	81
						Gel		MT	43
						Cement		MT	40
						KCI Brine		MT	0
Pacific					Ocean Patriot		Item	Unit	Quantity
wrangier						Fuel		M3	364.6
						Drill Wate	er	M3	0
						Potable V	Vater	M3	240
						Barite		MT	0
						Gel		MI	0
						KCI Brine		MT	503
						Itol Billie		IVII	505
Helicopter	Movement								
Flight #	Time			Destination		Comment			Pax
1	10:05	Ocean	Patriot						6
1	10:14	Essend	lon						4
Lessons L	earned								
Categories			Event [	Descr.	Post Event Descr.		Lesson		
Short Descr.	SV should be Identified closed before should b RU pressure		Identified that SV (Swab Valve) should be closed prior to slickline pressure control RU.		Closed swab valve befor	e RU.	Close SV (Swa to act as a bar fall down the fl	ab Valve) be rier if anythi owhead.	efore RU ing should
Phase	Completio	n							
Category	Rig Up								
Resp. Party									
Closed/Open	Open								

#### **DRILLING MORNING REPORT # 38** Casino-4DW2 (08 Jun 2005)

					F	rom :	Ron King,Ph	ilip Deshon,Mike	Andronov,P	aul Nardone			
					c	IM :	Sean De Frei	tas					
Well [	Data												
Country	,		Australia	a M.	Depth		2404.0m	Cur. Hole Size	216mm	AFE Cost			
Field			Casino	o TV	D		1786.0m	Casing OD	244mm	AFE No.	5746022		
Drill Co			DOGC	; Pro	ogress		0m	Shoe TVD	1740.8m	Daily Cost			
Rig		Ocea	an Patrio	t Da	ys from sp	ud	37.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost			
Wtr Dpt	h(LAT)		70.8m	n Da	ys on well		13.19			Planned TD	2642.0m		
RT-ASL	L(LAT)		22.0m	n Cu	rrent Op @	0600	Flowing die	sel to burner on var	iable choke for	clean-up.			
RI-ML			92.8m	n Pla	anned Op		Clean-up w	ell and SI for one he	our build-up. Co	onduct three rate we	ell test.		
Sumn	hary of I	Period	0000 t	o 240	00 Hrs								
Landed	off and te	sted TH	and XT.	Displa	ced brine v	vith diesel.	Set production	backer and pressure	e test tubing, an	nulus and inflow te	st SSSV.		
Opera	tions Fo	or Peri	od 000	0 Hrs	s to 240	) Hrs on	08 Jun 200	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption			
CTB	Р	RCM	0000	0345	3.75	2404.0m	Rigged up sli	ckline lubricator and	BOP's to flow	nead.			
СТВ	Р	RCM	0345	0515	1.50	2404.0m	Held JSA - P manifold and	ressure Testing. Pre SV to 34,475 kPa (	essure tested flo 5,000 psi) for 10	owhead against LV 0 minutes.	, welltest choke		
СТВ	Ρ	RIC	0515	0615	1.00	2404.0m	Held JSA - La vented. Conf (280,000 lbs) (righthand) h	anding Off Upper Co irmed with ROV. Pu . Landed off tubing elix rotation of 10 de	ompletion. Oper lled bushings. F hanger with 13. eg noted.	n AAV, AMV, PMV PU and slackoff wei 6 MT (30,000 lbs) i	and XOV. CSM ght 127 MT n XT. Clockwise		
СТВ	Р	RIC	0615	0645	0.50	2404.0m	Opened SIV weight in XT Closed AMV	with ROV and flushe in stages 56.7 MT ( and AAV.	ed from XT IWC 125,000 lbs). 3.	OCS. Slacked off ful 4 litres returned fro	ll completion m Soft Land.		
СТВ	Ρ	RIC	0645	0800	1.25	2404.0m	Attempted to lock TH. No returns from Lock Verify. Closed 273mm (10-3/4") Middel Pipe Rams (MPR) around slick joint and pressured below closed rams to 10,340 kPa (1500 psi). 1 L of extra flow observed from Soft Land. Locked TH, returns received from Lock Verify. Bleed off pressure below pipe rams and opened pipe rams. Performed 22.7 MT (50,000 lbs) overpull to confirm TH locked. Slacked off to leave THRT/SSTT in 11.3 MT (25,000 lbs) tension. Opened AAV.						
СТВ	Ρ	RIC	0800	0900	1.00	2404.0m	Closed 273m minutes. Blec (1,600 psi)]. I psi) for 15 mi [Offline: Cont	m (10-3/4") MPR ar d off pressure to 0 p Pressure tested SSS nutes. inued with Slickline	nd pressure test si. Cycled SSS SV control line c RU on rig floor]	ed to 27,580 kPa ( / twice [opened wit lown XT IWOCS to	4,000 psi) for 10 h 11,030 kPa 44,820 kPa (6,500		
СТВ	Ρ	RIC	0900	1300	4.00	2404.0m	Rigged up re sleeve retriev psi) against M	mainder of slickline val tool string. Press /IV. RIH and retrieve	surface equipm ure tested slickl ed TH isolation	ent. Made slickline ine equipment to 2 sleeve with 178 mn	TH isolation 4,130 kPa (3,500 n (7") GS tool.		
СТВ	Р	RIC	1300	1500	2.00	2404.0m	Made up slic 88.3m MD R	kline TH wireline sho T (slickline depth). F	ort protector sle 200H slickline.	eve toolstring. RIH Made up standing	and set in THRT at valve toolstring.		
СТВ	Ρ	RIC	1500	1645	1.75	2404.0m	Held JSA - P taking returns Final SITHP	umping Diesel Cush s to the pits at 415 L approx. 5450 kPa (7	nion. Circulated /min (2.6 bpm). '90 psi).	33 m^3 (207 bbls) Chased diesel with	diesel down tubing n 3 bbls seawater.		
СТВ	Ρ	RPP	1645	1900	2.25	2404.0m	RIH with slick nipple at 165 through wellt standing valv	kline and installed st 6 m MD RT. POOH est choke. Broke ou e retrieval toolstring	anding valve in with Slickline. ( t lubricator and	the 117 mm (4.625 Closed MV and blee recovered/inspecte	5") QN landing ed off pressure ed slickline		
СТВ	Ρ	PT	1900	2030	1.50	2404.0m	Held JSA - P mins against kPa (4,000 p - 1633.95 m	acker Setting. Press 117 mm (4.625") RI si) for 10 minutes to MD RT at midpoint o	sure tested tubir NQN standing v set HHT packe of packer eleme	ng to 14,480 kPa (2 valve. Increased pre r. Upper completio nts.	2,100 psi) for 10 essure to 27,580 n packer set depth		
СТВ	Ρ	PT	2030	2100	0.50	2404.0m	Closed the S inflow tested 3450 kPa (50 27580 kPa (4	SSV. Bled off press SSSV for 10 minute 00 psi) differential or 4,000 psi). Bleed bac	ure at welltest c es. Increased pr SSSV. Opene ck THP to to 58	hoke to 10,345 kPa essure to 24,130 kl d SSSV - pressure 60 kPa (850 psi).	a (1,500 psi) and Pa (3500 psi), increased to		
СТВ	Ρ	PT	2100	2200	1.00	2404.0m	Pressure test by bleeding of 3,250 psi]. Eo by bleeding of mins. Equalis	ed the annulus to 2 off pressure to 1725 qualised across AAN off pressure from 24 sed and opened AM	4,130 kPa (3,50 kPa (250 psi) fo /, opened AAV ,130 kPa (3,500 V. Bled annular	00 psi) for 10 mins. or 10 mins [Differen and closed AMV. Ir 0 psi) to 1,725 kPa ( pressure to 690 kF	Inflow tested AAV tial across AAV of folow tested AMV (250 psi) for 10 Pa (100 psi).		
СТВ	Ρ	SLK	2200	2400	2.00	2404.0m	Rigged up sli Nipple.	ckline and retrieved	117 mm (4.625	5") RNQN standing	valve from QN		
Opera	tions Fo	or Peri	od 000	0 Hrs	s to 060	) Hrs on	09 Jun 200	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption			
CTB	Р	SLK	0000	0100	1.00	2404.0m	POOH with s	lickline. Closed UB	/ and bled off p	ressure via choke t	o 690 kPa (100		

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psi) and inflow tested UBV. Bled pressure to 0 kPa and closed LV. Broke out

#### DRILLING MORNING REPORT # 38 Casino-4DW2 ( 08 Jun 2005 )

Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description
							lubricator and retrieved 117mm (4.625") RNQN standing valve.
СТВ	Ρ	SLK	0100	0330	2.50	2404.0m	Made up bomb hanger and 3 quartz memory gauges. Pressure tested Cromar sub to 34,475 kPa (5,000 psi). Opened LV and equalised above UBV and opened UBV. RIH with 117mm (4.625") QX lock and bomb hanger and gauges in the 117mm (4.625") QN landing nipple in tailpipe at 1657 m MD RT (tide corrected). Gauge measuring points below nipple no-go #51084 (2.175m), #51284 (5.435m), #40586 (6.835m.) POOH with running string.
СТВ	Ρ	SLK	0330	0415	0.75	2404.0m	Slickline at surface. Closed UBV and bled off pressure to 690 kPa (100 psi) via choke and inflow tested UBV. Bled pressure to 0 kPa, inspected and removed toolsting. Made up downhole recovery string for pulling gauges after welltest. Confirmed valve status on XT.
СТВ	Р	PT	0415	0515	1.00	2404.0m	Held JSA - Well Test Operations and RU familiarity.
СТВ	Р	OA	0515	0600	0.75	2404.0m	Opened well gradually to surge tank on adjustable choke (initially 16/64"). Diverted flow to burner and increasing choke settings.

Bulk Stocks						Personnel On Board	
Name	Unit	In	Used	Adjust	Balance	Company	Pax
Fuel	m3	0	46.2	0.1	427.7	Santos	8
Drill Water	m3	0	2.4	0.1	508.6	DOGC	41
Potable Water	m3	44	41.2	0	226.2	ESS	8
Gel	sx	0	0	0	1,685.0	Dowell	2
Cement	sx	0	0	0	778.0	Geoservices	2
Barite	sx	0	0	0	1,555.0	Fugro	6
KCI Brine	bbl	0	0	0	0.0	Halliburton	1
						Cameron	4
						Expro	16
						Weatherford	4
						Baker Oil Tools	1
						Expro	2
						Total	95

HSE Summary			
Events	Date of Last	Days Since	Remarks
Abandon Drill	05 Jun 2005	3 Days	Abandon Drill
BOP Test	05 Jun 2005	3 Days	BOP Test
Environmental Incident	02 May 2005	37 Days	None reported since commencement of campaign.
Fire Drill	29 May 2005	10 Days	Fire Drill
First Aid	04 May 2005	35 Days	Person struck on nose with metal bar
Lost Time Incident	02 May 2005	37 Days	None reported since commencement of campaign.
Man Overboard Drill	02 May 2005	37 Days	None undertaken since commencement of campaign.
Near Miss	02 May 2005	37 Days	None reported since commencement of campaign.
Safety Meeting	05 Jun 2005	3 Days	Weekly Safety Meeting
Stop Cards	06 Jun 2005	2 Days	9 Stop Cards
Marino			

Wallie									
Weather che	eck on 08 Jun	2005 at 240		Rig Support					
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Tension (mt)
18.5km	28km/h	040deg	1015.00bar	17.0C°	1.0m	040deg	0m/sec	1	10.39
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather	Comments	2	8.80
							<u> </u>	3	6.89
0.2deg	0.2deg	0.60m	2.0m	220deg	2m/sec	Mainly	Cloudy	4	7.39
Rig Dir.	Ris. Tension	VDL		Comments				5	8.48
249 0deg	12 25mt	207 87mt						6	11.20
240.0009	12.2011	207.07111						7	10.70
								8	8.80

#### DRILLING MORNING REPORT # 38 Casino-4DW2 ( 08 Jun 2005 )

Boats	Arrived (	date/time)	Departed (date/time)	Status	В	ulks	
Far Grip				Ocean Patriot	ltem	Unit	Quantity
					Fuel	M3	437
					Drill Water	M3	730
					Potable Water	M3	434
					Barite	MT	81
					Gel	MT	43
					Cement	MT	40
					KCI Brine	MT	0
Pacific			19:45	Sailing to Portland	Item	Unit	Quantity
wrangier					Fuel	M3	0
					Drill Water	M3	0
					Potable Water	M3	0
					Barite	MT	0
					Gel	MT	0
					Cement	MT	0
					KCI Brine	MI	0
Helicopte	r Movement						
Flight #	Time		Destination		Comment		Pax
1	10:06	Essendon					2
1	9:57	Ocean Patriot					3

#### DRILLING MORNING REPORT # 39 Casino-4DW2 ( 09 Jun 2005 )

	From : Ron King, Philip Deshon, Mike Andronov, Paul Nardone												
					c	DIM:	Scott Barry						
Well Data													
Country	,		Australia	a M.	Depth		2404.0m	Cur. Hole Size	216mm	AFE Cost			
Field	Field Casino			D TVI	D		1786.0m	1786.0m Casing OD 244mm AFE No.					
Drill Co.			DOGC		gress		0m	Shoe TVD	1740.8m	Daily Cost			
Rig		Ocea	an Patrio	t Day	ys from sp	ud	38.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost			
Wtr Dpt	h(LAT)		70.8m	n Da <u>y</u>	ys on well		14.19 Planned TD 2642.0m						
RT-ASL(LAT)			22.0m	n Cui	rrent Op @	0600	Well flowing on second flow period of main flow on 19 mm (48/64") choke.						
RT-ML			92.8m	ו Pla	nned Op		Continue with second flow period for well test. Increase choke for third flow period to 25mm (64/64"). Shut in well for Build-up.						
Summary of Period 0000 to 2400 Hrs													
Retrieved standing valve. Set BH gauges. Open well for clean-up flow period. Shut in well for initial BL. Opened well on 13 mm (32/64") choke for first													
6hr flow period.													
Opera	tions F	or Peri	od 000	0 Hrs	s to 240	0 Hrs on	09 Jun 2005	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descrip	otion			
СТВ	Р	SLK	0000	0100	1.00	2404.0m	POOH with sli	ickline and retrieved	d 117mm (4.62	5") RNQN standir	ng valve.		
СТВ	Р	SLK	0100	0330	2.50	2404.0m	Made up bomb hanger and 3 quartz memory gauges. RIH with 117mm (4.625") QX						
							lock and bomb hanger and gauges in the 117mm (4.625") QN landing nipple in tailpipe at 1657mRT MD (tide corrected). Gauge Measuring points below nipple no-go #51084 (1656.86mRT MD), #51284 (1660.1mRT MD), #40586 (1661.5mRT MD) POOH with running string.						
СТВ	Ρ	SLK	0330	0415	0.75	2404.0m	Slickline at surface. Made up downhole recovery string for pulling gauges after welltest. Confirmed valve status on subsea tree (Closed: PWV, AWV, PMV and XOV and TCT and CSM needle valves. Open: AAV, and AMV. SIV needle valve open with SSSV control line pressure to 34.475 kPa [5.000 psi]).						
СТВ	Р	SM	0415	0515	1.00	2404.0m	JSA - Well Test Operations and Rig Up Familiarity						
СТВ	Р	OA	0515	0615	1.00	2404.0m	Opened well on 6 mm (16/64") adjustable choke increasing gradually to 13 mm (32/64") for clean-up flow.						
СТВ	Ρ	OA	0615	1345	7.50	2404.0m	Continued increasing choke on 21 mm (52/64"). Recovered diesel and CaCl2 brine at surface. Flare extinguished, diverted flow via gas line to flare boom. Gas to surface after 5 minutes. Gradually increased adjustable choke to 38 mm (96/64") for well clean-up.						
СТВ	Ρ	OA	1345	1700	3.25	2404.0m	Reduced choke to 25 mm (64/64") fixed and flowed to separator. Took gas PVT sample (s/n A4786) at 16:15. Final clean-up flowing conditions (17:08): 25 mm (64/64") choke, FTHP = 14,150 kPag (2,052 psig), WHTemp = 50 deg C (122 deg F), D/Stream Pressure = 7,696 kPag (1,116 psig), D/Stream Temp = 27.7 deg C (82 deg F), Separator Pressure = 5658 kPag (821 psig), Sep Temp = 27.3 deg C (82 deg F), Orifice plate = 114 mm (4.5"), No measurable BS&W, 0.1% CO2 and 0.6 ppm H2S. SG = 0.693, Estimated rate 1.28E6 m^3/day (45.1 MMscfd).						
CTB	Р	OA	1700	1830	1.50	2404.0m	Shut in well (17:09) for build-up.						
СТВ	Ρ	OA	1830	2400	5.50	2404.0m	Open well (18:39) at choke manifold on 13 mm (32/64") adjustable choke through steam exchanger. SI well (18:45) and replaced steam hose on exchanger. Opened well @ 19:02, observed leak downstream of choke manifold. SI well. Fixed seal and opened well (19:10). Flowing conditions @ 0000 hrs: 13 mm (32/64") choke, FTHP = 16,100 kPag (2,335 psig), WHTemp = 36.1 deg C (97 deg F), D/Stream Pressure = 5,990 kPag (869 psig)						
							D/Stream Temp = 9.5 deg C (49 deg F), Separator Pressure = 5,315 kPag (771 psig), Sep Temp = 19.8 deg C (68 deg F), Orifice plate = 70 mm (2.75"), No measurable BS&W, 1.0% CO2 and 0.1 ppm H2S. SG = 0.683, Estimated rate 3.99E6 m^3/day (14.1 MMscfd).						
Opera	tions F	or Peri	od 000	0 Hrs	s to 060	0 Hrs on	10 Jun 2005	5					
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	otion			
СТВ	Ρ	OA	0000	0100	1.00	2404.0m	Took PVT samples (s/n A2006) at 00:30. Final flowing conditions for first flow period (01:08): 13 mm (32/64") choke, FTHP = 16,113 kPag (2,337 psig), WHTemp = 35.7 deg C (96 deg F), D/Stream Pressure = 6,097 kPag (884 psig), D/Stream Temp. = 9.9 deg C (50 deg F), Separator Pressure = 5,347 kPag (775 psig), Sep Temp = 19.6 deg C (67 deg F), Orifice plate = 70 mm (2.75"), No measurable BS&W, 1.0% CO2 and 0.1 ppm H2S. SG = 0.683, Estimated rate 3.99E6 m^3/day (14.1 MMscfd). No hydrates observed.						
СТВ	TP (OTH)	OA	0100	0215	1.25	2404.0m	Increased choke to 19 mm (48/64") for second rate flow period @ 01:09. Pressure controller instrumention had difficulties while flowing through separator - bypassed separator to troubleshoot. Tripped ESD when flowed back to separator. Opened well again at 02:35 on 19 mm (48/64"). OK.						
СТВ	Ρ	OA	0215	0600	3.75	2404.0m	Flowing conditions at 06:00: 19 mm (48/64") choke, FTHP = 15,541 kPag (2,254 psig), WHTemp = 44.2 deg C (111 deg F), D/Stream Pressure = 4,958 kPag (719						

#### DRILLING MORNING REPORT # 39 Casino-4DW2 ( 09 Jun 2005 )

Phse	CI (R(	s C)	Ор	From	То	Hrs	Dep	oth		Activity Description					
	(							P (1	psig), D/Stream Temp. = 13.2 deg C (56 deg F), Separator Pressure = 3,627 kPag (526 psig), Sep Temp = 7.9 deg C (46 deg F), Orifice plate = 108 mm (4.25"), 1.0% CO2 and 0.1 ppm H2S, SC = 0.684. Estimated rate 810E6 mo2/day (28.6 MMacfd)						
General Comments															
Commonte Dia Doquiromente Lessens Lessent															
CommentsRig RequirementsLessons LearntWell Test sample - sample taken from separator @ 23:00 hrs (Geoservices chromatograph). CO2: 0.8%, H2S <0.3 ppm. C1: 929955 ppm (96.8%), C2: 22136 ppm (2.3%), C3: 5901 ppm (0.6%), iC4: 1013 ppm (0.1%), nC4: 1050 ppm (0.6%), iC4: 1013 ppm (0.1%), nC5: 200 ppm (<0.1%).															
Bulk S	Bulk Stocks										Personnel On Board				
Name				Unit	In Used Ac				Balance	Company				Pax	
Fuel	Fuel			m3		0	5.6	0	422.1	Santos				7	
Drill Wa	Drill Water			m3		0	7.2	0	501.4	DOGC				45	
Potable	Wate	er		m3	:	20	22.3	-0.1	223.8	ESS				8	
Gel	Gel			SX		0	0	0	1,685.0	Dowell				1	
Cement	Cement			sx		0	0	0	778.0	Geoservices				2	
Barite	Barite			sx		0	0	0	1,555.0	Fugro			6		
KCI Brine				bbl		0	0	0	0.0	Cameron				4	
									Expro					16	
									Weatherford				2		
							L				)		2		
HSE S	Sumi	mary													
	Εv	vents		Date of	of Last	Day	s Since					Rem	narks		
Abando	Abandon Drill				2005	4 Da	ys	Aba	ndon Drill						
BOP Test			05 Jun	2005	4 Da	ys	BOF	P Test							
Environmental Incident			02 Ma	38 D	ays	None reported since comme				ement of cam	paign.				
Fire Drill			29 Ma	29 May 2005 11 D				Drill							
First Aid			04 Ma	36 D	ays	Pers	on struck	on nos	se with me	etal bar					
Lost Time Incident				02 Ma	/ 2005	38 D	ays	Non	None reported since commencement of campaign.						
Man Ov	Man Overboard Drill				/ 2005	38 D	ays	Non	e undertal	ken sin	ice comme	ampaign.			
Near Miss				02 Ma	38 D	ays	Non	e reported	since commencement of campaign.						
Safety Meeting			05 Jun 2005 4 Days				Weekly Safety Meeting								
Stop Ca	Stop Cards			09 Jun	09 Jun 2005 0 Days				op Cards						
Marine	е														
Weather check on 09 Jun 2005 at 2400 Rig Support															
Visibilit	ty	Wind S	Speed	Wind Dir.	Pre	ssure	Air	Temp.	Wave Hei	ight \	Wave Dir.	Wave Period	Anchors	Tension (mt)	
18.5kr	18.5km 15km/h		045deg	1019	1019.00bar 16.0		.0C°	C° 0.5m		045deg	0m/sec	1	10.61		
Roll	Roll Pitch		Heave	Swel	Swell Height		vell Dir. Swell Pe		riod	od Weather Comments		2	8.89		
0.3de	0.3deg 0.3deg		0.60m	0	0.5m 180		)dea	eg Om/sec		Mainly Cloudy		3	6.89		
Pig Dir Dio Toroist					00	Commonto				4	7.39				
KIG DIR. KIS. Lension						ments					5 6	0.40 11 11			
249.0deg 12.25mt			207.71mt									7	10.48		
													8	8.80	
#### DRILLING MORNING REPORT # 39 Casino-4DW2 ( 09 Jun 2005 )

Boats	Arrived (date/time)			Departed (date/time)	Status		Bu		
Far Grip					Ocean Patriot		Item	Unit	Quantity
						Fuel		M3	426
						Drill Wate	er	M3	730
						Potable V	Vater	M3	426
						Barite		MT	81
						Gel		MT	43
						Cement		MT	40
						KCI Brine		MT	0
Pacific Wranglor					Portland		ltem	Unit	Quantity
wrangiei						Fuel		M3	0
						Drill Wate	ər	M3	0
						Potable V	Vater	M3	0
						Barite		MT	0
						Gel		MI	0
						KCI Bring		MT	0
						NCI DIIIIe		IVII	0
Helicopter	Movement								
Flight #	Time			Destination		Comment			Pax
1	10:28	Essen	don						13
1	10:41	Ocean	Patriot						14
2	16:35	Essen	don						0
2	16:44	Ocean	Patriot						1
Lessons L	earned				-			· · · · · ·	
Categories			Event I	Descr.	Post Event Descr.		Lesson		
Short Descr.	Steam ho required replacements steam exce	se ent on changer	Steam	hose failed during testing.	Shut in well and replace hose.	d steam	Review inspect commissioning boiler.	tion and g of steam li	nes from
Phase	Testing								
Category			1						
Resp. Party			1						
Closed/Open	Open								

#### DRILLING MORNING REPORT # 40 Casino-4DW2 ( 10 Jun 2005 )

					F	rom :	Ron King,Ph	ilip Deshon,Mike	Andronov,P	aul Nardone	
					c	DIM :	Sean De Frei	tas			
Well D	Data										
Country	,		Australia	M. C	Depth		2404.0m	Cur. Hole Size	216mm	AFE Cost	
Field			Casino	TVD	)		1786.0m	Casing OD	244mm	AFE No.	5746022
Drill Co.			DOGC	Prog	gress		0m	Shoe TVD	1740.8m	Daily Cost	
Rig		Ocea	an Patriot	Days	s from sp	ud	39.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpt	h(LAT)		70.8m	Days	s on well		15.19			Planned TD	2642.0m
RT-ASL	(LAT)		22.0m	Curr	ent Op @	0600	POOH with	BH pressure gauge	s.		
RT-ML			92.8m	Plan	ined Op		Retrive pre from THRT RD surface	ssure gauges from ta . Inflow test SSSV. F e lines, slickline and f	ailpipe. Retriev Run and set low lowhead.	e TH wireline shoi ver plug in TH. Un	rt protection sleeve latch THRT from TH.
Summ	nary of	Period	0000 t	o 240	0 Hrs						
Continu	ed flowing	g well for	three rat	e flow te	est on 13	mm (32/64	l"), 19 mm (48/6	64") and 25 mm (64/6	64") fixed choke	es. Shut-in well fo	r build-up.
Opera	tions F	or Peri	od 000	0 Hrs	to 240	0 Hrs on	10 Jun 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
СТВ	Ρ	OA	0000	0100	1.00	2404.0m	Continued to conditions fo (2,337 psig), (884 psig), D (775 psig), S measurable I m^3/day (14.	flow well. Took PVT r first flow period (01 WHTemp = 35.7 deg /Stream Temp. = 9.9 ep Temp = 19.6 deg 3S&W, 1.0% CO2 ar 1 MMscfd). No hydra	samples (s/n / :08): 13 mm (3. g C (96 deg F), oC (50 deg F), C (67 deg F), 9 d 0.1 ppm H25 ates observed.	A2006) at 00:30. F 2/64") choke, FTH D/Stream Pressu Separator Pressu Orifice plate = 70 I S. SG = 0.683, Es	Final flowing IP = 16,113 kPag Ire = 6,097 kPag Ire = 5,347 kPag mm (2.75"), No timated rate 0.40E6
СТВ	TP (OTH)	OA	0100	0215	1.25	2404.0m	<ul> <li>Increased choke to 19 mm (48/64") for second rate flow period @ 1:09.</li> <li>Experienced pressure controller instrumention problem while flowing through separator - bypassed separator to troubleshoot. Tripped ESD when flowed to separator. Opened well again at 02:35 on 19 mm (48/64") and continued to flow well.</li> </ul>				
СТВ	Ρ	OA	0215	0715	5.00	2404.0m	Took PVT sa period (07:11 44.1 deg C ( Temp. = 13.9 Temp = 10.3 ppm H2S. S0	mples (s/n A-5768) a ): 19 mm (48/64") ch 111 deg F), D/Strean deg C (57 deg F), S deg C (51 deg F), O G = 0.684, Estimated	at 06:30. Final f noke, FTHP = 1 n Pressure = 5, Separator Press rifice plate = 10 rate 0.82E6 m	flowing conditions 5,514 kPag (2,25 320 kPag (772 ps sure = 4,257 kPag 08 mm (4.25"), 1.0 ^3/day (28.8 MMs	for second flow 0 psig), WHTemp = sig), D/Stream ( (617 psig), Sep 0% CO2 and 0.1 scfd).
СТВ	Ρ	OA	0715	1330	6.25	2404.0m	<ul> <li>ppm H2S. SG = 0.684, Estimated rate 0.82E6 m^3/day (28.8 MMscfd).</li> <li>Increased choke to 25 mm (64/64") for third rate flow period @ 07:15. Took PVT samples (s/n A-1984) at 12:45. Closed Annular Master Valve (AMV) at 13:25. Final flowing conditions for third flow period (13:31): 25 mm (64/64") choke, FTHP = 14,116 kPag (2,047 psig), WHTemp = 49.9 deg C (122 deg F), D/Stream Pressure = 7,185 kPag (1,042 psig), D/Stream Temp. = 24.5 deg C (76 deg F), Separator Pressure = 4,902 kPag (711 psig), Sep Temp = 24.8 deg C (77 deg F), Orifice plate = 114 mm (4.5"), 1.0% CO2 and 0.1 ppm H2S. SG = 0.703, Estimated rate 1.28E6 m^3/day</li> </ul>				
СТВ	Ρ	OA	1330	2400	10.50	2404.0m	SI well for pro 16,641 kPag	essure build-up at we (2,413 psig), WHTer	ell test choke m mp. = 16.2 deg	nanifold (13:31). S C (61 deg F).	ITHP @ 24:00 =
Opera	tions F	or Peri	od 000	0 Hrs	to 060	0 Hrs on	11 Jun 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
СТВ	Р	OA	0000	0430	4.50	2404.0m	Well shut-in f WHTemp = 1	or pressure build-up 3 deg C (56 deg F).	. SITHP @ 04::	30 = 16,711 kPag	(2,424 psig),
СТВ	Ρ	SLK	0430	0600	1.50	2404.0m	(IN PROGRE Closed MV a 16,890 kPag retrieval strin and gauges	ESS) Held JSA for sli nd bled off pressure. (2,450 psig) above t g on slickline to 117 with 127 mm (5") DU	ckline operatio Opened SV and he MV and ope mm (4.625") Q pulling tool (05	ns. nd KWV. Equalise ened same. RIH w N landing nipple a 5:35). POOH.	ed pressure to vith gauge hanger and latched hanger

#### DRILLING MORNING REPORT # 40 Casino-4DW2 ( 10 Jun 2005 )

								<b>D</b> 10					
Bulk Stoc	CKS							Personnel C	on Board				
Na	ame	Unit	In	Use	ed /	Adjust	Balance		Company			Pax	
Fuel		m3		0	7	0	415.1	Santos			7		
Drill Water		m3		0	12	0	489.4	DOGC			47		
Potable Wat	er	m3	31.	2 22	2.7	0	232.3	ESS			8		
Gel		sx		0	0	0	1,685.0	Dowell			1		
Cement		sx		0	0	0	778.0	Geoservices			1		
Barite		sx		0	0	0	1,555.0	Fugro			6		
KCI Brine		bbl		0	0	0	0.0	Cameron			3		
L	4						1	Expro			16		
								Weatherford			2		
								Expro			2		
								-		Total	93		
HSE Sum	marv												
E	vents	Date of	Last	Days S	Since				Rem	narks			
Abandon Dri	ill	05 Jun 2	2005	5 Days		Abar	ndon Drill						
BOP Test		05 Jun 2	2005	5 Days		BOP	Test						
Environment	tal Incident	02 May	2005	39 Days	S	None	e reported	since commence	ement of cam	paign.			
Fire Drill		29 May	2005	12 Days	5	Fire	Drill						
First Aid		04 May	2005	37 Days	5	Pers	on struck	on nose with met	tal bar				
Lost Time In	cident	02 May	2005	39 Days	S	None	e reported	since commence	ement of cam	paign.			
Man Overbo	ard Drill	02 May	2005	39 Days	S	None	e undertal	ken since comme	ncement of c	ampaign.			
Near Miss		02 May	2005	39 Days	S	None	e reported	since commence	ement of cam	paign.			
Safety Meeting   05 Jun 2005   5 Days   Weekly Safety Meeting													
Stop Cards		10 Jun 2	2005	0 Days		5 Sto	op Cards						
Marine													
Weather che	eck on 10 Jun 2	005 at 240	0							Rig Support			
Visibility	Wind Speed	Wind Dir.	Pres	sure	Air T	emp.	Wave Hei	ght Wave Dir.	Wave Period	Anchors	Т	ensio	n (mt)
18.5km	37km/h	022deg	1011.	.00bar	15.0	0C°	1.0m	022deg	0m/sec	1		10.4	48
Roll	Pitch	Heave	Swell	Height	Swel	ll Dir	Swell Per	iod Weather (	Comments	2		8.9	8
0.3dog	0.2dog	0.60m	0.4	5m	225	dog	0m/so	Moinly	Cloudy	3		7.2	1
0.Suey	0.Sdeg	0.0011	0.3	5111	225	ueg	UII/Sec		Cloudy	4		7.7	1
Rig Dir.	Ris. Tension	VDL			Comr	ments				5		8.6	2
249.0deg	12.25mt 2	207.89mt								б 7		11.	11
								· · ·		8		8.6	2
Boats	Arrived	(date/time	e)	Dep	arted	date/	time)	Statu	IS		Bulks		
Far Grip		•				•		Ocean Patriot		Item	Unit		Quantity
										Fuel		М3	415
										Drill Water Potable Water		M3 M3	730
										Barite		MT	81
										Gel		MT	43
										KCI Brine		MT	40
Pacific			20:15					Ocean Patriot		ltem	Unit	:	Quantity
Wrangler										Fuel		М3	526.9
										Drill Water		M3	287
										Barite		MT	37
										Gel		MT	42
										Cement KCI Brine		MT	121
Helicopte	r Movemen	t						1		L	1		
- Flight #	Time			Destin	ation				Com	ment			Pax
1	10:00	Essendo	on										6
1	10:10	Ocean F	Patriot										6

#### DRILLING MORNING REPORT # 40 Casino-4DW2 ( 10 Jun 2005 )

Lessons Lea	rned			
Categories		Event Descr.	Post Event Descr.	Lesson
Short Descr.	Modify Fire & Escape Plan - Shutdown Compressors	Fire & Escape Plan evaluated on rig, agreed modification to Well Test Emergency Response - Shutdown Compressors if there is an alarm	Modification made to Fire & Escape Plan Signed by relevant parties.	Modify Fire & Escape Plan accordingly for future operations
Phase	Testing			
Category				
Resp. Party	Santos			
Closed/Open	Closed			
Short Descr.	Isolation of lo-pilot at end of test	Tripped ESD while bleeding off THP at section 16.1.3.	Isolated lo-pilot and re-pened ESD.	Section 16.1.3 Ensure lo-pilot is isolated prior to bleeding off THP.
Phase	Testing	-		
Category				
Resp. Party	Santos			
Closed/Open	Open			
Short Descr.	Slickline tools on Swab Valve	Observed ommission from programme in respect of slickline		Section 16.1.3 Ensure slickline tools are not sitting on swab valve prior to
Phase	Testing	tools on swab valve.		opening swab valve.
Category				
Resp. Party		-		
Closed/Open	Open			
Short Descr.	Close KWV and bleed off pressure.	Observed ommission from programme in respect of bleeding off pressure from flowhead to		After section 16.1.3 close KWV and bleed off pressure at cement unit.
Phase	Testing			
Category				
Resp. Party				
Closed/Open	Open			

#### DRILLING MORNING REPORT # 41 Casino-4DW2 ( 11 Jun 2005 )

	From : Ron King,Philip Deshon,Mike Andronov,Paul Nardone												
					(	SIM : S	Sean De Freitas						
Well	Data												
Country	/		Australia	A M.C	Depth		2404.0m Cur. Hole Size 216mm AFE Cost						
			Casino		)		1786.0m Casing OD 244mm AFE No. 5746022						
		0.00	DOGC		gress a from an	d	0m Shoe IVD 1740.8m Daily Cost						
Rig Wite De	+h/1 AT)	Oce	an Patrio		s from sp	bud	40.77 F.I.I./L.O.I. Usg/Usg Cum Cost						
	(LAT)		70.01	1 Day	s on well	2 000	16.19 Planned TD 2642.0m						
RT-AS	L(LAT)		22.0ff		ent Op @	£ 0600	RIH with LLC on landing string.						
C		Daviad	92.01										
Retriev and PC	ed pressu OH.	re gauge	es. Retrie	ved TH	wireline :	short protect	ction sleeve. Inflow tested SSSV. Set lower plug in TH. Unlatched THRT/SSTT from TH						
Opera	tions F	or Peri	iod 000	0 Hrs	to 240	0 Hrs on	11 Jun 2005						
Phse	Cls	<u>On</u>	From		Hrs	Denth	Activity Description						
1 1130	(RC)	Op	TIOM	10	1110	Dopin							
СТВ	Р	OA	0000	0430	4.50	2404.0m	Well shut-in for pressure build-up. SITHP @ 04:30 = 16,711 kPag (2,424 psig), WHTemp = 13 deg C (56 deg F).						
СТВ	Ρ	SLK	0430	0645	2.25	2404.0m	Held JSA for slickline operations. Closed MV and bled off pressure. Opened SV and KWV. Equalised pressure to 16,890 kPag (2,450 psig) above the MV and opened same. RIH with gauge hanger retrieval string on slickline to 117 mm (4.625") QN landing nipple and latched hanger and gauges with 127 mm (5") DU pulling tool (05:35). POOH.						
СТВ	Ρ	SLK	0645	0800	1.25	2404.0m	Recovered DH gauges and MU TH wireline short protection sleeve pulling toolstring. Attempted to close LBV and bleed off to 690 kPa (100 psi). LBV did not close. Close UBV, inflow tested and closed LV. Bled off to 0 kPa.						
СТВ	Ρ	PT	0800	0945	1.75	2404.0m	n Confirmed valve status on subsea tree, Closed: PMV, PWV, XOV, AMV and AMV, Open: AAV. Closed SV and SSSV. Open LV. Pressured above UBV to 14,485 kPa (2,100 psi) wit 50/50 water/glycol mix with 3.9 KL (24.5 bbls) i.e. 300 psi below SITHP. Bled pressur to 690 kPa (100 psi) through welltest choke manifold in stages and lubricated water/glycol mix onto the SSSV. Performed inflow test of SSSV for 15 mins.						
СТВ	Ρ	SLK	0945	1100	1.25	2404.0m	RIH slickline and retrieved TH wireline short protection sleeve from 87.2 m (0.3m tide) wireline depth - 0.01 MT (30 lb) weight increase - POOH. MU 170 mm (6.7") wireline plug toolstring. Opened XOV and PMV.						
СТВ	Ρ	SLK	1100	1245	1.75	2404.0m	RIH 170 mm (6.7") wireline plug to 90.2 m wireline depth (0.5m tide). Pressured above plug to 20,685 kPa (3,000 psi) with 50/50 water/glycol mix with 3.2 m^3 (20 bbls) and set plug in TH. POOH slickline to surface and closed SV. Pressure tested above 170 mm (6.7") wireline plug to 34,475 (5,000 psi) for 10 mins from above. Bled pressure down to 0 psi.						
СТВ	Ρ	PT	1245	1430	1.75	2404.0m	Broke out toolstring. Tell tale indicated 170 mm (6.7") wireline plug had set. Attempted to pressure test below wireline plug from choke / kill lines (via AAV, XOV and PMV) to 6,890 kPa (1,000 psi) with 0.32 m^3 (2 bbls). After reaching 6,890 kPa (1,000 psi) pressure in rig choke line increased to 15,170 kPa (2,200 psi). Bled pressure off to 4,140 kPa (600 psi).Rig Choke line pressure increased to 16,550 kPa (24,00 psi). XT IWOCS HPU opened all XT valves. Closed XOV.						
СТВ	Ρ	PT	1430	1515	0.75	2404.0m	Closed PMV. Opened PWV and XOV. Bled off pressure to 0 kPa from rig choke. Brind returns noted. SI rig choke for 5 mins and inflow tested PMV. Closed PWV and XOV. Opened AMV to check for pressure in annulus - 0KPa observed. Closed AMV and AAV. Lined up cement unit to flowhead and flushed surface welltest lines with drillwater.						
СТВ	Ρ	PUP	1515	1730	2.25	2404.0m	Held JSA - Rig down slickline and pressure control equipment. RD wireline and slickline PCE. [offline: opened TCT and closed SIV with ROV]						
СТВ	Ρ	PUP	1730	1815	0.75	2404.0m	Opened 273 mm (10-3/4") rams. Set down 6.8 MT (15,000 lbs) at THRT. Unlatched THRT and PU to 5 m above TH. Removed Expro bushing inserts and rig up 508 mm (20") split bowls and slips. Set 244 mm (9-5/8") L80 New Vam landing string in slips.						
СТВ	Р	PLD	1815	2030	2.25	2404.0m	Held JSA - Breaking out and laying down flowhead. Broke out flowhead and laid out. Saver pup pin thread damaged prior to thread protectors being installed.						
СТВ	Ρ	PLD	2030	2400	3.50	2404.0m	Laid out both sets of bails and changed handling gear, cleared rig floor. POOH laying down 244 mm (9-5/8") L80 New Vam. Laid down lubricator valve. POOH THRT/SSTT to surface.						
							[Offline ROV activities: Removed umbilical from cutter gate. Removed electrical downline from PCA on SCM and installed dummy Tronic plug.						

Operations For Period 0000 Hrs to 0600 Hrs on 12 Jun 2005

#### DRILLING MORNING REPORT # 41 Casino-4DW2 ( 11 Jun 2005 )

2

Total 94

Phse	Cls (RC)	Ор	From	То	h Hi	rs De	epth		Activity	y Description			
СТВ	Р	ХТ	0000	0115	5 1.2	5 2404	4.0m L	Laid down Tubing Hanger Running Tool (THRT) / Sub-Sea Test Tree (SSTT) on catwalk with umbilical attached.					
СТВ	Ρ	XT	0115	0315	5 2.00	2404	4.0m F r jj t	Picked up Internal Jetting Tool and RIH on 127 mm (5") DP. Tagged top of tubing hanger (TH) and forward circulated sea water to jet Internal Tree Cap (ITC) profile (01:50) while reciprocating jetting tool. Returns of rubber shavings observed at shakers. Boosted riser - max circulating rate at 3400 litres (900 gals) / min. Jetted until no solid returns observed at shakers (02:30). Flushed through TCT. POH internal jetting tool to surface. Less than 1 litre of pipe dope and rubber shavings noted in junk basket.					
CIB	P	XI	0315	0600	) 2.73	5 2404	2404.0m (IN PROGRESS) Held JSA - Handling ITC on THRT / SSTT. Prepared and functioned the THRT / SSTT. Made up the THRT/SSTT to the ITC. Performed 5,000 psi separation test. RIH with the ITC on 244 mm (9-5/8") L80 New vam landing string, attaching umbilical at each connection.						
Bulk	Stocks								Personnel On Board				
	Name		Un	it	In	Used	Adjust	Balance	Company	/	Pax		
Fuel			m3		0	7.6	0	407.5	Santos		7		
Drill Wa	ater		m3		0	50.6	0	438.8	DOGC		55		
Potable	Water		m3		31.3	25	0.1	238.7	ESS		8		
Gel			sx		0	0	0	1,685.0	Dowell		1		
Cemen	t		sx		0	0	0	778.0	Geoservices		1		
Barite			sx		0	0	0	1,555.0	Fugro		6		
KCI Bri	ne		bbl		0	0	0	0.0	Cameron		3		
									Expro		11		

HSE Summary			
Events	Date of Last	Days Since	Remarks
Abandon Drill	05 Jun 2005	6 Days	Abandon Drill
BOP Test	05 Jun 2005	6 Days	BOP Test
Environmental Incident	02 May 2005	40 Days	None reported since commencement of campaign.
Fire Drill	05 Jun 2005	6 Days	Fire Drill
First Aid	04 May 2005	38 Days	Person struck on nose with metal bar
Lost Time Incident	02 May 2005	40 Days	None reported since commencement of campaign.
Man Overboard Drill	02 May 2005	40 Days	None undertaken since commencement of campaign.
Near Miss	02 May 2005	40 Days	None reported since commencement of campaign.
Safety Meeting	05 Jun 2005	6 Days	Weekly Safety Meeting
Stop Cards	11 Jun 2005	0 Days	4 Stop Cards
Marine			

Weatherford

Weather che	eck on 11 Jun	2005 at 240	Rig Support						
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Height	Wave Dir.	Wave Period	Anchors	Tension (mt)
18.5km	28km/h	326deg	1007.00bar	15.0C°	0.5m	326deg	0m/sec	1	10.70
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Period	Weather (	Comments	2	8.98
			Ŭ L A					3	6.80
0.3deg	0.3deg	0.60m	1.0m	270deg	0m/sec	Cl	ear	4	7.39
Rig Dir.	Ris. Tension	VDL		Comments				5	8.39
249.0deg	12.25mt	203.94mt						6	11.02
g		20010 1111						7	10.48
								8	8.80

#### DRILLING MORNING REPORT # 41 Casino-4DW2 ( 11 Jun 2005 )

Boats	Arrived (	date/tim	ne)	Departed (date/time)	Status		Bu	lks	
Far Grip					Ocean Patriot		ltem	Unit	Quantity
						Fuel		M3	402
						Drill Wate Potable V	er Vater	M3 M3	730
						Barite	Valei	MI	81
						Gel		MT	43
						Cement		MT	40
						KCI Brine		MI	0
Pacific Wrangler					Ocean Patriot	<b>F</b> .	Item	Unit	Quantity
						Fuel Drill Wate	ar	M3	516.6
						Potable V	Vater	M3	207
						Barite		MT	37
						Gel		MT	42
						Cement		MT	121
						KCI Brine		MI	950
Helicopter	Movement								
Flight #	Time			Destination	Co	mment			Pax
1	12:12	Essen	don						8
1	12:25	Ocean	Patriot						7
Lessons L	earned								
Categories			Event	Descr.	Post Event Descr.		Lesson		
Short Descr.	Spade in p boy de-ga	ooor sser	Poor b during	oy de-gasser unavailable suspension due to spade	If required would have been necessary to remove spade	Review require poor boy dega	ement for s sser.	bade in	
Phase	Completio	n	Installe	ed for welltesting.					
Category									
Resp. Party			-						
Closed/Open	Open								
Short Descr.	Expand Je ITC profile	etting e			Section 16.5.2 does not incl detail on jetting the ITC prof	ude ile.	Section 16.5.2 to include Circ	should be plan/Boos	expanded ting,
Phase	Completio	n	-				recipricating pi	pe speed,	n, number of
Category			-				jetting runs etc	.,	
Resp. Party			-						
Closed/Open	Open								
Short Descr.	Lubricating Water / GI mix on SS	g lycol ISV	Lubrica SSSV proved	ating water / glycol mix onto with gas pressure below UBV I very slow.			Lubricate wate SSSV when th SSSV. I.e prior	er / glycol m ere is 0psi r of post ref	ix onto above the rieving TH
Phase	Completio	n	-						
Category			-						
Resp. Party			-						
Closed/Open	Open								

#### DRILLING MORNING REPORT # 42 Casino-4DW2 ( 12 Jun 2005 )

		From :	Ron King / Pa	at King			
		OIM :	Barry Scott				
Well Data							
Country	Australia	M. Depth	2404.0m	Cur. Hole Size	216mm	AFE Cost	
Field	Casino	TVD	1786.0m	Casing OD	244mm	AFE No.	5746022
Drill Co.	DOGC	Progress	0m	Shoe TVD	1740.8m	Daily Cost	
Rig	Ocean Patriot	Days from spud	41.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpth(LAT)	70.8m	Days on well	17.19			Planned TD	2642.0m
RT-ASL(LAT)	22.0m	Current Op @ 0600	Preparing t	o unlatch BOP.			
RT-ML	92.8m	Planned Op	POH with r Commence	iser and BOP. Run 2 e pulling anchors.	XT debris cap.	Perform ROV seabe	d survey.

#### Summary of Period 0000 to 2400 Hrs

RIH with jetting tool and jetted ITC profile. POH. RIH ITC on THRT / SSTT and attempted to lock. No success. POH. RIH and jetted ITC profile to confirm clean. Changed out ITC, RIH on THRT / SSTT and locked in XT. Confirmed locked with 60 klb overpull. Pressure tested cavity down TCT line. OK. Commenced POH with THRT / SSTT.

Opera	perations For Period 0000 Hrs to 2400 Hrs on 12 Jun 2005											
Phse	Cls (RC)	Ор	From	То	Hrs	Depth	Activity Description					
СТВ	Р	ХТ	0000	0115	1.25	2404.0m	Laid down Tubing Hanger Running Tool (THRT) / Sub-Sea Test Tree (SSTT) on catwalk with umbilical attached.					
СТВ	Ρ	ХТ	0115	0315	2.00	2404.0m	Picked up Internal Jetting Tool and RIH on 127 mm (5") DP. Tagged top of tubing hanger (TH) and forward circulated sea water to jet Internal Tree Cap (ITC) profile (01:50) while reciprocating jetting tool. Returns of rubber shavings observed at shakers. Boosted riser - max circulating rate at 3400 litres (900 gals) / min. Jetted until no solid returns observed at shakers (02:30). Flushed through TCT. POH internal jetting tool to surface. Less than 1 litre of pipe dope and rubber shavings noted in junk basket.					
СТВ	Ρ	ХТ	0315	0700	3.75	2404.0m	Held JSA - Handling ITC on THRT / SSTT. Prepared and functioned the THRT / SSTT. Made up the THRT/SSTT to the ITC. Performed 5,000 psi separation test. RIH with the ITC on 244 mm (9-5/8") L80 New vam landing string, attaching umbilical at each connection.					
СТВ	TP (OTH)	ХТ	0700	0800	1.00	2404.0m	Tagged XT and landed out ITC. Boosted THRT latch line control pressure to 34,475 kPa (5,000 psi). Set down landing string weight. Closed lower annular and pressured up on ITC to 20,700 kPa (3,000 psi) in 3,450 kPa (500 psi) increments using cement unit (1.5 litre returns up TCT line). Pressured up TH lock to 20,700 kPa (3,000 psi) for 5 min. SSTT indicated locked. Bled off pressure and opened lower annular. Attempted to pull 27.2 MT (60,000 lb) overpull to confirm locked - string free at 15.9 MT (35,000 lb). ITC not locked.					
СТВ	TP (OTH)	ХТ	0800	0930	1.50	2404.0m	Picked up ITC and re-landed in XT. Set down landing string weight. Filled landing string with water. Closed lower annular and pressured up on ITC to 20,700 kPa (3,000 psi). Opened lower annular. Pressured up TH lock to 20,700 kPa (3,000 psi). No lock indication. Pressured up TH lock to 24,100 kPa (3,500 psi). No lock indication. Closed lower annular. Pressured up on ITC to 20,700 kPa (3,000 psi). No returns from Tree Cap Test (TCT) line. Pressured up on ITC to 27,580 kPa (4,000 psi). No returns from TCT line. Bled off pressure. Attempted to lock. No lock indication.					
СТВ	TP (OTH)	ХТ	0930	1030	1.00	2404.0m	Opened lower annular and rotated landing string 1/4 turn. Closed lower annular. Pressured up on ITC to 34,500 kPa (5,000 psi). No returns from TCT line. Bled off pressure. Attempted to lock. No lock indication.					
СТВ	TP (OTH)	ХТ	1030	1400	3.50	2404.0m	POH with ITC on THRT / SSTT and laid out same. No evidence of landout in XT.					
СТВ	TP (OTH)	ХТ	1400	1500	1.00	2404.0m	RIH with open ended 127 mm (5") drill pipe and jetted wellhead. Circulated with seawater. Pumped 9.5 m3 (60 bbl) hi-vis guar gum sweep. Circulated 2 times riser volume of seawater whilst boosting riser. Shakers clean.					
СТВ	TP (OTH)	ХТ	1500	1530	0.50	2404.0m	POH with jetting string.					
СТВ	TP (OTH)	ХТ	1530	1630	1.00	2404.0m	Picked up THRT / SSTT and ITC and function tested same. Checked riser and BOP angle: wellhead 3/4 deg stbd; BOP 1 deg stbd; LMRP 1 deg stbd. Made up ITC to THRT.					
СТВ	TP (RE)	ХТ	1630	1800	1.50	2404.0m	Well taking fluid, unable to fill riser. Checked sub-sea and surface equipment for leaks. Closed blind shear rams. Pressure tested against TH / blind shear rams to 13,800 kPa (2,000 psi). OK. Losses still present in riser. Pumped dye to establish leak path. Leaking riser booster pump check valve. Isolated same and repaired. Filled riser. TCT line found blocked - cleared with 15,168 kPa (2200 psi) applied to TCT line.					
СТВ	TP (OTH)	ХТ	1800	2000	2.00	2404.0m	RIH with ITC on THRT / SSTT.					
СТВ	TP (OTH)	ХТ	2000	2100	1.00	2404.0m	Tagged XT and landed out ITC. Set down landing string weight. Closed lower annular. Pressured up below annular to 6,890 kPa (1,000 psi). No returns through TCT line. Picked up string, stripping annular slick joint approx. 0.2 m (5") through annular. Pressured up below annular to 4,140 kPa (600 psi) with no returns through TCT line.					

#### DRILLING MORNING REPORT # 42 Casino-4DW2 (12 Jun 2005)

Phse	Cls (RC)	Ор	From	То	Hr	s D	epth		Activity Descri	ption				
								Pumped t line.	nrough TCT line then shut-in, holding	4,140 kPa (6	00 psi). Blockage in TCT			
СТВ	TP (OTH)	ХТ	2100	2200	1.00	240	4.0m	Opened annular. Opened AAV and AMV. No annulus pressure. Flushed through TCT line. Index line confirmed approx. 0.1 m (3") drop from inital land out mark. Closed lower annular and pressured up to 13,800 kPa (2,000 psi). Index line confirmed total 0.2 m (6") drop from inital land out mark. Locked ITC, bled off below annular, bled off lock pressure and re-pressurised lock function. Lock monitor pressure increase indicated positive lockdown. 27.2 MT (60,000 lb) overpull to confirm ITC locked.						
СТВ	TP (OTH)	хт	2200	2330	1.50	240	4.0m	Flushed through TCT to confirm flow path. Closed AAV and AMV. ROV confirmed closed. Pressure tested cavity between ITC / 178 mm (7") wireline plug and the 170 mm (6.7") wireline plug to 34,475 kPa (5,000 psi) for 10 min via TCT line. Bled off pressure. Closed TCT with ROV. Pressure test against closed TCT to 5000 psi for 10 min. Set THRT / SSTT in neutral and unlatched from ITC.						
СТВ	TP (OTH)	XT	2330	2400	0.50	240	4.0m	Commenced POH with THRT / SSTT on 244 mm (9-5/8") L80 New Vam landing string.						
Opera	tions Fo	or Peri	od 000	0 Hr	s to 06	600 Hr	s on 1	3 Jun 2	005					
Phse	Cls (RC)	Ор	From	То	Hr	s D	epth		Activity Descri	ption				
СТВ	Р	ХT	0000	0130	1.50	240	4.0m	Continue	POH with THRT / SSTT on 244 mm (	(9-5/8") L80 I	New vam landing string.			
СТВ	Р	ХТ	0130	0200	0.50	240	4.0m	Laid out 7	HRT / SSTT. Latch test cap to THRT.					
СТВ	Ρ	ХТ	0200	0330	1.50	240	4.0m	Rigged down 244 mm (9 5/8") casing handling equipment. Laid out umbilical sheave. [Offline ROV activities: Removed IWOCS flying stabplate from XT and parked on deployment frame. Installed XT Bridging Plate on XOP.						
СТВ	Р	BOP	0330	0430	1.00	240	4.0m	Held JSA Retrieved	prior to pulling diverter, riser and BOP diverter and laid out same.	. Made up di	verter running tool.			
СТВ	Р	RR2	0430	0600	1.50	240	4.0m	Picked up making u	riser landing joint and RIH. Collapsed to pull riser and BOP.	riser slip joir	nt and commenced			
Bulk	Stocks								Personnel On Board					
	Name		Uni	t	In	Used	Adjus	st Balanc	Company		Pax			
Fuel			m3		0	16.2	(	0 391.3	Santos		5			
Drill Wa	ater		m3		0	6		0 432.8	DOGC		53			
Potable	Water		m3		27.2	26.3		0 239.6	ESS		8			
Gel			sx		0	0		0 1,685.0	Dowell		1			
Cemen	t		sx		0	0		0 778.0	Geoservices		1			
Barite			sx		0	0		0 1,555.0	Fugro		6			
KCI Bri	ne		bbl		0	0		0.0	Cameron		3			
									Expro		4			
									Weatherford		2			
									Fugro - Surveyor		3			
									MO47		3			
									Other		1			
										Total	1 Q1			
										ruidi				

HSE Summary			
Events	Date of Last	Days Since	Remarks
Abandon Drill	12 Jun 2005	0 Days	Abandon Drill
BOP Test	05 Jun 2005	7 Days	BOP Test
Environmental Incident	02 May 2005	41 Days	None reported since commencement of campaign.
Fire Drill	12 Jun 2005	0 Days	Fire Drill
First Aid	04 May 2005	39 Days	Person struck on nose with metal bar
Lost Time Incident	02 May 2005	41 Days	None reported since commencement of campaign.
Man Overboard Drill	02 May 2005	41 Days	None undertaken since commencement of campaign.
Near Miss	02 May 2005	41 Days	None reported since commencement of campaign.
Safety Meeting	12 Jun 2005	0 Days	Weekly Safety Meeting
Stop Cards	12 Jun 2005	0 Days	10 Stop Cards

#### DRILLING MORNING REPORT # 42 Casino-4DW2 ( 12 Jun 2005 )

Marine										
Weather che	ck on 12 Jun	2005 at 2400	)					Rig Support		
Visibility	Wind Speed	Wind Dir.	Pressure	Air Temp.	Wave Heigh	nt Wave Dir.	Wave Period	Anchors	Tensi	on (mt)
27.8km	37km/h	000deg	1007.00bar	14.0C°	1.5m	010deg	0m/sec	1	10	.61
Roll	Pitch	Heave	Swell Height	Swell Dir.	Swell Perio	d Weather	Comments	2	8.	98
0.3deg	0.5deg	0.60m	2.5m	270deg	0m/sec	CI	ear	3	7.	12
Dia Dia	Dia Tanajan		2.0	Commonto	011,000			4	7.	62 49
Rig Dir.	Ris. Tension	VDL		Comments				5	0.	40
249.0deg	12.25mt	216.45mt						6	11	.02
	I							- /	10	.39
								8	8.	39
Boats	Arrive	d (date/time)	) Dej	parted (date	e/time)	Stat	us	E	Bulks	
Far Grip					0	Ocean Patriot		Item	Unit	Quantity
								Fuel	M3	384
								Drill Water	M3	730
								Potable Water	M3	402
								Barite	MT	81
								Cement	MT	40
								KCI Brine	MT	0
Pacific					(	Ocean Patriot		Item	Unit	Quantity
Wrangler								Fuel	M3	505.7
								Drill Water	M3	287
								Potable Water	M3	223
								Barite	MI	37
								Gel	MT	42
								KCI Brine	MT	950
Helicopte	r Moveme	nt							ł	l.
Flight #	Time		Destir	nation			Corr	nment		Pax
1	10:07	Ocean P	atriot							9
1	10:23	Essendo	n							12

#### DRILLING MORNING REPORT # 43 Casino-4DW2 ( 13 Jun 2005 )

					F	From : I	Ron King / Pa	at King			
					0	DIM : I	Barry Scott				
Well [	Data							-			
Country			Australia	a M. D	Pepth		2404.0m	Cur. Hole Size	216mm	AFE Cost	
Field			Casino	D TVD	1		1786.0m	Casing OD	244mm	AFE No.	5746022
Drill Co			DOGC	Prog	gress		0m	Shoe TVD	1740.8m	Daily Cost	
Rig		Ocea	an Patrio	t Days	s from sp	oud	42.77	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost	
Wtr Dpt	h(LAT)		70.8m	n Days	s on well		18.19			Planned TD	2404.0m
RT-ASL	(LAT)		22.0m	n Curr	ent Op @	0600	Anchor har	dling operations.			
RT-ML			92.8m	n Plan	ned Op		Continue to	recover anchors. N	love to Casino-	5 location.	
Sumn	nary of	Period	0000 t	o 240	0 Hrs						
Laid ou Comme	t ITC / TH nced layir	RT. PO⊢ ng out dr	I diverter ill pipe w	. Unlatc hilst pre	hed BOP paring to	P. Retrieved pull anchor	BOP and riser.	Installed debris cap	on XT. Pulled	guidewires. Moved	rig off location.
Opera	tions Fo	or Peri	od 000	0 Hrs	to 240	0 Hrs on	13 Jun 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
CTB	Р	XT	0000	0130	1.50	2404.0m	Continued PC	OH with THRT / SST	T on 244 mm (	(9-5/8") L80 New va	am landing string.
СТВ	Р	ХT	0130	0230	1.00	2404.0m	Installed prot	ector on THRT / SS	TT and laid out	same with umbilica	al sheave.
СТВ	Р	XT	0230	0300	0.50	2404.0m	Rigged down	244 mm (9 5/8") ca	sing handling e	equipment.	
СТВ	Р	BOP	0300	0430	1.50	2404.0m	Held JSA - P	ulling BOPs and rise	r. Rigged up ri	ser handling equipr	nent. Picked up
СТВ	Р	RR2	0430	0630	2.00	2404.0m	Picked up ris	er landing joint and in	made up same	. Collapsed slip joir	it and locked.
СТВ	Р	RR2	0630	0730	1.00	2404.0m	Unlatched BC lines. (Moved	DP and pulled clear ( off location using a	of guidebase to nchors)	nipple down chok	e, kill and booster
СТВ	Р	RR2	0730	1000	2.50	2404.0m	Nippled dowr	n choke, kill and boo	ster lines from	slip joint.	
СТВ	Р	RR2	1000	1130	1.50	2404.0m	Rigged down	Cameron umbilical,	sheave and co	ontrol plate.	
СТВ	Р	RR2	1130	1300	1.50	2404.0m	Rigged down	storm saddles, goo	se necks and p	od hose saddle.	
СТВ	Р	RR2	1300	1500	2.00	2404.0m	Lifted BOP st	ack and latched ten	, sioner ring, lay	ing down landing jo	vint.
СТВ	Р	RR2	1500	1530	0.50	2404.0m	Laid out riser	slip joint.			
СТВ	Р	RR2	1530	1600	0.50	2404.0m	Continued to	pull BOP, laying out	riser.		
СТВ	Р	RR2	1600	1630	0.50	2404.0m	Pulled BOP t	hrough splash zone	and landed ou	t on carrier stump.	
СТВ	Р	RR2	1630	1730	1.00	2404.0m	Removed gui	dewire pod line and	hose clamps.		
СТВ	Р	RR2	1730	1900	1.50	2404.0m	Laid down ris	er double and rigge	d down riser ha	ndling equipment.	
СТВ	Р	RR2	1900	2030	1.50	2404.0m	Skidded rig b	ack over location. In	spected top of	XT and ITC with R	OV.
СТВ	Ρ	ХТ	2030	2100	0.50	2404.0m	Made up deb installed on X	ris cap to running to T.	ol. RIH with sa	me on 127 mm (5")	drill pipe and
СТВ	Р	ХT	2100	2130	0.50	2404.0m	Unlatched ru	nning tool and POH,	laying out drill	pipe.	
СТВ	Ρ	WH	2130	2300	1.50	2404.0m	Released and [Offline operation	d retrieved guidewire	ed final seabed	ool tugger. I survey and XT "as	s-left" survey]
СТВ	Р	SKR	2300	2400	1.00	2404.0m	Skidded rig o mm (5") drill (	ff location (10 m por pipe whilst preparing	t). Dumped mu to pull anchor	id pits. Commence s.	d laying down 127
Opera	tions F	or Peri	od 000	0 Hrs	to 060	0 Hrs on	14 Jun 200	5			
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption	
СТВ	Ρ	AH	0000	0600	6.00	2404.0m	Commenced	recovery of seconda	ary anchors.		
							Pulled Ancho	r #2 with Pacific Wra	analer		
							00:14 - PCC	to Pacific Wrangler			
							00:41 - Anch	or off bottom		abla	
							00:56 - Anch	or decked for inspec	PCC shackle	able. d to anchor chain (	Commenced
							heaving in ch 05:06 - Anch	ain. or back on rig.			Commenteed
							المعارفة المعال				
							00:35 - PCC	to Far Grip			
							01:02 - Anch	or off bottom			
							02:50 - PCC	back to rig			
							Pulled Ancho	r #7 with Far Grip			
							03:01 - PCC	to Far Grip			
							03:25 - Anch	or off bottom nenced heaving in c	hain		
							05:33 - PCC	back to rig			
1								0			

#### DRILLING MORNING REPORT # 43 Casino-4DW2 (13 Jun 2005)

Phse	CI (R)	s Op	From	То	Hrs	Dep	oth			Activity	Description		
	(14							Commence )5:58 - PC	ed pulling Ancho C to Far Grip	or #3 with Far	Grip		
							F	Pacific Wra	angler commenc	ed moving to	tow bridle.		
							[	Continued	l laying down 12	7 mm (5") drill	pipe whilst handling	g anchors]	
Bulk S	Stoc	ks							Personnel	On Board			
	Na	me	Unit	In	Us	sed	Adjust	Balance		Company		Pax	:
Fuel			m3		0	7.6	0	383.7	Santos			4	
Drill Wat	ter		m3		0	6	0	426.8	DOGC			53	
Potable	vvate	er	m3	28.	3 2	23.6	0	244.3	ESS			8	
Cement			SX SV		0	0	0	778.0	Geoservices			2	
Barite			SX		0	0	0	1 555 0	Fugro			6	
KCl Brin	е		bbl		0	0	0	0.0	Cameron			2	
[	-				-	-			Fugro - Survey	or		3	
									MO47			3	
									Other			1	
									MI			2	
											Total	86	
HSE S	umi	mary											
	E٧	rents	Date of	of Last	Days	Since				Rer	marks		
Abandor	n Dril	l	12 Jun	2005	1 Day		Aba	ndon Drill					
BOP Tes	st		05 Jun	2005	8 Days	S	BOF	P Test					
Environr	nenta	al Incident	02 Ma	/ 2005	42 Da	ys	Non	e reported	I since commend	cement of can	npaign.		
Fire Drill			12 Jun	2005	1 Day		Fire	Drill					
First Aid		ident	04 May	/ 2005	40 Day	ys	Pers	son struck	on nose with me	etal bar	noian		
Lost Tim	erbos	rd Drill	02 May	/ 2005	42 Day	ys	Non	e reported	i since commend	cement of carr	ipaign. campaign		
Near Mi	5000		02 Ma	/ 2005	42 Da	ys vs	Non			rement of car	ampaign. Inaign		
Safety M	leetir	na	12 Jun	2005	1 Dav	yo	Wee	e reponee	/ Meeting		ipuigit.		
Stop Ca	rds	5	13 Jun	2005	0 Days	s	6 St	op Cards	5				
Marine	e												
Weather	r cheo	ck on 13 Jun	2005 at 24	00							Rig Support		
Visibilit	у	Wind Speed	Wind Dir.	Pres	ssure	Air T	emp.	Wave Hei	ght Wave Dir.	Wave Period	Anchors	Tensio	on (mt)
18.5kn	n	37km/h	350deg	1008	.00bar	15.	0C°	1.0m	350deg	0m/sec	1	11.	.39
Roll		Pitch	Heave	Swell	Height	Swe	ll Dir.	Swell Per	iod Weather	Comments	2	9.3	71
0.3dec	<b>.</b>	0.5deg	0.60m	2	0m	270		0m/se		loar	- 3	7.4	48
0.500	9	Dia Tanaian	0.0011	۷.	UIII	210	luey	011/36		icai	4	7.3	39
Rig Dir	•	Ris. Tension	VDL			Com	ments				5	8	21
249.0de	eg	Umt	223.12mt								- 7	9.8	39
											8	8.3	39
Boat	ts	Arrive	ed (date/tim	ie)	De	parted	l (date	/time)	Stat	us	1	Bulks	
Far Grip									Ocean Patriot		Item	Unit	Quantity
											Drill Water	M3 M3	730
											Potable Water	M3 MT	394
											Gel	MT	43
											Cement KCI Brine	MT	40
Pacific									Ocean Patriot		ltem	Unit	Quantity
Wrangler	r										Fuel	 M3	494.3
											Drill Water	M3	287
											Barite	M3	37
											Gel Cement	MT	42
											KCI Brine	bbl	950

#### DRILLING MORNING REPORT # 43 Casino-4DW2 ( 13 Jun 2005 )

Helicopter Movement										
Flight #	Time	Destination	Comment	Pax						
1	09:55	Ocean Patriot		3						
1	10:04	Essendon		8						

#### DRILLING MORNING REPORT # 44 Casino-4DW2 (14 Jun 2005)

					F	From :	Chris Wise /	Pat King						
					C	DIM :	Barry Scott	-						
Well I	Data													
Country Field Drill Co	/		Australia Casino	M. D D TVD	) epth press		2404.0m 1786.0m 0m	Cur. Hole Size Casing OD Shoe TVD	216mm 244mm 1740.8m	AFE Cost AFE No. Daily Cost	5746022			
Rig		Oce	an Patrio	t Day	s from sp	oud	43.60	F.I.T. / L.O.T.	0sg / 0sg	Cum Cost				
Wtr Dp	th(LAT)		70.8n	n Day	s on well		19.02			Planned TD	2642.0m			
RT-ASI	_(LAT)		22.0m	ו Curr	ent Op @	0600								
RT-ML			92.8m	າ Plan	ined Op									
Sumr Recove	nary of ered prima	Period ary and s	i 0000 t econdary	to 240	0 Hrs s. Releas	sed rig.								
Opera	tions F	or Per	iod 000	)0 Hrs	to 240	0 Hrs on	14 Jun 200	5						
Phse	Cls (RC)	Ор	From	То	Hrs	Depth			Activity Descri	ption				
SUS	Р	AH	0000	0915	9.25	2404.0m	Recovered se	econdary anchors.						
							Pulled Ancho 00:14 - PCC 00:41 - Anch 00:56 - Anch 02:53 - Anch heaving in ch 05:06 - Anch	r #2 with Pacific Wr to Pacific Wrangler or off bottom or decked for inspec or removal complete ain. or back on rig	angler ction. Unservice e. PCC shackle	eable. d to anchor chain. (	Commenced			
							Pulled Anchor #6 with Far Grip 00:35 - PCC to Far Grip 01:02 - Anchor off bottom 02:50 - PCC back to rig							
							Pulled Anchor #7 with Far Grip 03:01 - PCC to Far Grip 03:25 - Anchor off bottom 03:38 - Commenced heaving in chain 05:33 - PCC back to rig							
							Commenced 05:58 - PCC 06:50 - Anch 09:15 - PCC	pulling Anchor #3 v to Far Grip or off bottom back to rig	vith Far Grip					
							08:33 - Pacifi	c Wrangler connect	ed to tow bridle	9.				
SUS	Ρ	АН	0915	2000	10.75	2404.0m	[Continued la Recovered p condition of A	ying down 127mm rimary anchors. (All Anchor #2).	(5") drill pipe w anchors inspec	hilst handling anch	ors] . due to poor			
							Pulled Ancho 09:25 - PCC 10:09 - Anch 10:21 - Anch 13:00 - PCC	r #1 with Far Grip to Far Grip or off bottom or on deck for inspe back to rig	ection (OK)					
							Pulled Ancho 13:17 - PCC 13:45 - Anch 13:56 - Anch 15:42 - PCC	r #5 with Far Grip to Far Grip or off bottom or on deck for inspe back to rig	ction (OK)					
							Pulled Ancho 15:54 - PCC 16:24 - Anch 16:32 - Anch 17:55 - PCC	r #8 with Far Grip to Far Grip or off bottom or on deck for inspe back to rig	ction (OK)					
							Pulled Ancho 18:20 - PCC 20:00 - Anch 20:15 - Anch 20:45 - Anch	or #4 with Far Grip to Far Grip or off bottom or on deck for inspe or on Far Grip Sterr	ction (slight dis roller. Comme	tortion - deemed su nced move to Casi	iitable for use) no-5			
							Rig Released	from Casino-4DW	2 at 20:00.					

#### DRILLING MORNING REPORT # 44 Casino-4DW2 (14 Jun 2005)

Bulk Sto	cks						Pe	ersonnel (	On Board				
N	ame	Unit	In	Used	Adjus	t Balance	,		Company	/	Р	ax	
Fuel		m3	0	8.6	(	375.1	Sai	ntos			3		
Drill Water		m3	0	11.2	(	415.6	DO	GC			51		
Potable Wat	ter	m3	7.4	0	(	251.7	ES	S			8		
Gel		sx	0	0	(	0 1,685.0	Do	well			2		
Cement		SX	0	0	(	778.0	Ge	oservices			2		
Barite		SX	0	0	(	0 1,555.0	Fuç	gro			6		
KCI Brine		bbl	0	0	(	0.0	Ca	meron			1		
							Fug	gro - Survey	or		3		
							MC	047			3		
							Oth	ner			1		
							MI				2		
										Total	82		
HSE Sum	nmary												
E	vents	Date of	Last I	Days Sind	ce				Re	marks			
Abandon Dr	ill	12 Jun 2	2005 2	Days	Ab	andon Drill							
BOP Test	(all hard dates)	05 Jun 2	2005 9	Days	BC	P lest							
Environmen	tal incident	02 May	2005 4	3 Days	NO	ne reporte	a sino	ce commenc	ement of car	npaign.			
Fire Drill		12 Jun 2	2005 2	Days	FIR	e Drill room otruck		and with me	tolbor				
	aidant	04 May	2005 4	1 Days 2 Dovo	Pe	no reporte			an Dai	anaian			
Man Overbo	ard Drill	02 May	2005 4	3 Days	No	ne underta	kon d		enterne of car	npaign. campaign			
Near Miss		02 May	2005 4	3 Days	No	ne reporte			encement of car	zampaign. phaign			
Safety Meet	ina	12 lun 3	2003 4	Days	We	ne reporte	v Mo	etina	ement of car	npaign.			
Ston Cards	ing	13 Jun 2	2005 1	Days	6.5	Ston Cards	y wic	cung					
Marino		10 0011		2 4 9		top culue							
Weather ch	ock on 14 lun	2005 at 200	n							Dig Support			
Visibility	Wind Spood	Wind Dir	Proces	uro Ai	r Tomp	Waya Ha	ight	Waya Dir	Waya Parioa	Anahara	Tan	aian (m	
			1000 0				ayın			Anchors	Ter		11)
18.5Km	46Km/n	290deg	1009.00	ubar	2.00*	2.00		290deg	Um/sec	1		0	
Roll	Pitch	Heave	Swell He	eight S	well Dir.	Swell Pe	riod	Weather	Comments	- 3		0	
0.6deg	0.6deg	0m	2.0n	n 2	70deg	2m/se	C	CI	ear	4		0	
Rig Dir.	Ris. Tension	VDL		Co	mments					5		0	
249.0deg	0mt	185.07mt								6		0	
										- 7		0	
Deste	A	al ( data /time		Dement	a	• <i>(time •</i> )		Ctat		8	Dulla	0	
Boats	Arrive	ed (date/time	;)	Depart	ea (aat	e/time)	0.00	Stat	us	li e m	Buiks	0.	
rai Grip							OCE			Fuel	Unit	43	354
										Drill Water	N	//3	730
										Potable Water Barite	N	//3 //T	388
										Gel	N	/T	43.2
										Cement KCI Brine	N	/IT	40
Pacific							Oce	ean Patriot		Item	Unit	Qı	antity
Wrangler										Fuel		/3	479.6
										Drill Water	Ν	//3	287
										Potable Water Barite	N	лз ЛТ	213
										Gel	N	/T	42
										KCI Brine	L L	bl	950
Helicopte	er Moveme	ent											
- Flight #	Time			Destinatio	on				Сог	nment		Pa	ax
1	10:25	Ocean F	Patriot										11
1	10:38	Essendo	on										15

### **SECTION 7: TIME / DEPTH CURVE**



### **SECTION 8: BHA SUMMARY**



**Rig : Ocean Patriot** 

Spud : - /

Rig Release : - /

#### BHA No.: 1

Param	neters		BHA Detail									
Date In/ Date Out	/	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment				
Depth In/ Depth Out (m)	92.7/137.4		(m)	Joints								
Length (m)	256.8	Bit	0.64	0	0.00	0.00	MR3808					
Weight (Dry/ Wet) (klb)	0.0 / 0.0	Hole Opener	2.43	0	9.06	2.81	46450					
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 0.0	Bit Sub	1.02	0	9.50	0.00	1860028					
String Weight (Avg) (klb)	0	Anderdrift	3.25	0	9.50	2.94	ADB903					
Pick-Up Weight (Avg) (klb)	0	9.5in Non Magnetic Drill Collar	9.04	0	9.50	3.00	6613					
Slack-Off Weight (Avg) (klb)	0	17.5in String Stabiliser	2.18	0	9.50	3.06	47618					
Torque Max (Avg) (ft-lbs)	0	9.5in DC	18.34	2	9.44	3.13	003-9,001-9					
Torque on Bottom (Avg) (ft-lbs)	0	X/O	1.09	1	2.81	2.81						
Torque off Bottom (Avg) (ft-lbs)	0	8in DC	70.37	8	8.00	2.88						
BHA Description: 914mm (36")	hole rotary BHA	X/O	1.09	1	8.00	2.81						
BHA Run Comment: Smith MS	DS SHC	5in HWDP	147.39	1	5.00	3.00						

Parame	eters		BHA Detail									
Date In/ Date Out	08 May 2005 /	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment				
Depth In/ Depth Out (m)	137.4/0.0		(m)	Joints								
Length (m)	275.2	Bit	0.41	1	0.00	0.00	X74 1B9					
Weight (Dry/ Wet) (klb)	0.0 / 0.0	17.5in Near Bit Stabiliser	1.65	1	9.00	2.81	3131					
Weight Blw/Jar (Dry/Wet) (klb)	30.0 / 24.0	9.5in Pony Drill Collar	3.01	0	9.50	0.00	SBD 23269					
String Weight (Avg) (klb)	185	17.5in String Stabiliser	2.10	0	9.56	3.06	A229					
Pick-Up Weight (Avg) (klb)	185	9.5in Non Magnetic Drill Collar	9.04	0	9.50	3.00	6613					
Slack-Off Weight (Avg) (klb)	185	17.5in String Stabiliser	2.18	0	9.50	3.06	47618					
Torque Max (Avg) (ft-lbs)	6	9.5in DC	18.34	2	9.44	3.13	003-9,001-9					
Torque on Bottom (Avg) (ft-lbs)	4	X/O	1.09	1	2.81	2.81						
Torque off Bottom (Avg) (ft-lbs)	0	8in DC	52.39	6	8.00	2.88						
BHA Description: 445mm (17.5")	rotary assembly.	8in Hydraulic Jars	9.67	1	8.13	3.00	DAH02767					
BHA Run Comment: Hughes MX	(1	8in DC	35.94	4	7.88	2.81						
		X/O	1.09	1	8.00	2.81						
		5in HWDP	138.42	15	5.00	3.00						



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 3

Parar	neters	BHA Detail								
Date In/ Date Out	12 May 2005 / 14 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment		
Depth In/ Depth Out (m)	742.0/1304.0		(m)	Joints						
Length (m)	291.5	Bit	0.34	1	12.25	0.00	6029811	MX-03DX		
Weight (Dry/ Wet) (klb)	0.0 / 65.0	Near Bit Stabiliser	2.13	1	12.25	0.00	47604	Ported Float		
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Pony Drill Collar	3.04	1	8.00	0.00	49059			
String Weight (Avg) (klb)	0	String Stabiliser	2.49	1	12.13	0.00	SBD2392			
Pick-Up Weight (Avg) (klb)	0	FEWD Tools	15.63	3	8.00	0.00		FEWD - WRGV8		
Slack-Off Weight (Avg) (klb)	0							DM Sub - 10603354 Pulser - 10645027		
Torque Max (Avg) (ft-lbs)	0	NM Pony Drill Collar	2.93	1	8.00	0.00	47637			
Torque on Bottom (Avg) (ft-lbs	) 0	8in DC	88.33	10	8.00	0.00				
Torque off Bottom (Avg) (ft-lbs	) 0	Jar	9.67	1	8.00	0.00	DAH02767			
BHA Description: 311 mm (12	1/4") Bit, NB Stab c/w float,	X/O	1.09	1	8.00	0.00	SANTOS			
mm (8") NM Pony DC, 10 x 20	3 mm (8") DC, 203 mm (8")	6.75in DC	27.81	3	6.75	0.00				
Jars, 3 x 171 mm (6 3/4") DC,	X/O, 15 x 127 mm (5") HWDP	5in HWDP	138.06	15	6.33	0.00				
BHA Run Comment:										

Paran	neters				BHA [	Detail		
Date In/ Date Out	14 May 2005 / 16 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	1304.0/1761.0		(m)	Joints				
Length (m)	291.5	Bit	0.38	1	12.25	0.00	6029811	MA89PX
Weight (Dry/ Wet) (klb)	0.0 / 65.0	Near Bit Stabiliser	2.13	1	12.25	0.00	47604	Ported Float
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Pony Drill Collar	3.04	1	8.00	0.00	49059	
String Weight (Avg) (klb)	88	String Stabiliser	2.49	1	12.13	0.00	SBD2392	
Pick-Up Weight (Avg) (klb)	90	FEWD Tools	15.63	3	8.00	0.00		FEWD - WRGV8
Slack-Off Weight (Avg) (klb)	87							DM Sub - 10603354 Pulser - 10645027
Torque Max (Avg) (ft-lbs)	0	NM Pony Drill Collar	2.93	1	8.00	0.00	47637	
Torque on Bottom (Avg) (ft-lbs)	0	8in DC	88.33	10	8.00	0.00		
Torque off Bottom (Avg) (ft-lbs)	0	Jar	9.67	1	8.00	0.00	DAH02767	
BHA Description: 311 mm (12 '	1/4") Bit, NB Stab c/w float,	X/O	1.09	1	8.00	0.00	SANTOS	
mm (8") NM Pony DC, 10 x 203	3 mm (8") DC, 203 mm (8")	6.75in DC	27.81	3	6.75	0.00		
Jars, 3 x 171 mm (6 3/4") DC, 2	X/O, 15 x 127 mm (5") HWDP	5in HWDP	138.06	15	6.33	0.00		
BHA Run Comment:								



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 5

Para	meters	BHA Detail									
Date In/ Date Out	16 May 2005 / 18 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment			
Depth In/ Depth Out (m)	1761.0/1794.0		(11)	Joints							
Length (m)	275.9	PDC Core Head	0.35	1	12.25	0.00	7970865	CD93 w/ 10 x 14/32 fixed ports			
Weight (Dry/ Wet) (klb)	0.0 / 55.0	Stab	0.90	1	12.19	0.00					
Weight Blw/Jar (Dry/Wet) (klb	) 0.0 / 40.0	Core Barrel	7.93	1	8.00	0.00	DBSA918H01				
String Weight (Avg) (klb)	0	Stab	1.22	1	12.19	0.00	991037902				
Pick-Up Weight (Avg) (klb)	0	Core Barrel	7.93	1	8.00	0.00	DBSS8021				
Slack-Off Weight (Avg) (klb)	0	Stab	1.22	1	12.19	0.00	7090690				
Torque Max (Avg) (ft-lbs)	0	Core Barrel	7.93	1	8.00	0.00	948H0				
Torque on Bottom (Avg) (ft-lbs	s) 0	Stab	1.22	1	12.19	0.00	800STB310				
Torque off Bottom (Avg) (ft-lbs	s) 0	Core Barrel	7.93	1	8.00	0.00	8006H0				
BHA Description: 311 mm (12	2 1/4") Coring Bit, 310 mm (12	Stab	1.22	1	12.19	0.00	99331932				
3/16") Stab, 203 mm (8") Core	e Barrel, 310 mm (12 3/16")	8in DC	88.33	10	7.88	2.88					
Stab, 203 mm (8") Core Barrel mm (8") Core Barrel 310 mm	el, 310 mm (12 3/16") Stab, 203 (12 3/16") Stab, 203 mm (8")	Jar	9.67	1	8.00	3.00	DAH03786				
Core Barrel, 310 mm (12 3/16	5") Stab, 10 x 203 mm (8") DC,	X/O	1.22	1	8.13	2.88	OM044				
203 mm (8") Jars, X/O, 15 x 1	27 mm (5") HWDP	5in HWDP	138.06	15	6.33	3.06					
BHA Run Comment:											

Param	eters				BHA [	Detail		
Date In/ Date Out	18 May 2005 / 19 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	1794.0/1825.0		(m)	Joints				
Length (m)	291.5	Bit	0.38	1	12.25	0.00	6029811	MA89PX Bit #4RR1
Weight (Dry/ Wet) (klb)	0.0 / 65.0	Near Bit Stabiliser	2.13	1	12.25	0.00	47604	Ported Float
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Pony Drill Collar	3.04	1	8.00	0.00	49059	
String Weight (Avg) (klb)	260	String Stabiliser	2.49	1	12.13	0.00	SBD2392	
Pick-Up Weight (Avg) (klb)	270	FEWD Tools	15.63	3	8.00	0.00		FEWD - WRGV8
Slack-Off Weight (Avg) (klb)	265							DM Sub - 10603354 Pulser - 10645027
Torque Max (Avg) (ft-lbs)	0	NM Pony Drill Collar	2.93	1	8.00	0.00	47637	
Torque on Bottom (Avg) (ft-lbs)	0	8in DC	88.33	10	8.00	0.00		
Torque off Bottom (Avg) (ft-lbs)	0	Jar	9.67	1	8.00	0.00	DAH02767	
BHA Description: 311 mm (12 1	I/4") Bit, NB Stab c/w float,	Х/О	1.09	1	8.00	0.00	SANTOS	
mm (8") NM Pony DC, 10 x 203	3 mm (8") DC, 203 mm (8")	6.75in DC	27.81	3	6.75	0.00		
Jars, 3 x 171 mm (6 3/4") DC, >	(/O, 15 x 127 mm (5") HWDP	5in HWDP	138.06	15	6.33	0.00		
BHA Run Comment:								



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 7

Paran	neters	BHA Detail										
Date In/ Date Out	21 May 2005 / 22 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment				
Depth In/ Depth Out (m)	1308.0/1662.0		(m)	Joints								
Length (m)	167.0	Bit	0.64	1	12.25	0.00	10387397	SDBS FS2663 Bit #6				
Weight (Dry/ Wet) (klb)	0.0 / 20.0	Geopilot Steerable Tool	6.62	1	9.63	0.00	GP1225 TLOG					
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 34.0	NM Flex Pony	2.80	1	8.00	0.00	CP773036					
String Weight (Avg) (klb)	110	FEWD Tools	14.25	3	8.00	0.00		FEWD - DM90072523XH1 WRG8				
Pick-Up Weight (Avg) (klb)	110							DM Sub - 128402 Pulser - 10645028				
Slack-Off Weight (Avg) (klb)	110	Float Sub	1.05	1	8.00	0.00	49079	Ported Float				
Torque Max (Avg) (ft-lbs)	0	X/O	1.09	1	8.00	0.00	SANTOS					
Torque on Bottom (Avg) (ft-lbs)	) 0	HWDP	83 17	9	6.38	0.00	0.000					
Torque off Bottom (Avg) (ft-lbs)	) 2000	X/O	1 13	1	8.00	0.00	186-010					
BHA Description: 311 mm (12	1/4") Bit, 244 mm (9 5/8")	Jar	9.67	1	8.13	0.00	DAH03786					
203 mm (8") Float Sub, X/O, 9	x 127 mm (5") HWDP, X/O,	X/O	1.02	1	7.50	0.00	186-011					
203 mm (8") Jars, X/O, 9 x 127	7 mm (5") HWDP	5in HWDP	45.59	5	6.33	0.00						
BHA Run Comment:												

Param	neters				BHA [	Detail		
Date In/ Date Out	20 May 2005 / 21 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	1255.0/1308.0		(m)	Joints				
Length (m)	167.0	Bit	0.64	1	12.25	0.00	10387397	SDBS FS2663 Bit #6
Weight (Dry/ Wet) (klb)	0.0 / 20.0	Geopilot Steerable Tool	6.62	1	9.63	0.00	GP1225 TLOG	
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 34.0	NM Flex Pony	2.80	1	8.00	0.00	CP773036	
String Weight (Avg) (klb)	0	FEWD Tools	14.25	3	8.00	0.00		FEWD - DM90072523XH1 WRG8
Pick-Up Weight (Avg) (klb)	0							DM Sub - 128402 Pulser - 10645028
Slack-Off Weight (Avg) (klb)	0	Float Sub	1.05	1	8.00	0.00	49079	Ported Float
Torque Max (Avg) (ft-lbs)	0	X/O	1.09	1	8.00	0.00	SANTOS	
Torque on Bottom (Avg) (ft-lbs)	0	HWDP	83.17	9	6.38	0.00	0,	
Torque off Bottom (Avg) (ft-lbs)	0	X/O	1.13	1	8.00	0.00	186-010	
BHA Description: 311 mm (12 1 Geopilet, 203 mm (8") NM Elex	I/4") Bit, 244 mm (9 5/8")	Jar	9.67	1	8.13	0.00	DAH03786	
203 mm (8") Float Sub, X/O, 9 x 127 mm (5") HWDP, X/O		X/O	1.02	1	7.50	0.00	186-011	
203 mm (8") Jars, X/O, 9 x 127	mm (5") HWDP	5in HWDP	45.59	5	6.33	0.00		
BHA Run Comment:								



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 8

Param	neters	BHA Detail									
Date In/ Date Out	23 May 2005 / 23 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment			
Depth In/ Depth Out (m)	1662.0/1662.0		(m)	Joints							
Length (m)	168.4	Bit	0.38	1	12.25	0.00	JT6901	Smith MA89PX Bit #7			
Weight (Dry/ Wet) (klb)	0.0 / 20.0	9.625in Motor	8.56	1	9.63	0.00	963116	1.5 deg bend			
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 34.0	NM X/O	1.05	1	8.00	0.00	A554	c/w Ported Float			
String Weight (Avg) (klb)	0	String Stabiliser	1.90	1	9.50	0.00	7090449				
Pick-Up Weight (Avg) (klb)	0	Contingency Sub	1.22	1	8.00	0.00	10659402				
Slack-Off Weight (Avg) (klb)	0	FEWD Tools	15.54	3	8.00	0.00		FEWD - WRG V8			
Torque Max (Avg) (ft-lbs)	0							DM Sub - 128402 Pulser - 10645028			
Torque on Bottom (Avg) (ft-lbs)	0	Х/О	1.09	1	8.00	0.00	SANTOS				
Torque off Bottom (Avg) (ft-lbs)	0	HWDP	83.17	9	6.38	0.00					
BHA Description: 311 mm (12 '	1/4") Bit, 244 mm (9 5/8")	Jar	9.87	1	6.50	0.00	MAH00160				
String Stab, 203 mm (8") Contin	ngency Sub, Sperry	5in HWDP	45.59	5	6.33	0.00					
FEWD/MWD, 203 mm, X/O, 9 x (6 3/4") Jars, 9 x 127 mm (5") H	x 127 mm (5") HWDP, 171 mm HWDP										
BHA Run Comment:											

Param	neters	BHA Detail										
Date In/ Date Out	24 May 2005 /	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment				
Depth In/ Depth Out (m)	1662.0/1662.0		(m)	Joints								
Length (m)	165.3	Bit	0.34	1	12.25	0.00	5031197	Rock bit				
Weight (Dry/ Wet) (klb)	0.0 / 24.0	Near Bit Stabiliser	0.46	1	12.25	3.00	10625807	Stabiliser sleeve				
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 30.0	Geopilot Steerable Tool	6.62	1	9.63	0.00	GP1225 TLO62					
String Weight (Avg) (klb)	0	NM Flex Pony	2.80	1	8.00	0.00	CP773036					
Pick-Up Weight (Avg) (klb)	0	FEWD Tools	14.32	3	8.00	0.00	1	FEWD - WRG8				
Slack-Off Weight (Avg) (klb)	0							DM Sub - 128402 Pulser - 10645028				
Torque Max (Avg) (ft-lbs)	0	Float Sub	1.05	1	8.00	0.00	49079	Ported Float				
Torque on Bottom (Avg) (ft-lbs)	0	X/O	1.09	1	8.00	0.00	SANTOS					
Torque off Bottom (Avg) (ft-lbs)	0	HWDP	82.69	9	6.38	0.00						
BHA Description: 311 mm (12 mm (9 5/8") Geopilot, 203 mm	1/4") rock bit, stb sleeve, 244 (8") NM Flex Pony, Sperry	Jar	9.87	1	6.50	2.88	MAH 00160					
FEWD/MWD, 203 mm (8") Floa HWDP, 165 mm (6.5") Jars, 9 >	at Sub, X/O, 9 x 127 mm (5") < 127 mm (5") HWDP	5in HWDP	46.07	5	6.33	0.00						
BHA Run Comment:												



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 10

Paran	neters	BHA Detail											
Date In/ Date Out	27 May 2005 /	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment					
Depth In/ Depth Out (m)	1146.0/1157.0		(m)	Joints									
Length (m)	247.4	Bit	0.17	1	12.25	0.00	5031197	DS43 PDC sidetrack bit					
Weight (Dry/ Wet) (klb)	0.0 / 35.0	9.625in Motor	8.56	1	12.25	6.13	963116	Sperry 6/7 lobe mud motor					
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Float Sub	1.05	1	9.50	3.00	A544						
String Weight (Avg) (klb)	0	Contingency Sub	1.22	1	8.00	0.00	10659402						
Pick-Up Weight (Avg) (klb)	0	FEWD Tools	14.32	3	8.00	0.00		FEWD - WRG8					
Slack-Off Weight (Avg) (klb)	0							DM Sub - 128402 Pulser - 10645028					
Torque Max (Avg) (ft-lbs)	0	Drill Collar	26.59	3	8.00	0.00							
Torque on Bottom (Avg) (ft-lbs)	0	Х/О	1.09	1	8.00	0.00	SANTOS						
Torque off Bottom (Avg) (ft-lbs)	0	HWDP	138.37	9	6.38	0.00							
BHA Description: 311 mm (12 244mm motor 241 mm (9 5")	1/4") PDC sidetrack bit,	Jar	9.87	1	6.50	2.88	MAH 00160						
FEWD/MWD, 203 mm (8") Floa HWDP, 165 mm (6.5") Jars, 9 2	at Sub, X/O, 9 x 127 mm (5") x 127 mm (5") HWDP	5in HWDP	46.12	5	6.33	0.00							
BHA Run Comment:													

Param	eters				BHA [	Detail		
Date In/ Date Out	26 May 2005 /	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	1078.6/0.0		(m)	Joints				
Length (m)	247.4	Bit	0.17	1	12.25	0.00	5031197	DS43 PDC sidetrack bit
Weight (Dry/ Wet) (klb)	0.0 / 40.0	9.625in Motor	8.56	1	12.25	6.13	963116	Sperry 6/7 lobe mud motor
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Float Sub	1.05	1	9.50	3.00	A544	
String Weight (Avg) (klb)	0	Contingency Sub	1.22	1	8.00	0.00	10659402	
Pick-Up Weight (Avg) (klb)	0	FEWD Tools	14.32	3	8.00	0.00		FEWD - WRG8
Slack-Off Weight (Avg) (klb)	0							DM Sub - 128402 Pulser - 10645028
Torque Max (Avg) (ft-lbs)	0	Drill Collar	26.59	3	8.00	0.00		
Torque on Bottom (Avg) (ft-lbs)	0	X/O	1.09	1	8.00	0.00	SANTOS	
Torque off Bottom (Avg) (ft-lbs)	0	HWDP	138.37	9	6.38	0.00		
BHA Description: 311 mm (12 1	I/4") PDC sidetrack bit,	Jar	9.87	1	6.50	2.88	MAH 00160	
Sperry FEWD/MWD, 203 mm (	8") Float Sub, X/O, 9 x 127	5in HWDP	46.12	5	6.33	0.00		
mm (5") HWDP, 165 mm (6.5")	Jars, 9 x 127 mm (5") HWDP							
BHA Run Comment:								



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 11

Parar	neters	BHA Detail										
Date In/ Date Out	27 May 2005 / 28 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment				
Depth In/ Depth Out (m)	1157.0/1274.0		(m)	Joints								
Length (m)	249.4	Bit	0.34	1	12.25	3.00	5031197	FXL12D				
Weight (Dry/ Wet) (klb)	0.0 / 35.0	9.625in Motor	8.56	1	12.25	6.13	963116	Sperry 6/7 lobe mud motor				
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 50.0	Float Sub	1.05	1	9.50	3.00	A544					
String Weight (Avg) (klb)	0	String Stabiliser	1.90	1	8.00	3.00	7090449					
Pick-Up Weight (Avg) (klb)	0	Contingency Sub	1.22	1	8.00	0.00	10659402					
Slack-Off Weight (Avg) (klb)	0	FEWD Tools	14.32	3	8.00	0.00		FEWD - WRG8				
Torque Max (Avg) (ft-lbs)	0							DM Sub - 128402 Pulser - 10645028				
Torque on Bottom (Avg) (ft-lbs	) 0	Drill Collar	26.59	3	8.00	0.00						
Torque off Bottom (Avg) (ft-lbs	) 0	X/Q	1.09	1	8.00	0.00	SANTOS					
BHA Description: 311 mm (12	1/4") TCI bit, 244mm motor,	HWDP	138.37	9	6.38	0.00						
FEWD/MWD, 203 mm (8") Floa	at Sub, X/O, 9 x 127 mm (5")	Jar	9.87	1	6.50	2.88	MAH 00160					
HWDP, 165 mm (6.5") Jars, 9	x 127 mm (5") HWDP	5in HWDP	46.12	5	6.33	0.00						
BHA Run Comment:												

Param	neters				BHA [	Detail		
Date In/ Date Out	28 May 2005 / 31 May 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	1274.0/1998.0		(m)	Joints				
Length (m)	220.7	Bit	0.64	1	12.25	0.00	10387397	SDBS FS2663 Bit # 11 (RR#6)
Weight (Dry/ Wet) (klb)	0.0 / 30.0	Geopilot Steerable Tool	6.62	1	9.63	0.00	GP1225 TLOG	
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 35.0	NM Flex Pony	2.80	1	8.00	0.00	CP773036	
String Weight (Avg) (klb)	tring Weight (Avg) (klb) 110		14.32	3	8.00	0.00		FEWD - DM90072522
Pick-Up Weight (Avg) (klb)	120							DM Sub - 128402 Pulser - 10645028
Slack-Off Weight (Avg) (klb)	100	Float Sub	1.05	1	8.00	0.00	49079	Ported Float
Torque Max (Avg) (ft-lbs)	5	X/O	1.09	1	8.00	0.00	SANTOS	
Torque on Bottom (Avg) (ft-lbs)	4	HWDP	138.37	9	6.38	0.00		
Torque off Bottom (Avg) (ft-lbs)	3	Jar	9.87	1	6.50	0.00	MAH00160	
BHA Description: 311 mm (12 Geopilot, 203 mm (8") NM Flex 203 mm (8") Float Sub, X/O, 15 mm (6.5") Jars, X/O, 5 x 127 m	1/4") Bit, 244 mm (9 5/8") Pony, Sperry FEWD/MWD, 5 x 127 mm (5") HWDP, 165 m (5") HWDP	5in HWDP	45.59	5	6.33	0.00		
BHA Run Comment:								



Rig : Ocean Patriot

Spud : - /

Rig Release : - /

#### BHA No.: 13

Paran	neters	BHA Detail											
Date In/ Date Out	02 Jun 2005 / 04 Jun 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment					
Depth In/ Depth Out (m)	1998.0/2404.0		(m)	Joints									
Length (m)	140.5	Bit	0.42	1	8.50	0.00 1	10708926	FMF3553					
Weight (Dry/ Wet) (klb)	0.0 / 24.0	Geopilot Steerable Tool	7.08	1	6.75	2.00 7	7600-084						
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 18.0	NM Pony Drill Collar											
String Weight (Avg) (klb)	203	6.75in FEWD Tools	18.79	3	6.75	1.94		FEWD - 90073263					
Pick-Up Weight (Avg) (klb)	240							DM Sub - 90074558 Pulser - 10599301					
Slack-Off Weight (Avg) (klb)	180	Float Sub	0.79	1	6.75	2.88 A	A-263	Ported Float with Totco					
Torque Max (Avg) (ft-lbs)	15	Sin HWDP	55.28	6	5.00	3.00	. 200	1: 186-002					
Torque on Bottom (Avg) (ft-lbs)	) 13		00.20	0	0.00	0.00		2: 186-017					
Torque off Bottom (Avg) (ft-lbs)	) 8							3: 186-006					
BHA Description: 216 mm (8.5	") Bit, 171 mm (6.75") Geopilot,							4: 186.014					
171 mm (6.75") NM Pony DC,	Sperry FEWD, 171 mm (6.75")							5: 186-018 6: 506A 617					
Float Sub, 6 x 127 mm (5") HW 127 mm (5") HWDP	/DP, 165 mm (6.5") Jars, 5 x	Jar	9.24	1	6.50	2.75 C	DAH 01114	0.3004-017					
BHA Run Comment:		5in HWDP	46.12	5	5.00	3.00		1: 506A510					
								2: 186-025					
								3: 506A5980					
								4: 186-012					
								5: 186-022					

#### BHA No.: 14

Param	neters				BHA [	Detail		
Date In/ Date Out	05 Jun 2005 / 06 Jun 2005	Equipment	Length	Total	OD (in)	ID (in)	Serial #	Comment
Depth In/ Depth Out (m)	2404.0/2404.0		(m)	Joints				
Length (m)	140.5	Bit	0.25	1	8.50	0.00		
Weight (Dry/ Wet) (klb)	0.0 / 0.0	Bit Sub	0.95	1	0.00	0.00		
Weight Blw/Jar (Dry/Wet) (klb)	0.0 / 0.0	5in HWDP	9.58	1	5.00	3.00		
String Weight (Avg) (klb)	0	9.625in Casing Scraper	2.17	1	8.75	1.94 S	PS5445	Razor Back Casing Clean-Up Tool.
Pick-Up Weight (Avg) (klb)	0							
Slack-Off Weight (Avg) (klb)	0							
Torque Max (Avg) (ft-lbs)	19							
Torque on Bottom (Avg) (ft-lbs)	17							
Torque off Bottom (Avg) (ft-lbs)	10							
BHA Description: 216 mm (8.5" Sub & XO to 114 mm (4.5") IF, (9-5/8") Scraper	') Bit (Nozzles Removed), Bit 127 mm (5") DP, 244 mm							
BHA Run Comment:								

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### SECTION 9: BIT RECORD & PERFORMANCE SUMMARY

### **BIT RUN DATA - Santos Casino Development 2005**

### **Santos**

Well	Bit	Size	MFR	Туре	Jets	D.In	D. Out	Mtrs	Hrs	ROP	Ι	0	D	L	В	G	0	RP
Casino 4	2	17.5	HCC	MX-1	4x20	137.4	742	604.6	14.7	41.13	1	1	WT	А	Е	Ι	NO	TD
Casino 4	3	12.25	HCC	MX-03DX	3x20	742	1304	562	20.7	27.15	1	4	BT	G	Е	2	WT	PR
Casino 4	4	12.25	Smith	MA89PX	7x14	1304	1761	457	13.9	32.88	0	0	ER	Ν	Х	I	NO	CP
Casino 4	5	12.25	SDBS	CD93	10x14	1761	1794	33	3.27	10.09	4	4	BT	А	Х	I	WT	TD
Casino 4	4RR	12.25	Smith	MA89PX	7x14	1794	1825	31	1.5	20.67	1	1	ER	Ν	Х	I	NO	CP
Casino 4DW1	6	12.25	SDBS	FS2663	9x16	1308	1662	354	19.04	18.59	1	2	WT	G	Х	I	NO	BHA
Casino 4DW1	7	12.25	HCC	MX-CS03	??	1176	1368	192	11.7	16.41	Unabl	le to g	et kicke	ed off,	only dri	illed ce	ement.	
Casino 4DW2	8	12.25	RHYC	DS43ST	3x18; 1x20	1146	1157	11	6.9	1.59	3	4	СТ	S	Х	I	СТ	PR
Casino 4DW2	9	12.25	SDBS	FXL12D	3x22	1157	1274	117	13.3	8.80	1	1	WT	А	Е	I	NO	BHA
Casino 4DW2	6RR	12.25	SDBS	FS2663	9x16	1274	1998	724	29.1	24.88	1	1	WR	А	Х	I	NO	TD
Casino 4DW2	10	8.5	SDBS	FSF3553	5x16	1998	2404	406	22.4	18.13	1	2	СТ	G	х	Ι	NO	TD

### SECTION 10: DRILLING FLUIDS REPORT

### Fluids Recap

### Santos Ltd

Casino 4 / 4DW / DW2 Vic P 44 Gas Producer Otway Basin



Prepared by:

**Steve Jones** 





### M-I L.L.C. ONE-TRAX

### **DRILLING FLUID DATA MANAGEMENT SYSTEM**

Operator: Santos Ltd Well Name: Casino 4/4DW/4DW2 Field/Area: VIC P-44 Description: Gas Producer Location: Otway Basin Warehouse: Portland Contractor: Diamond Offshore Spud Date: 7/05/2005 TD Date: 19/05/2005 Location Code: 7001 Project Engineer: Steve Jones Sales Engineer: Gordon Howie/Jasdeep Singh Sales Engineer: Glen Sharpe/Kelvin Leong M-I Well No.

Comments:										
Туре	Size	Depth m	TVD m	Hole in	Max MW sp.gr.	Fluid 1	Fluid2	Drilling Problem	Days	Cost \$
Casing	30	137	137	36	1.04	Spud Mud		None	2	11157.54
Casing	13.375	742	742	17.5	1.06	Spud Mud		None	4	18972.88
Open Hole		1825	1825	12.25	1.23	KCL/Idcap	Spud Mud	Directional	9	138103.14
Open Hole		1662	1627	12.25	1.26	KCL/Idcap		Directional	8	52326.40
Casing	9.625	1990	1741	12.25	1.30	KCL/Idcap		None	7	18297.18
Liner	6.625	2404	1787	8.5	1.28	FLO-PRO/Comp	letion		4	152070.34
Total Depth: 2404 m		TVD: 1825 m			Water Depth	: 71 m	Drilling Days: 34		Total Cost:	390,927.48



### **CONTENTS:**

- DISCUSSION BY INTERVAL
- DAILY DISCUSSION REPORT
- COST BY INTERVAL
- DAILY VOLUME SUMMARY SHEET
- TOTAL MATERIAL COST
- HYDRAULICS REPORT
- DRILLING FLUIDS SUMMARY
- **PRODUCT CONSUMPTION**
- DAILY MUD REPORTS



> DISCUSSION BY INTERVAL



#### SUMMARY:

Santos Ltd was the operator of horizontal gas producer well, Casino – 4/4DW, Vic/P44, Victoria, Australia using the Ocean Patriot semi submersible rig owned by Diamond Offshore. Casino – 4/4DW is located in the Casino gas field, approximately 25 km SW of Peterborough, Latitude 38.47′54 E and Longitude 142.47′12 S. The well was programmed for 31 days drilling operations and 7 days completion operations. A vertical pilot hole will be drilled to a depth of 1760m and a horizontal section to 2625m, in 70m water depth.

Santos contracted the rig 05.30 hrs on Monday 2nd May 2005 which was towed to Portland to pick up some heavy lifts and arrived on location on Wednesday, 4th May 2005.

The primary objective was gas in Waarre A Sandstone (1745m RT TVD).

Some difficulty was experienced anchoring the rig on location and this delayed operations.

Casino – 4 was spudded on the 6th May 2005 at 10:00 hrs. 9m was drilled and an anderdrift survey was completed. The hole was found to be out 2 degrees. The decision was made to pull out and shift the rig 5m and respud the well.

The 36'' hole was drilled to 137m using sea water and Gel sweeps. The  $30 \ge 20$  inch conductor casing was run and cemented in place at 137m. When tagging the cement it was found that the initial cement job had not gone as planned and a top up was required.

The  $17\frac{1}{2}$ " hole was drilled to 742m with sea water and PHG sweeps and the  $13\frac{3}{3}$ " casing was lowered with no troubles and cemented as per the program.

The Sub Sea Xmas tree was rigged up and lowered into place and the rig was then moved 15m to commence rigging up and running of the Riser and BOP.

12<sup>1</sup>/<sub>4</sub>" hole was successfully drilled to 1055m with sea water/Gel sweeps and then the hole was displaced to KCl/Idcap/PAC mud. A bit trip was made at 1304m due to poor rate of penetration.

Further drilling to coring point of 1761m was done using a PDC bit.

33m of core was cut and well was logged. When the wireline calliper indicated under-gauge hole from 1740m to 1782m and fill from 1782 it was decided to wipe the



hole and log over the Warre sand and drill a further 30m to 1825m. One wireline logging run was made and Casino 4 was plugged back. First cement plug was placed from 1825m to 1684m and the second kick off cement plug was set at 1405m to 1255m.

Cement plug was dressed to 1308m and Casino 4 DW was kicked off. The directional hole was drilled to 1662m to an inclination of 34 degrees. At this stage it was projected to miss the target. The drilled hole was plugged back from 1350m to 1200m.

After WOC, the cement was drilled to 1265m without being able to kick off using GeoPilot assembly. Another kick off plug was set from 1265m to 1100m. TOC was tagged at 1082m. Dressed of cement plug to 1145m. The new hole was kicked off from 1146 m, slide drilling to maximise kick-off angle. At 1157m POOH to download MWD and change to a Security tri-cone bit. The hole was drilled to 1998 meters (1743 Meters TVD) The hole was tight pulling out and was back reamed to 965 meters. At this point BU was circulated while boosting the riser to assist with good hole cleaning. A wiper trip was made back to bottom. Started taking weight at 1670 meters, so washed and reamed to 1998 meters. Again circulated bottoms up until shakers were clear of cuttings. Did a flow check for 15 minutes. Hole static then POH to prepare to run casing. The casing was run, washing down from 1700 meters to 1989.8 meters due to drag. It was cemented with the shoe at 1989.8 meters (TVD 1743m).

A FloPro Drill in mud system was mixed to drill the  $8\frac{1}{2}$ " interval. An  $8\frac{1}{2}$ " BHA with PDC bit and GeoPilot was run in the hole to drill out cement and the casing shoe. Then a heavy viscous spacer with a Fluorsceine dye was pumped ahead of the FloPro system when displacing the hole. Then continued drilling  $8\frac{1}{2}$ " hole in accordance with the Directional drillers instructions, orientating with the GeoPilot and surveying with MWD, with the mud weight at 10.6 – 10.7 ppg. Shaker screens were changed up to 230 mesh on two shakers and 200 mesh on two shakers for the complete section. The desander and desilter were run to assist in controlling mud density and LGS build-up in the system.

At 2404m, a flow check was done, (hole static), then circulated bottoms up. Hole was backreamed from 2404m to the casing shoe at 1990m. A further flow check was done, then RIH to 2404m, circulated bottoms up again and POH. Lay down directional tools and GeoPilot. Then rig up to run production screens for well completion and production testing

1000bbls of CaCl<sub>2</sub> brine at 1.22 sg (10 1+ ppg) was shipped from Portland on the boat Far Grip. We received on the rig 1023 bbls of brine weighing 1.18 sg (9.9 ppg).



Suspected water in the boats tanks. 198 x 25 kg sacks of CaCl2 (74-77%) and 10 x 1.2 MT Bulk bags of Flossy Salt were used to weight up the brine to the programmed mud weight. Dirt Magnet was used to assist in cleaning the brine. The Header boxes and flow lines were flushed and cleaned prior to the displacement to ensure the cleanest possible system.

A 50 bbl Hi Vis spacer was built and pumped prior to the CaCl2 brine and fleuroscene die was added to aid in detection of the spacer apon its return to the shakers. All returns were dumped to this point. The header box was again flushed and the system was then shut in. A further 100 bbls of the CaCl2 brine was then circulated. The completion program was then conducted.

The total mud chemical cost for the well was: \$390 927.48.


### **FORMATION TOPS:**

Formation Tops RKB Casino - 4 (Meters)	Formation Tops RKB Casino – 4DW2 (Meters TVD)	Formation	Lithology
768	763	Mepunga Fm	Claystone
843	841	Wangerrip Groups	Sandstone/Calcarinite
995	1000	Pebble Point Fm	Sandstone/Calcarinite
1106	1102	Massacre Shale	Siltstone
1113	1111	Timboon Sst	Sandstone
1303	1304	Paaratte Fm	Sandstone
1526	1526	Paaratte Gas Sand	Siltstone
1573	1562	Silk Creek Mudstone	Sandstone/Siltstone
1742	1742	Upper Waarre A	Sandstone/Siltstone
1825	1759	Lower Waarre A	Sandstone/Siltstone



Interval I	92- 137 meters	36 x 26 Hole	30 x 20" casing
MUDTYPE	: Seawater /	РНС	
MUD RELATED HOLE PROBLEMS	: None		
MUD PROPERTIES:			
	Mud Wei	ght: 8.7-8.8 ppg	
	YP:	22-33 lb/100ft2	
	API FL:	15 cc/30 min	
	Funnel Vi	s: >100 se/qt	
	Hardness	: 40 mg/l	
	MBT:	30 ppb	

#### **OPERATIONS:**

Casino-4 was spudded on 6th May 2005. The 36" hole with 36" hole opener was drilled to 137m. The 30" casing was run and cemented in place with permanent guide base.

#### MUD

920 bbl of 30 ppb Gel was mixed with no time to prehydrate, in preparation for spudding. 330 bbls of 11 ppg kill mud was prepared and held in reserve until required. The hole was swept with 50 bbl mud every 10m of drilling. At TD a 100 bbl sweep was pumped and hole displaced with 350 bbl of unflocculated PHG mud. A total of 748 bbl of gel was used for this section and 1433 bbl left over was carried over for the next section.

#### SOLIDS CONTROL:

None used as returns were directed to seabed.

#### **OBSERVATIONS AND RECOMMENDATIONS:**

No changes are proposed.



Interval II	137 – 742	<b>17½″</b> ]	Hole section	13 <sup>3</sup> / <sub>8</sub> " casing
MUDTYPE	: Seaw	vater / PHG		
MUD RELATED HOLE PROBLEM	S : Non	е		
MUD PROPERTIE	ES: Mu YP: API Fur Hai MB	d Weight: FL: mel Vis: dness: T:	8.7-8.8 ppg 22-33 lb/100ft <sup>2</sup> 15 cc/30 min > 100 se/qt 40 mg/l 30 ppb	

#### **OPERATIONS:**

The 17<sup>1</sup>/<sub>2</sub> " drilling assembly was made up and run in hole. The shoe track was drilled with sea water pumped at 800 gpm. A 50 bbl PHG sweep was pumped after drilling cement and further drilling was progressed using sea water. A sweep regime of 40 bbl PHG mid stand and 60 bbl PHG on connections was followed. This was later increased to 75 bbl PHG mid stand and 75 bbl PHG on connections while the flow rate was 1100 gpm. A 200 bbl PHG sweep was pumped followed by 200 bbls of seawater at TD of 742m. The hole was then displaced with 1000 bbl PHG and the string tripped out for running casing. The 13<sup>3</sup>/<sub>8</sub>" casing was run and cemented in place as per program with no troubles.

#### MUD:

1433 bbl of PHG mud from the previous section was carried over to this section including 230 bbls 11ppg Kill Mud and an additional volume of 848 bbls of 30 ppb PHG was mixed as required as drilling progressed. 1722 bbls of PHG was left over from this section which was used in the next section including 230 bbls 11ppg Kill Mud.

#### SOLIDS CONTROL:

No solids control was used as returns were to seabed.



## **OBSERVATIONS AND RECOMMENDATIONS:**

No changes are recommended as the PHG sweep system is the most cost effective way to drill this interval.



Interval III	742 - 18	25 meters	12 <sup>1</sup> ⁄ <sub>4</sub> Section	Plug Back 1825-1684 m 1405-1255m
MUD TYPE	: I	KCl/Idcap		
MUD RELATED HOLE PROBLEMS	; 1 -	None.		
MUD PROPERTIE	S:			
		Mud Weight:	10 – 10.9 ppg	
		YP:	25-35	
		PV	18-22	
		API FL:	3-4 cc	
		KCl:	5-6 %	
		IDCAP:	2.5-3.0 ppb	
		Funnel Vis:	45 – 65 sec/qt	
		Hardness:	640 mg/l	
		LGS:	3-6 %	
		Drill Solids:	3-6 %	
		PH:	8.0 - 9.0	
		6 RPM:	8 - 12	

#### **OPERATIONS:**

The 13<sup>3</sup>/<sub>6</sub>" casing shoe track and rat hole were drilled out with a 12<sup>1</sup>/<sub>4</sub>" bit and drilling continued using sea water and Gel sweeps to 1055m. This was done to overcome severe loss of mud at the shakers due to sand blinding. A huge amount of coarse sand was observed on the shakers and this did indeed cause screen blinding thus justifying the use of sweeps.

The hole was displaced with KCl/Idcap mud at 1055m and further drilled to 1304m. Due to poor rate of penetration the bit trip was made and a PDC bit was run in hole. The hole was observed to be slightly sticky from 1265 to 1135m on pulling out and required pumping out. This may be attributed to KCl depletion from 6% to 5% and also under-gauge bit.

A PDC bit was run in hole to bottom with no problems and hole drilled to 1761m as core point. The hole was cored to 1794m and a wireline log attempt was made when tools were held up 1670m. A bit trip was made with LWD tools and hole extended



to 1825m. One wireline logging run was made and well plugged back with first cement plug set at 1825-1684m and second plug 1405-1255m. Cement plug was dressed to 1308m and Casino 4 DW was kicked off. The directional hole was drilled to 1662m to an inclination of 34 degrees. At this stage it was projected to miss the target. The drilled hole was plugged back from 1350m to 1200m.

After WOC, the cement was drilled to 1265m without being able to kick off using GeoPilot assembly. Another kick off plug was set from 1265m to 1100m. TOC was tagged at 1082m. Dressed of cement plug to 1145m.

### MUD:

1055 bbl of 6% KCl/Idcap mud was mixed as pit space was made available from PHG and Brine taken on board from boats. A 100 bbl of Gel spacer was pumped ahead of new polymer mud and contaminated returns were dumped at shakers. The rheology of the system was improved from 6 rpm reading of 5 to 11 in stages using Duovis additions. Meantime the system was weighted to 10 ppg using Barite as the initial mix was not weighted due to time constraints. The mud weight was 10 ppg at 1200m which increased to 10.3 ppg by 1300m due to solids accumulation. The screens were also upgraded gradually from 84 mesh to 165 mesh depending upon the 1000 gpm flow handling at shakers. Some mud losses were observed at shakers while boosting the riser and sand bling at the shakers.

The mud weight increased from 10.3 ppg to 10.4+ ppg as drilling progressed from 1304m to 1400m. This was controlled by adding unweighted premix and cut back to 10.3 ppg. The KCl content was enhanced from 5% to 6.5% by addition of 4 bags of KCl.

The mud weight continued to rise from 1400m to core point at 1761m as chemicals required for the premix were not available. The mud weight was 10.8 ppg at core point. There was a further increase in the mud weight as the mud sat in the pits to 11 ppg. Once the bit was run in to core point and chemicals were available, the mud weight was slowly reduced by dumping and diluting the active system with the addition of premix and running the desilter.

Due to the fact that the centrifuge was not available and a leaking value on the desilter line the only solids control equipment was the shale shakers. The desilter was run after repairing two values and gave a cut of 1 ppg to 2 ppg.

The mud weight at TD of 1794m was 10.8 ppg (1.3 sg) and this was approved by the company rep due to gas observed in the well during coring.



### SOLIDS CONTROL:

The shakers were dressed initially with 84 mesh screens with 10 mesh scalping screens. The screens were gradually changed to 120-145-165 mesh by 1400m. Some sand blinding occurred on the shakers due to heavy amounts of cuttings and this was controlled by scraping off cuttings from the shakers.

**DOWNHOLE LOSSES:** 

None observed

### **OBSERVATIONS AND RECOMMENDATIONS:**

The use of sweeps to start the section saved significant amounts of expensive WBM being lost at the shakers due to screen blinding caused by loose sands.

The Idcap D proved effective in providing shale inhibition and allowed maximum pump rates and minimum screen sizes to be used whereas the use of normal PHPA would have restricted these choices. The cost saving is intangible without the benefit of an exact copy offset well however it can be said that at no time were operational parameters restricted by the mixing of PHPA.

Consideration should be given to the rental of a Centrifuge for future wells to control fines build up. The cost of doing so however needs to be balanced against the cost of the extra dumping and diluting required without a centrifuge.



Interval IV	1308 - 1662	meters	12 ¼″	<b>Directional Section</b>	
MUD TYPE	:	KCl/Idcap	,		
MUD RELATI HOLE PROBL	ED .EMS :	None.			
MUD PROPE	RTIES:				
		Mud We	ight:	10.5 – 10.9 ppg	
		YP:	0	25-35	
		PV		18-22	
		API FL:		3-4 cc	
		KCl:		5-6 %	
		IDCAP:		2.5-3.0 ppb	
		Funnel V	vis:	45 – 65 sec/qt	
		Hardnes	s:	640 mg/l	
		LGS:		3-6 %	
		Drill Soli	ds:	3-6 %	
		PH:		8.0 - 9.0	
		6 RPM:		8 - 12	

#### **OPERATIONS:**

After setting the cement plugs, during WOC of 16 hrs the BHA was made up and racked back. The cement plug was dressed to 1308m and hole kicked off using GeoPilot. The angle was built to 33 degrees at 1599m. The string was pulled to casing shoe to repair top drive. The hole was observed tight over the drilled section due to dog leg severity of over 4 deg/30m. Further drilling took place to 1662m when the string was POOH to change BHA as building rate dropped off. As the projection on the trajectory indicated that the target was falling short by 60 m, it was decided to plug back and re-drill.

The directional hole drilled was plugged back from 1350m to 1200m. After WOC and BOP testing the Geopilot assembly was run in hole with a tricone bit. Soft cement was tagged at 1176m after 27 hours and hard cement was reported at 1199m. Attempt to side track was made and consequently the cement column was drilled to 1265m with out obtaining the required sidetrack. This was reported to be due to soft cement plug.

The hole was plugged back from 1265m to 1100m and string reversed out at 1040m.



### MUD:

During WOC the riser volume and surface volume was treated using dumping and diluting technique to cut the mud weight from 10.9 ppg to 10.5 ppg. A total of 200 bbl of active mud was dumped from Sandtraps and shakers dressed with 200 mesh screens. The system was also pretreated with Citric acid and Sodium Bicarbonate in preparation of drilling out of kick plug.

As soft cement was drilled from 1265m to 1308 m, the returns of contaminated were partially dumped to minimise effect on the polymers. The System was further treated with Bicarb and Citric to offset the effect of calcium. Once the total hardness dropped from 1100 ppm to 500 ppm the system was treated with Duovis to increase the low end rheology. The 6 rpm reading was enhanced from 9 to 15 cP. Also system was treated with 10 sacks of Idcap for maintenance when due to problems with top drive, the string was pulled out to shoe. Once back on bottom and after bottoms up time the mud started to overflow at the shakers due to higher concentration of Idcap. A total of 120 bbl was lost on shakers while downsizing the front screens from 200 mesh to 165 mesh. The flow was stabilized within 15 minutes as mud warmed up and sheared.

The KCl content was maintained at 8% once inside Skull Creek mudstone. The mud weight was also increased with Barite additions from 10.5 ppg to 10.7-10.8 ppg as per the program at 1500m.

The cement drilling from 1199m to 1265m while attempting to kick off caused severe contamination in the mud. The system was treated with all of the available Citric Acid and Sodium Bicarbonate to control mud properties. But due to excessive cement drilling which was beyond anticipation, the mud showed signs of severe contamination. Due to the limitation of chemicals on board the system was dumped cautiously.

During plugging back for the second time, the returns were dumped while reversing out.



### SOLIDS CONTROL:

The shakers were dressed initially with 200 mesh screens with 10 mesh scalping screens. Comparatively higher usage of screens were noticed on the well with some screens developing upper layer of wire cloth ware with in two hours of operation. Once the 200 mesh stock was finished then 180 mesh screens were used.

Dumping and diluting regime was employed to control mud weight control and solids build up. Centrifuge was not made available.

**DOWNHOLE LOSSES:** 

None observed

### **OBSERVATIONS AND RECOMMENDATIONS:**

See comments from the previous section.



Interval V	1146 - 1998 meters		12	<sup>1</sup> /4" Section	Casing Set at 1990 meters
MUD TYPE	:	KCl/Idcap			
MUD RELATE HOLE PROBLI	D EMS :	None.			
MUD PROPER	TIES:				
		Mud Weig	t:	10.4 – 10.8 ppg	
		YP:		30-45	-
		PV		16-20	
		API FL:		3.8-4.8 cc	
		KCl:		7.5-8 %	
		IDCAP:		2.5-3.0 ppb	
		Funnel Vis	5:	52 – 62 sec/qt	
		Hardness:		840 - 1280 mg/	/1
		LGS:		5-8 %	
		Drill Solid	s:	3-7 %	
		PH:		8.5 - 10.2	
		6 RPM:		14 - 17	

### **OPERATIONS:**

The new hole was kicked off from 1146 m, slide drilling to maximise kick-off angle. This was the start of new well Casino - 4DW2. At 1157m POOH to download MWD and change to a Security tri-cone bit.

Drilling continued without hole problems to 1998 meters (1743 Meters TVD) The hole was tight pulling out and was back reamed to 965 meters. Here bottoms up was circulated while boosting the riser to assist with good hole cleaning. A wiper trip was made back to bottom. The drill string started taking weight at 1670 meters, so washed and reamed to 1998 meters. Again circulated bottoms up until shakers were clear of cuttings. Did a flow check for 15 minutes. Hole static then POH to prepare to run casing. The casing was run, washing down from 1700 meters to 1989.8 meters due to drag. It was cemented with the shoe at 1989.8 meters (TVD 1743m).



### MUD:

By the third kick off for the start of Casino – 4DW2 the cement contamination from drilling on plugs had been treated out and program specifications were able to be reached by the additions of concentrated premixes. By this time the weather had deteriorated to such an extent, supply vessels were unable to offload any cargo. The amount of barite and drillwater on the rig were at a minimum. All barite left on the rig was sufficient only to enable the system to be weighted to 1 ppg above the system weight as required in case of a kick.

The Santos company representative gave instructions to reduce shaker screen mesh sizes to 165 mesh, to allow the system to increase in density from 10.4 ppg by incorporating drill solids. The system soon increased in weight to 10.8 ppg, and it became necessary to screen up to 180 mesh then to 200 mesh to control weight increases which were not desired at the time. Weather conditions improved which allowed drillwater and barite to be taken on the rig. The mud remained in good condition, with additions of Duovis and Idcap D being added to maintain programmed specifications. Concentrations of KCl and IDCAP D were maintained within program requirements. The amount of fine LGS increased to higher than the program limits while using the larger mesh screens, but did not cause any detrimental effects or reach problem proportions. The desander and desilter were run to assist with control of the solids in the system immediately barite and drillwater were available.

### SOLIDS CONTROL:

Drilling the third sidetrack, Casino – 4DW2, the shakers were dressed with 165 mesh screens with 10 mesh scalping screens on instructions from the Santos Co Man to allow the weight to increase because there was no barite or drillwater available on the rig due to bad weather conditions. The system soon increased in weight to 10.8 ppg, and it became necessary to screen up to 180 mesh then to 200 mesh to control weight increases which were not desired at the time.

As soon as the weather improved allowing barite and drillwater to be taken on, the screens were changed out to 200 mesh which worked very well in removing cuttings and fine solids. The desilter and desander were used at the time, as before the mud losses were too great when there was no drill water to build more volume.



**DOWNHOLE LOSSES:** 

None observed

### **OBSERVATIONS AND RECOMMENDATIONS:**

Shipping brine to the rig rather than mixing salt on the rig itself proved to be effective from the point of view of continuity of supply and minimisation of bulk bag handling offshore. These benefits need to be offset however against the cost of the brine mixing operation in town and the product wasted due to ullage. Due to the mixing of brine in town there was no time during which the mixing of brine offshore interrupted the critical timeline which would have resulted in a major cost impact.



Interval VI	1998 <b>-</b> 24	04 meters	8 <sup>1</sup> / <sub>2</sub> " Section	TD at 2404 meters
MUD TYPE	:	FloPro Drill i	in Fluid	
MUD RELATED HOLE PROBLE	) MS :	None		
MUD PROPERT	TIES:			
		Mud Weigh	it: 10.5 – 10.8 ppg	7 2
		YP:	25-40	
		PV	12-17	
		API FL:	3.8-4.8 cc	
		KCl:	6 %	
		LSRV0.3rpn	n 52 – 57 k	
		Funnel Vis:	52 – 59 sec/qt	
		Hardness:	280 - 1160 mg/	1
		LGS:	5-9 %	
		Drill Solids:	4-8 %	
		PH:	9.7 - 11	
		6 RPM:	10 - 18	

### **OPERATIONS:**

Drilling  $8\frac{1}{2}$ " hole progressed steadily at ROPs mostly below 20 meters per hour. TD at 2404 meters was reached without any hole problems. Here a trip back to the shoe was made, then the string was run to bottom, bottoms up circulated, flow check was done which showed the hole was static. The string was pulled to run the production screens.

The screens were run to bottom without any problems and the completion operations were begun.

After pumping a viscous pill using Safe Vis E for viscosity and incorporating 5% Safe Surf WN for the removal of any water based mud residue, the hole was displaced to a CaCl<sub>2</sub> brine weighing 10.2 ppg. The brine had been treated with Dirt Magnet to flocculate out any impurities, and Safe-Cide and Safe-Cor were added prior to the displacement. Production tubing was then run for well testing to be done.



### MUD:

Initially mixed only 1060 bbls of FloPro due to pit restrictions on the rig. FloVis Plus was added at 1 ppb to ensure the mud would go through the shaker screens on the displacement. As pit space became available all of the 2000 bbls of KCl/NaCl brine mixed in Portland were taken off the boat. With the new brine more volume of FloPro was mixed at program specifications, and after the displacement the concentration of all products was immediately increased also to program specifications.

The cement and 95%" casing shoe were drilled with mud from the previous interval. A viscous pill incorporating a Fluorsceine dye was pumped ahead of the new mud. All the old mud was dumped at the shakers as soon as the displacement began. The header box and sand traps were dumped and cleaned during the displacement procedure. As soon as returns were FloPro, all mud was directed back to the active pit.

No mud was lost at the shakers, and additions of Flo Vis Plus were started immediately. The LSRV 0.3 rpm reading increased to above 50,000, the fluid loss was less than the programmed 5 ml, and all other properties were well within specifications. The mud remained stable and in top condition for the complete short drilling interval.

### **DOWNHOLE LOSSES:**

None observed

### **OBSERVATIONS AND RECOMMENDATIONS:**

The FloPro Drill In Fluid proved once again it is an excellent non-damaging fluid for drilling through the production zones. It remains stable and exhibits good hole cleaning abilities if properties are maintained within programs specifications.

Whilst very labour intensive and time consuming the mixing of the large quantities of CaCO<sub>3</sub> required was all done off the critical timeline. Consideration should be given in future to shipping CaCO<sub>3</sub> to the rig in bulk form.

The shipping of premixed brine formulated to be the basis of the mud system undoubtedly saved considerable time preparing the fluid on the rig.



Interval VII	2404 meters	8 <sup>1</sup> / <sub>2</sub> " Section	TD at 2404 meters
MUD TYPE	: CaCl <sub>2</sub> Br	rine	
MUD PROPERTIES	5: Mud W PH: Cl:	Veight: 10.1 – 10.2 p 9 226 000 mg/	ipg 1

### **OPERATIONS:**

1023 bbls of brine weighing 1.18 sg (9.9 ppg) was received from the Portland mixing plant. It was suspected that there was water in the boats tanks prior to loading and this reduced the Brine density. 198 x 25 kg sacks of CaCl2 (74-77%) and 10 x 1.2 MT Bulk bags of Flossy Salt were used to weight up the brine to the programmed mud weight of 1.22 sg (10.1 – 10.2). Dirt Magnet was used to clean the brine. Safe-Cor corrosion inhibitor and Safe-Cide biocide were then added to the brine to meet the programmed properties.

A scraper run was completed to clean the 95%" casing. The Header boxes and flow lines were flushed and cleaned prior to the displacement to ensure the cleanest possible system.

A 50 bbl Hi Vis spacer was built and pumped prior to the CaCl<sub>2</sub> brine and fluoroscene die was added to aid in detection of the spacer upon its return to the shakers. All returns were dumped until the tail of the spacer was identified at the shakers. The header box was again flushed and the system was then shut in. A further 100 bbls of the CaCl<sub>2</sub> brine was then circulated.

A 70 bbl Hi Vis pill was mixed using seawater and 5.5 ppb Guar Gum. The pill was jetted to show that the riser was unobstructed as the tree cap could not be landed out.



DAILY DISCUSSION REPORT



Operator : Santos Ltd Well Name : Casino 4 Contractor : Diamond Offshore Field/Area : VIC P-44 Description : Gas Producer Location : Otway Basin

6/05/2005	TD =	0 m	Day 0		
Spudded well to 9 Mixed up 920 bb	9m, Anderdi s of PHG sp	ift survey out 2 degrees. Noud mud. Pumped 200 bbl	Move rig to respud well s to jet in the bit then 50 barrel sweeps every single. Continued to mix PHG.		
Set last of the and	hors. Ballas	ted down and mixed spud	mud. Spudded well to 9m Anderdrift survey out 2degrees. Move rig.		
7/05/2005	TD =	137 m	Day 1		
Respudded well. Respudded well <i>a</i> filled hole with 3	Drilled to T nd drilled to 50 bbls PHC	D 137m. POOH, ran 30" o D TD. Mixed 940 bbls PH G. POOH to run csg.	csg, 20" swaged shoe set at 137 m and cemented as per program. G and 320 bbls 11 ppg kill mud. Pumped 100 bbl PHG sweep at TD then pulled back and		
Respudded well.	Drilled to se	ction TD at 137m. POOH	I, ran 30" csg and cemented as per program.		
8/05/2005	TD =	363 m	Day 2		
Wait on cement j	ob. RIH to ta	ag cement, require further	cement. POOH, make up 17.5" BHA and RIH tag cement at 135 m and drill shoe at 137		
Mixed 1200 bbls connections and 7	PHG. Pump 75 bbl mid s	ed 60 bbls PHG sweeps o tand sweep regime while s	n connections and 40 bbl PHG sweeps mid stand. Company man requested 75 bbl on flow rate at 1100 gpm. Continued to mix PHG as required.		
Wait on cement.	RIH to tag c	ement. Further cement job	p required. RIH, drilled csg shoe at 135m. Drill ahead to 363m.		
9/05/2005	TD =	742 m	Day 3		
Drilled to section BHA. Rig up and Built 3100 bbls. ( 200 bbls seawater	Drilled to section TD 742 m. Cleaned hole with 200 bbl PHG sweep then pulled out and filled hole with 1000 bbls PHG. Racked back 17 1/2" BHA. Rig up and ran 13 3/8" csg Built 3100 bbls. Continued with 75 bbl PHG mid stand and 75 bbl PHG prior to connection sweep regime. At TD pumped 200 bbls PHG then 200 bbls seawater. Filled hole with 1000 bbls PHG.				
Drilled to section	TD 742m. l	Pumped 200bbl PHG swee	ep then filled hole with 1000bbls PHG. POH to run csg. Ran 13 3/8" csg.		
10/05/2005	TD =	742 m	Day 4		
Continued to run out 17 1/2" BHA Mixed 220 bbls F	13 3/8" csg Rig up and HG in pit 1	and landed shoe at xxm. ( ran Sub Sea Xmas tree ar and dunped same as pit v	Circulated with seawater then cemented as per program. POH with running tool and layed nd tested. Moved rig 15 m RU and PU BOP vas required for cement job. Made 12 MT adjustment to correct bulk barite figure.		
Completed runnin	ng 13 3/8" c	sg and cemented as per pr	ogram. POH with running tool and lay out 17 1/2" BHA. Ran Xmas Tree.		
11/05/2005	TD =	742 m	Day 5		
Continue running No treatment requ	BOPs and i aired. No m	igging up for 12 1/4" sect ad built.	ion. Pick up Drill pipe.		
Continue running	BOP, nippl	e up choke, kill and boost	er lines. RIH and land wear bushing assembley. POOH lay down string		



Operator : Santos Ltd Well Name : Casino 4 Contractor : Diamond Offshore Field/Area : VIC P-44 Description : Gas Producer Location : Otway Basin

12/05/2005	TD =	742 m	Day 6		
Made up 12 1/4" Dressed shakers v	BHA and s with 10 me	started picking up drill pipe sh on top and 84 mesh on th	while running in the hole to tag the top of the cement. ne bottom.		
Continued to rig u	Continued to rig up for 12 1/4" section. Tested Bops and commenced running in hole and picking up BHA and drill pipe				
13/05/2005	TD =	1117 m	Day 7		
Tagged cement dr to 1055 m. Observ Displaced hole to shakers. Mixed unweighte system with Barit	13/05/2005 ID = III / m Day /   Tagged cement drilled through shoe at 730 m and 3 m of new hole and perform LOT. EMW 17.9 ppg. Drilled 12.25" hole with SW/Gel sweeps to 1055 m. Observed reduced flow at shakers at 930 m. Heavy sand loading at shakers observed. Displaced hole to KCl-Polymer mud @ 20:00 hrs. Minimal losses experianced at this time. Drilled to 1117 m. Continued to see sand at the shakers.   Mixed unweighted KCl-Polymer Mud. Displaced hole with new mud @ 1055 m. Mud properties shown are for initial mix. Started weighting up system with Barite. Building up mud properties to spec gradually.				
14/05/2005	TD =	1304 m	Day 8		
Drilled ahead to 1 Drilled to 1304 m Weighted active s Idcap to system to	Drilled ahead to 1250 m. Upgraded shaker screens. Used new screens 12 x 165, 4 x 120, and 8 x 145. Some losses at shakers due to list of rig. Drilled to 1304 m. Circulated hole clean. POOH. Bit Undergage. Changed BHA and started RIH. Weighted active system to 10 ppg and treated system to meet program specs. Treated system with Duovis to increase low end rheology. Added Idcap to system to substitute for depletion. Cuttings integrity at shakers good.				
15/05/2005	TD =	1761 m	Day 9		
RIH to bottom. D @ 23:30 hrs to co Added 4 bags of I weight from 10.4	RIH to bottom. Drilled toTD 1761 m. Used new 12 x 165XR screeens. Could not run Desilter due to leaking valves. Fixed valves and started back @ 23:30 hrs to control mud weight. Carbide run indicates 14% overgage hole. Added 4 bags of KCl to system to maintain K conc. Made up 285 bbls unweigted premix in pit 2. Transfer 100 bbls to active to reduce mud weight from 10.4 + ppg to 10.3 ppg from 1350 m to 1400 m. Took 400 bbl of 16% KCl brine from FarGrip into Pit 5.				
16/05/2005	TD =	1761 m	Day 10		
Drilled to core point 1761 m. Circulated B/U. Condcuted short trip to 1300 m. Back reamed tight hole from 1761m to 1567 m. Pipe stuck @1567m. Work pipe free Continue to backream from 1553m to 1293 m.R/I to bottom tagged 6 m of fill. Circulated hole clean. Replaced damage screens with used new 4 x 165 mesh screens. POOH pumped slug at 1500m. Back ream from 1280m to 1095 m. Pump out of hole from 1095m to shoe 727m. Circ B/Up then pumped 2nd slug. POOH. Made up core barrel assy. Added Glute to active prior to pulling out of hole after wiper trip. Increased mud wt due to solids during reaming. Observed small cavings on shakers during reaming. Took remaining 600 bbl of 16% KCl brine from FarGrip. Wrangler has 1000 bbl of NaCl brine.					
17/05/2005	TD =	1794 m	Day 11		
1//05/2005 1D - 1/94 m Day 11   RIH to bottom. Circulated B/U and commenced coring. Core down from 1761 to 1794.52 m. Circulated hole and gas. POOH to recover 33 m core.   Transfered new premix from pit 4 to active to dilute to control mud weight. Started desilter at 7.00 am output 11.4 ppg. Treated mud with KOH and Defoam A. Centrifuge not available.					

MiSW	ACO	Operator : Santos Well Name : Casino Contractor : Diamon	Operator : Santos LtdField/Area :Well Name : Casino 4Description :Contractor : Diamond OffshoreLocation :			Daily Discussion M-I Well :
18/05/2005	TD = 1795	m Day	12			
Continued to lay log core section. Made premix in l	Continued to lay out core barrels. R/U for logging. Tools held up at 1670 m. Lay down Logging tools. R/I with bit & LWD tools to drill 30 m and log core section. Worked string through tight spot 1670m to 1700 m. Drilled to 1795 m Made premix in Pit 2.					
19/05/2005	TD = 1825	m Day	13			
Drilled ahead to 1825 m. Circulated 2 x B/U. POOH reaming tight spot at 1777 m. Run one wireline log run. RIH with OEDP for plug back. Circulated hole clean. Prepare for first cement plug. Mixed 60 bbl of HiVis 12 ppg pill for kick off plug.						
20/05/2005	TD = 1825	m Day	14			
POOH to 1505 m pumped 53 bbl hi Vis pill. POOH to 1405 m and pumped kick off plug to 1255 m. POOH to 1250 m and reverse circulated the string contents. POOH and waited on cement. RIH. Pumped 55 bbl of weighted HiVis pill before Top Plug.						



19/03/2003	ID –	1233 111	Day 0
20/05/2005	TD =	1255 m	Day 1
WOC. Made up F Dumped sand tra mud weight from	BHA. Circu ps and head 10.9 ppg t	llated riser to cut mud weigl der box and cleaned out soli o 10.5 ppg using premix. Tr	ht. RIH. ids. Dressed shakers with new 16 x 200 mesh screens. Reduced riser + surface volume reated system with Citric & Bicarb.
21/05/2005	TD =	1570 m	Day 2
Wash down 1170 g angle to 22 deg Treated cement c Duovis to improv increase mud wei	to 1273 m rees @ 23: ontamination re rheology ght to 10.7	Attempt to kick off from h 30 hrs. on with Bicarb/Citric. Pump Used 13 x 200XR new scr ppg @1500 m.	hard cement top @ 1273 m and started new hole ffrom 1308 m. Drilled to 1570 m buildin to 50 bbl SW in an attempt to mitigate Bit Balling as per DSV. Treated system with treens. Received 870 bbl of 16% KCl brine from Fargrip. Added barite to system to
22/05/2005	TD =	1662 m	Day 3
Drilled to 1559 m Treated system w flow. Used new 3	n. P/O to ca ith Duovis x 200 & 4	using shoe. Repair Top drive /Idcap for maintenance. Los x 180 mesh screens.	e. Run back in. Drilled to 1662 m. Circulated hole. POOH to change BHA. st 120 bbl at shakers after trip due to high Idcap conc. Downgraded few screens to handle
23/05/2005	TD =	1662 m	Day 4
Unable to run in l Plug#2 from 1350 Pumped 60 bbl of volume with Citr cleaning out head	pent motor ) m to 1200 f HiVis pill ic acid. Gel er box.	assembly. RIH OEDP to 14 0 m. P/O to 1145 m. Reverse l weighted to 12 ppg below lled up leaking dump valve	450 m and circulated hole clean. Placed HiVis pill. P/O to 1350 m. Placed Kick Off ered out. WOC. cement plug. Dumped contaminated returns (42 bbl) during reverse out. Treated surface in Pit 2. Some sea water entered into active system due to not isolating sandtraps while
24/05/2005	TD =	1662 m	Day 5
Waiting on cemer ahead to kick off Dumped Sandtrap system with prem viscosity.	nt. Pressure to 1260 m. o. Trated sy ix to cut m	e tested BOP. Made up 12.2 Unable to kick off. ystem with available Citric a nud weight from 10.8 to 10.0	25" side track BHA. RIH. Soft cmt observed at 1176 m and hard cmt at 1199 m. Drilled and Bicarb for cement contamination. Took out 155 bbl active mud into Pit 2 and diluted 6 ppg. Mud severely contaminated with cement. Dumping and diluting to control
25/05/2005	TD =	1662 m	Day 6
Circulated botton Meanwhile made Dumped 105bbl o Dumped returns o	ns up and P up BHA e cement con luring reve	POH. RIH. Pumped hi vis pi tc. taminated mud from active rse out. Cleaned out Header	Ill and cement plug at 1265-1100m. Pulled out to 1040 m and reverse circulated. WOC. and topped up with 220bbl premix from pits 1 & 5 to reduce cement contamination. r Box.

Mi SWACO			<b>Operator</b> : Santos Ltd <b>Well Name</b> : Casino 4 DW <b>Contractor</b> : Diamond Offshore	Field/Area : Vic P 44 Description : Gas Producer Location : Otway Basin	Daily Discussion
26/05/2005	TD =	1662 m	Day 7		

26/05/2005	TD =	1662 m	Day 7
WOC. RIH with Added citric acid cement. Used 4 x	motor and and sodiur 180 mesh	circulated. Tagged soft ceme n bicarbonate to condition a screens.	ent@ 1082 m/hard cement @ 1145 m. Drilled cement to 1146 m and kicked off. ctive mud while circulating riser volume. Further added Citric/Bicarb while drilling



Operator : Santos Ltd Well Name : Casino 4 DW2 Contractor : Diamond Offshore



27/05/2005	TD =	1182 m	Day 1								
30 bbl DW was p BHA. RIH. Slip a NOTE: Cumulati Dumped 100bbl 1 bicarbonate, DUC	0 bbl DW was pumped to clear up the bit. This was dumped on return to the surface. Slide drilled to maximise kickoff angle. POH. Picked up BHA. RIH. Slip and cut line. RIH to 1157m and continued sliding to 1182m. VOTE: Cumulative Well cost restarts for this well. Previous well costs are not carried forward on daily report. Dumped 100bbl mud from active pit along with 30 bbl DW sweep to reduce cement affected mud. Treated mud with citric acid, sodium icarbonate, DUOVIS and IDCAP to address cement, viscosity and emulsification.										
28/05/2005	TD =	1274 m	Day 2								
Slide drilled ahea Waiting on impro Treated mud with from shaker head Used 2 new 180 s	Slide drilled ahead to 1274m. POH. P/U BHA with GeoPilot. Now RIH. Waiting on improvement in weather to receive barite, drill water from supply vessels standing by rig. Freated mud with Sodium Bicarbonate and Duovis to address the residual cement effects and rheology. Ran desilter for 1 hour. Dumped mud from shaker header box. Used 2 new 180 shaker screens.										
29/05/2005	TD =	1763 m	Day 3								
Washed down the Dumped 195 bbls Received 1050 bl Treated mud with Used 7 new 180 n Received 1050 bl	Washed down the last two stands and drilled ahead at 35m/hr to 1763m. Dumped 195 bbls unpumpable from pits to prepare for receiving KCl/naCl brine. Received 1050 bbl KCl/NaCl brine from Pacific Wrangler Treated mud with DUOVIS and IDCAP to maintain properties. Screened up shakers to maintain mud weight at 10.8ppg. Used 7 new 180 mesh screens. Received 1050 bbl KCl/NaCl brine from Pacific Wrangler										
30/05/2005	TD =	1998 m	Day 4								
Lower IBOP valu clean. Pump hi vi out of hole. Started to mix Flo Treated active sy in premix to repla	ve on top c is weighted p-Pro mud stem with l ace volume	rive backed out during conr sweep, 65 bbls @ 12 ppg to for next section. Will charge DUOVIS and IDCAP to mai used in open hole. Bleed in	ection. Reconnected and drilled ahead to TD of 1998m. TVD 1743m. Circulate hole o assist with hole cleaning. POH as per Santos instructions. Back reaming required to get e for chemicals at start of 8.5" hole section intain properties. Also added GLUTE to treat the system before POH. Continued to bleed premixes to maintain active volume and to level out weight after heavy sweep pumped.								
31/05/2005	TD =	1998 m	Day 5								
Back reaming ou Maintained hole of weight increase a	31/05/2005 ID – 1998 m Day 5   Back reaming out of hole to 965m. RIH for wiper trip. Circulate bottoms up at 1998m. Flow check and POH.   Maintained hole cleaning properties by adding DUOVIS. Slow transfer of premix from pit 1 into active to maintain surface volume, control weight increase and keep good programmed properties.										
1/06/2005	TD =	1991 m	Day 6								
RIH with 9.625" Transferred mud Mixed 1060 bbls	casing. Wa from Pit # FloPro. Flo	ished down from 1700m to l 3 to Pit #1. Using Pit #1 as a o Vis mixed @ 1 ppb. Will i	and casing. Cemented with shoe at 1991 meters. Pressure tested to 4000psi. ctive. Dump remainder of pit #3 and clean to take brine. ncrease to program specs after well is displaced to avoid losses over shaker screens.								





2/06/2005	TD =	1991 m	Day 7
Pulled out with ce bbl hi-vis spacer. Mixed Hi-vis pill Mixed up another Changed down to	with Fluor 650 bbl F coarse sha	ssembly. Made up 8-1/2" Bl rsceine dye in slug pit for sp loPro mud. aker screens.	HA. RIH. Tagged cement at 1960 m. Drilled cement and rethole to 1998 m. Pumped 30 acer for displacement.
3/06/2005	TD =	2352 m	Day 8
Pumped 30 bbl sp Dumped 926 bbl I programmed mud Screened up shake	acer. Disp KCl/Polyn properties er 3 to 180	laced to FloPro mud. Drilled ner mud while displacing to 5. mesh and shaker 2 & 4 to 2	d ahead to 2352 m. Maintain program properties with additions from premix pits FloPro. After allowing FloPro mud to shear FloVis and DualFlo were added to maintain 230 mesh screens & 200 mesh on #1.
4/06/2005	TD =	2404 m	Day 9
Drilled ahead to T Received 1023 bb with CaCl2 sacks Made up 200 bbl I Screened up shake	D of 2404 ls CaCl2 b on board. hi vis FloF ers and rar	m. Back reamed to shoe. T prine off Far Grip at 9.9ppg. Pro premix in pit 2. desilter and desander to ass	rip in to 2404m. Circulated hole clean. POH to run screens. Appears water in boat tanks from excess volume and reduced weight. Can weight up sist in controlling mud density
5/06/2005	TD =	2404 m	Day 10
Dailly cost adjustr Used Omyacarb 8 Added Dirt magne ppg.	ment made to weight et (2%) to	e for 1023 bbls CaCl brine o up slug to POOH. brine and weighting up with	f \$27621.00. Continued to rig up to displace to brine. all available CaCl2 sacks. Using additional Flossy salt to increase brine density to 10.2
6/06/2005	TD =	2404 m	Day 11
Completed scrapp Increased brine de displacement. Dui	er run and ensity to 1. nped 716	then displaced to CaCl brin 22 SG. Built 70 bbl high vis bbls Flo Pro during displace	he. Cleaned and flushed flow line and header boxes prior to brine returns. s spacer in slug pit (FV 560 s/qt). Added Safe-cide and Safe-cor to brine ready for ement.
7/06/2005	TD =	2404 m	Day 12
Back loaded 7 bul	k bags of	KCl on the 5/6/05. 9 sacks of	of CaCl2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.
8/06/2005	TD =	2404 m	Day 13
Back loaded 4 x 1	.2 MT Flo	ssy Salt.	

MiSW	ACO		Operator : S Well Name : ( Contractor : [	Santos Ltd Casino 4 DW2 Diamond Offshore	Field/Area : Vic P Description : Gas Location : Otwa	44 Producer ıy Basin	Daily Discussion M-I Well :
9/06/2005	TD =	2404 m		Day 14	. <u>.</u>		
10/06/2005	TD =	2404 m	· · · · · · · · · · · · · · · · · · ·	Day 15			
11/06/2005	TD =	2404 m		Day 16			
Back loaded 2 x	1.2 MT FIG	ossy Salt.					
12/06/2005	TD =	2404 m		Day 17			
Mud engineer ret	urned to ri	g. Mixed	70 bbl Hi Vis pill v	with 5.5 ppb Guar C	dum.		
13/06/2005	TD =	2404 m		Day 18			
P/O BOP Stack. I Adjusted Citric A lying on Wrangle	Placed deb ceid Invent r. 1000 bb	ris cap on ory by 6 s 1 of 16% 1	sub sea well head sacks and PipeLax Brine available on	. Pulling Anchors. W by 4 Drums. Als Wrangler.	o presumably 11 BB of K	Cl back loaded to	Portland. 4 BB of CaCl2
14/06/2005	TD =	2404 m		Day 19			



> Cost by Interval



Operator : Santos Ltd Well Name : Casino 4 Contractor : Diamond Offshore	Fiel Desc Lo	d/Area : VIC ription : Ga cation : Otv	C P-44 s Producer way Basin	
SUMMARY OF PRODUCT USAGE FOR	36" INTERVAL	6/05/20	05 - 7/05/2005,	92 - 137 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CALCIUM CHLORIDE 74-77%	25 KG BG	38	0.00	0.00
2 - CAUSTIC SODA	25 KG DM	8	20.46	163.68
3 - MI BAR (Bulk)	1 MT BG	16	231.20	3699.20
4 - MI Gel (Bulk)	1 MT BG	29	251.54	7294.66
SUB TOTAL:				11157.54
TAX:				0.00
WATER-BASED MUD TOTAL COST:				11157.54
TOTAL MUD COST FOR INTERVAL:				11157.54



Operator :Santos LtdWell Name :Casino 4Contractor :Diamond Offshore	Field Descr Loc	//Area: V iption: G ation: O	IC P-44 as Producer tway Basin	
SUMMARY OF PRODUCT USAGE FO	R 17.5" INTERVAL	8/05/2	005 - 11/05/2005,	137 - 742 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CAUSTIC SODA	25 KG DM	18	20.46	368.28
2 - SODA ASH	25 KG BG	18	13.04	234.72
3 - MI BAR (Bulk)	1 MT BG	12	231.20	2774.40
4 - MI Gel (Bulk)	1 MT BG	62	251.54	15595.48
SUB TOTAL:				18972.88
TAX:				0.00
WATER-BASED MUD TOTAL COST:				18972.88
TOTAL MUD COST FOR INTERVAL:				18972.88



Operator :Santos LtdWell Name :Casino 4Contractor :Diamond Offshore	Field Descri Loc	/Area: VI ption: G ation: O	C P-44 as Producer tway Basin	
SUMMARY OF PRODUCT USAGE FOR	R 12.25" INTERVAL	12/05/2	2005 - 20/05/2005,	742 - 1825 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CAUSTIC SODA	25 KG DM	1	20.46	20.46
2 - DEFOAM A	5 GA CN	2	73.39	146.78
3 - DUO-VIS	25 KG BG	121	227.00	27467.00
4 - GLUTE 25	25 LT CN	7	93.68	655.76
5 - OS-1	25 KG BG	23	33.54	771.42
6 - POLYPAC UL	25 KG BG	137	96.30	13193.10
7 - IDCAP D SHALE INHIBITOR	25 KG BG	188	240.73	45257.24
8 - POTASSIUM HYDROXIDE	25 KG CN	23	31.28	719.44
9 - KCl (99%)Big Bag	1 MT BG	4	430.06	1720.24
10 - MI BAR (Bulk)	1 MT BG	85	231.20	19658.94
11 - MI Gel (Bulk)	1 MT BG	10	251.54	2492.76
12 - KCL BRINE 16%	1 BL	2000	13.00	26000.00
SUB TOTAL:				138103.14
TAX:				0.00
WATER-BASED MUD TOTAL COST:				138103.14
TOTAL MUD COST FOR INTERVAL:				138103.14



Operator : Santos Ltd Well Name : Casino 4 DW Contractor : Diamond Offshore	Field Descri Loc	/Area : Vic ption : Ga ation : Otv	P 44 s Producer vay Basin	
SUMMARY OF PRODUCT USAGE FOR	R 12.25" INTERVAL	19/05/200	5 - 26/05/2005,	1255 - 1662 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CITRIC ACID	25 KG BG	66	36.79	2428.14
2 - DUO-VIS	25 KG BG	62	227.00	14074.00
3 - OS-1	25 KG BG	21	33.54	704.34
4 - POLYPAC UL	25 KG BG	34	96.30	3274.20
5 - SODIUM Bicarbonate	25 KG BG	77	10.64	819.28
6 - IDCAP D SHALE INHIBITOR	25 KG BG	52	240.73	12517.96
7 - POTASSIUM HYDROXIDE	25 KG CN	1	31.28	31.28
8 - MI BAR (Bulk)	1 MT BG	31	231.20	7167.20
9 - KCL BRINE 16%	1 BL	870	13.00	11310.00
SUB TOTAL:				52326.40
TAX:				0.00
WATER-BASED MUD TOTAL COST:				52326.4
TOTAL MUD COST FOR INTERVAL:				52326.4
M-I LLC. DRILLING F	LUIDS DATA MANAGE	MENT SYST	EM	



Operator :Santos LtdWell Name :Casino 4 DW2Contractor :Diamond Offshore	Field Descri Loc	/Area : Vic ption : Gas ation : Otw	P44 Producer ay Basin	
SUMMARY OF PRODUCT USAGE FOR	12.25" INTERVAL	27/05/200	5 - 2/06/2005,	1146 - 1998 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CAUSTIC SODA	25 KG DM	3	20.46	61.38
2 - CITRIC ACID	25 KG BG	4	36.79	147.16
3 - DEFOAM A	5 GA CN	2	73.39	146.78
4 - DUO-VIS	25 KG BG	29	227.00	6583.00
5 - POLYPAC UL	25 KG BG	15	96.30	1444.50
6 - SODIUM BICARBONATE	25 KG BG	7	10.64	74.48
7 - IDCAP D	25 KG BG	28	240.73	6740.44
8 - POTASSIUM HYDROXIDE	25 KG CN	3	31.28	93.84
9 - MI BAR (Bulk)	1 MT BG	13	231.20	3005.60
SUB TOTAL:				18297.18
TAX:				0.00
WATER-BASED MUD TOTAL COST:				18297.18
TOTAL MUD COST FOR INTERVAL:				18297.18



Operator :Santos LtdWell Name :Casino 4 DW2Contractor :Diamond Offshore	Fiel Desc Lo	d/Area : Vic ription : Gas cation : Otw	P44 9 Producer 9 Basin	
SUMMARY OF PRODUCT USAGE FOR	R 8.5" INTERVAL	3/06/2005	- 14/06/2005,	1998 - 2404 m
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CALCIUM CHLORIDE Sacks	25 KG BG	207	11.54	2388.78
2 - CITRIC ACID	25 KG BG	6	36.79	220.74
3 - DEFOAM A	5 GA CN	2	73.39	146.78
4 - GLUTE 25	25 LT CN	12	93.68	1124.16
5 - GUAR GUM	25 KG BG	7	60.00	420.00
6 - FLO-VIS PLUS	25 KG BG	67	407.58	27307.86
7 - POTASSIUM HYDROXIDE	25 KG CN	8	31.28	250.24
8 - DUAL-FLO HT	50 LB BG	148	103.08	15255.84
9 - OMYA CARB 8	25 KG BG	1776	11.70	20779.20
10 - BRINE NaCl 18%+KCl 5%	1 BL BK	1700	14.00	23800.00
11 - SALT - FINE	1.2 MT BG	10	248.41	2484.10
12 - DIRT MAGNET	55 GA DM	16	1449.55	23192.80
13 - SAFE-CIDE	25 KG CN	5	91.77	458.85
14 - SAFE-COR	55 GA DM	11	316.31	3479.41
15 - SAFE-VIS E	5 GA CN	14	195.00	2730.00
16 - SAFE-SURF WN	200 KG DM	3	898.50	2695.50
17 - BRINE CALCIUM CHLORIDE	1 BL BL	1023	27.00	27621.00
SUB TOTAL:				154355.26
TAX:				0.00
WATER-BASED MUD TOTAL COST:				154355.26
TOTAL MUD COST FOR INTERVAL:				154355.26

**M-I** *L.L.C.* 



> DAILY VOLUME SUMMARY SHEET

#### Santos Ltd Casino-4 Volume Summaries

#### 36" Interval Seawater/Gel Sweeps

	Mud Volume (bbl) Volume Built bbl										Volume	e Lost bbl									
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Synthetic	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Sweeps	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
6-May	0	0	0	720	720				920			920	920						200	200	200
7-May	137	0	0	1433	1433				1261			1261	2181						548	548	748

#### 17.5" Interval Seawater/Gel Sweeps

		Mu	d Volume (	bbl)					Volume	Built bbl							Volume	e Lost bbl			
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Synthetic	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Sweeps	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
8-May	363	0	0	1542	1542		1433		1194			2627	2627						1085	1085	1085
9-May	742	0	0	1722	1722				3098			3098	5725						2918	2918	4003
10-May	742	0	0	1722	1722				200			200	5925				200			200	4203
11-May	742	0	0	1722	1722							0	5925							0	4203
12-May	742	0	0	1722	1722							0	5925							0	4203

#### 12.25" Interval Seawater / Hi Vis Sweeps

		Muc	l Volume (	bbl)					Volume	Built bbl						Volume	e Lost bbl			
Date	e Depth Hole Surf Res. & Total Water Mud Synthetic Mud Chemical Barite Daily Cum										Shakers	Centri-	Desander	Dump	Hole	Sweeps	Daily	Cummul		
			Active	Premix	Vol		Received	Added	Built		Total	Built		fuge					Total	Lost
13-May	1117	0	0	60	60	300	1722			17	2039	2039						1979	1979	1979

#### 12.25" Interval KCl-Polymer

		Muc	d Volume (	bbl)					Volume	Built bbl				1			Volume	e Lost bbl			
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Brine	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Left in	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge				Hole	Total	Lost
13-May	1100	558	372	212	1142	546	60	540		27		1173	1173	31						31	31
14-May	1304	658	386	830	1874	396		460		113		969	2142	237						237	237
15-May	1761	920	445	905	2270	126		400		18		544	2686	148						148	385
16-May	1761	984	408	1140	2532			520		5		525	3211	53			210			263	648
17-May	1794	1002	512	906	2420					20		20	3231	48		84				132	780
18-May	1795	938	490	1162	2590	246				10		256	3487	36			50			86	866
19-May	1825	980	388	1150	2518					7		7	3494	39		40				79	945
20-May	1825	894	402	1129	2425							0	3494						93	93	1038

#### 12.25" Casino 4 DW - KCl-Idcap - Polymer

		Mu	d Volume (	bbl)					Volume	Built bbl				I			Volume	e Lost bbl			-
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Brine	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Other	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
20-May	1255	674	539	1129	2342		2393					2393	2393				51			51	51
20-May	1255	674	548	955	2177					2		2	2395				167			167	167
21-May	1570	783	415	1378	2576			870		3	12	885	3280	151			335			486	653
22-May	1662	869	493	913	2275					6	12	18	3298	61		132	126			319	972
23-May	1662	777	580	1072	2429	182				4	10	196	3494				42			42	1014
24-May	1662	741	414	934	2089					3		3	3497	18			325			343	1357
25-May	1662	779	539	885	2203	200				6	13	219	3716				105			105	1462
26-May	1662	735	560	885	2180							0	3716	23						23	1485

#### 12.25" Casino 4 DW2 - KCl-Idcap - Polymer

		Muc	l Volume (	bbl)					Volume	Built bbl							Volume	e Lost bbl			
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Brine	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Other	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
27-May	1182	599.4	480.6	920	2000	52	2036			4	8	2100	2100				100			100	100
28-May	1274	647	756	525	1928					1	5	6	6	21		42	15			78	78
29-May	1763	869	517	140	1526	2					2	4	4	206			195		5	406	406
30-May	1998	976	562	100	1638	242				2	4	248	248	136						136	136
31-May	1998	1029	535	88	1652	101				1	2	104	104	90						90	90
1-Jun	1991	565	226	175	966							0	0				223	463		686	686
2-Jun	1998	463	462	0	925							0	0				41			41	41
3-Jun	1998	0	0	0	0							0	0				925			925	925

#### 8.5" Casino 4 DW2 - Flo Pro

-		Muc	l Volume (	bbl)					Volume	Built bbl							Volume	e Lost bbl			
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Brine	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Other	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
3-Jun	2352	527	485	580	1592			1700		123		1823	1823	195					36	231	231
4-Jun	2404	661	431	1251	2343			1024		6		1030	1030				279			279	279
5-Jun	2404	661	435	1251	2347					4		4	4							0	0
6-Jun	2404	570	154	995	1719					88		88	88				716			716	716

#### 8.5" Casino 4 DW2 - CaCl2 Brine

		Muc	l Volume (	bbl)					Volume	Built bbl							Volume	e Lost bbl			
Date	Depth	Hole	Surf	Res. &	Total	Water	Mud	Brine	Mud	Chemical	Barite	Daily	Cum	Shakers	Centri-	Desilter	Dump	Hole	Other	Daily	Cummul
			Active	Premix	Vol		Received	Added	Built			Total	Built		fuge					Total	Lost
7-Jun	2404	570	154	995	1719		1719					1719	1719							0	0
8-Jun	2404	570	154	995	1719							0	0							0	0
9-Jun	2404	570	154	995	1719							0	0							0	0
10-Jun	2404	570	154	995	1719							0	0							0	0
11-Jun	2404	570	154	995	1719							0	0							0	0
12-Jun	2404	370	424	995	1789	69				1		70	70							0	0
13-Jun	2404	370	424	995	1789							0	0							0	0
14-Jun	2404	370			370							0	0				1419			1419	1419



> TOTAL MATERIAL COST


Operator :Santos LtdWell Name :Casino 4Contractor :Diamond Offshore	Fie Des L	eld/Area : VIC cription : Gas ocation : Otw	P-44 Producer vay Basin		
SUMMARY OF PRODUCT USAGE FO	R WELL	6/05/200	5 - 20/05/2005	,92 - 1825 m	
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST	
			(\$)	(\$)	
1 - CALCIUM CHLORIDE 74-77%	25 KG BG	38	0.00	0.00	
2 - CAUSTIC SODA	25 KG DM	27	20.46	552.42	
3 - DEFOAM A	5 GA CN	2	73.39	146.78	
4 - DUO-VIS	25 KG BG	121	227.00	27467.00	
5 - GLUTE 25	25 LT CN	7	93.68	655.76	
6 - OS-1	25 KG BG	23	33.54	771.42	
7 - POLYPAC UL	25 KG BG	137	96.30	13193.10	
8 - SODA ASH	25 KG BG	18	13.04	234.72	
9 - IDCAP D SHALE INHIBITOR	25 KG BG	188	240.73	45257.24	
10 - POTASSIUM HYDROXIDE	25 KG CN	23	31.28	719.44	
11 - KCI (99%)Big Bag	1 MT BG	4	430.06	1720.24	
12 - MI BAR (Bulk)	1 MT BG	113	231.20	26132.54	
13 - MI Gel (Bulk)	1 MT BG	101	251.54	25382.90	
14 - KCL BRINE 16%	1 BL	2000	13.00	26000.00	
SUB TOTAL:				168233.56	
TAX:				0.00	
WATER-BASED MUD TOTAL COST:				168233.56	

TOTAL MUD COST FOR INTERVAL:

168233.56



SUMMARY OF PRODUCT USAGE FOR WELL         10105/000000000000000000000000000000000	Operator : Santos Ltd Well Name : Casino 4 DW Contractor : Diamond Offshore	Fie Des L	Id/Area : Vic I cription : Gas ocation : Otw	⊃ 44 Producer ay Basin	
WATER-BASED MUD         SIZE         AMOUNT         UNIT COST         PROD COST           1. CUTRIC ACID         25 KG BG         66         36.79         2428.14           2. DUG-VIS         25 KG BG         62         227.00         14074.00           3. OS-1         25 KG BG         62         227.00         14074.00           4. POLYPAC UL         25 KG BG         61         96.30         3274.20           5. SODIUM Bicarbonate         25 KG BG         77         10.64         819.28           6. IDCAP D SHALE INHIBITOR         25 KG BG         62         240.73         12517.96           6. IDCAP D SHALE INHIBITOR         25 KG CN         1         31.28         31.28           8. MI BAR (Bulk)         1 MT BG         31         231.20         7167.20           9. KCL BRINE 16%         1 BL         870         13.00         11310.00           SUB TOTAL:         52326.40         52326.40         52326.40         52326.40           TAX:         0.00         WATER-BASED MUD TOTAL COST:         52326.40         52326.40           TOTAL MUD COST FOR INTERVAL:         52326.40         52326.40         52326.40	SUMMARY OF PRODUCT USAGE FO	R WELL	19/05/2005 ·	26/05/2005,	1255 - 1662 m
1. CITRIC ACID       25 KG BG       66       36.79       2428.14         2. DUO-VIS       25 KG BG       62       227.00       14074.00         3. OS-1       25 KG BG       21       33.54       704.34         4. POLYPAC UL       25 KG BG       34       96.30       3274.20         5. SODIUM Bicarbonate       25 KG BG       77       10.64       619.28         6. IDCAP D SHALE INHIBITOR       25 KG BG       52       240.73       12517.96         7. POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8. MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9. KCL BRINE 16%       1 BL       870       13.00       1131.00         SUB TOTAL:       52326.40       52326.40       52326.40         TAX:       0.00       WATER-BASED MUD TOTAL COST:       52326.40         TOTAL MUD COST FOR INTERVAL:       52326.40       52326.40	WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
1 - CITRIC ACID       25 KG BG       66       36.79       2428.14         2 - DUO-VIS       25 KG BG       62       227.00       14074.00         3 - 0S-1       25 KG BG       21       33.54       704.34         4 - POLYPAC UL       25 KG BG       34       06.30       3274.20         5 - SODIUM Bicarbonate       25 KG BG       77       10.64       819.28         6 - IDCAP D SHALE INHIBITOR       25 KG CN       1       31.28       31.28         7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.20       7167.20         9 - KCL BRINE 16%       1 BL       870       13.00       11310.00         SUB TOTAL:       52326.40       52326.40       52326.40         TAX:       0.00       00       00       00         WATER-BASED MUD TOTAL COST:       52326.40       52326.40       52326.40         TAX:       0.00       52326.40       52326.40       52326.40         TAX:       52326.40       52326.40       52326.40       52326.40         TAX:       52326.40       52326.40       52326.40       52326.40				(\$)	(\$)
2 - DUO-VIS       25 KG BG       62       227.00       14074.00         3 - OS-1       25 KG BG       21       33.54       704.34         4 - POLYPAC UL       25 KG BG       34       96.30       3274.20         5 - SODIUM Bicarbonate       25 KG BG       77       10.64       819.28         6 - IDCAP D SHALE INHIBITOR       25 KG BG       52       240.73       12517.96         7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8 - MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9 - KCL BRINE 16%       1 BL       870       13.00       1310.00         SUB TOTAL:         TOTAL       52326.40         TAX:       0.00       0.00         WATER-BASED MUD TOTAL COST:       52326.4       52326.4         TOTAL MUD COST FOR INTERVAL:       52326.4	1 - CITRIC ACID	25 KG BG	66	36.79	2428.14
3 - 0S-11       25 KG BG       21       33.54       704.34         4 - POLYPAC UL       25 KG BG       34       96.30       3274.20         5 - SODIUM Bicarbonate       25 KG BG       77       10.64       819.28         6 - IDCAP D SHALE INHIBITOR       25 KG BG       52       240.73       12517.96         7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8 - MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9 - KCL BRINE 16%       1 BL       870       13.00       11310.00         SUB TOTAL:        52326.40       0.00       300       1231.20       7067.20         YATER-BASED MUD TOTAL COST:        52326.40       52326.40       52326.40       52326.40	2 - DUO-VIS	25 KG BG	62	227.00	14074.00
4 - POLYPAC UL       25 KG BG       34       96.30       3274.20         5 - SODIUM Bicarbonate       25 KG BG       77       10.64       819.28         6 - IDCAP D SHALE INHIBITOR       25 KG BG       62       240.73       12517.96         7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8 - MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9 - KCL BRINE 16%       1 BL       870       13.00       1310.00         SUB TOTAL:       52326.40       52326.40       52326.40         TAX:       0.00       52326.40       52326.40       52326.40         WATER-BASED MUD TOTAL COST:       52326.40       52326.40       52326.40	3 - OS-1	25 KG BG	21	33.54	704.34
5 - SODIUM Bicarbonate         25 KG BG         77         10.64         819.28           6 - IDCAP D SHALE INHIBITOR         25 KG BG         52         240.73         12517.96           7 - POTASSIUM HYDROXIDE         25 KG CN         1         31.28         31.28           8 - MI BAR (Bulk)         1 MT BG         31         231.20         7167.20           9 - KCL BRINE 16%         1 BL         870         13.00         11310.00           SUB TOTAL:         52326.40         52326.40         52326.40           TAX:         0.00         0.00         0.00           WATER-BASED MUD TOTAL COST:         52326.40         52326.40           TOTAL MUD COST FOR INTERVAL:         52326.40         52326.40	4 - POLYPAC UL	25 KG BG	34	96.30	3274.20
6 - IDCAP D SHALE INHIBITOR       25 KG BG       52       240.73       1251.96         7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8 - MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9 - KCL BRINE 16%       1 BL       870       13.00       11310.00         SUB TOTAL:       52326.40       52326.40       52326.40         TAX:       0.00       00       000         WATER-BASED MUD TOTAL COST:       52326.40       52326.40         TOTAL MUD COST FOR INTERVAL:       52326.40       52326.40	5 - SODIUM Bicarbonate	25 KG BG	77	10.64	819.28
7 - POTASSIUM HYDROXIDE       25 KG CN       1       31.28       31.28         8 - MI BAR (Bulk)       1 MT BG       31       231.20       7167.20         9 - KCL BRINE 18%       1 BL       670       13.00       11310.00         SUB TOTAL:       52326.40       52326.40       52326.40         TAX:       0.00       00       00         WATER-BASED MUD TOTAL COST:       52326.40       52326.40         TOTAL MUD COST FOR INTERVAL:       52326.40       52326.40	6 - IDCAP D SHALE INHIBITOR	25 KG BG	52	240.73	12517.96
8 - MI BAR (Bulk)         1 MT BG         31         231.20         7167.20           9 - KCL BRINE 16%         1 BL         870         13.00         11310.00           SUB TOTAL:         52326.40         52326.40         52326.40           TAX:         0.00         52326.40         52326.40           VATER-BASED MUD TOTAL COST:         52326.40         52326.40           TOTAL MUD COST FOR INTERVAL:         52326.40         52326.40	7 - POTASSIUM HYDROXIDE	25 KG CN	1	31.28	31.28
9 - KCL BRINE 16%         1 BL         870         13.00         11310.00           SUB TOTAL:         52326.40         0.00           TAX:         0.00         52326.40           VATER-BASED MUD TOTAL COST:         52326.40           TOTAL MUD COST FOR INTERVAL:         52326.40	8 - MI BAR (Bulk)	1 MT BG	31	231.20	7167.20
SUB TOTAL:52326.40TAX:0.00WATER-BASED MUD TOTAL COST:52326.4TOTAL MUD COST FOR INTERVAL:52326.4	9 - KCL BRINE 16%	1 BL	870	13.00	11310.00
SUB TOTAL:52326.40TAX:0.00WATER-BASED MUD TOTAL COST:52326.40TOTAL MUD COST FOR INTERVAL:52326.40					
TAX:0.00WATER-BASED MUD TOTAL COST:52326.4TOTAL MUD COST FOR INTERVAL:52326.4	SUB TOTAL:				52326.40
WATER-BASED MUD TOTAL COST:52326.4TOTAL MUD COST FOR INTERVAL:52326.4	TAX:				0.00
TOTAL MUD COST FOR INTERVAL: 52326.4	WATER-BASED MUD TOTAL COST:				52326.4
TOTAL MUD COST FOR INTERVAL: 5236.4					
TOTAL MUD COST FOR INTERVAL: 52326.4					
	TOTAL MUD COST FOR INTERVAL:				52326.4



Operator :Santos LtdWell Name :Casino 4 DW2Contractor :Diamond Offshore	Fic Des L	eld/Area : Vic cription : Gas .ocation : Otw	P44 s Producer vay Basin		
SUMMARY OF PRODUCT USAGE FOR	RWELL	27/05/2005 -	1146 - 2404 m		
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST	
			(\$)	(\$)	
1 - CALCIUM CHLORIDE Sacks	25 KG BG	207	11.54	2388.78	
2 - CAUSTIC SODA	25 KG DM	3	20.46	61.38	
3 - CITRIC ACID	25 KG BG	10	36.79	367.90	
4 - DEFOAM A	5 GA CN	4	73.39	293.56	
5 - DUO-VIS	25 KG BG	29	227.00	6583.00	
6 - GLUTE 25	25 LT CN	12	93.68	1124.16	
7 - GUAR GUM	25 KG BG	7	60.00	420.00	
8 - POLYPAC UL	25 KG BG	15	96.30	1444.50	
9 - SODIUM BICARBONATE	25 KG BG	7	10.64	74.48	
10 - FLO-VIS PLUS	25 KG BG	67	407.58	27307.86	
11 - IDCAP D	25 KG BG	28	240.73	6740.44	
12 - POTASSIUM HYDROXIDE	25 KG CN	11	31.28	344.08	
13 - MI BAR (Bulk)	1 MT BG	13	231.20	3005.60	
14 - DUAL-FLO HT	50 LB BG	148	103.08	15255.84	
15 - OMYA CARB 8	25 KG BG	1776	11.70	20779.20	
16 - BRINE NaCI 18%+KCI 5%	1 BL BK	1700	14.00	23800.00	
17 - SALT - FINE	1.2 MT BG	10	248.41	2484.10	
18 - DIRT MAGNET	55 GA DM	16	1449.55	23192.80	
19 - SAFE-CIDE	25 KG CN	5	91.77	458.85	
20 - SAFE-COR	55 GA DM	11	316.31	3479.41	
21 - SAFE-VIS E	5 GA CN	14	195.00	2730.00	
22 - SAFE-SURF WN	200 KG DM	3	898.50	2695.50	
23 - BRINE CALCIUM CHLORIDE	1 BL BL	1023	27.00	27621.00	

SUB TOTAL:

172652.44



Operator : Santos Ltd	Field/Area : Vic P44
Well Name : Casino 4 DW2	Description : Gas Producer
Contractor : Diamond Offshore	Location : Otway Basin
SUMMARY OF PRODUCT USAGE FOR INTERVA	<b>27/05/2005 - 14/06/2005, 1182 - 2404 r</b> 0.00
WATER-BASED MUD TOTAL COST:	172652.44
TOTAL MUD COST FOR INTERVAL:	172652.44



DRILLING FLUIDS RECAP FOR SANTOS CASINO 4/4DW/DW2

> HYDRAULICS REPORT



**Operator :** Santos Ltd

Well Name : Casino 4

Contractor : Diamond Offshore

Field/Area : VIC P-44

Description : Gas Producer

Contractor : Dia	amond C	msnore			Location	i: Otway E	Basin		
Date		6/05/2005	7/05/2005	8/05/2005	9/05/2005	10/05/2005	11/05/2005	12/05/2005	13/05/2005
Depth	m		137	363	742	742	742	742	1055
Days Since Spud			1	2	3	4	5	6	7
*RHEOLOGICAL PROPI	ERTIES								
Mud Wt	sp.gr.	1.04	1.06	1.06	1.06	1.06	1.06	1.06	1.07
Plastic Visc	cP								12
Yield Point	lb/100ft <sup>2</sup>								14
3-rpm Rdg	Fann deg								4
np Value	U	.3949	.3949	.3949	.3949	.3949	.3949	.3949	.5475
Kp Value lb•s'	^n/100ft <sup>2</sup>	4.9103	4.9103	4.9103	4.9103	4.9103	4.9103	4.9103	.9127
na Value		.2885	.2885	.2885	.2885	.2885	.2885	.2885	.3769
Ka Value lb•s'	^n/100ft <sup>2</sup>	7.9979	7,9979	7,9979	7,9979	7,9979	7,9979	7,9979	2.3078
*FLOW DATA									
Flow Rate	gal/min	0	1023	1093	772	0	0	0	1003
Pump Pressure	nsi	0	1000	2200	2900	0	0	0	3200
Pump	hhn	*	*	1403	*	*	*	*	1873
*PRESSURE LOSSES	mp		-	1405		-			1075
Drill String	nci	*	*		*	*	*	*	1283
Bit	psi	*	*		*	*	*	*	077
Annulus	psi	*	*		*	*	*	*	20
Total Sustam	psi	*	*		*	*	*	*	20
	psi		•		•	•	•	•	2200
*BIT HYDKAULIUS	1/201	4.22	4.22	2.20	2.20	2.20	2.20	2.20	2.20
Nozzies	1/32"	4X22	4X22	3X20	3X20	3x20	3X20	3X20	3X20
Nozzies	1/32	*	*	20	20	20	20	*	21
Bit Pressure	%	*	* *		*	* *	*	*	31
Bit	hhp	*	*		*	*	*	*	5/1
Bit HSI	(index)	*	*		*	*	*	*	4.85
Jet Velocity	ft/s	*	*	87	*	*	*	*	107
Impact Force	Newton	*	*		*	*	*	*	1620
DRILL COLLARS ANNU	JLUS	-	-	-	-	-	-	-	
Velocity	m/s	*	*	1	*	*	*	*	1
Critical Vel	m/s	*	*		*	*	*	*	1
Reynolds Number		*	*		*	*	*	*	2587
Crit Re (Lam - Tran)		*	*	2929	*	*	*	*	2720
*DRILL PIPE ANNULUS	5								
Velocity	m/s	*	*		*	*	*	*	1
Critical Vel	m/s	*	*		*	*	*	*	1
Reynolds Number		*	*		*	*	*	*	1725
Crit Re (Lam - Tran)		*	*	2929	*	*	*	*	2720
*HOLE CLEANING									
Slip Velocity	m/s	*	*		*	*	*	*	
Rising Velocity	m/s	*	*		*	*	*	*	1
Lifting Capacity	%	*	*	88	*	*	*	*	88
Cutting Conc	%	*	*	1.78	*	*	*	*	0.57
Penetration Rate	m/h	0	3	25	28	0	0	0	15
CASING SHOE PRESSU	RES								
ECD	sp.gr.	*	*	1.45	*	*	*	*	1.08
ECD+Cuttings	sp.gr.	*	*	1.47	*	*	*	*	1.09
TOTAL DEPTH PRESSU	RES								
ECD	sp.gr.	*	*	1.45	*	*	*	*	1.09
ECD+Cuttings	sp.gr.	*	*	1.47	*	*	*	*	1.1
M-I LLC			DRIL		S DATA M		NT SYSTEM	I	<u>.</u>



**Operator :** Santos Ltd

Well Name : Casino 4

Field/Area : VIC P-44 Description : Gas Producer

Contractor	Diamond C	Offshore			Locatior	: Otway E	Basin		
Date		14/05/2005	15/05/2005	16/05/2005	17/05/2005	18/05/2005	19/05/2005	20/05/2005	
Depth	m	1304	1638	1761	1794	1794	1824	1255	
Days Since Spud		8	9	10	11	12	13	14	
<b>*RHEOLOGICAL PI</b>	ROPERTIES								
Mud Wt	sp.gr.	1.23	1.24	1.29	1.3	1.3	1.3	1.26	
Plastic Visc	cP	17	21	19	20	23	24	18	
Yield Point	lb/100ft <sup>2</sup>	31	37	31	32	36	33	26	
3-rpm Rdg	Fann deg	9	10	9	8	9	9	7	
np Value		.4374	.4458	.4647	.4695	.4749	.507	.4948	
Kp Value	lb•s^n/100ft2	3.3476	3.8387	2.9418	2.969	3.2566	2.5762	2.1458	
na Value		.3433	.3573	.3527	.3863	.3873	.3873	.3742	
Ka Value	lb•s^n/100ft2	5.4849	5.9576	5.4019	4.5457	5.1054	5.1054	4.0566	
*FLOW DATA									
Flow Rate	gal/min	973	873	883	326	848	848	848	
Pump Pressure	psi	3750	3700	3850	850	3570	3570	3570	
Pump	hhp	2129	1885	*	*	1766	1766	*	
*PRESSURE LOSSE	S		1000			1,00	1,00		
Drill String	nsi	947	1573	*	*	1656	52	*	
Bit	psi	1056	656	*	*	649		*	
Annulus	nsi	39	85	*	*	82	1	*	
Total System	nsi	2043	2314	*	*	2386	54	*	
*BIT HYDRALILICS	psi	2015	2311			2300	51		
Nozzles	1/32"	3x20	7x14	7x14		7x14			
Nozzles	1/32"	5820	////	////		/			
Rit Pressure	0/0	28	18	*	*	18		*	
Bit	hhp	600	33/	*	*	321		*	
Bit HSI	(index)	5.09	2.83	*	*	2 72		*	
Jet Velocity	(Index)	103	2.85 81	*	*	70	•	*	
Impact Force	Newton	1753	1244	*	*	1231		*	
		1755	1244			1231			
Velocity	m/s	1	1	*	*	1		*	
Critical Val	m/s	2	2	*	*	2	2	*	
Paynolds Number	111/5	1212	757	*	*	2	175	*	
Crit P.o. (Lom Tron)		2871	2850	*	*	2810	2775	*	
*DDILL DIDE ANNI	ILLIS	2071	2839			2019	2773	-	
Velocity	m/s		1	*	*	1		*	
Critical Vel	m/s	2	2	*	*	2	2	*	
Paynolds Number	111/ 5	1725	536	*	*	563	563	*	
Crit P.e. (Lam Tran)		2871	2850	*	*	2810	2775	*	
*HOLE CLEANING		2071	2839			2019	2113		
Slip Valaaity	m/s			*	*			*	
Dising Velocity	m/s		1	*	*	1		*	
Lifting Conscitu		٥ <u>٥</u>	1 01	*	*	01	70	*	
Cutting Capacity	<sup>7</sup> 0	00	91	*	*	91	/7	*	
Denotration Data		2.14	0.8		10	0.0	0.0		
CASING SHOE PDE		15	19	U	10	U	U	U	
ECD	SSURES	1.27	1.27	*	*	1.22	1.22	*	
ECD+Cuttings	sp.gr.	1.2/	1.2/	*	*	1.33	1.33	*	
TOTAL DEPTH PDF	sp.gr.	1.29	1.20	·		1.33	1.33		
ECD	SSURES	1.27	1.27	*	*	1.22	1 2 1	*	
ECD   Cuttings	sp.gr.	1.27	1.27	*	*	1.33	1.31	*	
ECD+Cuuings	sp.gr.	1.29	1.28		· ·	1.33	1.31	•	
M-I L.L.C.			DRIL	LING FLUID	S DATA M	ANAGEMEN	NT SYSTEM		



**Operator :** Santos Ltd

Well Name : Casino 4 DW

**Description :** Gas Producer

Field/Area : Vic P 44

Contractor :	Diamond C	Offshore			Locatior	<b>1</b> : Otway E	Basin		
Date		20/05/2005	21/05/2005	22/05/2005	23/05/2005	24/05/2005	25/05/2005	26/05/2005	
Depth	m	1255	1478	1662	1662	1207	1662	1133	
Davs Since Spud		1	2	3	4	5	6	7	
*RHEOLOGICAL PR	OPERTIES					-			
Mud Wt	sn gr	1.26	1.26	1 29	1 29	1 27	1 27	1 27	
Plastic Visc	cP	18	19	22	19	16	1.27	18	
Vield Point	lb/100ft <sup>2</sup>	26	39	38	37	35	36	42	
3-rpm Rdg	Fann deg	20	12	12	11	9	11	14	
nn Value	T ann deg	/ / 0/8	4088	4507	4215	3037	4014	3785	
Kn Value	$bes^n/100ft^2$	2 1/158	1 83/8	3 8524	A 3137	1 6723	4 6279	6.0415	
na Value	10 3 11/10011	3742	3211	3573	3301	3618	3218	2022	
Ka Value	$bes^n/100ft^2$	4.0566	7 5833	7 1/91	6 8505	5 3227	6.9435	9 275	
	10-3 11/10011	4.0500	7.5655	7.1471	0.8505	5.5221	0.7433	).213	
Flow Poto	gal/min	0	1002	1003	1002	002	002	002	
Pump Pressure	gai/iiiii	0	3300	3300	3300	2300	2300	2300	
Pump	psi	*	1021	*	*	1212	*	1212	
	mp		1731			1212		1212	
PRESSURE LUSSES		*	1220	4	y.	022	4	1044	
Drill String	psi	۰ *	1338	۲ ب	т У	932	۲ ب	1044	
	psi	*	986	т -	т 4	54509	т -	34509	
Annulus	psi	*	93	*	*	59	*	/3	
Total System	psı	*	2417	*	*	35501	*	35626	
*BIT HYDRAULICS		16.0	16.0	1.6.0	16.0				
Nozzles	1/32"	16x9	16x9	16x9	16x9	22x3	22x3	22x3	L
Nozzles	1/32"				-				L
Bit Pressure	%	*	30	*	*	1500	*	1500	
Bit	hhp	*	577	*	*	18181	*	18181	
Bit HSI	(index)	*	4.9	*	*	154.26	*	154.26	
Jet Velocity	ft/s	*	99	*	*	581	*	581	
Impact Force	Newton	*	1767	*	*	9447	*	9447	
DRILL COLLARS AN	INULUS								
Velocity	m/s	*	1	*	*	1	*	1	
Critical Vel	m/s	*	2	*	*	2	*	2	
Reynolds Number		*	1217	*	*	1206	*	968	
Crit Re (Lam - Tran)		*	2910	*	*	2931	*	2951	
*DRILL PIPE ANNUI	LUS								
Velocity	m/s	*	1	*	*	1	*	1	
Critical Vel	m/s	*	2	*	*	2	*	2	
Reynolds Number		*	771	*	*	793	*	598	
Crit Re (Lam - Tran)		*	2910	*	*	2931	*	2951	
*HOLE CLEANING									
Slip Velocity	m/s	*		*	*		*		
Rising Velocity	m/s	*	1	*	*	1	*	1	
Lifting Capacity	%	*	94	*	*	93	*	94	
Cutting Conc	%	*	1.07	*	*	6.01	*	5.93	
Penetration Rate	m/h	0	30	30	30	150	150	150	
CASING SHOE PRES	SURES								
ECD	sp.gr.	*	1.3	*	*	1.3	*	1.31	
ECD+Cuttings	sp.gr.	*	1.31	*	*	1.37	*	1.38	
TOTAL DEPTH PRES	SSURES								
ECD	sp.gr.	*	1.3	*	*	1.3	*	1.32	
ECD+Cuttings	sp.gr.	*	1.31	*	*	1.38	*	1.39	
M-I LL.C.	101		DRIL		DS DATA M	ANAGEMEI	NT SYSTEM	1	



**Operator : Santos Ltd** 

Well Name : Casino 4 DW2

**Description :** Gas Producer

Field/Area : Vic P44

Contractor : Diamond Offshore Location : Otway Basin									
Date		27/05/2005	28/05/2005	29/05/2005	30/05/2005	31/05/2005	1/06/2005	2/06/2005	3/06/2005
Depth	m	1167	1274	1735	1998	1998	1998	1969	2318
Days Since Spud		1	2	3	4	5	6	7	8
*RHEOLOGICAL PROPERT	IES								
Mud Wt s	p.gr.	1.27	1.28	1.29	1.29	1.3	1.30	1.28	1.27
Plastic Visc	cP	16	15	18	20	18	17	20	17
Yield Point lb/10	$00ft^2$	37	37	38	34	35	30	34	41
3-rpm Rdg Fann	deg	10	11	11	11	11	9	11	14
nn Value	i ueg	3806	3656	4021	4546	4218	4454	4546	3708
Kn Value lb•s^n/10	00ft <sup>2</sup>	5 2675	5 6733	4 8674	3 3838	4 0734	3 1182	3 3838	6 1264
na Value	0011	3653	3301	3459	3301	3133	3433	3301	2994
Ka Value lb•s^n/10	00ft2	5.88	6 8505	6 6756	6 8505	7.0406	5 4849	6 8505	9 1664
	0011	5.00	0.0505	0.0750	0.0505	7.0400	5.4047	0.0505	9.1004
Flow Pate gal	min	808	0	016	038	0	0	624	7/3
Pump Prossure	nci	2460	0	3100	2508	0	0	2720	2200
Pump Pressure	hhm	2400	*	1(57	1020	0	*	2730	3290
*DDESCUDE LOSSES	mp	1100	•	1037	1920	•	•	994	1420
Drill String		072	*	1201	1500	*	*	2000	2707
Drill String	psi	8/3	т У	1291	1588	* *	т У	2808	5/8/
Bit	psi	514	*	266	279	*	*	397	559
Annulus	psi	61	*	99	109	*	*	317	462
Total System	psı	1448	*	1656	1977	*	*	3522	4807
*BIT HYDRAULICS									
Nozzles 1	/32"	3x22	9x16	9x16	9x16	9x16		5x16	5x16
Nozzles 1	/32"								
Bit Pressure	%	21	*	9	8	*	*	15	17
Bit	hhp	242	*	142	153	*	*	145	242
Bit HSI (in	dex)	2.06	*	1.21	1.3	*	*	2.55	4.27
Jet Velocity	ft/s	71	*	51	52	*	*	62	74
Impact Force New	wton	1031	*	849	890	*	*	703	989
DRILL COLLARS ANNULUS	S								
Velocity	m/s	1	*	1	1	*	*	3	3
Critical Vel	m/s	2	*	2	2	*	*	3	3
Reynolds Number		895	*	1078	1180	*	*	2685	3810
Crit Re (Lam - Tran)		2949	*	2919	2847	*	*	2847	2962
*DRILL PIPE ANNULUS									
Velocity	m/s	1	*	1	1	*	*		2
Critical Vel	m/s	2	*	2	2	*	*	2	2
Reynolds Number		591	*	699	754	*	*	754	1775
Crit Re (Lam - Tran)		2949	*	2919	2847	*	*	2847	2962
*HOLE CLEANING									
Slip Velocity	m/s		*			*	*		
Rising Velocity	m/s	1	*	1	1	*	*		2
Lifting Capacity	%	92	*	93	94	*	*	73	97
Cutting Conc	%	0.07	*	1.17	1.14	*	*	2.05	0.42
Penetration Rate	m/h	1.5	0	30	30	0	0	5	19
CASING SHOE PRESSURES									
ECD s	p.gr.	1.3	*	1.33	1.33	*	*	1.41	1.45
ECD+Cuttings s	p.gr.	1.3	*	1.34	1.34	*	*	1.43	1.45
TOTAL DEPTH PRESSURES	3								
ECD	p.gr	1.31	*	1.33	1.33	*	*	1.41	1.45
ECD+Cuttings s	p.gr	1.31	*	1.35	1.35	*	*	1.43	1.46
	P-81.	1.01		1.00	1.50			1.15	
M-I L.L.C.			DRIL	LING FLUID	DS DATA M	ANAGEMEN	NT SYSTEM		



## HYDRAULICS SUMMARY

Operator	: Santos Ltd				Field/Area	a : Vic P44			
Well Name	: Casino 4 D	W2		Description : Gas Producer					
Contractor	: Diamond C	Offshore			Location	1: Otway E	Basin		
Date		4/06/2005	5/06/2005	6/06/2005	7/06/2005	12/06/2005			
Depth	m	2404	2404	2404					
Days Since Spud		9	10	11	12	17			
*RHEOLOGICAL PI	ROPERTIES								
Mud Wt	sp.gr.	1.28	1.28	1.28	1.2	1.21			
Plastic Visc	cP	17	17	17					
Yield Point	lb/100ft <sup>2</sup>	39	37	37					
3-rpm Rdg	Fann deg	13	12	12					
np Value		.3825	.3949	.3949	.3949	.3949			-
Kp Value	$lb \cdot s^n/100ft^2$	5.5013	4.9103	4.9103	4.9103	4.9103			
na Value		.3133	.2885	.2885	.2885	.2885			
Ka Value	$lb \cdot s^n/100ft^2$	8.3207	7.9979	7.9979	7.9979	7.9979			
*FLOW DATA									
Flow Rate	gal/min	0	0	0	0	0			
Pump Pressure	psi	0	0	0	0	0			
Pump	hhp	*	*	*	*	*			-
*PRESSURE LOSSE	2S								
Drill String	psi	*	*	*	*	*			
Bit	psi	*	*	*	*	*			
Annulus	psi	*	*	*	*	*			-
Total System	psi	*	*	*	*	*			
*BIT HYDRAULICS	5								
Nozzles	1/32"								
Nozzles	1/32"								
Bit Pressure	%	*	*	*	*	*			-
Bit	hhp	*	*	*	*	*			-
Bit HSI	(index)	*	*	*	*	*			-
Jet Velocity	ft/s	*	*	*	*	*			-
Impact Force	Newton	*	*	*	*	*			
DRILL COLLARS A	NNULUS								
Velocity	m/s	*	*	*	*	*			
Critical Vel	m/s	*	*	*	*	*			
Reynolds Number		*	*	*	*	*		<u> </u>	
Crit Re (Lam - Tran)		*	*	*	*	*			
*DRILL PIPE ANNU	JLUS								
Velocity	m/s	*	*	*	*	*		<u> </u>	
Critical Vel	m/s	*	*	*	*	*			
Reynolds Number		*	*	*	*	*			
Crit Re (Lam - Tran)		*	*	*	*	*		<u> </u>	
*HOLE CLEANING									
Slip Velocity	m/s	*	*	*	*	*			
Rising Velocity	m/s	*	*	*	*	*		ļ	
Lifting Capacity	%	*	*	*	*	*			
Cutting Conc	%	*	*	*	*	*			
Penetration Rate	m/h	0	0	0	0	0			
CASING SHOE PRE	SSURES								
ECD	sp.gr.	*	*	*	*	*		ļ	
ECD+Cuttings	sp.gr.	*	*	*	*	*			
TOTAL DEPTH PRE	ESSURES								
ECD	sp.gr.	*	*	*	*	*			
ECD+Cuttings	sp.gr.	*	*	*	*	*		L	
M-I LLC.			DRIL		S DATA M	ANAGEMEN	NT SYSTEM		



DRILLING FLUIDS RECAP FOR SANTOS CASINO 4/4DW/DW2

> DRILLING FLUIDS SUMMARY



**Operator :** Santos Ltd

Well Name: Casino 4

Field/Area: VIC P-44

**Description :** Gas Producer

Contractor :	Diamond Offsho	ore		Lo	amond Offshore Location : Otway Basin							
Date		6/05/2005	7/05/2005	8/05/2005	9/05/2005	10/05/2005	11/05/2005					
Depth/TVD	m	/	137/137	363/363	742/742	742/742	742/742					
Activity		Spudding Well	Vaiting on cemer	Drilling Ahead	Running Casing	Running BOP	Picking up pipe					
Mud Type		Hi Vis Šwee	Hi Vis Swee	Hi Vis Swee	Hi Vis Swee	Hi Vis Swee	Hi Vis Swee					
Hole Size	in	36	36	17.5	17.5	17.5	17.5					
Circ Volume	bbl											
Flow Rate	gal/min	0	1023	1093	772	0	0					
Circ Pressure	psi	0	1000	2200	2900	0	0					
Avg ROP	m/hr	0	3	25	28	0	0					
Sample From		Pit	Pit	Pit	Pit	Pit	Pit					
Flow Line Temp	°C											
Mud Weight	sp.gr.	1.04@ °C	1.06@ °C	1.06@ °C	1.06@ °C	1.06@ °C	1.06@ °C					
Funnel Viscosity	s/qt	100+	100+	100+	100+	100+	100+					
PV	cP											
YP	lb/100ft <sup>2</sup>											
R600/R300/R200		//	//	11	//	//	//					
R100/R6/R3		//	//	//	//	//	//					
10s/10m/30m Gel	lb/100ft <sup>2</sup>	//	//	//	//	//	//					
API Fluid Loss	cc/30 min											
HTHP Fluid Loss	cc/30 min											
Cake API/HT	1/32"	/	/	/	/	/	/					
Solids	%Vol											
Oil/Water	%Vol	/	/	/	/	/	/					
Sand	%Vol											
MBT	lb/bbl											
pН												
Alkal Mud (Pm)												
Pf/Mf		/	/	/	/	/	/					
Chlorides	mg/l											
Hardness Ca	<i>v</i>											
KCl	% by Wt											
Idcap	ppb											
Sulphite Excess	ppm											
	÷ •											
Daily Mud Cost	\$	3100.32	8057.22	3953.64	10927.56	4091.68	0.00					
Cuml Mud Cost	\$	3100.32	11157.54	15111.18	26038.74	30130.42	30130.42					
Sales Engineer		Gordon /Glen Sh	Gordon /Glen Sh	Gordon /Glen Sh	Gordon /Glen Sh	Gordon /Glen Sh	Gordon /Glen Sh					
Products Used		BulkGel / 12	BulkGel / 17	BulkGel / 15	BulkGel / 42	BulkGel / 5						
		CaCl2 / 38	NaOH / 4	NaOH / 5	NaOH / 12	NaOH / 1						
		NaOH / 4	BulkBar / 16	Soda / 6	Soda / 9	Soda / 3						
						BulkBar / 12						

#### REMARKS

6/05/2005: Set last of the anchors. Ballasted down and mixed spud mud. Spudded well to 9m Anderdrift survey out 2degrees. Move rig. 7/05/2005: Respudded well. Drilled to section TD at 137m. POOH, ran 30" csg and cemented as per program.

8/05/2005: Wait on cement. RIH to tag cement. Further cement job required. RIH, drilled csg shoe at 135m. Drill ahead to 363m.

9/05/2005: Drilled to section TD 742m. Pumped 200bbl PHG sweep then filled hole with 1000bbls PHG. POH to run csg. Ran 13 3/8" csg.

10/05/2005: Completed running 13 3/8" csg and cemented as per program. POH with running tool and lay out 17 1/2" BHA. Ran Xmas Tree.

11/05/2005: Continue running BOP, nipple up choke, kill and booster lines. RIH and land wear bushing assembley. POOH lay down string

#### DRILLING FLUIDS DATA MANAGEMENT SYSTEM



**Operator :** Santos Ltd

Well Name : Casino 4

Field/Area : VIC P-44

**Description :** Gas Producer

Contractor : D	iamond Offsho	ore		Loc	cation: Otway B	Basin	
Date		12/05/2005	13/05/2005	14/05/2005	14/05/2005	15/05/2005	15/05/2005
Depth/TVD	m	742/742	1055/1055	1304/1304	1170/1170	1638/1638	1425/1425
Activity		Picking up BHA	Drilling 12.25"	Tripping	Tripping	Drilling	Drilling
Mud Type		Sweeps / KC	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D
Hole Size	in	12.25	12.25	12.25	12.25	12.25	12.25
Circ Volume	bbl		930	1044	1044	1365	1365
Flow Rate	gal/min	0	1003	973	973	873	873
Circ Pressure	psi	0	3200	3750	3750	3700	3700
Avg ROP	m/hr	0	15	13	13	19	19
Sample From		Pit	Pits	FL	Pit	Suction	Flow Line
Flow Line Temp	°C			50	42	50	50
Mud Weight	sp.gr.	1.06@ °C	1.07 @20 °C	1.23@48 °C	1.2@ 40 °C	1.24@48 °C	1.23@48 °C
Funnel Viscosity	s/qt	100+	60	57	65	54	48
PV	cP		12	17	16	21	18
YP	lb/100ft <sup>2</sup>		14	31	19	37	32
R600/R300/R200		//	38/26/21	65/48/40	51/35/29	79/58/48	68/50/42
R100/R6/R3		//	15/5/4	30/11/9	20/8/5	35/12/10	31/11/9
10s/10m/30m Gel	lb/100ft <sup>2</sup>	//	6/7/7	11/20/22	4/5/6	12/28/38	10/21/30
API Fluid Loss	cc/30 min		6	4.2	4.5	4	4
HTHP Fluid Loss	<u>cc/30 min</u>						
Cake API/HT	1/32"	/	1/	1/	1/	1/	1/
Solids	%Vol		1	10	9	11.6	11.5
Oil/Water	%Vol	/	/99	/90	/91	/88.4	/88.5
Sand	%Vol		-	1	.4	0	0.5
MBT	lb/bbl		1	7.5	3		8.5
pH			8.7	8.2	8.5	9	9
Alkal Mud (Pm)		1	0	0	0.1	0	0
Pt/Mt	/1	/	0.1/1	0/1.35	0.05/1.3	0.08/1.45	0.08/1.4
Chlorides	mg/l		30000	27000	28000	38500	38000
Hardness Ca	0/1. 1.		300	680	680	620	640
KU	<u>% by wt</u>		0	) 2.75	2.5	0.5	0.5
Idcap	ррв		1.14	2.75	3	2.8	2.7
Sulphile Excess	ppm		40	40	40	10	10
Daily Mud Cost	\$	0.00	28344 27	50875.35		10360.06	
Cuml Mud Cost	<u>, s</u>	30130 42	58474.60	100350.04		128710 10	
Salas Engineer	ψ	Cardon /Clan Sh	Clan Sh/Jaadaan	Clan Sh/Jaadaan	Clan Sh/Jaadaan	Clan Sh/Jaadaan	Clan Sh/Jaadaan
Products Used		Gordon /Gien Sil	Idean / 25	Idean / 71	Gien Sh/Jasueep	Idean / 16	Gien Sh/Jasueep
TTOUUCIS USEU			KOH / 3			KOH / A	
			16% hrin / 540	16% hrin / 460		16% hrin / 400	
			BulkGel / 7.91	BulkGel / 2		KC1 / 4	
			NaOH / 1	Duovis $/ 43$		$\frac{1}{1}$ Duovis / 25	
			$\frac{1}{25}$	$\frac{Duovis / 45}{Glut / 3}$		OS-1 / 3	
			OS-1 / 10	OS-1/6		PacUL / 28	
			PacUL / 53	PacUL / 26		10001 / 20	
			BulkBar / 9.03	BulkBar / 62			
			Builder + 9:00	Dunibur ( 02			
		•					

#### REMARKS

12/05/2005: Continued to rig up for 12 1/4" section. Tested Bops and commenced running in hole and picking up BHA and drill pipe..

13/05/2005: 14/05/2005:

14/03/2003

15/05/2005:

M-I L.L.C.

#### DRILLING FLUIDS DATA MANAGEMENT SYSTEM



**Operator :** Santos Ltd

Well Name : Casino 4

Field/Area : VIC P-44

**Description :** Gas Producer

Contractor :	Diamond Offsho	ore		Lo	cation: Otway B	lasin	
Date		16/05/2005	16/05/2005	17/05/2005	17/05/2005	18/05/2005	18/05/2005
Depth/TVD	m	1761/1761	1761/1761	1794/1794	1761/1761	1794/1794	1794/1794
Activity		R/I core barrel	R/I core barrel	Recover Core	Recover Core	Drilling	Drilling
Mud Type		KCl/Idcap D	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D	KCl/Idcap D
Hole Size	in	12.25	12.25	12.25	12.25	12.25	12.25
Circ Volume	bbl	1392	1392	1514	1514	1428	1428
Flow Rate	gal/min	883	883	326	326	848	848
Circ Pressure	psi	3850	3850	850	850	3570	3570
Avg ROP	m/hr	0	0	10	10	0	0
Sample From	20	Pit 3	Flow Line	Suction	Flow Line	Suction	Pit
Flow Line Temp	<u>°C</u>	1 20 @ 22 00	50	37	35	1.2 20.00	1.20.00
Nud Weight	sp.gr.	1.29( <i>a</i> )32 °C	1.25( <i>a</i> ) 44 °C	1.3( <i>a</i> )36 °C	1.3( <i>a</i> )34 °C	1.3( <i>a</i> )30 °C	1.3( <i>a</i> ) °C
DV	<u>s/qt</u>	10	23	20	27	70	24
r v VD	1b/100ft2	21	25	20	27	25	24
R600/R300/R200	10/10011	69/50///3	82/59/48	72/52/43	87/60/50	82/59/50	79/55//15
R100/R6/R3		31/11/9	35/12/9	31/11/8	36/12/9	35/12/9	32/10/8
10s/10m/30m Gel	lb/100ft <sup>2</sup>	10/24/31	11/24/33	10/20/27	10/23/29	11/23/30	9/18/26
API Fluid Loss	$\frac{10,1001}{cc/30 min}$	3.6	4 1	3.6	3.8	3.6	3 4
HTHP Fluid Loss	cc/30 min	0.0		2.0	0.0	0.0	5.1
Cake API/HT	1/32"	1/	1/	1/	1/	1/	1/
Solids	%Vol	14	13	13	13	13	13
Oil/Water	%Vol	/86	/87	/87	/87	/87	/87
Sand	%Vol	0.5	0.7	0.5	0.5	0.4	0.5
MBT	lb/bbl	14	12	14	13.75	14	12.5
pH		8	9	9	9	9	9
Alkal Mud (Pm)		0					
Pf/Mf	14	0.02/1.5	0.05/1.3	0.05/1.5	0.03/1.6	0.02/1.5	0.03/1.6
Chlorides	mg/l	38000	37000	40000	34000	40000	40000
Hardness Ca	0/ h W/4	640	600	640	640	640	680
Idean	<u>% Dy Wl</u>	2.5	25	0	2	2	0
Sulphite Excess	ppu	2.3	2.5	10	40	0	0
Sulpine Excess	ppin	0	20	10	40	0	0
Daily Mud Cost	\$	14540.44		6967.63		15423.94	
Cuml Mud Cost	\$	143259.54		150227.17		165651.11	
Sales Engineer		Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep
Products Used		Idcap / 28		Idcap / 9		Idcap / 34	
		16%brin / 600		KOĤ / 6		KOĤ / 3	
				DFOAM / 2		Duovis / 21	
				Duovis / 5		OS-1 / 2	
				Glut / 4		PacUL / 24	
				OS-1/2			
				PacUL / 0			
				Duikdal / 10			
REMARKS							
16/05/2005:							
17/05/2005:							
18/05/2005:							
M-I L.L.C.		DRILLIN	IG FLUIDS DAT	A MANAGEMEN	IT SYSTEM		



**Operator :** Santos Ltd

Well Name : Casino 4

Field/Area : VIC P-44 Description : Gas Producer

Contractor :	Diamond Offsho	ore	Location : Otway Basin						
Deta		10/05/2005	10/05/2005	20/05/2005	20/05/2005				
Date Dopth/TVD	m	19/03/2003	19/03/2003	1255/1255	1925/1925				
	III	1024/1024 Comparting	1024/1024 Comonting	1233/1233 DIII	1623/1623				
Mud Turne									
Hud Type	in	12.25	12.25	12.25	KCI/Idcap D				
Circ Values	10 1.h.1	12.25	12.25	12.23	12.25				
Circ Volume	DDI ma1/min	1308	1308	12/5	949				
Cine Dreasure	gai/min	<u>848</u> 2570	2570	2570	848				
Circ Pressure	psi	3570	3570	3570	3570				
Avg ROP	m/hr	0	0	0	0				
Sample From	00	Suction	Pit	Pit 3	Pit 3				
Flow Line Temp	°C	40	48	1.0(0.00	1.20.00				
Mud Weight	sp.gr.	1.3( <i>a</i> )3/°C	1.3(a) 42 °C	1.26( <i>a</i> ) °C	1.3( <i>a</i> ) °C				
Funnel Viscosity	s/qt	58	52	58	67				
PV	сР	24	24	18	23				
YP	lb/100ft <sup>2</sup>	33	31	26	34				
R600/R300/R200		81/57/50	79/55/45	62/44/36	80/57/47				
R100/R6/R3		35/12/9	32/11/9	26/9/7	35/13/10				
10s/10m/30m Gel	lb/100ft <sup>2</sup>	10/21/28	10/20/28	8/14/17	11/29/31				
API Fluid Loss	cc/30 min	3.6	3.4	3.6	4				
HTHP Fluid Loss	cc/30 min								
Cake API/HT	1/32"	1/	1/	1/	1/				
Solids	%Vol	13	13	10.5	13				
Oil/Water	%Vol	/87	/87	/89.5	/87				
Sand	%Vol	0.25	0.4	TR	0.5				
MBT	lb/bbl	14	12.5	9	12.5				
pН		9	9	9	11.5				
Alkal Mud (Pm)				0	1.45				
Pf/Mf		0.03/1.5	0.02/1.4	0.2/3.5	0.2/1.85				
Chlorides	mg/l	40000	40000	46000	40000				
Hardness Ca		620	600	1100	600				
KCl	% by Wt	6	6	8	6				
Idcap	ppb	3	3	3	3				
Sulphite Excess	ppm	0	10						
•	· ·								
Daily Mud Cost	\$	2582.45		0.00					
Cuml Mud Cost	\$	168233.56		168233.56					
Sales Engineer		Glen Sh/Jasdeen	Glen Sh/Jasdeen	Kelvin /Jasdeen	Kelvin /Jasdeen				
Products Used		Idcan / 5							
11000005 0500		$\frac{1000}{\text{Duovis}}$ / 2							
		BulkBar / 4							
		Dundbur							
					1				
KEMAKKS									
19/05/2005:									
20/05/2005:									



**Operator** : Santos Ltd

Field/Area : Vic P 44 orintian Cas Drad -

well name :	Casino 4 DVV			Descr	iption : Gas Pro	aucer	
Contractor :	Diamond Offsho	ore		Lo	cation: Otway E	Basin	
Date		10/05/2005	20/05/2005	21/05/2005	21/05/2005	22/05/2005	22/05/2005
Depth/TVD	m	1255/1255	1255/1255	1/103/2003	1260/1260	1662/1627	1500/1580
Activity		1255/1255	RIH	Drilling	Drilling	Trinning	Trinning
Mud Type		KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer
Hole Size	in	12.25	12.25	12.25	12.25	12.25	12.25
Circ Volume	bbl	12.20	1222	1198	1198	1362	1362
Flow Rate	gal/min	0	0	1003	1003	1003	1003
Circ Pressure	psi	0	0	3300	3300	3300	3300
Avg ROP	m/hr	0	0	30	30	30	30
Sample From			Pit 3	Pit 3	Pit 3	Suction	Pit 3
Flow Line Temp	°C			49	36	50	54
Mud Weight	sp.gr.	@ °C	1.26@21 °C	1.26@43 °C	1.26@32 °C	1.29@40 °C	1.28@40 °C
Funnel Viscosity	s/qt		58	58	55	58	67
PV	cP		18	19	17	22	24
YP	lb/100ft <sup>2</sup>		26	39	28	38	47
R600/R300/R200			62/44/36	77/58/49	62/45/37	82/60/55	95/71/60
$\frac{\text{K100/K6/K3}}{10 r/10 m/20 m/C s^{1}}$	11,/100,02	//	26/9//	3//15/12	2//9//	42/16/12	45/1//14
A DI Eluid Laga	10/10011 <sup>2</sup>	//	8/14/1/	14/2//30	//14/1/	12/20/30	15/35/42
HTHE Fluid Loss	$\frac{cc/30 \text{ min}}{cc/30 \text{ min}}$		5.0	4	4.2	5.0	4.4
Cake A PI/HT	1/32"	1	1/	1/	1/	1/	1/
Solids	%Vol	/	10.5	1/	1/	17	1/
Oil/Water	%Vol	/	/89.5	/89	/90	/87	0/88
Sand	%Vol	I		0.2	0.25	TR	tr
MBT	lb/bbl		9	11	10	12	12
pH	10,001		9	10	10.9	9.2	8.4
Alkal Mud (Pm)			0	0.5	1	0.25	0.1
Pf/Mf		/	0.2/3.5	0.1/2	0.2/2.2	0.1/1.5	0.1/1.1
Chlorides	mg/l		46000	45000	44000	47000	46000
Hardness Ca			1100	560	920	560	600
KCl	% Wt		8	8	8	8	8
IDCAP	ddd		3	3	3	3	3
	**						
	**						
	**						
Daily Mud Cost	¢	0.00	400.72	19027.05		11206.28	
Daily Mud Cost	\$	0.00	400.72	18037.05		11206.28	
Daily Mud Cost Cuml Mud Cost Sales Engineer	\$	0.00 0.00 Kalvia /Jacdaan	400.72 400.72 Kalvia (Jacdaan	18037.05 18437.77 Kalvin /Jasdeen	Kelvin /Jasdaen	11206.28 29644.05 Kalvin /lasdeen	Kalvin /lasdaan
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Lised	\$ \$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8	18037.05 18437.77 Kelvin /Jasdeep	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$ \$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$ \$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$ \$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$ \$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used	\$	0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep
Daily Mud Cost Cuml Mud Cost Sales Engineer Products Used		0.00 0.00 Kelvin /Jasdeep	400.72 400.72 Kelvin /Jasdeep Citric / 8 Bicarb / 10	18037.05 18437.77 Kelvin /Jasdeep Citric / 5 Duovis / 19 OS-1 / 5 Bicarb / 20 BulkBar / 8 16%brin / 870	Kelvin /Jasdeep	11206.28 29644.05 Kelvin /Jasdeep Duovis / 15 OS-1 / 10 PacUL / 8 Idcap / 20 KOH / 1 BulkBar / 8	Kelvin /Jasdeep

**M-I** *L.L.C.* 

DRILLING FLUIDS DATA MANAGEMENT SYSTEM



Operator : Santos Ltd

Well Name : Casino 4 DW

Field/Area : Vic P 44 Description : Gas Producer

	00.0000						
Contractor :	Diamond Offsho	ore		Lo	cation : Otway E	Basin	
Date		23/05/2005	23/05/2005	24/05/2005	24/05/2005	25/05/2005	25/05/2005
Denth/TVD	m	1662/1627	1662/1627	1207/1207	1662/1627	1662/1627	1662/1627
Activity		WOC	WOC	Drilling	Drilling	WOC	WOC
Mud Type		KC1/Polymer	KC1/Polymer	KC1/Polymer	KC1/Polymer	KC1/Polymer	KC1/Polymer
Hole Size	in	12.25	12 25	12 25	12.25	12 25	12 25
Circ Volume	hhl	12.25	12.25	1155	1155	12.25	12.2.5
Flow Pate		1003	1003	003	003	003	003
Cire Dresquire	gai/iiiii	2200	2200	903	903	903	2200
	psi	3300	3300	2300	2300	2300	2500
AVg KOP	m/nr	<u> </u>	<u> </u>	150 Dit 2	150 Dit 2	150 Dit 2	150 D:4 2
Sample From	00	Pit 3	Pit 3	Pit 3	Pit 3	Pit 3	Pit 3
Flow Line Temp	Ĵ	1.00 0 25.00	1 20 0 45 00	35	1.000 40.00	1.07 0.000	1.07 0 0 0 0
Mud Weight	sp.gr.	1.29(a)35 °C	1.29(a) 45 °C	1.2/(a)30 °C	1.28( <i>a</i> ) 40 °C	1.2/( <i>a</i> ) 30 °C	1.2/(a)30 °C
Funnel Viscosity	s/qt	65	65	60	65	90	84
PV		19	20	16	20	17	18
ҮР	lb/100ft <sup>2</sup>	37	35	35	35	36	34
R600/R300/R200		75/56/48	75/55/46	67/51/43	75/55/46	70/53/45	70/52/43
R100/R6/R3		35/14/11	35/14/11	32/12/9	35/13/11	34/12/11	33/12/10
10s/10m/30m Gel	lb/100ft <sup>2</sup>	13/24/31	11/20/26	11/23/26	11/20/24	18/50/51	11/36/38
API Fluid Loss	cc/30 min	3.2	3.6	3.4	3.4	4	3.8
HTHP Fluid Loss	cc/30 min						
Cake API/HT	1/32"	1/	1/	1/	1/	1/	1/
Solids	%Vol	13	11	12	13	12	11
Oil/Water	%Vol	/87	/89	/88	/87	/88	/89
Sand	%Vol	TR	TR	TR	tr	TR	tr
MBT	lb/bbl	13	12.5	12	15	12	12.5
nH		9	8.5	10.5	84	11.5	11.8
Alkal Mud (Pm)		0.2	0.1	0.5	0.0	3	12
Pf/Mf		0.05/3	0 1/1 5	0.25/5	0.05/3.8	0.6/2	0 45/3 8
Chlorides	mg/l	48000	46000	47000	46000	47000	46000
Hardness Ca	1115/1	1200	800	1600	1200	640	1000
KC1	% Wt	8	8	8	8	8	8
IDCAP	nnh	3	3	3	3	3	3
iberii	ppo	5	5	5	5	5	5
Daily Mud Cost	\$	7692.91		853 74		11361.44	
Cuml Mud Cost	\$	37336.96		38190.70		49552.14	
Salas Engineer	Ψ	Valvin /Jasdaan	Kaluin /Jaadaan	Valuin /Jagdaan	Kaluin /Jaadaan	Valvin /Jasdaan	Kaluin /Iaadaan
Broducts Used		Citric / 5	Kelviii /Jasueep	Citric / 18	Kelvin /Jasueep	Duovis / 12	Kervin /Jasueep
TTouucis Oseu		$\frac{10}{10}$		Bicarb / 18		$\frac{Duovis / 12}{OS 1 / 6}$	
		Duovis / 10		Dical0 / 10		Dool II / 16	
		FacUL / 10				FacUL / 10	
		DullaDar / (				DullaDar / 0	
		BuikBar / 0				BuikBar / 9	
-							
REMARKS							
23/05/2005							
24/05/2005							
24/05/2005:							
25/05/2005:							

M-I L.L.C.



Field/Area: Vic P 44

**Operator :** Santos Ltd

Well Name :	Casino 4 DW	Description : Gas Producer								
Contractor :	Diamond Offsho	re		Loc	cation: Otway E	asin				
Date		26/05/2005	26/05/2005							
Depth/TVD	m	1133/1133	1662/1627							
Activity		Drilling	Drilling							
Mud Type		KCl/Polvmer	KCl/Polvmer							
Hole Size	in	12.25	12.25							
Circ Volume	bbl	1300	1300							
Flow Rate	gal/min	903	903							
Circ Pressure	psi	2300	2300							
Avg ROP	m/hr	150	150							
Sample From		Pit 3	Pit 3							
Flow Line Temp	°C	35								
Mud Weight	sp.gr.	1.27@35 °C	1.27@30 °C							
Funnel Viscosity	s/qt	68	62							
PV	cP	18	19							
YP	lb/100ft <sup>2</sup>	42	34							
R600/R300/R200		78/60/52	72/53/45							
R100/R6/R3		39/16/14	34/12/10							
10s/10m/30m Gel	lb/100ft <sup>2</sup>	15/32/33	10/16/18							
API Fluid Loss	cc/30 min	4.4	3.6							
HTHP Fluid Loss	cc/30 min									
Cake API/HT	1/32"	1/	1/							
Solids	%Vol	12	12							
Oil/Water	%Vol	/88	/88							
Sand	%Vol	10	tr							
MBI	lb/bbl	12	10							
pH		11	10.1							
<u>Alkal Mud (Pm)</u>		2.9	1./							
Pf/Mf	/1	0.45/3.15	0.3/2.9							
Uniorides	mg/I	46000	45000							
Hardness Ca	0/ W/+	800	800							
		0	0							
IDCAF	ppu		3							
Daily Mud Cost	2	2774.26								
Cuml Mud Cost	φ \$	52326.40								
Sales Engineer	Ψ	Kelvin /Jasdeen	Kelvin /Jasdeen							
Products Used		Citric / 30	Kervin/Jasueep							
1 Toddels Osed		$\frac{1}{2}$ Duovis / 6								
		Bicarb / 29								
		Dictato ( 2)								
REMARKS										
20105/2005.										

26/05/2005:

**M-I** *L.L.C.* 



Operator : Santos Ltd

Well Name : Casino 4 DW2

Field/Area : Vic P44

Description : Gas Producer

Contractor :	or: Diamond Offshore Location: Otway Basin									
Date		27/05/2005	27/05/2005	28/05/2005	28/05/2005	29/05/2005	29/05/2005			
Depth/TVD	m	1167/1167	1160/1156	1274/1274	1220/1219	1735/1650	1589/1560			
Activity		Drilling	Drilling	RIH	RIH	Drilling	Drilling			
Mud Type		KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer			
Hole Size	in	12.25	12.25	12.25	12.25	12.25	12.25			
Circ Volume	bbl	1079	1079	1403	1403	1386	1386			
Flow Rate	gal/min	808	808	0	0	916	916			
Aug POP	psi m/hr	2400	2400	0	0	3100	3100			
Sample From	111/111	Flowline	Pit 3	Active	U	Flowline	Flowline			
Flow Line Temp	°C	34	47	Tietive	46	53	52			
Mud Weight	sp.gr.	1.27@32 °C	1.26@40 °C	1.28@34 °C	1.27@38 °C	1.29@50 °C	1.29@48 °C			
Funnel Viscosity	s/qt	60	54	53	55	54	57			
PV	cP	16	17	15	18	18	18			
YP	lb/100ft <sup>2</sup>	37	42	37	45	38	40			
R600/R300/R200		69/53/46	76/59/50	67/52/45	81/63/53	74/56/47	76/58/51			
$\frac{R100/R6/R3}{10\pi/10m/20m}$	11-/10062	36/14/10	39/15/12	35/14/11	42/16/13	3//15/11	39/16/12			
A PL Fluid Loss	10/100ft <sup>2</sup>	12/20/21	13/19/21	12/18/21	15/22/27	13/20/25	13/21/26			
HTHP Fluid Loss	$cc/30 \min$	4.2	4.2	5.0	4.0	4.2	4.2			
Cake API/HT	1/32"	1/	1/	1/	1/	1/	1/			
Solids	%Vol	13	11	12	12	14	14			
Oil/Water	%Vol	/87	/89	/88	/88	/86	/86			
Sand	%Vol	tr	tr	tr	tr	0.25	tr			
MBT	lb/bbl	10	10	10	10	12.5	12.5			
pH		10.8	10.8	10.0	10.2	8.9	9.0			
Alkal Mud (Pm)		1.8	1.4	0.8	0.8	0.5	0.5			
PI/MI Chlaridan		0.3/3.2	0.3/3.5	0.2/3.6	0.2/3.7	0.1/3.3	0.1/3.3			
Hardness Ca	mg/1	920	45000	960	4/000	1200	1280			
KCl	%	79	7 5	8	8	8	8			
IDCAP	daa	3.0	2.94	3	3	3	3			
LSRV 0.3rpm										
-										
Daily Mud Cost	\$	7027.13		952.52		2569.85				
Cumi Mud Cost	\$	/02/.13	K 1 . /C 1	/9/9.65		10549.50	K L C L			
Products Used		Citric / A	Kelvin /Gordon	Duovis / 1	Kelvin /Gordon	Duovis / 5	Kelvin /Gordon			
Tiouucis Oseu		$\frac{1}{2}$ Duovis / 7		Bicarb / 3		Idcan / 5				
		Bicarb / 4		BulkBar / 3		BulkBar / 1				
		Idcap / 17								
		BulkBar / 5								
DEMADKS										
27/05/2005:										
28/05/2005:										
29/05/2005:										
M-I LLC.		DRILLIN	NG FLUIDS DAT		IT SYSTEM					



**Operator :** Santos Ltd

M-I L.L.C.

Well Name : Casino 4 DW2

Field/Area: Vic P44

Description : Gas Producer

Date         2905/2005         3005/2005         3106/2005         310	Contractor :	Diamond Offsho	nond Offshore Location : Otway Basin									
Depth/TVD         m         1345/1341         1998/1743         1323         1223         1223         1223         1223         1223         1223         123         13         14         14         13         130/13/0         130/13/0         130/13/0         130/13/0         130/13/0 <th< td=""><td>Date</td><td></td><td>29/05/2005</td><td>30/05/2005</td><td>30/05/2005</td><td>31/05/2005</td><td>31/05/2005</td><td>1/06/2005</td></th<>	Date		29/05/2005	30/05/2005	30/05/2005	31/05/2005	31/05/2005	1/06/2005				
Activity         Drilling         ckcrean out of h         CMP to Run Csg.         Test Casing           Med Yype         in         12.25	Depth/TVD	m	1345/1341	1998/1743	1810/1679	1998/1743	1998/1743	1998/1743				
Mad Type         KCL/Polymer         KCL/Polymer         KCL/Polymer         KCL/Polymer         KCL/Polymer         Main FloP           Inde Size         in         12.25	Activity		Drilling	ckream out of he	ckream out of he	POH to Run Csg.	POH to Run Csg.	Test Casing				
Hale bize         in         1.2.5         1.2.2.5         1.2.5         1.2.5         1.2.5         1.2.5         1.2.5         1.2.5         1.2.5         1.2.5         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.6         1.2.5	Mud Type		KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	KCl/Polymer	Mixing FloP				
Line volume to the second seco	Hole Size	<u>In</u>	12.25	12.25	12.25	12.25	12.25	12.25				
Circ Dissure part 3100 1508 5508 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Flow Pate	001	016	038	038	1565	1565	/92				
Arg ROP         m/hr         30         30         30         30         0         0         0         0         0           Flow Line Temp         SC         51         55         50         48         53         Ft 3         Ft	Circ Pressure	gai/iiiii psi	3100	3508	3508	0	0	0				
Sample From         Pit 3         Pit 3         Pit 3         Pit 3         Flow-line         Pit 3         Flow-line         Pit 3         Pit 3 <td>Avg ROP</td> <td>m/hr</td> <td>30</td> <td>30</td> <td>30</td> <td>0</td> <td>0</td> <td>0</td>	Avg ROP	m/hr	30	30	30	0	0	0				
Elew Line Temp 9 C 51 55 50 48 53 53 Ferrid Walk Weight Street St	Sample From	,	Pit 3	Pit 3	Pit 3	Flowline	Pit 3	Pit 3				
Mad Weight sprg.   1.29@38 °C   1.29@48 °C   1.28@48 °C   1.3@40 °C   1.3@40 °C   1.30@30 °C   1	Flow Line Temp	°C	51	55	50	48	53					
Fund         Viscosity         std         61         54         69         35         52         52           VP         ofP         19         20         20         18         17         17           VP         ofP         19         20         20         18         137         17           VP         ofP         19         20         20         18         137         17           VP         ofP         152327         1421729         132633         132535         102735         102743           ND (NGC)         102197         17         17         17         17         17           ND (NGC)         10217         17         17         17         17         17           ND (NGC)         cc20 mm         4.2         4.6         4.6         4.8         4.8         4.7           ND (NGC)         cc20 mm         4.2         4.6         4.6         4.8         4.8         4.7           ND (NGC)         cc20 mm         4.2         4.6         4.6         4.8         4.8         4.7           Sold         0.13         0.15         0.15         0.15         0.15         15	Mud Weight	sp.gr.	<u>1.29@38 °C</u>	1.29@48 °C	1.28@38 °C	1.3@40 °C	1.29@30 °C	<u>1.30@30 °C</u>				
V         Def         19         20         20         16         17         10           Ref00R300/R200         BS56657         745446         836352         715344         644739         644739           Ref00R300/R200         BS56650         H12714         3571411         391411         102156         102433           H1HP hud Loss         cc30 mm         //         //         //         //         //         //           State         M37         13         14         14         13         13         13           OliVies         SVol         137         16         16         16         17         187           State         M1         10         12.5         12.5         15         15         15           OliVies         State         10         12.5         0.052.5	Funnel Viscosity	s/qt	61	54	69	53	52	52				
1400.200         100000         14507.71         74/24.46         84/37/2         77.33.44         64/7.79         64/7.79           R100.R6R3         45/17/14         35/14/11         39/16/13         33/14/11         30/129         30/129           Biolom Gel         1b/100/1         15/25/28         14/27/29         13/25/35         11/25/36         10/24/33           Aff Find Loss         cc/30 min         42         4.6         4.6         4.8         4.8         4.7           Aff Find Loss         cc/30 min		CP 1b/100ft2	19	20	20	18	1/	20				
R 100 Re(R) 3         45/17/14         35/14/11         39/16/13         33/14/11         30/13/10         30/12/9           API Emid Loss         cc/30 min         4.2         4.6         4.8         4.8         4.7           API Emid Loss         cc/30 min         4.2         4.6         4.6         4.8         4.8         4.7           API Emid Loss         cc/30 min         4.2         4.6         4.6         4.8         4.8         4.7           Calce API/IT         1/32 I/         1         <	$\frac{1}{R} \frac{1}{R} \frac{1}$	10/10011	85/66/57	74/54/46	83/63/52	71/53/44	64/47/39	64/47/39				
10x/10m/20m Gel     Ib/100fP     1523/28     14/27/29     1326/33     1322/35     10227/36     1024/33       HTHP Fluid Loss     cc/30 min     4.2     4.6     4.6     4.8     4.7       HTHP Fluid Loss     cc/30 min     4.2     4.6     4.6     4.8     4.7       Cake APLHT     1/32"     //     //     //     1/     1/     1/       Solids     %5/01     13     14     14     14     13     13       OlWater     %5/01     BT     ////     16     86     ///     187     ///       Sand     %5/01     tr     tr     tr     tr     tr     tr     tr     tr       MBT     10     12.5     12.5     15     1     0.1     1     1       P/M     0.17.4     0.052.5     0.052.6     0.052.5     0.052.4     0.052.4       Choindes     mg1     47000     46000     44000     44000     44000       Hardness Ca     1280     1160     1160     840     10000     880       KC1     % 8     8     8     8     8     8     8       Daily Mud Cost     \$     1     1952.37     0.00     0.00	R100/R6/R3		45/17/14	35/14/11	39/16/13	33/14/11	30/13/10	30/12/9				
API Fluid Loss     ce/30 min     4.2     4.6     4.6     4.8     4.8     4.7       Cake APUHT     1/32*     1/     1/     1/     1/     1/     1/     1/       Cake APUHT     1/32*     1/     1/     1/     1/     1/     1/     1/       Cake APUHT     1/32*     1/     1/     1/     1/     1/     1/     1/       Cake APUHT     1/3     13     14     14     14     13     13       OllWater     5/401     87     286     786     786     787       Sand     %Vol     nr     nr     nr     nr     nr     nr       MBT     1bbbl     10     12.5     12.5     15     15     15       Alkal Mud (Pm)     0.3     0.15     0.15     0.1     0.1     0.1     0.1       PiMf     0.1/3.4     0.052.5     0.052.5     0.052.5     0.052.5     0.052.5     0.052.5       Chinides     mg/l     47000     46000     46000     44000     44000     43000       Indicase Ca     1280     1160     1160     840     10000     880       IbCAP     pb     3     3     3     3     3	10s/10m/30m Gel	lb/100ft <sup>2</sup>	15/23/28	14/27/29	13/26/33	13/25/35	10/27/36	10/24/33				
HTHP Fluid Loss       cc/30 min	API Fluid Loss	cc/30 min	4.2	4.6	4.6	4.8	4.8	4.7				
Cake APPIHT 1/32" 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/ 1/	HTHP Fluid Loss	cc/30 min										
Solids         "\$voi         15         14         14         14         13         13           OllWater         %voi         15         16         16         86         86         87         17           Sand         %voi         tr          Chordes         mg/l         47000         46000         44000         43000         43000         tr          Dalv Mud Cost         S         5341.31<	Cake API/HT	1/32"	1/	1/	1/	1/	1/	1/				
Out/Water         ?evol         //s/         //s0         //s0         //s0         //s1           Sand         %Vol         tr          Hardness Ca         1280         1160         1160         1160         1160         1160         1160 </td <td>Solids</td> <td>%Vol</td> <td>13</td> <td>14</td> <td>14</td> <td>14</td> <td>13</td> <td>13</td>	Solids	%Vol	13	14	14	14	13	13				
Sana         70 Y01         u <thu< th=""> <thu< th="">         u         <thu< t<="" td=""><td>Sand</td><td>%V0l</td><td>/8/</td><td>/86</td><td>/86</td><td>/86</td><td>/8/</td><td>/8/</td></thu<></thu<></thu<>	Sand	%V0l	/8/	/86	/86	/86	/8/	/8/				
Alt         Jobi Do         De         De <thde< th="">         De         De         <t< td=""><td>MBT</td><td>% V 01</td><td>tr 10</td><td>12.5</td><td>12.5</td><td>15</td><td>lf 15</td><td>tr 15</td></t<></thde<>	MBT	% V 01	tr 10	12.5	12.5	15	lf 15	tr 15				
Akal Mud (Pm)         0.3         0.15         0.15         0.1         0.1         0.1           PfMf         0.1/3.4         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.5         0.05/2.4         Chlorides         0.05/2.5         0.05/2.5         0.05/2.4         Chlorides         0.05/2.5         0.05/2.4         Chlorides         0.05/2.5         0.05/2.4         Chlorides         0.05/2.5         0.05/2.5         0.05/2.4         Chlorides         4000         44000         44000         44000         44000         44000         44000         44000         44000         45000         Figure 17         Figure 17         0.00         Figure 17         Figure 17<	nH	10/001	95	86	8.5	85	86	85				
PF/Mf         0.1/3.4         0.05/2.5         0.00         Common data for the form of the for	Alkal Mud (Pm)		0.3	0.15	0.15	0.1	0.1	0.1				
Chlorides mg/l 47000 46000 46000 44000 44000 43000 43000 Hardness Ca 1280 1160 1160 840 1000 880 KCl % 8 8 8 8 8 8 7.8 IDCAP ppb 3 3 3 3 3 3 3 3 IDCAP ppb 3 3 3 3 3 3 3 3 IDCAP ppb 3 1 3 3 3 3 3 Can Mud Cost \$ 5341.31 1952.37 0.000 Cum Mud Cost \$ 5341.31 1952.37 0.000 Cum Mud Cost \$ 5390.81 17843.18 17843.18 Sales Engineer Kelvin /Gordon Kelvin /Gordon Kelvin /Gordon Kelvin /Gordon NaOH / 3 Products Used DFOAM / 1 Duovis / 5 Duovis / 9 PacUL / 5 PacUL / 10 KOH / 1 1 Hore a 100 1000 1000 1000 1000 1000 1000 10	Pf/Mf		0.1/3.4	0.05/2.5	0.05/2.6	0.05/2.5	0.05/2.5	0.05/2.4				
Hardness Ca         1280         1160         1160         840         1000         880           DCAP         ppb         3         <	Chlorides	mg/l	47000	46000	46000	44000	44000	43000				
KCl         %         8         8         8         8         8         8         7.8           IDCAP         ppb         3 <td< td=""><td>Hardness Ca</td><td></td><td>1280</td><td>1160</td><td>1160</td><td>840</td><td>1000</td><td>880</td></td<>	Hardness Ca		1280	1160	1160	840	1000	880				
IDCAP pp0 3 3 3 3 3 3 3 3 3 3 3 4 5 3 4 5 3 4 5 4 5	KCI IDCAD	% h	8	8	8	8	8	/.8				
Loc V 0.51pm         Image: Control of the second seco	IDCAP	рро	3	3	3	3	5	3				
Daily Mud Cost         \$         5341.31         1952.37         0.00           Cuml Mud Cost         \$         15890.81         17843.18 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>												
Daily Mud Cost         \$         5341.31         1952.37         0.00           Cuml Mud Cost         \$         15890.81         17843.18         17843.18         17843.18           Sales Engineer         Kelvin /Gordon         Kelvin /Gord												
Cuml Mud Cost         \$         15800.81         17843.18         17843.18         17843.18           Sales Engineer         Kelvin /Gordon	Daily Mud Cost	\$		5341.31		1952.37		0.00				
Sales Engineer         Kelvin /Gordon           Products Used         Pacult / 10         Pacult / 5         Pacult / 5         Pacult / 5         Pacult / 5           Idcap / 6         BulkBar / 1         KOH / 2         KOH / 2         Pacult / 6         Pacult / 7         Pacult / 7<	Cuml Mud Cost	\$		15890.81		17843.18		17843.18				
Products Used         NaOH / 3         DFOAM / 1         Duovis / 5           Duovis / 9         PacUL / 10         KOH / 1         Image: Constraint of the second s	Sales Engineer		Kelvin /Gordon	Kelvin /Gordon	Kelvin /Gordon	Kelvin /Gordon	Kelvin /Gordon	Kelvin /Gordon				
DrOAM         DrOAM         DrOAM         DrOAM         DrOAM         DrOAM         S <td>Products Used</td> <td></td> <td></td> <td>NaOH / 3</td> <td></td> <td>DFOAM / I</td> <td></td> <td></td>	Products Used			NaOH / 3		DFOAM / I						
Buildons / 2         Hadol / 1           PacUL / 10         KOH / 1           Idcap / 6         BuilkBar / 1           KOH / 2         Idcap / 6           BuilkBar / 3         Idcap / 6				DFOAM / 1		Duovis / 5						
Idcap / 6     BulkBar / 1       KOH / 2     BulkBar / 1       BulkBar / 3     BulkBar / 1       BulkBar / 3     BulkBar / 1				PacLII / 10		KOH / 1						
KOH / 2     BulkBar / 3     Image: Control of the second s				Idcap / 6		BulkBar / 1						
BulkBar / 3     Image: Control of the second s				KOĤ / 2								
Image: Section of the section of th				BulkBar / 3								
Image: Section of the sectio												
Image: Section of the section of th												
Image: Stress of the stress												
Image: state in the state i												
Image: state in the state i												
Image: Note of the second se												
REMARKS       30/05/2005:       1/06/2005:												
REMARKS           30/05/2005:           31/05/2005:           1/06/2005:												
REMARKS 30/05/2005: 31/05/2005: 1/06/2005:												
30/05/2005: 31/05/2005: 1/06/2005:	REMARKS											
31/05/2005: 1/06/2005:	30/05/2005:											
1/06/2005:	31/05/2005:											
	1/06/2005:											

DRILLING FLUIDS DATA MANAGEMENT SYSTEM



Operator : Santos Ltd

Well Name : Casino 4 DW2

Field/Area : Vic P44

**Description :** Gas Producer

Contractor :	or: Diamond Offshore Location: Otway Basin									
Date		1/06/2005	2/06/2005	2/06/2005	3/06/2005	3/06/2005	3/06/2005			
Depth/TVD	m	1998/	1969/	/	2318/1773	2255/1769	2064/1758			
Activity		Test Casing	Drilling Cement	Drilling Cement	Drilling	Drilling	Drilling			
Mud Type		Mixing FloP	KCl / Polym	KCl / Polym	Flo Pro	<u>Flo Pro</u>	Flo Pro			
Hole Size	<u>In</u>	12.25	8.5	8.5	8.5	8.5	8.5			
Circ Volume	DDI gal/min	/92	926	926	1012	1012	742			
Circ Pressure	gai/iiiii psi	0	2730	2730	3290	3290	3290			
Avg ROP	m/hr	0	5	5	19	19	19			
Sample From	111/111	FloPro	Active	FloPro	Acitve	Active	Active			
Flow Line Temp	°C				63	60	51			
Mud Weight	sp.gr.	1.26@ °C	1.28 @ °C	1.26@30 °C	1.27@45 °C	1.27@45 °C	1.26@30 °C			
Funnel Viscosity	s/qt	56	55	56	57	54	59			
PV	cP	12	20	12	17	16	13			
<u>YP</u>	lb/100ft <sup>2</sup>	25	34	23	41	35	31			
R600/R300/R200		49/3//31	25/14/11	4//35/29	/5/58/51	<u>6//51/44</u> 25/15/12	5//44/3/			
$\frac{10s/10m/30m}{30m}$ Gel	1b/100ft <sup>2</sup>	8/11/	14/26/31	8/10/12	16/22/	13/17/22	12/22/27			
API Fluid Loss	cc/30 min	4.8	4 8	49	3.8	3.8	4 8			
HTHP Fluid Loss	$\frac{cc/30}{cc/30}$ min			,	5.0	5.0				
Cake API/HT	1/32"	1/	1/	>1/	1/	<1/	<1/			
Solids	%Vol	13	14	14	15	15	14			
Oil/Water	%Vol	/87	/86	/86	/85	/85	/86			
Sand	%Vol		tr	tr	0.25	0.25	tr			
MBT	lb/bbl	0.0	15	>5	<5	<5	<5			
pH Alleal Mud (Dm)		8.9	9.2	8.9	9.7	10.3	10			
Pf/Mf		0.1/0.2	/	0.05/0.4	0.1/0.4	0.1/0.4	0.15/0.45			
Chlorides	mg/l	0.1/0.2	44000	127000	120000	120000	120000			
Hardness Ca	111 <u>5</u> /1		11000	1400	280	280	320			
KCl	%	5	8	6.5	6	6	6			
IDCAP	ppb									
LSRV 0.3rpm				15000	57588	52992	56000			
Daily Mud Cost	¢		454.00		84150.40					
Cuml Mud Cost	\$		434.00		102456 58					
Sales Engineer	ψ	Kelvin /Gordon	Kelvin /Gordon	Kelvin /Gordon	Kelvin/Gordon	Kelvin /Gordon	Kelvin /Gordon			
Products Used		Kervin/Gordon	Duovis / 2	Kervin/Gordon	DFOAM / 2	Kervin/Gordon	Kervin/Gordon			
					Glut / 12					
					Flo-Vis / 61					
					KOH / 8					
					DualHT / 148					
					omya8 / 1600					
					K/NaCI / 1/00					
REMARKS			1	I			1			
2/07/2005										
2/06/2005:										
2/07/2005										
3/00/2005:										

**M-I** *L.L.C.* 



**Operator :** Santos Ltd

Well Name : Casino 4 DW2

Field/Area : Vic P44 **Description :** Gas Producer

Contractor										
Dete	Diamonu Orishi		5/06/2005			7/06/2005	9/06/2005			
Date Depth/TVD	m	4/06/2005	2404/1741	2/00/2005	0/00/2005	//06/2005	8/06/2005			
Activity		Run Prod. Screen	Testing BOP	Run Prod Tube	Run Prod Tube	Completions	Completions			
Mud Type		Flo Pro	FloPro	CaCl Brine	CaCl Brine	CaCl Brine	CaCl Brine			
Hole Size	in	8.5	8.5	0	0	0	0			
Circ Volume	bbl	1092	1272	724	724	724	724			
Flow Rate	gal/min	0	0	0	0	0	0			
Circ Pressure	psi	0	0	0	0	0	0			
AVg KOP Sample From	m/nr	Dit #3	Dit 3	Dit 3	Dit / Brin	Dit A	0			
Flow Line Temp	°C	111#5	111.5	111.5	I II 4 DIIII	1114				
Mud Weight	sp.gr.	1.28 @35 °C	1.28@30 °C	1.28@30 °C	1.21@ °C	1.2@ °C	@. ℃			
Funnel Viscosity	s/qt	54	54	54		39				
PV	cP	17	17	17						
YP	lb/100ft <sup>2</sup>	39	37	37						
R600/R300/R200		73/56/49	71/54/42	71/54/42	//	//	//			
$\frac{K100/K6/K3}{10s/10m/30m Gel}$	1b/100ft2	39/10/13	<u> </u>	<u> </u>			//			
API Fluid Loss	$\frac{10/10011}{cc/30}$ min	3.8	3.8	3.8	11	//	//			
HTHP Fluid Loss	$\frac{cc/30 \text{ min}}{cc/30 \text{ min}}$	5.0	5.0	5.0						
Cake API/HT	1/32"	1/	1/	1/	/	/	/			
Solids	%Vol	15	15	15						
Oil/Water	%Vol	/85	/85	/85	/	/	/			
Sand	%Vol	0.25	.25	.25						
MBT	lb/bbl	<5	<5	<5		-				
pH		9.7	9.7	9.7		9				
Alkal Mud (Pm)		1.4	1.4	1.4	1	1	1			
Chlorides	mg/l	120000	120000	120000	192000	226,000	/			
Hardness Ca	111g/1	280	280	280	172000	220 000				
KCl	%	6	6	6						
IDCAP	ppb		~							
LSRV 0.3rpm		54323	52560	52560						
Daily Mud Coat	¢	21292.29	842.40	25040.66		102.96	0.00			
Cuml Mud Cost	<u> </u>	133739.86	134582.26	169622.92		169726 78	169726 78			
Sales Engineer	ψ	Kelvin/Gordon	Glen Sh/Gordon	Glen Sh/Gordon	Glen Sh/Gordon	Glen Sh/Gordon	Glen Sharpe			
Products Used		Flo-Vis / 6	omva8 / 72	CaCl2 / 198	Gitti Shi/Gordon	CaCl2 / 9	Glen bharpe			
		omya8 / 104		Salt F / 10						
		CaCl2Br / 1023		DirtM / 16						
				S-Cide / 5						
				S-COR / 11						
				$S-V_{1S} E / I_4$						
				S-SURF / 3						
REMARKS		JI								
4/06/2005										
5/06/2005										
6/06/2005										
0,00/2003.										
7/06/2005										
8/06/2005										
0,00/2003.										
M-I LLC		DRILLIN	G FLUIDS DAT		T SYSTEM					



Operator : Santos Ltd

Well Name : Casino 4 DW2

Field/Area : Vic P44

**Description :** Gas Producer

Contractor :	Diamond Offshor	re		Lo	cation: Otway E	Basin				
Date		9/06/2005	10/06/2005	11/06/2005	12/06/2005	13/06/2005	14/06/2005			
Depth/TVD	m	/	/	/	/	/	/			
Activity		Completions	Completions	Completions	Completions	Pull Anchors				
Mud Type		CaCl Brine	CaCl Brine	CaCl Brine	CaCl Brine	CaCl2 Brine	CaCl2 Brine			
Hole Size	<u>11</u>	0	0	0	8.5	8.5	8.5			
Circ Volume	bbl	724	724	724	794	794	794			
Circ Prossure	gai/min	0	0	0	0	0	0			
Avg ROP	psi m/hr	0	0	0	0	0	0			
Sample From	111/111	0	0	0	Pit 4	0	0			
Flow Line Temp	°C									
Mud Weight	sp.gr.	(a) °C	(a) °C	(a), °C	1.21@ °C	@ °C	(a) °C			
Funnel Viscosity	s/qt			~~						
PV	cP									
YP	lb/100ft <sup>2</sup>									
R600/R300/R200		//	//	//	//	//	//			
$\frac{R100/R6/R3}{10 r/10 rr/20 rr}$	11, /100.02	//	11		//	//	//			
A PL Fluid Loss	10/100ft <sup>2</sup>	//	//	//	//	//	//			
HTHP Fluid Loss	cc/30 min									
Cake API/HT	1/32"	/	/	/	/	/	/			
Solids	%Vol	1								
Oil/Water	%Vol	/	/	/	/	/	/			
Sand	%Vol									
MBT	lb/bbl									
pН					9					
Alkal Mud (Pm)										
Pf/Mf		/	/	/	/	/	/			
Chlorides	mg/l				228000					
Hardness Ca	0/									
IDCAP										
LSRV 0 3rpm	ppo									
Lott + 0.51pm										
Daily Mud Cost	\$	0.00	0.00	0.00	420.00	220.74	0.00			
Cuml Mud Cost	\$	169726.78	169726.78	169726.78	170146.78	170367.52	170367.52			
Sales Engineer		Glen Sharpe	Glen Sharpe	Glen Sharpe	Glen Sharpe	Glen Sh/Jasdeep	Glen Sh/Jasdeep			
Products Used					Guar / /	Citric / 6				
REMARKS										
9/06/2005:										
10/06/2005:										
11/06/2005:										
12/06/2005:										
13/06/2005:										
14/06/2005:										
M-I L.L.C.		DRILLIN	NG FLUIDS DAT	A MANAGEMEN	NT SYSTEM					



DRILLING FLUIDS RECAP FOR SANTOS CASINO 4/4DW/DW2

> PRODUCT CONSUMPTION



Operator : Santos Ltd Well Name : Casino 4 Location : Otway Basin Field/Area: VIC P-44

	DATES											
Product	Product	May	6, 2005	May	7, 2005	May	8, 2005	May	9, 2005	May	10, 2005	Page
Name	Price	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE 74-77%	0.00	38	0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA	$ \frac{20.46}{26.70}$	4	<u>81.84</u>	4	81.84	5	-102.30		-245.52	1	$\frac{20.46}{0.00}$	531.96
	$ \frac{30.79}{73.30}$		0.00		$ \frac{0.00}{0.00}$							0.00
DUO-VIS	$-\frac{73.39}{227.00}$		0.00		$ \frac{0.00}{0.00}$						$\frac{0.00}{0.00}$	
GLUTE 25	93.68		0.00		$\frac{0.00}{0.00}$		0.00				$\frac{0.00}{0.00}$	0.00
GUAR GUM	60.00		0.00		0.00		0.00		0.00			0.00
KWIK SEAL FINE	28.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL COARSE	28.00											0.00
	$\frac{7.44}{22.54}$		0.00		$ \frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
	$-\frac{33.54}{270.80}$		0.00		$\frac{0.00}{0.00}$						$\frac{0.00}{0.00}$	0.00
POLYPACIU	96.30		0.00		$ \frac{0.00}{0.00}$							
SODA ASH	13.04		0.00		$\frac{0.00}{0.00}$	6	78.24		117.36	3	39.12	234.72
SODIUM Bicarbonate	10.64		0.00		$\overline{0.00}$		0.00		0.00		0.00	0.00
KWIKSEAL MEDIUM	28.00		0.00		0.00		0.00		$\bar{0.00}$		$\bar{0}.\bar{0}\bar{0}$	0.00
CONQOR 303A CONCENTRATE	380.36										[	0.00
CONQOR 404	1034.93											0.00
	$-\frac{407.58}{240.72}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
MIX IL COARSE	$-\frac{240.73}{25.61}$		0.00		0.00						0.00	
MIX II FINE	$-\frac{25.01}{25.68}$				$ \overline{0} \overline{0} \overline{0} \overline{0}$						$\bar{0}\bar{0}\bar{0}$	
MIX II MEDIUM	26.72		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$				$\frac{0.00}{0.00}$	0.00
POTASSIUM HYDROXIDE	31.28		0.00		$\bar{0}.\bar{0}\bar{0}$		$\bar{0.00}$				$\bar{0}.\bar{0}\bar{0}$	
SALT - FINE	207.01											0.00
CALCIUM CARBONATE	11.70											0.00
CALCIUM CARBONATE	$-\frac{8.27}{120.06}$											0.00
KCI (99%)Big Bag	$-\frac{430.06}{221.20}$		0.00		$-\frac{0.00}{2600.20}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$			6472.60
MI DAR (Dulk) MI Gel (Bulk)	$-\frac{231.20}{251.54}$	12	3018.48	10	4276 18		$-\frac{0.00}{3773}$	${42}$	10564.68		1257.70	
KCL BRINE 16%	$-\frac{231.94}{13.00}$	12	0.00	<b>-</b>	$-\frac{42}{0.00}$		0.00		0.00		$-\frac{1237.70}{0.00}$	0.00
DUAL-FLO HT	103.08		0.00		$\bar{0}.\bar{0}\bar{0}$		$\overline{0.00}$				$\bar{0}.\bar{0}0$	0.00
											+	
											+	
											+	
				+				+				
				+							+	
				<u>+</u>				1+			+	
Cumulative Engineering			0.00		0.00	<u> </u>	0.00		0.00		0.00	0.00
Daily Product			3100.32		8057.22		3953.64	1	10927.56		4091.68	30130.42
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product			3100.32	1	1157.54	1	15111.18	2	26038.74		30130.42	30130.42
Cumulative Cost			3100.32	1	1157.54	1	15111.18	4	26038.74		30130.42	30130.42



Operator : Santos Ltd Well Name : Casino 4 Location : Otway Basin Field/Area: VIC P-44

	DATES											
Product	Previous	May	11, 2005	May	12, 2005	May	13, 2005	May	14, 2005	May	15, 2005	Page
Name	Page	Qty	Cost	Totals								
CALCIUM CHLORIDE 74-77%	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA	531.96		0.00		0.00	1	20.46		0.00		0.00	552.42
CITRIC ACID	0.00		0.00		0.00		0.00		0.00		0.00	0.00
DEFOAM A	0.00		0.00		0.00		0.00		0.00		0.00	0.00
DUO-VIS	0.00		0.00		0.00	25	5675.00	43	9761.00	25	5675.00	21111.00
GLUTE 25	0.00		0.00		0.00		0.00	3	281.04		0.00	281.04
GUAR GUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL COARSE	0.00											0.00
LIME	0.00		0.00		0.00		0.00		0.00		0.00	0.00
OS-1	0.00		0.00		0.00	10	335.40	6	201.24	3	100.62	637.26
PIPE-LAX W	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POLYPAC UL	0.00		0.00		0.00	53	5103.90	26	2503.80	28	2696.40	10304.10
SODA ASH	234.72		0.00		0.00		0.00		0.00		0.00	234.72
SODIUM Bicarbonate	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CONQOR 303A CONCENTRATE	0.00											0.00
CONQOR 404	0.00											0.00
FLO-VIS PLUS	0.00		0.00		0.00		0.00		0.00		0.00	0.00
IDCAP D SHALE INHIBITOR	0.00		0.00		0.00	25	6018.25	71	17091.83	16	3851.68	26961.76
MIX II COARSE	0.00											0.00
MIX II FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MIX II MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POTASSIUM HYDROXIDE	0.00		0.00		0.00	3	93.84	7	218.96	4	125.12	437.92
SALT - FINE	0.00											0.00
CALCIUM CARBONATE	0.00											0.00
CALCIUM CARBONATE	0.00											0.00
KCl (99%)Big Bag	0.00		0.00		0.00		0.00		0.00	4	1720.24	1720.24
MI BAR (Bulk)	6473.60		0.00		0.00	9	2087.74	62	14334.40		0.00	22895.74
MI Gel (Bulk)	22890.1		0.00		0.00	8	1989.68	2	503.08		0.00	25382.90
KCL BRINE 16%	0.00		0.00		0.00	540	7020.00	460	5980.00	400	5200.00	18200.00
DUAL-FLO HT	0.00		0.00		0.00		0.00		0.00		0.00	0.00
									0.00			
Cumulative Engineering			0.00		0.00		0.00		0.00		0.00	0.00
Daily Product			0.00		0.00		28344.27	4	50875.35		19369.06	128719.10
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product		1	30130 42	3	30130.42		58474 60	16	9350 04	1	28719 10	128719 10
		-	0120.42	-	0120.42	-	50474.00	10	0250.04	1	20710.10	120710.10
Cumulative Cost	I		50130.42		50130.42		084/4.69	][	19350.04		28/19.10	128/19.10



Operator : Santos Ltd Well Name : Casino 4 Location : Otway Basin Field/Area: VIC P-44

	DATES											
Product	Previous	May	16, 2005	May	17, 2005	May 1	8, 2005	May	19, 2005	May	20, 2005	Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE 74-77%	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA	552.42		0.00		0.00		0.00		0.00		0.00	552.42
CITRIC ACID	0.00		0.00		0.00		0.00		0.00		0.00	0.00
DEFOAM A	0.00		0.00	2	146.78		0.00		0.00		0.00	146.78
DUO-VIS	21111.0		0.00	5	1135.00	21	4767.00	2	454.00		0.00	27467.00
GLUTE 25	281.04		0.00	4	374.72		0.00		0.00		0.00	655.76
GUAR GUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL COARSE	0.00											0.00
LIME	0.00		0.00		0.00		0.00		0.00		0.00	0.00
OS-1	637.26		0.00	2	67.08	2	67.08		0.00		0.00	771.42
PIPE-LAX W	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POLYPACUL	10304.1		0.00	6	577.80	24	2311.20		0.00		0.00	13193.10
SODA ASH	234.72		0.00		0.00		0.00		0.00		0.00	234.72
SODIUM Bicarbonate	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CONQUE 303A CONCENTRATE	0.00											0.00
CONQOR 404	0.00		0.00		0.00		0.00		0.00		0.00	0.00
FLO-VIS PLUS	0.00	20	0.00	0	0.00	2.4	0.00		0.00		0.00	0.00
IDCAP D SHALE INHIBITOR	26961.7	28	6/40.44	9	2166.57	34	8184.82	3	1203.65		0.00	45257.24
MIX II COARSE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MIX II FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MIX II MEDIUM	0.00		0.00		0.00	2	0.00		0.00		0.00	0.00
	437.92		0.00	6	18/.68	3	93.84		0.00		0.00	/19.44
SALI - FINE	0.00											0.00
	0.00											0.00
CALCIUM CARDONATE	1720.24		0.00		0.00		0.00		0.00		0.00	1720.24
MLDAD (Dulle)	22805.7		0.00	10	2212.00		0.00		0.00		0.00	26122.54
MI Gal (Bulk)	22093.7		0.00	10	2312.00		0.00	4	924.60		0.00	20132.34
KCL BRINE 16%	18200.0	600	7800.00		0.00		0.00		0.00		0.00	25382.90
DUAL-FLOHT	0.00	000	0.00		0.00		0.00		0.00		0.00	20000.00
DOMETEO III	0.00		0.00		0.00		0.00		0.00		0.00	0.00
	1											
	1											
	1											
	1											
Cumulative Engineering		• 1	0.00		0.00		0.00		0.00		0.00	0.00
Daily Product		1	14540 44		6067.62	1	15/22 04		2582 15		0.00	168722 54
		1	1-1-0-144		0707.03	1	1JH2J.74		2302.43		0.00	100233.30
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product		14	43259.54	15	0227.17	16	65651.11	1	68233.56		168233.56	168233.56
Cumulative Cost		14	43259.54	15	0227.17	16	<u>65651.11</u>	1	68233.56		168233.56	168233.56



Operator : Santos Ltd Well Name : Casino 4 DW Location : Otway Basin Field/Area: Vic P 44

	DATES											
Product	Product	May	19, 2005	May	20, 2005	May 2	1, 2005	May	22, 2005	May	23, 2005	Page
Name	Price	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE 74-77%	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA	$ \frac{20.46}{26.70}$		0.00		0.00		0.00		$\frac{0.00}{0.00}$		0.00	0.00
	$\frac{30.79}{72.20}$		0.00	<u>8</u>	-294.32	<sup>2</sup>	183.95				$-\frac{183.95}{0.00}$	662.22
DUO-VIS	$-\frac{73.39}{227.00}$		0.00		$\frac{0.00}{0.00}$		$-\frac{0.00}{4313,00}$		-340500		-2270.00	9988.00
GLUTE 25	93.68		0.00		$\frac{0.00}{0.00}$		0.00		0.00		0.00	0.00
GUAR GUM	60.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL FINE	28.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL COARSE	28.00		0.00		0.00		0.00		0.00		0.00	0.00
	$\frac{7.44}{22.54}$		0.00		$\frac{0.00}{0.00}$		0.00	10	$-\frac{0.00}{22540}$		$\frac{0.00}{0.00}$	
	$-\frac{33.34}{370.80}$		0.00		$ \frac{0.00}{0.00}$		0_00	10				<u>503.10</u>
POLYPACUL	<u> </u>		0.00		$\frac{0.00}{0.00}$			8	770 40		963.00	0.00
SODA ASH	13.04		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		0.00		0.00	0.00
SODIUM Bicarbonate	10.64		0.00	10	-106.40	$\bar{20}$	212.80		$\bar{0}.\bar{0}\bar{0}$		$\bar{0}.\bar{0}\bar{0}$	319.20
KWIKSEAL MEDIUM	28.00		0.00		0.00		0.00		0.00		$\overline{0.00}$	0.00
CONQOR 303A CONCENTRATE	380.36		0.00		0.00		0.00		0.00		0.00	0.00
CONQOR 404	$-\frac{1034.93}{407.50}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{5.55}$		$\frac{0.00}{0.00}$	0.00
	$-\frac{40}{240}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$				$-\frac{0.00}{2000}$	7702.26
	$-\frac{240.75}{25.61}$							20				
MIX II FINE	$-\frac{25.01}{25.68}$				$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
MIX II MEDIUM	26.72		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$			0.00
POTASSIUM HYDROXIDE	31.28		0.00		$\bar{0}.\bar{0}\bar{0}$		0.00	1	31.28		$\bar{0}.\bar{0}\bar{0}$	31.28
SALT - FINE	207.01		0.00		0.00		0.00		0.00		0.00	0.00
CALCIUM CARBONATE	11.70		0.00		0.00		0.00		0.00		0.00	0.00
CALCIUM CARBONATE	$-\frac{8.27}{120.06}$		0.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
KCI (99%)Big Bag	$-\frac{430.06}{221.20}$		0.00		$\frac{0.00}{0.00}$	,	0.00				$-\frac{0.00}{1287.20}$	5086.40
MI BAR (Bulk) MI Gel (Bulk)	$-\frac{231.20}{251.54}$				$\frac{0.00}{0.00}$	8	1849.00		1849.60	0	$-\frac{1387.20}{0.00}$	5086.40_
KCL BRINE 16%	$-\frac{231.34}{13.00}$		0.00		$\frac{0.00}{0.00}$	$\bar{870}$	11310.00		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	11310.00
DUAL-FLO HT	103.08		0.00		$\bar{0.00}$		$\overline{0.00}$		$\bar{0}.\bar{0}0$		$\bar{0}.\bar{0}\bar{0}$	0.00
OMYA CARB 8	11.70		0.00		0.00		0.00		0.00		0.00	0.00
								+				
						+		+			+	
											t	
Cumulative Engineering			0.00		0.00		0.00	0.00			0.00	0.00
			0.00		400.72	1	8037.05		11206.28		/692.91	5/336.96
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product			0.00		400.72	1	8437.77	2	29644.05		37336.96	37336.96
Cumulative Cost	l		0.00		400.72	1	8437.77	2	29644.05		37336.96	37336.96



Operator : Santos Ltd Well Name : Casino 4 DW Location : Otway Basin Field/Area: Vic P 44

	DATES											
Product	Previous	May	24, 2005	May	25, 2005	May	26, 2005					Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE 74-77%	0.00		0.00		0.00		0.00					0.00
CAUSTIC SODA	0.00		0.00		0.00		0.00					0.00
CITRIC ACID	662.22	18	662.22		0.00	30	1103.70					2428.14
DEFOAM A	0.00		0.00		0.00		0.00					0.00
DUO-VIS	9988.00		0.00	12	2724.00	6	1362.00					14074.00
GLUTE 25	0.00		0.00		0.00		0.00					0.00
GUAR GUM	0.00		0.00		0.00		0.00					0.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00					0.00
KWIK SEAL COARSE	0.00		0.00		0.00		0.00					0.00
LIME	0.00		0.00		0.00		0.00					0.00
OS-1	503.10		0.00	6	201.24		0.00					704.34
PIPE-LAX W	0.00		0.00		0.00		0.00					0.00
POLYPAC UL	1733.40		0.00	16	1540.80		0.00					3274.20
SODA ASH	0.00		0.00		0.00		0.00					0.00
SODIUM Bicarbonate	319.20	18	191.52		0.00	29	308.56					819.28
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00					0.00
CONQOR 303A CONCENTRATE	0.00		0.00		0.00		0.00					0.00
CONQOR 404	0.00		0.00		0.00		0.00					0.00
FLO-VIS PLUS	0.00		0.00		0.00		0.00					0.00
IDCAP D SHALE INHIBITOR	7703.36		0.00	20	4814.60		0.00					12517.96
MIX II COARSE	0.00		0.00		0.00		0.00					0.00
MIX II FINE	0.00		0.00		0.00		0.00					0.00
MIX II MEDIUM	0.00		0.00		0.00		0.00					0.00
POTASSIUM HYDROXIDE	31.28		0.00		0.00		0.00					31.28
SALT - FINE	0.00		0.00		0.00		0.00					0.00
CALCIUM CARBONATE	0.00		0.00		0.00		0.00					0.00
CALCIUM CARBONATE	0.00		0.00		0.00		0.00					0.00
KCl (99%)Big Bag	0.00		0.00		0.00		0.00					0.00
MI BAR (Bulk)	5086.40		0.00	9	2080.80		0.00					7167.20
MI Gel (Bulk)	0.00		0.00		0.00		0.00					0.00
KCL BRINE 16%	11310.0		0.00		0.00		0.00					11310.00
DUAL-FLO HT	0.00		0.00		0.00		0.00					0.00
OMYA CARB 8	0.00		0.00		0.00		0.00					0.00
	_									_		
										_		
									L			
Cumulative Engineering			0.00		0.00		0.00					0.00
Daily Product			853.74	1	1361.44		2774.26					52326.40
Daily Sales Tax			0		0		0					0.00
Cumulativa Dreduct			20100.70		0552.14		52226 40					52226.40
			38190.70	4	9352.14	-	52526.40					52326.40
Cumulative Cost			38190.70	4	9552.14		52326.40					52326.40



Operator : Santos Ltd Well Name : Casino 4 DW2 Location : Otway Basin Field/Area: Vic P44

	DATES										
Product	Product	May	27, 2005	May 28, 2005	May	29, 2005	May	30, 2005	May	31, 2005	Page
Name	Price	Qty	Cost	Qty Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE Sacks	11.54		0.00	0.00	)	0.00		0.00		0.00	0.00
CAUSTIC SODA	20.46		0.00	0.00		0.00	3	61.38		0.00	61.38
CITRIC ACID	36.79	4	147.16	<u>0.00</u>		$\frac{0.00}{0.00}$		0.00	,	0.00	147.16
DEFOAM A	$-\frac{73.39}{207.00}$		0.00			$-\frac{0.00}{1125.00}$	1	-73.39		$-\frac{73.39}{1125.00}$	$ \frac{146.78}{120.00}$
DUU-VIS	$-\frac{227.00}{02.68}$	/	1589.00	$ \frac{1}{227.00}$	<sup>2</sup>	-1135.00	9	2043.00	>	1135.00	6129.00
GUAR GUM			0.00	$\frac{0.00}{0.00}$							0.00
KWIK SFAL FINE	28.00		0.00								
LIME	7 44		0.00	$ \frac{0.00}{0.00}$							
OS-1	33.54		0.00			$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
PIPE-LAX W	379.80		0.00	0.00		0.00		0.00		0.00	0.00
POLYPAC UL	96.30		0.00	0.00	)	0.00	10	963.00	5	481.50	1444.50
SODA ASH	13.04		0.00	0.00		0.00		0.00		0.00	0.00
SODIUM BICARBONATE	10.64	4	42.56	331.92		0.00		0.00		0.00	74.48
KWIKSEAL MEDIUM	28.00		0.00	0.00		0.00		0.00		0.00	0.00
FLO-VIS PLUS	407.58		0.00			0.00		0.00		$ \frac{0.00}{0.00}$	0.00
IDCAP D	-240.73	17	4092.41	$\frac{0.00}{0.00}$	5	$-\frac{1203.65}{0.00}$	6			$\frac{0.00}{0.00}$	6740.44
	-25.08		0.00	$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$				$\frac{0.00}{0.00}$	0.00
	$ \frac{20.72}{21.28}$		0.00	$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$			1	$\frac{0.00}{21.28}$	
OMVACARB 20	$ \frac{31.20}{11.70}$			$ \frac{0.00}{0.00}$						$\frac{51.26}{0.00}$	
KCI BB	$-\frac{11.70}{430.06}$			$ \frac{0.00}{0.00}$						$\frac{0.00}{0.00}$	
MI BAR (Bulk)	$-\frac{130.00}{231.20}$	5	1156.00		1	-231.20	3	693.60	1	$-\frac{0.00}{231.20}$	3005.60
MI Gel (Bulk)	251.54		0.00		)	0.00					0.00
BRINE KCI 16%	13.00		0.00	0.00	)	$\bar{0}.\bar{0}\bar{0}$				$\bar{0}.\bar{0}\bar{0}$	
DUAL-FLO HT	103.08		0.00	0.00	)	$\bar{0.00}$				$\bar{0}.\bar{0}\bar{0}$	
OMYA CARB 8	11.70		0.00	0.00		0.00		$\bar{0.00}$		0.00	0.00
BRINE NaCl 18%+KCl 5%	14.00		0.00	0.00	)	0.00		0.00		0.00	0.00
SALT - FINE	248.41		0.00	0.00		0.00		0.00		0.00	0.00
DIRT MAGNET	1449.55		0.00	$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		$ \frac{0.00}{0.00}$		$\frac{0.00}{0.00}$	0.00
SAFE-CIDE	$-\frac{91.77}{216.21}$		0.00	$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$				$\frac{0.00}{0.00}$	0.00
SAFE-COK	$-\frac{310.31}{105.00}$		0.00	$\frac{0.00}{0.00}$						$\frac{0.00}{0.00}$	0.00
SAFE-VIS E	195.00			$\frac{0.00}{0.00}$							
BRINE CALCIUM CHLORIDE	$-\frac{0}{2700}$			$\frac{0.00}{0.00}$		$\frac{0.00}{0.00}$		0.00		$\frac{0.00}{0.00}$	
CALCIUM CHLORIDE (BB)	210.00										0.00
										+	
						+				+	
Cumulative Engineering			0.00	0.00	1	0.00		0.00		0.00	0.00
Daily Product			7027 12	0.00		2560.85		53/1 21		1052 27	178/3 19
			1021.13	<i>732.32</i>		2309.03		00000		1734.37	1/043.10
			0	0		0		0		0	0.00
Cumulative Product			/02/.13	/9/9.65		10549.50	]	15890.81		17843.18	17843.18
Cumulative Cost			7027.13	7979.65		10549.50		15890.81		17843.18	17843.18



Operator : Santos Ltd Well Name : Casino 4 DW2 Location : Otway Basin Field/Area: Vic P44

	DATES											
Product	Previous	Jun	1,2005	Jun	2,2005	Jun	3, 2005	Jun	4, 2005	Jun	5, 2005	Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE Sacks	0.00		0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA	61.38		0.00		0.00		0.00		0.00		0.00	61.38
CITRIC ACID	147.16		0.00		0.00		0.00		0.00		0.00	147.16
DEFOAM A	146.78		0.00		0.00	2	146.78		0.00		0.00	293.56
DUO-VIS	6129.00		0.00	2	454.00		0.00		0.00		0.00	6583.00
GLUTE 25	0.00		0.00		0.00	12	1124.16		0.00		0.00	1124.16
GUAR GUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
LIME	0.00		0.00		0.00		0.00		0.00		0.00	0.00
OS-1	0.00		0.00		0.00		0.00		0.00		0.00	0.00
PIPE-LAX W	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POLYPAC UL	1444.50		0.00		0.00		0.00		0.00		0.00	1444.50
SODA ASH	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SODIUM BICARBONATE	74.48		0.00		0.00		0.00		0.00		0.00	74.48
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
FLO-VIS PLUS	0.00		0.00		0.00	61	24862.38	6	2445.48		0.00	27307.86
IDCAP D	6740.44		0.00		0.00		0.00		0.00		0.00	6740.44
MIX II FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MIX II MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POTASSIUM HYDROXIDE	93.84		0.00		0.00	8	250.24		0.00		0.00	344.08
OMYACARB 20	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KCl BB	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MI BAR (Bulk)	3005.60		0.00		0.00		0.00		0.00		0.00	3005.60
MI Gel (Bulk)	0.00		0.00		0.00		0.00		0.00		0.00	0.00
BRINE KCl 16%	0.00		0.00		0.00		0.00		0.00		0.00	0.00
DUAL-FLO HT	0.00		0.00		0.00	148	15255.84		0.00		0.00	15255.84
OMYA CARB 8	0.00		0.00		0.00	1600	18720.00	104	1216.80	72	842.40	20779.20
BRINE NaCl 18%+KCl 5%	0.00		0.00		0.00	1700	23800.00		0.00		0.00	23800.00
SALT - FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
DIRT MAGNET	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SAFE-CIDE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SAFE-COR	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SAFE-VIS E	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SAFE-SURF WN	0.00		0.00		0.00		0.00		0.00		0.00	0.00
BRINE CALCIUM CHLORIDE	0.00		0.00		0.00		0.00	1023	27621.00		0.00	27621.00
CALCIUM CHLORIDE (BB)	0.00											0.00
			0.00				0.00		0.00		0.00	~ ~ ~ ~
Cumulative Engineering			0.00		0.00		0.00		0.00		0.00	0.00
Daily Product			0.00		454.00		84159.40	2	31283.28		842.40	134582.26
Daily Sales Tax			0		0		0		0		0	0.00
Cumulative Product			178/2 10	1	8207 18	1.	02456 50	13	22720.86	1	31587 76	13/582 26
			1/043.10	1	027/.10	1	02430.38	133/39.80 I.			34302.20	134362.20
Cumulative Cost			17843.18	1	8297.18	1	02456.58	13	33739.86	1	34582.26	134582.26



Operator : Santos Ltd Well Name : Casino 4 DW2 Location : Otway Basin Field/Area: Vic P44

	DATES											
Product	Previous	Jun	6,2005	Jun	7,2005	Jun	8, 2005	Jun	9, 2005	Jun	10, 2005	Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE Sacks	0.00	198	2284.92	9	103.86		0.00		0.00		0.00	2388.78
CAUSTIC SODA	61.38		0.00		0.00		0.00		0.00		0.00	61.38
CITRIC ACID	147.16		0.00		0.00		0.00		0.00		0.00	147.16
DEFOAM A	293.56		0.00		0.00		0.00		0.00		0.00	293.56
DUO-VIS	6583.00		0.00		0.00		0.00		0.00		0.00	6583.00
GLUTE 25	1124.16		0.00		0.00		0.00		0.00		0.00	1124.16
GUAR GUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
OS 1	0.00		0.00		0.00		0.00		0.00		0.00	0.00
PIPE-I AX W	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POLYPACIJI	1444 50		0.00		0.00		0.00		0.00		0.00	1444 50
SODA ASH	0.00		0.00		0.00		0.00		0.00		0.00	0.00
SODIUM BICARBONATE	74.48		0.00		0.00		0.00		0.00		0.00	74.48
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
FLO-VIS PLUS	27307.8		0.00		0.00		0.00		0.00		0.00	27307.86
IDCAP D	6740.44		0.00		0.00		0.00		0.00		0.00	6740.44
MIX II FINE	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MIX II MEDIUM	0.00		0.00		0.00		0.00		0.00		0.00	0.00
POTASSIUM HYDROXIDE	344.08		0.00		0.00		0.00		0.00		0.00	344.08
OMYACARB 20	0.00		0.00		0.00		0.00	)	0.00		0.00	0.00
KCl BB	0.00		0.00		0.00		0.00		0.00		0.00	0.00
MI BAR (Bulk)	3005.60		0.00		0.00		0.00		0.00		0.00	3005.60
MI Gel (Bulk)	0.00		0.00		0.00		0.00		0.00		0.00	0.00
BRINE KCI 16%	0.00		0.00		0.00		0.00		0.00		0.00	15255.94
DUAL-FLUHI OMVA CAPP 8	15255.8		0.00		0.00		0.00		0.00		0.00	20770.20
BRINE NaCl 18%+KCl 5%	20779.2		0.00		0.00		0.00		0.00		0.00	23800.00
SALT - FINE	23800.0	10	2484 10		0.00		0.00	00			0.00	23800.00
DIRT MAGNET	0.00	16	23192.80		0.00		0.00		0.00		0.00	23192.80
SAFE-CIDE	0.00	5	458.85		0.00		0.00		0.00		0.00	458.85
SAFE-COR	0.00	11	3479.41		0.00		0.00				0.00	3479.41
SAFE-VIS E	0.00	14	2730.00		0.00		0.00		0.00		0.00	2730.00
SAFE-SURF WN	0.00	3	2695.50		0.00		0.00		0.00		0.00	2695.50
BRINE CALCIUM CHLORIDE	27621.0		0.00		0.00		0.00		0.00		0.00	27621.00
CALCIUM CHLORIDE (BB)	0.00											0.00
											++	
											++	
											++	
											-	
											+ +	
											+ +	
								1			1	
								1			1	
Cumulative Engineering			0.00		0.00		0.00		0.00		0.00	0.00
Daily Product		2	37325 58		103.86		0.00		0.00		0.00	172011 70
Daily Salos Tax		-	0.00		105.00 A		0.00		0.00		0.00	0.00
Cumulative Draduct			1007.04	1.7	0		72011 70		72011 70		172011 70	0.00
Cumulative Product		171907.84		17	2011.70	1	/2011./0	I	/2011./0		1/2011.70	1/2011.70
Cumulative Cost		11	71907.84	17	2011.70	1	72011.70	1	72011.70		172011.70	172011.70



Operator : Santos Ltd Well Name : Casino 4 DW2 Location : Otway Basin Field/Area: Vic P44

	DATES											
Product	Previous	Jun	11, 2005	Jun 1	12, 2005	Jun 1	3, 2005	Jun	14, 2005			Page
Name	Page	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Qty	Cost	Totals
CALCIUM CHLORIDE Sacks	2388.78		0.00		0.00		0.00		0.00	)		2388.78
CAUSTIC SODA	61.38		0.00		0.00		0.00		0.00	)		61.38
CITRIC ACID	147.16		0.00		0.00	6	220.74		0.00	)		367.90
DEFOAM A	293.56		0.00		0.00		0.00		0.00	)		293.56
DUO-VIS	6583.00		0.00		0.00		0.00		0.00	)		6583.00
GLUTE 25	1124.16		0.00		0.00		0.00		0.00	)		1124.16
GUAR GUM	0.00		0.00	1	420.00		0.00		0.00	)		420.00
KWIK SEAL FINE	0.00		0.00		0.00		0.00		0.00			0.00
LIME OS 1	0.00		0.00		0.00		0.00		0.00	, ,		0.00
PIPE-I AX W	0.00		0.00		0.00		0.00		0.00	,		0.00
POLYPACIJI	1444 50		0.00		0.00		0.00		0.00	, 		1444 50
SODA ASH	0.00		0.00		0.00		0.00		0.00			0.00
SODIUM BICARBONATE	74.48		0.00		0.00		0.00		0.00	)		74.48
KWIKSEAL MEDIUM	0.00		0.00		0.00		0.00		0.00	)		0.00
FLO-VIS PLUS	27307.8		0.00		0.00		0.00		0.00	)		27307.86
IDCAP D	6740.44		0.00		0.00		0.00		0.00	)		6740.44
MIX II FINE	0.00		0.00		0.00		0.00		0.00	)		0.00
MIX II MEDIUM	0.00		0.00		0.00		0.00		0.00	)		0.00
POTASSIUM HYDROXIDE	344.08		0.00		0.00		0.00		0.00	)		344.08
OMYACARB 20	0.00		0.00		0.00		0.00		0.00	)		0.00
KCl BB	0.00		0.00		0.00		0.00		0.00	)		0.00
MI BAR (Bulk)	3005.60		0.00		0.00		0.00		0.00	)		3005.60
MI Gel (Bulk)	0.00		0.00		0.00		0.00		0.00	)		0.00
BRINE KCI 16%	0.00		0.00		0.00		0.00	1	0.00	)		0.00
DUAL-FLUHI	15255.8		0.00		0.00		0.00		0.00	,		15255.84
DRINE NaCl 189/ +KCl 59/	20779.2		0.00		0.00		0.00		0.00	,		20779.20
SALT FINE	23800.0		0.00		0.00		0.00		0.00	,		23800.00
DIRT MAGNET	2484.10		0.00		0.00		0.00		0.00	,		2484.10
SAFE-CIDE	458.85		0.00		0.00		0.00		0.00	)		458.85
SAFE-COR	3479.41		0.00		0.00		0.00		0.00	)		3479.41
SAFE-VIS E	2730.00		0.00		0.00		0.00		0.00	)		2730.00
SAFE-SURF WN	2695.50		0.00		0.00		0.00		0.00	)		2695.50
BRINE CALCIUM CHLORIDE	27621.0		0.00		0.00		0.00		0.00	)		27621.00
CALCIUM CHLORIDE (BB)	0.00											0.00
		-										
											-	
								1			1	
		<u> </u>										
Cumulative Engineering			0.00		0.00	1	0.00		0.00	1	1	0.00
Daily Product			0.00		420.00		220 74		0.00			172652 14
			0.00		т20.00 0		220.74		0.00			1/2032.44
Daily Sales Tax			0		0		0		0			0.00
Cumulative Product		1	72011.70	17	2431.70	17	72652.44	1	72652.44			172652.44
Cumulative Cost		1	72011.70	17	2431.70	17	72652.44	1	72652.44			172652.44



DRILLING FLUIDS RECAP FOR SANTOS CASINO 4/4DW/DW2

> DAILY MUD REPORTS

WATER-BASED MUD REPORT No. 1														
Mí SV	MA	CO				Date 6/0	5/2005	D	epth/TVD		m /	m	-	
					Spud	Date 7/0	<u>5/2005</u>	N	<u>/lud Type</u>		Hi Vis S	weeps		
Operator :	Santos I t	4			Water D	epth	71 Jold/Au				Spuddir	ng Well		
Report For :	Ron King	/ Jeff Thor	nson			- De	scripti	ion: G	as Produce	r				
Well Name :	Casino 4	,	noon				Locati	ion: 0	tway Basir	1				
Contractor :	Diamond	Offshore				M-I	Well N	No. :	-					
Report For :	Barry Sco	tt / Paul Ba	ıker					-						
DRILLING A	SSEMBL	.Y	CAS	ING	MUD VOLUME (bbl)			D	C Malaa		JLATION DATA			
Bit Size 36 in X11 Nozzles $4x^{22}/1/2$	32"		Suria	ce		Hole		PU	ump Make	65X	12P-16 (	<u>11 WELI</u> 65 X	12 in	
Drill Pipe Size	Leng	gth	Interme	diate		Active Pits		l	Pump Cap	0.5 1	gal/stk	0.5 1	gal/stk	
5 in	m							Pun	np stk/min		-			
Drill Pipe Size	Leng	gth	Interme	diate	Tota	al Circulating	g Vol			<u>low Rate</u>		gal/m	nin	
Drill Collar Size	Leng	zth I	Production	or Liner		In Storage			Total (	Line Time				
9.5 in	m	1				720	Pressure							
~	MU	D PROPE	RTIES						PRODU	JCTS US	ED LAST	24 HR	S	
Sample From		°C	Pit@22:	00				Prod	ucts		770/ 251	Size	Amt	
Depth/TVD						_		CAUS	STIC SODA	JRIDE /4-	251	<u>G DM</u>	38	
Mud Weight		sp.gr.	1.04					MIG	el (Bulk)		<u>1</u> N	IT BG	12	
Funnel Viscosity		s/qt	100+			_								
Rheology Temp		°C				_								
R200/R100						-							-	
R6/R3														
PV		<u>cP</u>				_								
YP 10s/10m/30m Gel		$\frac{1b/100ft^2}{1b/100ft^2}$												
API Fluid Loss		$\frac{10/10011}{\text{cc}/30 \text{ min}}$												
HTHP FL Temp		cc/30 min												
Cake API/HTHP		1/32"												
Solids Oil/Water		<u>%V01</u>												
Sand		%Vol				_		SOL	IDS EQUI	P	Size		Hr	
MBT		lb/bbl						VSM	Shaker 1				0	
pH Allrol Mud (Dm)								VSM	Shaker 2				0	
Pf/Mf								VSM	Shaker 4				0	
Chlorides		mg/l						Cent	rifuge				0	
Hardness Ca		mg/l						D-Si	ter				0	
KC1		% by Wt												
Idcap		by wt												
Sulphite Excess		ppm												
										eight	SPECIF		NƏ	
						_			Visc	osity		00+		
	-								Fi	ltrate		n/a		
			E A TN# > ''	<b>T</b>					DEMA	DKC				
Mixed up 920 bbls of	f PHG spud	mud. Pump	ed 200 bbls t	I o iet in the b	oit then	Spudded well	to 9m. A	nderdrift	survev out 2	2 degrees. N	Nove rig to	respud we	ell	
50 barrel sweeps eve	ry single. C	ontinued to 1	nix PHG.	5		1	, i i i i i i i i i i i i i i i i i i i		5	C	e	1		
	aat 24 Ura			(661)	50				NA1					
Rig Up/Service	22.5	Oil Added	JL ACCIG	0	NaCl		1313 (7	6.2/	np/na	Values		IDRAU	LICS	
Drilling	1.5	Water Add	ed	891	KCl	rovity		/	kp/ka	$\frac{(lb \cdot s^n/100}{(lb \cdot s^n/100)}$	ft²)			
Non-Productive Tim		Dumped	veu	0	Benton	ite	_	/	Bit HH	<u>s (psi / %)</u> I <u>P (</u> hhp / H	SI)			
		Shakers		0	Drill Se	olids Motorial			Bit Jet	Vel (m/s)				
		Centrifuge	ц	0	Chemic	cal Conc	_	<u>- /</u>	Ann. V	el DC (m/s)	)			
		Formation		0	Inert/R	eact			Crit Ve	I DP (m/s)				
		Sweeps	C	200	Averag Carb/B	iCarb (m mole	e/L)	/	Crit Ve	1 DC (m/s)				
M-I EN	GR / PHO	NE		<b>RIG PHO</b>	NE	WAREHO	USE PI	HONE	DAILY	COST	CUML	LATIVE	COST	
Glen Sharpe														
Gordon Howie		93023	790						\$ 3,10	0.32		\$ 3,100.3	32	

						WA	TER-	BA	SED	MUD	REP	ORT	No. 2	2	
Mí 51	MA	CO				Date	7/05/200	05	Dept	th/TVD		137 m /	137 m		
					Spud	Date	7/05/200	05	Mu	d Type		Hi Vis S	weeps		
Onereteri	Contra I.t.	1			Water D	epth	71 Field/				W	aiting or	cemer	nt	
Operator : Boport For :	Santos Lto	] / Ioff Thor					Field/	Area		P-44 Droducer					
Well Name	Kon King	/ Jeff Thor	nson				Descrip	ptior	<b>Gas</b> I	Producer					
Contractor :	Diamond	Offshore								iy Dasin					
Report For :	Barry Sco	tt / Paul Ra	ker												
DRILLING A	SSEMBI	Y	CAS	ING	MUD		MF (bb)	D	CIRCULATION DATA						
Bit Size 36 in XTI		• •	Surfa	ce	mob	He	ole	·/	Pumr	Make JA	TIONAL	12P-16	DILWELI	.1700PT	
Nozzles $4x22 / 1/3$	32"		Surra			11.	3.9		Pun	np Size	6.5 X 1	2.in	6.5 X	12.in	
Drill Pipe Size	Leng	gth	Interme	diate		Active	e Pits		Pun	np Cap	5.016	gal/stk	5.016	gal/stk	
5 in	m					.1			Pump s	tk/min	102@9	97%	102@	97%	
Drill Pipe Size	Leng	gth	Interme	diate	Tot	al Circu	ilating Vol			<u> </u>	ow Rate	102	<u>23 gal/m</u>	in	
5 in Drill Collar Sizo	Long	rth I	Production	or Linor		In Sto				Bott Total Ci	oms Up	m	1000000000000000000000000000000000000	K tlr	
9.5 in	Leng	gun r	Toduction	of Liner		III Sto 143	age	-	Circ	<u>10tal CI</u> rulating I	Pressure	1 1	$\frac{111}{000}$ nsi	ιĸ	
7.5 m	MU		RTIES			14.	))	I	CII		CTS USE		24 HR	\$	
Sample From			Pit@22:	30		-		·	Products				ize	Amt	
Flow Line Temp		°C	1100-2	20					CAUSTI	C SODA		25 K	G DM	4	
Depth/TVD		m	137/13	7					MI BAR	(Bulk)		1 M	T BG	16	
Mud Weight		sp.gr.	1.06					[	MI Gel (I	Bulk)		1 M	T BG	17	
Funnel Viscosity		s/qt	100+			_		ŀ							
Reology Temp		٣C				_									
R200/R300						_									
R6/R3															
PV		cP													
YP		lb/100ft <sup>2</sup>													
10s/10m/30m Gel		lb/100ft <sup>2</sup>													
API Fluid Loss		$\frac{\text{cc}/30 \text{ min}}{\text{cc}/20 \text{ min}}$													
Cake A PI/HTHP		$\frac{cc/30 \text{ min}}{1/32"}$				_									
Solids		%Vol				-		·							
Oil/Water		%Vol				_									
Sand		%Vol							SOLIDS	S EQUIF	)	Size		Hr	
MBT		lb/bbl							VSM Sh	aker 1				0	
pH									VSM Sh	aker 2				0	
Alkal Mud (Pm)						_			VSM Sh	aker 3				0	
PI/MI Chlorides		ma/l				_			V SIVI SI	aker 4				0	
Hardness Ca		mg/l				_		·	D-Silter	gc				0	
									- 2000						
KCl		% by Wt													
Idcap		ppb													
Sulphite Excess		ppm													
									м		DEDTV	SDECIEI	CATIO		
						_			IVI	We	ight		04	13	
						_		·		Visco	sitv	1	00+		
										Filt	rate		n/a		
R	EMARKS	AND TR	EATMEN	T						REMAR	RKS	• • •			
Respudded well and	drilled to TI	J. Mixed 94	) bbls PHG	and 320 bbls	11 ppg	Respudd	ed well. Dr	illed t	to TD 1371	m. POOH,	ran 30" cs	sg, 20" swa	ged shoe	set at	
with 350 bbls PHG. I	0 DDI PHG S	sweep at TD	then pulled	back and mil	ed note	13/mai	ia cementec	i as p	er progran	1.					
with 550 0013 1 110. 1	00111011	ii esg.													
TIME DISTR La	ast 24 Hrs		DL ACCTG	(bbl)	SO NoCl	LIDS A	NALYSIS	(%/lt	0/bbl)	MU nn/ng	D RHEOL	.OGY & H	YDRAUL	ICS	
Drilling	14	Water Add	ed	1196	KCl			1	/	kp/ka (1	aiues b•s^n/100f	ft²)	-		
Tripping	2	Mud Recei	ved	0	Low G	ravity		-	/	Bit Loss	(psi / %)	~			
Non-Productive Tim	1.5	Dumped		0	Benton	nte olide			/	Bit HHP Bit Lat V	$\frac{(hhp / HS)}{(m/s)}$	51)	-		
Running Casing	4	Evaporation	1	0	Weight	t Materia	ıl	N	NA/ NA	Ann. Vel	DP (m/s)				
		Centrifuge		0	Chemie	cal Conc	;		- /	Ann. Vel	DC (m/s)				
		Formation	<u>د</u>	0	Inert/R	eact				Crit Vel	$\frac{DP (m/s)}{DC (m/s)}$				
		Sweeps	•	548	Carb/B	iCarb (n	n mole/L)	L	/	Circ vol	<u> </u>				
M-I EN	GR / PHO	NE		<b>RIG PHON</b>	IE	WAF	REHOUSE	PHO	DNE	DAILY	COST	CUMU	LATIVE	COST	
Glen Sharpe															
Gordon Howie		93023	790							\$ 8,057	.22	\$	11,157.	54	
						WATER-	BAS		REP		No. 3	3			
---	----------------------	---------------------------------	---	---------------	------------------------	-----------------------	--------------	----------------------------------	---------------------------------------	--------------	--------------	------------------------			
Mí S\	NA	CO			D	ate 8/05/20	05	Depth/TVD		363 m / 3	63 m	-			
					Spud D	ate 7/05/20	05	Mud Type		Hi Vis Sw	eeps				
Operator :	Santos Lto	1		v	valer De	Field	/Area :	VIC P-44		Drilling A	neau				
Report For :	Ron King	/ Jeff Thon	ison			Descri	ption :	Gas Producer							
Well Name :	Casino 4	0 11				Loc	ation :	Otway Basin							
Contractor : Report For :	Diamond Barry Sco	Offshore tt / Paul Bai	ver			M-I We	II NO. :								
DRILLING A	SSEMBL	.Y	CAS	ING	MUD V	OLUME (bb	l)	CIR	CULAT		A				
Bit Size 17.5 in 74E	39 MX-1		Surfa	ce		Hole		Pump Make JA	TIONAL	12P-16 OI	LWELL	1700PT			
Nozzles 3x20/20/	1/32" L and	30	in @137m (	(137TVD)		298 A otivo Pito		Pump Size	6.5 X 1	2.in	<u>6.5 X</u>	$\frac{12.in}{12.in}$			
5 in	88 r	n 13.3	75in @742r	n (742TVD)	1	Active 1 hs	I	Pump stk/min	109@9	7%	109@	97%			
Drill Pipe Size	Leng	,th	Interme	diate	Total	Circulating Vo	1	Flo	w Rate	1093	3 gal/mi	in Datio			
Drill Collar Size	Leng	m gth P	roduction	or Liner	]	In Storage		Total Cir	c Time	11.5 mi	<u> </u>	96 stk			
9.5 in	136	m				1542		Circulating P	ressure	22	200 psi				
Sampla From	MU	D PROPE	RTIES	00		-	D	PRODUC	TS USE	D LAST 2	24 HRS	5 A mt			
Flow Line Temp		°C	$\operatorname{PII}(\underline{w}, 22)$	00			C	AUSTIC SODA		25 KC	G DM	5			
Depth/TVD		m	363/36	3		-	S	ODA ASH		25 KG	G BG	6			
Mud Weight		sp.gr.	$\frac{1.06}{100+}$			-	M	II Gel (Bulk)		1 M7	BG	15			
Rheology Temp		°C	100 -				E								
R600/R300															
R6/R3						-	-								
PV		cP				-									
$\frac{\text{YP}}{10\text{s}/10\text{m}/30\text{m}\text{ Gel}}$		$\frac{lb/100ft^2}{lb/100ft^2}$				-									
API Fluid Loss		$\frac{10/10011}{cc/30 min}$													
HTHP FL Temp		cc/30 min				-									
Cake API/HTHP Solids		1/32" %Vol				-									
Oil/Water		%Vol													
Sand		%Vol				-	S			Size		Hr			
pH		10/001				-	V	SM Shaker 1 SM Shaker 2				0			
Alkal Mud (Pm)						1	V	SM Shaker 3				0			
Pf/Mf Chlorides		mg/1				-	V	SM Shaker 4				0			
Hardness Ca		mg/l				-	D	-Silter				0			
KOL		0/1. W/				-									
Idcap		% by wt				-									
Sulphite Excess		ppm													
						-			DEDTV	SDECIEIC		IC			
						-	-	Weis	ght	al	ap	10			
								Viscos	ity	10	0+				
						-	$\vdash$	Filtr	ate	n	/a				
R	EMARKS	AND TR	EATMEN	г		I		REMAR	ĸs						
Mixed 1200 bbls PHO	G. Pumped	60 bbls PHG	sweeps on	connections a	nd 40 Wa	ait on cement job	. RIH to	tag cement, require	e further c	ement. POO	H, make	e up			
and 75 bbl mid stand	sweep regi	ne while flow	v rate at 110	00 gpm. Conti	nued 36	.5 ВПА ана Ки 3 m.	i tag cen	nent at 155 m and 0	arm shoe a	at 157 m. Co	ontinue a	rining to			
to mix PHG as requir	red.			01											
								1							
TIME DISTR La Rig Up/Service	ast 24 Hrs	MUD VO Oil Added	L ACCTG	(bbl)	SOLI NaCl	DS ANALYSIS	(%/lb/b 6	2/ nn/na Va	RHEOL dues	OGY & HY	0 494	.ICS 5/0.374			
Drilling	7.5	Water Adde	d	1157	KCl		0.	$\frac{1}{\sqrt{\frac{kp}{ka}}}$	•s^n/100f	t²)	2.140	6/4.057			
Non-Productive Tim		Dumped	rea	0	Bentonite	vity	/	Bit Loss Bit HHP	<u>(psi / %)</u> <u>(hh</u> p / HS	SI)	/68	<u>/ 34.9</u> 0 / 2			
Wait on Cement	3	Shakers Evaporation		0	Drill Soli Weight N	ids Aaterial	NA	/ Bit Jet Ve	$\frac{m/s}{DP(m/s)}$			87			
Casilig		Centrifuge		0	Chemica	l Conc	-	/ Ann. Vel	DC (m/s)			.63			
		Formation Left in Hole	;	0 0	Inert/Rea Average	ict SG		Crit Vel D Crit Vel D	<u>PP (m/s)</u> DC (m/s)						
		Sweeps		1085	Carb/BiC	Carb (m mole/L)	/	/ ECD @ 1	670 (sp.g	gr.)	1	.33			
M-I EN	GR / PHO	NE		RIG PHON	E	WAREHOUSE	PHON	E DAILY C	OST	CUMUL	ATIVE	COST			
Gordon Howie		930237	790					\$ 3,953.	64	<u>\$</u>	15,111.	18			

						WA	TER-	BAS		D REF	<b>ORT</b>	No. 4	4
MISI	MA	CO				Date	9/05/200	05	Depth/TVD		742 m / 7	742 m	
					Spud	Date	7/05/200	05	Mud Type		Hi Vis Sv	veeps Cooing	
Operator :	Santos Lte	h			water D	eptn	Field/	Area :	VIC P-44		Running	casing	
Report For :	Ron King	/ Jeff Thor	nson				Descri	ption :	Gas Producer	r			
Well Name :	Casino 4						Loc	ation :	Otway Basin	L			
Contractor :	Diamond	Offshore					M-I Wel	II No. :					
Report For :	Barry Sco	tt / Paul Ba			MUD		ME (bb)	D)	<u> </u>			· ^	
Bit Size 17.5 in 74	NOOLINIDL	.1	Surfa	ING ce	WOD		u⊏ (bb. ole	1)	Pump Make J	ATIONAL	12P-16	A II WELL	1700PT
Nozzles 3x20/20/	/ 1/32"	30	Din @137m (	(137TVD)		7(	05		Pump Size	6.5 X	12.in	6.5 X	12.in
Drill Pipe Size	Leng	gth	Intermed	diate		Activ	e Pits		Pump Cap	5.016	gal/stk	5.016	gal/stk
5 in Drill Ding Size	m	13.3 xth	375in @742n	<u>n (742TVD)</u> diata	Tot	ol Ciro	ulating Vol	1 P	<u>ump stk/min</u>	$\frac{77(a)}{1000}$	)7%	$\frac{77(a)}{2}$	97%
5 in	m	gun	mermed	ulate	100		ulating vol	1	Bot	toms Un	mi	$\frac{2 \text{ gai/m}}{10 \text{ st}}$	h k
Drill Collar Size	Leng	gth I	Production	or Liner		In Sto	orage		Total C	irc Time	m	100  st	tk
9.5 in	m					17	22		Circulating	Pressure	2	900 psi	_
Samula From	MU	D PROPE	RIIES	00				Dr	PRODU		EDLASI	24 HR	5 A mat
Flow Line Temp		°C	Pn( <i>a</i> )22.	00					AUSTIC SODA		25 K	G DM	12
Depth/TVD		m	742/742	2				SC	DDA ASH		25 K	G BG	9
Mud Weight		sp.gr.	1.06					М	I Gel (Bulk)		1 M	T BG	42
Funnel Viscosity		s/qt	100+			_							
R600/R300		Ľ				-		-			<u> </u>		
R200/R100													
R6/R3													
PV		<u>cP</u>											
YP 10s/10m/30m Gel		$\frac{10/100\pi^2}{10/100\pi^2}$											
API Fluid Loss		$\frac{10/10011}{\text{cc}/30 \text{ min}}$											
HTHP FL Temp		cc/30 min											
Cake API/HTHP		1/32"											
Solids Oil/Water		<u>%V01</u>											
Sand		%Vol						S	OLIDS EQUI	P	Size		Hr
MBT		lb/bbl						V	SM Shaker 1				0
pH								V	SM Shaker 2				0
Alkal Mud (Pm)									SM Shaker 3 SM Shaker 4				0
Chlorides		mg/l						C	entrifuge				0
Hardness Ca		mg/l						D	-Silter				0
VC1		0/ 1 W/4											
Idean		<u>% Dy Wt</u>											
Sulphite Excess		ppo											
									MUD PRO	OPERTY	SPECIFIC		NS
									Visco	osity	a	<u>ap</u> 00+	
									Fil	trate	1	n/a	
					T								
Ruilt 2100 bbla Com		S AND TR	EATMEN	T 1 75 hhl DLU	C maior I	Dmillad #	a coation TI	D 742 m	REMA	RKS	1 DUC average	than mul	lad out
to connection sweep	regime. At	TD numbed	200 bbls PH	G then 200 b	bls a	and fille	d hole with	1000 bbl	s PHG. Racked	back 17 1/	2" BHA. Rig	up and r	an 13
seawater. Filled hole	with 1000 t	bls PHG.	200 0010 1 11	0 1101 200 0	3	3/8" csg	u 11010 11111	1000 000	51110.1140.104	04011 17 17	- 51111102	, up unu i	
TIME DISTR L	ast 24 Hrs	MUD VC	OL ACCTG	(bbl)	SO	LIDS A	NALYSIS	(%/lb/b	bl) ML	JD RHEO	LOGY & HY	DRAUL	ICS
Rig Up/Service	7.5	UII Added Water Add	ed	0 2995	NaCl KCl			6.2	2/ np/na V kp/ka (	Values Tb•s^n/100	(ft <sup>2</sup> )		
Tripping		Mud Recei	ved	0	Low G	ravity		/	Bit Los	s (psi / %)	<u>· · /</u>		
Non-Productive Tim		Dumped Shakers		0	Benton Drill Se	<u>ite</u> olids		/	Bit HH Bit Let	<u>P (hhp / H</u> Vel (m/s)	<u>SI)</u>		
Running Casing	3	Evaporatio	n	0	Weight	Materi	al	NA/	NA Ann. Ve	el DP (m/s)			
		Centrifuge Formation		0	Chemic Inert/P	cal Cone eact	e	-	/ Ann. Ve	$\frac{\text{DP} (\text{m/s})}{\text{DP} (\text{m/s})}$	<u> </u>	+	
		Left in Hol	e	0	Averag	e SG			Crit Vel	DC (m/s)			
		Sweeps		2918	Carb/B	iCarb (1	m mole/L)	/					
M-I EN	GR / PHOI	NE		RIG PHON	E	WA	REHOUSE	PHONE	E DAILY	COST	CUMUL	ATIVE	COST
Gien Sharpe Gordon Howie		93023	790						\$ 10.9	27 56	\$	26.038	74
		1040				1			ψ 10,9	_ ,	ψ	-0,000.	

						WATER	-BAS		REP	ORT	No. 5	5
MISI	NA	CO				Date 10/05/2	2005	Depth/TVD		742 m / 7	42 m	
					Spud	Date 7/05/20	005	Mud Type		Hi Vis Sw	eeps	
Operator :	Santos I to	4			water D	eptn /1 Field	d/Δrea ·	VIC P-44		Running	BOb	
Report For :	Ron King	/ Pat King				Descr	ription :	Gas Producer				
Well Name :	Casino 4	U				Lo	cation :	Otway Basin				
Contractor :	Diamond	Offshore				M-I We	ell No. :					
Report For :	Barry Sco	<u>tt / Paul Ba</u>	lker					0			•	
Bit Size 17.5 in 74	SO MY 1	.T	CA5 Surfa		MUD	VOLUVIE (D	01)	Dump Make IA	TIONAL		A IWEII	1700PT
Nozzles 3x20/20/	1/32"	30	)in @137m	(137TVD)		319		Pump Size	6.5 X 1	2.in	6.5 X	12.in
Drill Pipe Size	Leng	,th	Interme	diate		Active Pits		Pump Cap	Į.	gal/stk	g	al/stk
5 in Drill Pipe Size	m	13.3 th	75in (a)742i	<u>n (742TVD)</u> diata	Tot	l Circulating V		ump stk/min	Duy Data		gal/mi	n
5 in	m	,ui	meme	ulate	100			Bott	oms Up		gai/iiii	11
Drill Collar Size	Leng	gth P	Production	or Liner		In Storage		Total Ci	rc Time			
9.5 in	m		DTIEO			1722		Circulating I	Pressure			
Sample From	MU		RILES Dit@22:	30		_	Dr	PRODUC	15 05	LASI 2	24 HKS	Amt
Flow Line Temp		°C	$1 \operatorname{Iu}(w) 22$ .	50			CA	AUSTIC SODA		25 KC	DM	1
Depth/TVD		m	742/74	2			SC	DDA ASH		25 KC	G BG	3
Mud Weight		sp.gr.	1.06			_	M	I BAR (Bulk)		1 MT	BG	12
Rheology Temp		s/qt °C	100+			-	M			I M I	DU	3
R600/R300												
R200/R100						_						
R6/R3 PV		сP										
YP		lb/100ft <sup>2</sup>										
10s/10m/30m Gel		lb/100ft <sup>2</sup>										
API Fluid Loss HTHP FL Temp		$\frac{cc/30 \text{ min}}{cc/30 \text{ min}}$										
Cake API/HTHP		1/32"										
Solids		%Vol										
Oil/Water Sand		%Vol					9		)	Sizo		Hr
MBT		lb/bbl					V	SM Shaker 1	-	0126		0
pН							V	SM Shaker 2				0
Alkal Mud (Pm)							V	SM Shaker 3				0
Chlorides		mg/l					C	entrifuge				0
Hardness Ca		mg/l					D	-Silter				0
VC1		0/ hr. W/+										
Idcap		<sup>7</sup> <sup>o</sup> Uy Wt				_						
Sulphite Excess		ppm										
								Wei Wei	ight	<u>SPECIFIC</u> ala	ATION an	15
								Visco	sity	10	0+	
						_		Filt	rate	n	/a	
D				т				DEMAG	ok e			
Mixed 220 bbls PHG	in pit 1 and	l dunped san	ne as pit wa	s required for	. (	Continued to run 1	3 3/8" csg	and landed shoe	at xxm. C	irculated with	ı seawate	er then
cement job. Made 12	MT adjustn	nent to corre	et bulk barit	e figure.	c	emented as per pr	ogram. PO	OH with running	tool and la	yed out 17 1/	2" BHA.	. Rig up
					а	ind ran Sub Sea X	mas tree a	ind tested. Moved	l rig 15 m l	RU and PU E	SOP	
TIME DISTR L	ast 24 Hrs		L ACCTG	(bbl)	SO		S (%/lb/b	bl) MUI		.OGY & HY	DRAUL	ICS
Rig Up/Service	15	Oil Added		0	NaCl		6.2	2/ np/na V	alues	42)		
Tripping	2.5	Mud Receiv	eu ved	0	Low G	ravity	/	кр/ка (I Bit Loss	(psi / %)	uť)		
Non-Productive Tim	2.5	Dumped		200	Benton	ite	/	Bit HHP	hhp/HS	SI)		
Running Casing	<u> </u>	Evaporation	1	0	Weight	Material	NA/	/ NA Ann. Vel	$\frac{\text{er}(\text{m/s})}{\text{DP}(\text{m/s})}$			
Testing	2	Centrifuge		0	Chemic Inart/D	cal Conc	-	/ Ann. Vel	DC (m/s)			
		Left in Hole	e	0	Averag	e SG		Crit Vel	$\frac{Dr}{DC} (\frac{m/s}{s})$			
		Sweeps		0	Carb/B	iCarb (m mole/L)	/					
M-I EN	GR / PHON	NE		RIG PHON	IE	WAREHOUS	E PHONE		COST	CUMUL	ATIVE (	COST
Gien Sharpe Gordon Howie		93023	790					\$ 4.091	.68	\$	30,130.4	12

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						V	NATER-	BASE	ED MUD R	EPORT	No.	6
Mí SV	MA	CO				Da	te 11/05/20	05	Depth/TVD	742 m	/ 742 m	-
					Sp	ud Da	te 7/05/200	)5	Mud Type	Hi Vis	<u>Sweeps</u>	
	~ ~				Wate	r Dep	<u>th 71</u>	_	Activity	Picking	up pipe	)
Operator :	Santos Lto	d / D / W					Field/	Area :	VIC P-44			
Report For :	Ron King	/ Pat King					Descrip	otion :	Gas Producer			
Contractor	Casino 4	Offshara							Otway Basin			
Poport For :	Diamond Barry Sco	Ulishole tt / Daul Ba	kar					I NO				
					МІ			n l	CIPCI		ТЛ	
Bit Size 17.5 in 74	ROMY 1	• •	Surfa		IVIC				Pump Make IATIO	NAL 120 16		I 1700PT
Nozzles $3x20/20/$	$\frac{1}{32"}$	30	)in @137m	(137TVI	))		319	1	Pump Size 6	5 X 12 in	65X	12  in
Drill Pipe Size	Leng	gth	Interme	diate		Α	ctive Pits		Pump Cap	gal/stk		gal/stk
5 in	m	13.3	75in @742	m (742TV	VD)			Pu	mp stk/min			•
Drill Pipe Size	Leng	gth	Interme	diate		Total C	Circulating Vol		Flow R	late	gal/n	nin
5 in Drill Caller Size	m				-	L	Ctana an		Bottoms	Up		
Drill Collar Size	Leng	gtn F	roduction	or Line	r	Ir	1 Storage		Circulating Pross	me		
9.5 111			RTIES				1/22				T 24 HR	9
Sample From	NIC		Pit@22	00				Pro	ducts	USED LAS	Size	Δmt
Flow Line Temp		°C	111(0/22)	.00				110	ducts		DIZC	7 1111
Depth/TVD		m	742/74	2								
Mud Weight		sp.gr.	1.06									
Funnel Viscosity		s/qt	100 +									
Rheology Temp		°C										
R200/R100												
R6/R3												
PV		сP										
YP		lb/100ft <sup>2</sup>										
10s/10m/30m Gel		lb/100ft <sup>2</sup>										
API Fluid Loss		cc/30 min										
HIHP FL Temp		$\frac{cc}{30} \min_{1/20''}$										
Solide		1/32 %Vol										
Oil/Water		%Vol										
Sand		%Vol						SO	LIDS EQUIP	Size	)	Hr
MBT		lb/bbl						VS	M Shaker 1			0
pH								VS	M Shaker 2			0
Alkal Mud (Pm)								VS	M Shaker 3			0
PI/MI Chloridos		ma/1						VS	M Shaker 4			0
Hardness Ca		mg/1						D-S	Silter			0
		<i>B</i> , -										
KCl		% by Wt										
Idcap		ppb										
Sulphite Excess		ppm										
												NS
									Weight		alap	
									Viscositv		100+	
									Filtrate		n/a	
R	REMARKS	S AND TR	EATMEN	Т		0	· · · · ·	on 1.	REMARKS	(' D' I	р.'Ш. <sup>.</sup>	
No treatment require	a. No mua t	built.				Con	itinue running Bo	JPs and ri	gging up for 12 1/4"	section. Pick u	p Drill pip	be.
	act 34 Ur-	MUDVO		/66	n	20115		(0/,/16/66				
Rig Un/Service	18	Oil Added		<b>ida)</b> 0	l) Nat		5 ANAL 1 515	( <b>%) 10/00</b>	np/na Values		TURAU	LICS
Drilling		Water Adde	ed	Ŭ Ŭ	KC	1		/	kp/ka (lb•s^n	/100ft <sup>2</sup> )		
Tripping Non-Productive Time	2.5	Mud Receiv	ved	0	Lov	w Grav	ıty	/	Bit Loss (psi	/%) n/HSD	_	
BOP Testing	1	Shakers		0	Dri	ill Solid	s	/	Bit Jet Vel (r	n/s)		
BOP NU	2.5	Evaporation	ı	0	We	ight M	aterial	NA/ N	NA Ann. Vel DP (	(m/s)		
		Centrifuge Formation		0	Che	emical (	Conct	- /	Ann. Vel DC	( <u>m/s)</u> m/s)		
		Left in Hole	e	0	Av	erage S	G		Crit Vel DP (	m/s)		
		Sweeps		Ó	Car	rb/BiCa	rb (m mole/L)	/				
M-I EN	GR / PHO	NE		<b>RIG PH</b>	IONE	1	WAREHOUSE	PHONE	DAILY COS	г сим	ULATIVE	COST
Glen Sharpe												
Gordon Howie		93023	790						\$ 0.00		\$ 30,130	0.42

						W	ATER-	BA	SED	MU	D REF	PORT	No.	7
MIS	MA	CO				Date	12/05/20	05	Dep	th/TVD		742 m /	742 m	
					Spud	Date	7/05/200	05	Mu	d Type	Sw	/eeps / K	Cl/ldca	p D
_					Water D	)epth	71			Activity		Picking	up BHA	
Operator :	Santos Ltd						Field/	/Area	: VIC	P-44				
Report For :	Ron King /	/ Pat King					Descri	ption	: Gas	Produce	r			
Well Name :	Casino 4						Loc	ation	: Otw	ay Basir	I			
Contractor :	Diamond C	Offshore					M-I Wel	ll No.	÷					
Report For :	Barry Scot	t / Paul Bal	ter											
DRILLING A	SSEMBL	Y	CAS	SING	MUD	VOLL	JME (bb	l)		C	IRCULA	TION DA	TA	
Bit Size 12.25 in M	IX-O3DX		Surfa	ice		Н	ole		Pum	p Make	IATIONAL	12P-16	DILWEL	L 1700PT
Nozzles 3x20 / 1/.	32"	30i	<u>n @137m</u>	(137TVD)		3	64		Pur	np Size	6.5 X	12.in	6.5 X	12.in
Drill Pipe Size	Lengt	th	Interme	diate		Activ	ve Pits		Pu	mp Cap		gal/stk		gal/stk
5 in	m	13.37	<u>/5in (a)742</u>	<u>m (742TVD)</u>		1.01	1	1	Pump	stk/min	1 D (		1/	•
Drill Pipe Size	Lengt	in	in On (		Tot	al Circ	ulating vol			- F	Iow Kate		gai/n	nin
Drill Collar Size	III Lengt	th Di	<u>in (<i>a</i>)m (</u>	or Liner		In St	orage			D0 Total (	<u>lions Op</u>			
8 in	m		ouuction	of Linei		17	01age		Cir	culating	Pressure			
0 111	MUE		TIES			1/			Ch	PRODI	ICTS US	FDIAST	24 HR	s
Sample From			Pit@22	30		_			Product	s s			Nize	Amt
Flow Line Temp		°C	111(0,22)	.50				-	Tiouuci	.0				7 1111
Depth/TVD		m	742/74	2				F						
Mud Weight		sp.gr.	1.06					F						
Funnel Viscositv		s/qt	100+					F						
Rheology Temp		°Ċ						Γ				-		
R600/R300														
R200/R100								L						
R6/R3														
PV		<u>cP</u>						-						
YP 10./10/20C.1		$\frac{10}{100}$						L						
ADI Eluid Lago		$\frac{10}{100\pi^2}$						-						
HTHE EL Temp		$\frac{2}{30}$ min				_		-						
Cake API/HTHP	C	1/32"						-						
Solids		%Vol				_		-						
Oil/Water		%Vol						-						
Sand		%Vol						;	SOLID	S EQU	P	Size		Hr
MBT		lb/bbl						-	VSM S	haker 1		10/84/84/8	84/84	0
pH									VSM S	haker 2		10/84/84/8	84/84	0
Alkal Mud (Pm)									VSM S	haker 3		10/84/84/8	84/84	0
Pf/Mf									VSM S	haker 4		10/84/84/8	84/84	0
Chlorides		mg/l						1	Centrifi	ıge				0
Hardness Ca		mg/I				_		-	D-Silter	r				0
VC1		0/ hr W/+						_						
Idean		70 Uy Wt				_								
Sulphite Excess		ppu				_		-						
Sulpinte Excess		ppm				-		-						
									M		OPERTY	SPECIF	CATIO	NS
										W	eight		alap	
										Visc	osity	1	00+	
										Fi	ltrate		n/a	
F	REMARKS	AND TRE	ATMEN	Т						REMA	RKS			
Dressed shakers with	n 10 mesh on	top and 84 n	nesh on the	e bottom.		Made u	p 12 1/4" BH	IA and	l started	picking u	p drill pipe	while runni	ing in the	hole to
						tag the	top of the cer	ment.						
	ast 21 Line			(bbl)		י פחו ור		(%//Ih	/bbl)	M			יייסטע	2011
Rig Up/Service	24	Oil Added			NaCl			10/10/	6.2/	np/na	Values			2100
Drilling		Water Adde	1	Ŏ	KCI				7	kp/ka	(lb•s^n/100	ft²)		
Tripping		Mud Receiv	ed	0	Low G	iravity			/	Bit Los	s (psi/%)			
INON-Productive Tim		Dumped Shakers		0	Bentor Drill 9	nte olide		+	/	Bit HH	<u>P (hhp/H</u> Vel (m/s)	51)		
	+	Evaporation		0	Weigh	t Mater	ial	N	Á/ NA	Ann. V	$\frac{1}{1}$ el DP (m/s)			
		Centrifuge		Õ	Chemi	cal Con	c		- /	Ann. V	el DC (m/s)	)		
		Formation		0	Inert/R	leact				Crit Ve	$\frac{1 \text{ DP} (\text{m/s})}{1 \text{ DC}}$			
	-	Lett in Hole		0	Average Carb/E	ge SG SiCarb (	m mole/L)	-	/	Crit Ve	<u>IDC (m/s)</u>			
		E moops						DUO			COST	CUM		10057
Glan Sharma		n <b>-</b> 2				VVA	ILEHOUSE	FUO		DAILT	0031	COWU	LAIIVE	
Gordon Howic		020727	90							\$ 0.00	<b>)</b>		30 120	12
Gordon Howie		150251	70							φ 0.00	,		, 50,130	·.¬'∠

				W	ATER-B	ASED MUD		RT No. 8	B
Mi SV	NACC			Date	13/05/2005	5 Depth/TVD	1117	m / 1117 m	
				Spud Date	7/05/2005	Mud Type	КС	I/Idcap D	
			V	ater Depth	71	Activity	Dril	lina 12.25"	
Operator : S	Santos Ltd				Field/Ar	rea: VIC P-44			
Report For : F	Ron King / Pat Kir	σ			Descripti	on : Gas Producer			
Well Name : (	Casino 4	-8			Locati	on : Otway Basin			
Contractor : I	Diamond Offshore								
Bonort For : S	Soon D Froites / De	ul Dakar				<b>NO.</b> .			
					IME (bbl)				
DRILLING AG		CASING				Dumn Malta IA	TIONAL 12D		1700DT
Nozzles $3x20 / 1/22$	X-03DX	20in @127m (127TV	D)	ſ	558	Pump Size	1100000000000000000000000000000000000	65 Y	12 in
Drill Pipe Size	Length	Intermediate	D)	Activ	ve Pite	Pump Can	$\frac{0.3 \times 12.10}{5.016 \text{ gal/st}}$	$\frac{0.3 \Lambda}{16}$	12.111 mal/stb
5 in	826 m 1	375in @742m (742T	VD)	3	72	Pump stk/min	100@97%	100@	97%
Drill Pipe Size	Length 1.	Intermediate	VD)	Total Cire	culating Vol	Flo	w Rate	1003 gal/m	in
5 in	138 m	in @m (TVD)			930	Bott	oms Un 2	$\frac{1005 \text{ gal/m}}{21 \text{ min}}$ 420	11 4 stk
Drill Collar Size	Length	Production or Line	er	In S	torage	Total Cir	rc Time 3	89 min 77	89 stk
8 in	125 m	Trouvenon of Line		2	12	Circulating F	Pressure	3200 psi	07 044
	MUD PROF	ERTIES				PRODUC	CTS USED L	AST 24 HR	S
Sample From		Pits@20.30				Products		Size	Amt
Flow Line Temp	٥	20.30				CAUSTIC SODA		25 KG DM	1
Depth/TVD	r	n 1055/1055				DUO-VIS		25 KG BG	25
Mud Weight	sp.g	1.07@20°C				OS-1		25 KG BG	10
Funnel Viscosity	s/c	t 60				POLYPAC UL		25 KG BG	53
Rheology Temp	°	49				IDCAP D SHALE	INHIBITOR	25 KG BG	25
R600/R300		38/26				POTASSIUM HYD	DROXIDE	25 KG CN	3
R200/R100		21/15				MI BAR (Bulk)		1 MT BG	9
R6/R3		5/4				MI Gel (Bulk)		1 MT BG	8
PV	с	P 12				KCL BRINE 16%		1 BL	540
YP	lb/100f	<sup>2</sup> 14							
10s/10m/30m Gel	lb/100f	<sup>2</sup> 6/7/7							
API Fluid Loss	cc/30 mi	n 6							
HTHP FL Temp	cc/30 mi	n							
Cake API/HTHP	1/32	" 1/							
Solids	<u>%Vc</u>								
Oil/Water	%V0	ol /99							
Sand	<u>%Vc</u>					SOLIDS EQUIP		SIZE	Hr
MBT	lb/bt					VSM Shaker 1	4	<u>x 84</u>	21
pH		8./				VSM Shaker 2	4	<u>1 x 84</u>	21
Alkal Mud (Pm)		0 1/1 0				VSM Shaker 3	4	<u>+ X 84</u>	21
PI/MI Chlaridea		0.1/1.0				VSIM Snaker 4	2 X 1	05, 2 x 84	21
Uniorides Hardnass Ca	mg	1 30000				D Silter			0
Haruness Ca	Ing	1 300				D-Siller			0
KC1	% by W	t 6							
Idean	70 UY W	h 114							
Sulphite Excess	pp	$\frac{1.14}{1.14}$							
Sulpine Execss	ppi								
							PERTY SPF	CIFICATIO	NS
						Wei	ight	1.2-1.23	
						Visco	sitv	50-60	
						Filt	rate	< 5	
						1110		-	
RE	EMARKS AND T	REATMENT				REMAR	RKS		
Mixed unweighted KC	l-Polymer Mud. Dis	placed hole with new	mud (a	) Taggeo	d cement drilled	through shoe at 730 m	and 3 m of new	hole and perfo	rm LOT.
1055 m. Mud propertie	es shown are for init	al mix. Started weight	ting up	EMW	17.9 ppg. Drilled	d 12.25" hole with SW/	Gel sweeps to 1	055 m. Observ	ed
system with Barite. Bu	uilding up mud prope	rties to spec gradually	'. ·	reduce	d flow at shakers	s at 930 m. Heavy sand	loading at shak	ers observed.	
				Displac	ed hole to KCl-	Polymer mud @ 20:00	hrs. Minimal lo	sses experiance	ed at this
				time. D	Drilled to 1117 m	n. Continued to see sand	d at the shakers.	-	
TIME DISTR La	st 24 Hrs MUD	OL ACCTG (bb	ol)	SOLIDS	ANALYSIS (	/lb/bbl) MUI	D RHEOLOGY	' & HYDRAUI	ICS
Rig Up/Service	7.5 Oil Adde	d (	)	NaCl		./ .2 np/na V	alues	0.54	7/0.377

	asi 24 mis	MOD VOL ACCIO		30				001 8 111	DIVAOLICO
Rig Up/Service	7.5	Oil Added	0	NaCl		./ .2	np/na Values		0.547/0.377
Drilling	16.5	Water Added	846	KCl		2.3/21.3	kp/ka (lb•s^n/100f	t <sup>2</sup> )	0.913/2.308
Tripping		Mud Received	0	Low G	ravity	2.1/19.2	Bit Loss (psi / %)		977 / 30.5
Non-Productive Tim		Dumped	0	Benton	ite	.1/ 1.	Bit HHP (hhp/HS	SI)	571 / 4.8
		Shakers	31	Drill So	olids	1.6/14.2	Bit Jet Vel (m/s)	·	107
		Evaporation	0	Weight	Material	NA/ NA	Ann. Vel DP (m/s)		1
		Centrifuge	0	Chemic	al Conc	- / 4.	Ann. Vel DC (m/s)		1.45
		Formation	0	Inert/R	eact	14.222	Crit Vel DP (m/s)		1
		Left in Hole	0	Averag	e SG	2.6	Crit Vel DC (m/s)		1
		Sweeps	1979	Carb/B	iCarb (m mole/L)	2./ 19.9	ECD @ 1117 (sp.g	gr.)	1.09
M-I EN	GR / PHO	NE	<b>RIG PHON</b>	E	WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Jasdeep Singh									
Glen Sharpe		08-93023790					\$ 28,344.27	\$	58,474.69

						WA	TER-B	ASE	ED MUD	REP	ORT	' No. 9	9
Mi 51	NAC	U			Da	ate	14/05/2005		Depth/TVD	1	304 m	/ 1304 m	
				M	Spud Da	ate	7/05/2005		Mud Type		KCI/Ic	dcap D	
Operator :	Santos Ltd			v	valer Dep	JUL	Field/Ar	ea:	VIC P-44		mp	ping	
Report For :	Ron King / Pat	King					Descriptio	on:	Gas Producer				
Well Name :	Casino 4						Locatio	on:	Otway Basin				
Contractor :	Diamond Offsh	ore	Dalaar				M-I Well N	lo. :					
DRILLING A	Sean D Freitas /	Paul					ME (bbl)		CI			ΔΤΔ	
Bit Size 12.25 in M	X-O3DX		Surface			H	ole	I	Pump Make IA	ATIONAL	12P-16	OILWELI	. 1700PT
Nozzles 3x20 / 1/3	2"	30	<u>)in @137m (137TV</u>	D)	658.1	(Tot)	/389.3(Bit)		Pump Size	6.5 X 12	2.in	6.5 X	12.in
Drill Pipe Size	Length 542 m	13.3	Intermediate	(UD)	F	Activ 384	e Pits		Pump Cap	<u> </u>	al/stk	<u> </u>	gal/stk
Drill Pipe Size	Length	15.5	Intermediate	(VD)	Total	Circi	ulating Vol	IU	Flo	ow Rate	/0	973 gal/m	in
5 in	<u>46 m</u>	T	in @m (TVD)			77	5.2		Bott	toms Up	15.2	<u>min 29</u>	52 stk
Drill Collar Size	Length 125 m	P	roduction or Line	er	1	n Sto 83	orage 60		Lotal Ci Circulating I	rc Time Pressure	33.5	<u>min 64</u> 3750 psi	92 stk
0 111	MUD PR	OPE	RTIES			0.5			PRODU	CTS USE	D LAS	T 24 HR	5
Sample From			FL@14:30	Pit(	<i>a</i> 7:30			Pro	ducts			Size	Amt
Flow Line Temp		°C	50	117	42			DU	O-VIS		25	KG BG	43
Mud Weight	S	p.gr.	1.23@48°C	1.26	a)40°C			OS-	1		25	KG BG	6
Funnel Viscosity	~,	s/qt	57		65			POI	LYPAC UL		25	KG BG	26
Rheology Temp		°C	49	1	1/35			IDC POT	CAP D SHALE	INHIBITO	R 25	KG BG	71
R200/R100			40/30	2	9/20			MI	BAR (Bulk)	JKUAIDE	1	MT BG	62
R6/R3			11/9		8/5			MI	Gel (Bulk)		1	MT BG	2
PV VP	16/10	$\frac{cP}{10ft^2}$	17		16			KCI	L BRINE 16%			1 BL	460
10s/10m/30m Gel	10/10/10/10/10/10/10/10/10/10/10/10/10/1	0.011	11/20/22	4	/5/6								
API Fluid Loss	cc/30	min	4.2	4	4.5								
HTHP FL Temp	<u>cc/30</u>	$\frac{\text{min}}{(3.2)''}$	1/		1/			-					
Solids		Vol	10		9								
Oil/Water	%	Vol	/90		/91					_			
Sand	%	vol	1		.4			SO VSI	LIDS EQUIF M Shaker 1	2		<b>e</b> 65	18
pH	п	// 001	8.2		8.5			VSI	M Shaker 2		4 x 1	65	14
Alkal Mud (Pm)			0	(	0.1			VSI	M Shaker 3		4 x 1	20	18
Pt/Mf Chlorides		mo/l	0/1.35	0.0	3000			VSI	M Shaker 4		4 x 1	65	18
Hardness Ca		mg/l	680	(	580			D-S	Silter				0
KO1	0/1	N Li	5		5.5								
KCl Idean	% by	/ Wt	5 2.75	-	<u>5.5</u> 3								
Sulphite Excess		ppm	40		40								
_													
									WOD PRC	ight	1 <u>02960</u>	2-1 23	13
									Visco	sity		50-60	
									Filt	rate		< 5	
R	EMARKS ANI	) TR	EATMENT						REMAR	RKS			
Weighted active syste	em to 10 ppg and t	reated	system to meet pro	ogram s	specs. Dri	illed a	ahead to 1250 m	1. Upgi	raded shaker sci	reens. Used	new scr	eens 12 x 1	65, 4 x
Treated system with I	Duovis to increase	low e	end rheology. Adde	d Idcap	to 120	), and	8 x 145. Some		at shakers due	to list of rig	. Drilled	to 1304 m	LT
system to substitute to	or depretion. Cutti	ngs m	negitty at snakers g	000.	CII	culat	ed note clean.	POOR.	. Bit Olidelgage	. Changed I	опа ащ	I Started KI	п.
TIME DISTR La	ast 24 Hrs ML	ID VC	DL ACCTG (bl	ol)	SOLI	DS A	NALYSIS (%/	lb/bb	I) MU	D RHEOL	OGY &	HYDRAU	ICS
Rig Up/Service Drilling	2 Oil A 14.5 Wate	<u>dded</u> r Adde	ed 30	) 96	NaCl KCl			<u>.1/1.</u> 1.8/16	3 np/na V 5.5 kp/ka (1	<u>/alues</u> b•s^n/100ft	<sup>2</sup> )	0.43	7/0.343
Tripping	5 Mud	Receiv	ved (	0	Low Grav	vity		3.7/ 33	3.5 Bit Loss	(psi / %)		105	6/28.2
Non-Productive Tim Reaming	1 Evap	oratior ifuge	n (	)	Drill Soli	ds		<u>.5/4.</u> 2.6/23	9 Bit HHP 3.7 Bit Jet V	<u>' (hhp / HS</u> /el (m/s)	1)	60	103
Testing	1.5 Form	ation		)	Weight N	lateri	al	4.4/64	.9 Ann. Vel	$\frac{1}{DP}$ (m/s)			.94
	Swee	n nole ps	<del>ت</del> (	5	Inert/Rea	conc ct		2.803	1 Crit Vel	<u>DP (m/s)</u>			2
	Dum	bed		)	Average S	SG arb (•	n mole/L)	3.47	Crit Vel	$\frac{DC}{742}$ (sp. gr	)		2
		.1.5						.,1		, -== (sp.gl.	,		

	D ii eeps	0			2.0051			-
	Dumped	0	Averag	e SG	3.47	Crit Vel DC (m/s)		2
	Shakers	238	Carb/B	iCarb (m mole/L)	./1	ECD @ 742 (sp.gr.	)	1.27
M-I ENC	GR / PHONE	RIG PHONE	E	WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Jasdeep Singh	asdeep Singh							
Glen Sharpe	08-93023790					\$ 50,875.35	\$	109,350.04

						WA	TER-BA	ASED		EPOF	RT No.	10
Mi 51	NAC				D	ate	15/05/2005	Dep	th/TVD	1761	m / 1761 m	1
					Spud D	ate	7/05/2005	Mu	d Type	KC	I/Idcap D	
Onemateria	C ( 1 1			V	Vater De	pth	71				Drilling	
Operator : Peport For :	Santos Ltd Ron King / Pat	Kina					Fleid/Are		P-44 Producer			
Well Name :	Casino 4	King					Locatio	n: Oas	av Basin			
Contractor :	Diamond Offsh	ore					M-I Well No	0. :	ay Dusin			
Report For :	Sean D Freitas	/ Pau	l Baker									
DRILLING A	SSEMBLY		CASING		MUD V	OLU	ME (bbl)		CIRCU	LATION	DATA	
Bit Size 12.25 in M.	<u>A89PX</u> 2"	2	Surface			He	ole	Pump	Make JATIO	$\frac{\text{NAL 12P-1}}{\text{X 12 in}}$	16 OILWEL	L 1700PT
Drill Pipe Size	Length		Intermediate	vD)		Activ	e Pits	Pur	1000000000000000000000000000000000000	016 gal/st	k 5.016	gal/stk
5 in	1469 m	13.3	375in @742m (742	TVD)		444	4.6	Pump s	stk/min 87	7@97%	87@	97%
Drill Pipe Size	Length		Intermediate		Total	Circi	ulating Vol		Flow R	ate	$\frac{873 \text{ gal/m}}{100000000000000000000000000000000000$	iin
Drill Collar Size	Length		Production or Li	ner		<u>13</u> In Sto	orage		Total Circ Ti	$\frac{\text{Op}}{\text{me}} = 65$	5.8  min  69	22 stk 427 stk
8 in	125 m					90	)5	Cir	culating Press	ure	3700 psi	. <u>_</u> / 5th
	MUD PR	OPE	RTIES						PRODUCTS	USED L	AST 24 HR	S
Sample From		°C	Suction@20:00	low L	<u>line@14:</u>	_		Product	<u>s</u>		Size	Amt
Depth/TVD		 	1638/1638	142	<u>50</u> 5/1425	-		0S-1	8		25 KG BG	25
Mud Weight	S	p.gr.	1.24@48°C	1.23	@48°C			POLYPA	C UL		25 KG BG	28
Funnel Viscosity		s/qt	54		<u>48</u>			IDCAP I	O SHALE INHII	BITOR	25 KG BG	16
Rheology Temp		°C	49	6	<u>49</u> 8/50	-		POTASS	<u>IUM HYDROX</u>	IDE	25 KG CN	4
R200/R100	00 48/35 12/10			4	2/31	-		KCL BR	<u>а)ыд Бад</u> INE 16%		1 BL	400
R6/R3	cP 21			1	1/9							
PV	cP 21 lb/100ft <sup>2</sup> 37				18	_						
10s/10m/30m Gel	lb/100ft²         37           .0m/30m Gel         lb/100ft²         12/28/38				$\frac{52}{21/30}$	-						
API Fluid Loss	cc/30	min	4	10,	4							
HTHP FL Temp	cc/30	min	1/		1/	_						
Cake API/HTHP Solids	l	/ <u>32"</u> Wol	1/	1	1/	-						
Oil/Water	%	Vol	/88.4	/	88.5	-						
Sand	%	Vol	0		0.5			SOLID	S EQUIP	S	Size	Hr
MBT	lt	o/bbl	11		8.5	-		VSM SI	haker 1	4	<u>x 165</u>	0
Alkal Mud (Pm)			0		0	-		VSM SI	aker 3	4	x 165	0
Pf/Mf			0.08/1.45	0.0	08/1.4			VSM SI	naker 4	4	x 165	0
Chlorides Hardnass Ca	1	$\frac{mg/l}{mg/l}$	38500	38	8000	-		Centrifu D Silter	ige			$\frac{0}{2}$
Hardness Ca		mg/1	020	(	040	-		D-Siller				Z
KCl	% by	Wt	6.5		6.5							
Idcap		ppb	2.8		2.7	_						
Sulphite Excess		ppm	10		10	-						
								Μ		RTY SPE	<b>CIFICATIO</b>	NS
						_			Weight		1.2-1.23	
						-			Viscosity Filtrate		<u> </u>	
						-			Tittate		< 5	
R	EMARKS ANI	) TR	EATMENT						REMARKS			
Added 4 bags of KCl	to system to main	tain k	C conc. Made up 28	35 bbls	RI	IH to b	oottom. Drilled to	oTD 1761	m. Used new 12	x 165XR	screens. Could	not run
unweigted premix in p from $10.4 \pm nng$ to $10$	pit 2. Transfer 100	bbls m to	to active to reduce	bbl of	leight De	esilter	due to leaking v	alves. Fixe	d valves and sta $14\%$ overgage h	rted back (	<i>a</i> ) 23:30 hrs to	control
KCl brine from FarGr	rip into Pit 5.	in to	1400 III. 100K 400	00101	1070 110	uu we		i indicates	1470 Overgage II	ole.		
TIME DISTR La	ast 24 Hrs ML	JD V	OL ACCTG (b	obl)	SOL	IDS A	NALYSIS (%/I	b/bbl)	MUD RH	EOLOGY	& HYDRAU	LICS
Rig Up/Service	3 Oil A	dded	ed 1	0	NaCl			.3/3.5	np/na Values	/100ft2)	0.44	6/0.357
Tripping	<u>1.5</u> Wate	Recei	ved	0	Low Gra	<u>ivi</u> ty	6	<u>5.2/</u> 56.8	Bit Loss (psi	<u>/%)</u>	65	5/ <u>1</u> 7.7
Non-Productive Tim	Evapo	oratio	n	0	Bentonite	e		.6/5.9	Bit HHP (hhr	$\overline{\text{HSI}}$	33	$\frac{4}{2.8}$
Testing	Form	ation		0	Weight N	Materi	al 2	2.7/ 40.4	Ann. Vel DP (1	m/s)		.74
	Left i	n Hol	e	0	Chemica	ll Cono	0	- / 5. Ann. Vel DC (m/s) 1.(		1.02		
	Swee	PU		0	11010/1000			2.00				

	Sweeps	0	Inert/R	eact	3.7113	Crit Vel DP (m/s)		2
	Dumped	0	Averag	e SG	3.09	Crit Vel DC (m/s)		2
	Shakers	148 Carb/Bi		iCarb (m mole/L)	1.6/8.	ECD @ 1761 (sp.g	gr.)	1.27
M-I ENGR / PHONE		<b>RIG PHONE</b>		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Jasdeep Singh								
Glen Sharpe	08-93023790					\$ 19,369.06	\$	128,719.10

					WATE	ER-BA	ASED MUD	REPOF	RT No.	11
MISVAL				D	ate 16/	05/2005	Depth/TVD	1761	m / 1761 m	
				Spud D	ate 7/0	5/2005	Mud Type	KC	I/Idcap D	
			V	Vater De	oth	71	Activity	R/I (	core barrel	
<b>Operator :</b> Santos Ltd						Field/Are	ea: VIC P-44			
<b>Report For :</b> Ron King / Pa	at King				D	escriptic	on: Gas Producer			
Well Name : Casino 4						Locatio	on: Otway Basin			
Contractor : Diamond Off	shore				M-	I Well N	0. :			
Report For : Sean D Freita	is / Pau	l Baker				(11)			<b>DATA</b>	
		CASING		MUDV	OLUME	(bbl)		<b>CULATION</b>		17000
Bit Size 12.25 in MA89PX	- 2	Surface	<b>(D)</b>		Hole 084 4		Pump Make IA	1100000000000000000000000000000000000	65 V	12 in
Drill Pine Size Length	3	Intermediate	(D)		904.4 Active Pite		Pump Cap	$\frac{0.3 \times 12.10}{5.016 \text{ gal/st}}$	$\frac{0.3 \Lambda}{16}$	12.111 ral/stk
5 in m	13 3	375in @742m (742	TVD)	1	407.6	,	Pump stk/min	88@97%	88@	97%
Drill Pipe Size Length	10.0	Intermediate	1 ( 2 )	Total	Circulatir	ng Vol	Flo	w Rate	883 gal/m	in
5 in 138 m		in @m (TVD)			407.6	0	Botto	oms Up	min 0 s	tk
Drill Collar Size Length	]	Production or Lir	er	]	In Storage		Total Cir	re Time 1	9.4 min 34	12 stk
8 in 125 m					1140		Circulating P	ressure	3850 psi	_
MUD F	ROPE	RTIES					PRODUC	CTS USED L	AST 24 HR	S
Sample From	00	Pit 3@21:00	low L	<u>ine(a)1:0</u>			Products		Size	Amt
Flow Line Temp	<u> </u>	1761/1761	176	<u>50</u> 1/1761			IDCAP D SHALE I	NHIBITOR	25 KG BG	28
Mud Weight	sn gr	1 29@32°C	1 25	$\overline{0.044^{\circ}C}$			KUL DRINE 1070		I DL	000
Funnel Viscosity	<u>sp.gr.</u> s/at	55	1.23	<u>w++ C</u> 55						
Rheology Temp	°C	49		49						
R600/R300		69/50	8	2/59						
R200/R100		43/31	4	8/35						
R6/R3		11/9	1	2/9						
PV VD	$\frac{cP}{100P^2}$	19		$\frac{23}{26}$						
10s/10m/30m Gel 1b	$\frac{10011^{-1}}{1000000000000000000000000000000000$	<u> </u>	11/	<u>30</u> 21/33						
API Fluid Loss cc/	30  min	36	11/	4 1						
HTHP FL Temp cc/.	30 min	0.0								
Cake API/HTHP	1/32"	1/		1/						
Solids	%Vol	14		13						
Oil/Water	%Vol	/86		/87						
Sand	%V01	0.5		0.7			SOLIDS EQUIP			19
MD I pH	10/001	8		<u>12</u> 0			VSM Shaker 2	4	<u>x 165</u>	18
Alkal Mud (Pm)		0		)			VSM Shaker 3	4	<u>x 165</u>	18
Pf/Mf		0.02/1.5	0.0	)5/1.3			VSM Shaker 4	4	x 165	18
Chlorides	mg/l	38000	3'	7000			Centrifuge			0
Hardness Ca	mg/l	640	(	500			D-Silter			0
KC1 0/	1			(						
KUI %	by Wt	0		$\frac{0}{25}$						
Sulphite Excess	<u>ppu</u>	2.3		2.5 20						
Supine Exects	ppin	0		20						
							MUD PRO	PERTY SPE	CIFICATIO	NS
							Wei	ght	1.2-1.23	
							Viscos	sity	50-60	
							Filtr	ate	< 5	
	מד חוו						DEMAD	Ke		
<b>REWARKS A</b> Added Glute to active prior to pullin	g out of	hole after winer tri	). Incre	eased Dr	illed to con	e point 176	<b>KEWAR</b> 1 m. Circulated B/U	. <b>NO</b> Condcuted show	t trip to 1300 r	n. Back
mud wt due to solids during reaming	. Observ	red small cavings o	n shake	rs rea	med tight l	hole from 1	1761m to 1567 m. Pip	e stuck @1567	n. Work pipe f	ree
during reaming. Took remaining 600	bbl of 1	6% KCl brine from	ı FarGr	rip. Co	ntinue to b	ackream fr	rom 1553m to 1293 m.	.R/I to bottom ta	ngged 6 m of fi	11.
Wrangler has 1000 bbl of NaCl brine	<b>.</b>			Cir	rculated ho	le clean. R	eplaced damage screet	ns with used ne	w 4 x 165 mesl	n screens.
				PC	OH pumpe	ed slug at 1	500m. Back ream from	m 1280m to 109	5 m. Pump ou	t of hole
				tro	m 1095m t	o shoe 727	m. Circ B/Up then pu	mped 2nd slug.	POOH. Made	up core

TIME DISTR L	ast 24 Hrs	MUD VOL ACCTG	(bbl)	SO	LIDS ANALYSIS	(%/lb/bbl)	MUD RHEOL	OGY & HYD	DRAULICS
Rig Up/Service	3	Oil Added	0	NaCl		.4/ 4.2	np/na Values		
Drilling		Water Added	0	KCl		2.1/19.2	kp/ka (lb•s^n/100f	(t <sup>2</sup> )	
Tripping	8	Mud Received	0	Low G	avity	7.5/68.1	Bit Loss (psi / %)		
Non-Productive Tim	1.5	Evaporation	0	Benton	ite	.9/ 7.9	Bit HHP (hhp / HS	SI)	
Circulating	4	Centrifuge	0	Drill Sc	olids	6.1/ 55.2	Bit Jet Vel (m/s)		
Reaming	7.5	Formation	0	Weight	Material	4.1/ 59.8	Ann. Vel DP (m/s)		
-		Left in Hole	0	Chemic	mical Conc - / 5.		Ann. Vel DC (m/s)		
		Sweeps	0	Inert/Re	eact	3.5075	Crit Vel DP (m/s)		
		Dumped	210	Averag	e SG	3.16	Crit Vel DC (m/s)		
		Shakers	53	Carb/B	Carb (m mole/L)	.4/ 20.			
M-I EN	GR / PHO	NE	<b>RIG PHONE</b>		WAREHOUSE	PHONE	DAILY COST	CUMULA	ATIVE COST
Jasdeep Singh									
Glen Sharpe		08-93023790					\$ 14,540.44	\$ 1	143,259.54

barrel assy.

						WA	TER-	BAS		) REP	ORT	No.	12
Mi 51	NΑ	CO				Date	17/05/20	05	Depth/TVD	1	794 m /	1794 m	- <u> </u>
					Spud	Date	7/05/200	)5	Mud Type		KCI/Id	cap D	
				V	Vater D	epth	71		Activity		Recove	r Ċore	
Operator :	Santos Lto	d					Field/	Area :	VIC P-44				
Report For :	Chris Wis	se / Pat Kin	g				Descrip	otion :	Gas Producer	[			
Well Name :	Casino 4						Loca	ation :	Otway Basin				
Contractor :	Diamond	Offshore					M-I Wel	I No. :					
Report For :	Sean D Fr	retias / Paul	Baker						0			T 4	
DRILLING A		<u> </u>	CAS	ING	MUD	VOLU		)	Durran Malas I	ATIONAL			17000
Nozzles 1/32"	J93 Core H	iead 3(	Suria Din @137m (	137TVD)		100	)2 4		Pump Make I	6.5 X 12	<u>2P-16</u>	$\frac{JILWELI}{65X}$	12 in
Drill Pipe Size	Leng	zth	Intermed	liate		Activ	e Pits		Pump Cap	5.016 ga	al/stk	5.016	2al/stk
5 in	m	13.3	875in @742n	n (742TVD)		511	1.6	I	Pump stk/min			65@	97%
Drill Pipe Size	Leng	gth	Intermed	liate	Tot	al Circu	ulating Vol		Fl	ow Rate	3	26 gal/m	in
5 in	m		<u>in @m (</u> 1	<u>VD)</u>		51	1.6		Bot	toms Up	m	$\frac{10}{10}$	tk
Drill Collar Size	Leng	gtn i	roduction	or Liner		In Sto	orage		Circulating	Processire	65.9 n	$\frac{111}{850}$ nsi	84 Stk
0 111	MU		RTIES			90	10	I	PRODU	CTS USE	τελια	<b>330 psi</b>	\$
Sample From	1010		Suction@1	5.3( low I	ine@9·3	3		P	roducts			Z- TIIN	Amt
Flow Line Temp		°C	37	<u>5.5( 10w 1</u>	35	<i>,</i>		D	EFOAM A		50	A CN	2
Depth/TVD		m	1794/179	94 176	1/1761			D	UO-VIS		25 H	KG BG	5
Mud Weight		sp.gr.	1.3@36	°C 1.3(	@34°C			G	LUTE 25		25	LT CN	4
Funnel Viscosity		<u>s/qt</u>	60		58	_		0	S-1		25 H	KG BG	2
Rheology Temp		۰C	49	0	49	_		P	ULYPAC UL	NUDITO	25 H	<u>KG BG</u>	6
R200/R300			<u>12/32</u> <u>43/31</u>	5	0/36	_		IL D/	<u>JUAP D SHALE</u> OTASSILIM HV	DRUXIDE INHIBITOF	251	<u>G CN</u>	9
R6/R3			11/8		12/9	-		M	[[BAR (Bulk)	DRUAIDE	23 I 1 N	IT BG	10
PV		сР	20		27			111					10
YP		lb/100ft <sup>2</sup>	32		33								
10s/10m/30m Gel		$\frac{lb/100ft^2}{lb/100ft^2}$	10/20/2	7 10/	/23/29								
API Fluid Loss		$\frac{\text{cc}/30 \text{ min}}{20/20 \text{ min}}$	3.6		3.8								
Cake API/HTHP		1/32"	1/		1/								
Solids		%Vol	13		13								
Oil/Water		%Vol	/87		/87								
Sand		%Vol	0.5		0.5			S	OLIDS EQUI	P	Size		Hr
MBT		lb/bbl	14	1	3.75			V	SM Shaker 1	2	$\frac{4 \times 16}{165}$	5	12
pri Alkal Mud (Pm)			9		9			V	<u>SM Snaker 2</u> SM Shaker 3	3	$\frac{X 100, 1}{4 \times 16}$	<u>x 20</u>	12
Pf/Mf			0.05/1	5 0 (	03/1.6			V	SM Shaker 4	3	$\frac{4 \times 10}{165}$	x 20	12
Chlorides		mg/l	40000	3	4000			Ċ	entrifuge				0
Hardness Ca		mg/l	640		640			D	-Silter				12
NO1		0/1 11/	(										
KCl		% by Wt	6		$\frac{6}{2}$								
Sulphite Excess		nnm	10		40								
Supine Encess		ppm	10		10								
									MUD PRO	OPERTY S	<b>PECIFI</b>	CATIO	NS
									We	eight	1.2	2-1.23	
									Visco	osity	5	0-60	
									F1	trate		< 3	
R	FMARKS		FATMEN	Г					REMA	RKS			
Transfered new prem	ix from pit	4 to active to	o dilute to co	ntrol mud we	ight.	RIH to b	ottom. Circ	ulated B	B/U and commend	ced coring. C	ore down	from 176	51 to
Started desilter at 7.0	0 am output	t 11.4 ppg. T	reated mud	with KOH and	d	1794.52	m. Circulate	ed hole	and gas. POOH t	o recover 33	m core.		
Defoam A. Centrifug	e not availa	ible.											
TIME DISTR La	ast 24 Hrs	MUD VC	OL ACCTG	(bbl)	SO	LIDS A	NALYSIS	(%/lb/b	obl) MU	D RHEOLO	OGY & H	YDRAU	LICS
Rig Up/Service		Ull Added	ed	0	NaCl KCl			.4/	5.3 np/na V 19.4 kp/ka (	/alues lb•s^n/100ff2	:)		
Tripping	14	Mud Recei	ved	0	Low G	ravity		4.8/	43.5 Bit Los	<u>s (psi / %)</u>	,		
Non-Productive Tim	A 5	Centrifuge		0	Benton	nite		1.2/	10.9 Bit HH	P (hhp / HSI	)		
Reaming	4.5	Left in Hol	e	0	Weight	onas t Materi:	al	5.7/	27.6 Bit Jet 83.1 Ann Ve	$\frac{vei}{DP} (m/s)$			
Coring	3.5	Dumped	-	Ő	Chemi	cal Con	5	- /	5. Ann. Ve	1 DC (m/s)			
		Shakers		48	Inert/R	eact		1.7	47 Crit Vel	$\frac{DP}{DC}$ (m/s)		_	
		Desinel		04	Carb/B	siCarb (r	n mole/L)	1./	'5.	DC (III/S)			
M-I EN	GR / PHOI	NE		<b>RIG PHON</b>	E	WA	REHOUSE	PHON	E DAILY	COST	СОМИ	LATIVE	COST
Jasdeep Singh													
Glen Sharpe		08-93023	790						\$ 6,96	7.63		<u>5 15</u> 0,22	7.17

						WA	TER-	BAS	SED	MUD	REP	ORT	No.	13
MISI	MAL	50				Date	18/05/20	05	Dept	h/TVD	17	7 <mark>95 m</mark> /	1795 m	1
					Spud	Date	7/05/200	)5	Muc	d Type		KCI/Id	cap D	
	~			١	Nater E	Depth	71		Α	ctivity		Dril	ing	
Operator :	Santos Ltd	D / 17					Field/	Area		P-44				
Report For :	Chris Wise /	Pat King	3				Descrip	otion	: Gas I	roducer				
Well Name :	Casino 4	C.1						ation	Otwa	y Basin				
Contractor :	Diamond Off	snore	Dalaan				IVI-I VVEI	I NO.	:					
	Sean D Fretia	as / Paul	Baker		MUD	VOLU	ME (66)	n					т۸	
DRILLING A			Surfa		WOD	VOLU	iuu) ⊐ivi ∍le	IJ	Dump		TIONAL 1			1700DT
Nozzles $7x14 / 1/3$	A09PA 22"	30	$\sin @137m$	137TVD)		93	8 2		<u>Funp</u> Pum	n Size	$65 \times 12$	2P-10	65 X	12 in
Drill Pipe Size	Length	50	Interme	liate		Activ	e Pits		Pum	np Cap	5.016 ga	ul/stk	5.016	gal/stk
5 in	1503 m	13.3	75in @742n	n (742TVD)		489	9.8	]	Pump s	tk/min	83@97	%	86@	97%
Drill Pipe Size	Length		Intermed	liate	Tot	tal Circi	ulating Vol			Fle	ow Rate	8	48 gal/m	nin
5 in	138 m		in @m (1	VD)		14	28			Bott	oms Up	<u>41.7 n</u>	nin 70	54 stk
Drill Collar Size	Length	Р	roduction	or Liner		In Sto	orage		<u> </u>	Total Ci	rc Time	70.7 n	$\frac{110}{2570}$	953 stk
8 in	125 m		DTIES			11	62		Circ	ulating I	ressure		35 /0 psi	c
Comple Energy	MODE	RUPE		2.0( D:4	Q1.15			D	T A a a la a a da	RODU	513 USE	D LAS		S A mut
Flow Line Temp		°C	suction(a)2	3:00 Pit	(0)4:45			P	TOQUELS	2		25	Size	Amt 21
Depth/TVD		m	1794/17	94 179	4/1794				)S_1	,		25	KG BG	21
Mud Weight		sn gr	$\frac{1794717}{13@309}$	$\frac{1}{2}$	13			P	OLYPA	CIII		25	KG BG	24
Funnel Viscosity		s/at	70		64	_		П	DCAP D	SHALE	INHIBITOR	25	KGBG	34
Rheology Temp		°C	49		49			P	OTASS	IUM HYI	DROXIDE	25	KG CN	3
R600/R300			82/59	7	9/55			-						
R200/R100			50/35	4	5/32									
R6/R3			12/9		10/8									
PV		cP	23		24									
YP	lb	/100ft <sup>2</sup>	36		31									
10s/10m/30m Gel	lb	/100ft <sup>2</sup>	11/23/3	0 9/	18/26									
API Fluid Loss	CC/.	$\frac{30 \text{ min}}{20 \text{ min}}$	3.6		3.4									
Calca A DI/UTUD	CC/.	$\frac{30 \text{ min}}{1/22"}$	1/		1/									
Solide		1/32 %Vol	17		13									
Oil/Water		%Vol	/87		/87									
Sand		%Vol	0.4		0.5			S				Size		Hr
MBT		lb/bbl	14		12.5			V	/SM Sh	aker 1		4 x 16	55	0
pН			9		9			V	/SM Sh	aker 2	3	x 165, 1	x 20	0
Alkal Mud (Pm)								V	/SM Sh	aker 3		4 x 16	55	0
Pf/Mf			0.02/1.:	5 0.0	03/1.6			V	/SM Sh	aker 4	3	x 165, 1	x 20	0
Chlorides		mg/l	40000	4	0000			C	Centrifu	ge				0
Hardness Ca		mg/l	640		680			Ľ	D-Silter					0
VC1	0/	by Wt	6		6									
Idean	70	by wt	3		3									
Sulphite Excess		nnm	0		0									
Sulpinte Exects		ppm	0		0									
									MU	JD PRC	PERTY S	PECIF	ICATIO	NS
										We	ight	1.	2-1.23	
										Visco	sity	4	50-60	
										Filt	rate		< 5	
				-   -										
Made premix in Pit 2	EWARNS A			1		Continu	ed to lav out	core by	arrels R	KEIVIAF	aing Tools	held un a	t 1670 m	Lav
Made premix in r it 2	-					down La	ogging tools	R/I wi	ith bit &	LWD too	ls to drill 30	m and lo	og core se	ction
						Worked	string through	gh tight	t spot 16	70m to 17	00 m. Drille	ed to 179	5 m	
								0.0	- <b>F</b>					
TIME DISTR L	ast 24 Hrs		L ACCTG	(bbl)	SC	DLIDS A	NALYSIS	(%/lb/k	bbl)	MU	D RHEOLO	DGY & F	IYDRAU	LICS
Rig Up/Service	12.5 Oi	I Added	bd	246	KC1			.4/	5.5	np/na V	alues hes^n/100ft <sup>2</sup>	)	0.47	5/0.387
Tripping	4.5 M	ud Receiv	ved	0	Low C	Gravity		4.8/	43.5	Bit Loss	(psi / %)	/	649	9/18.2
Non-Productive Tim	Ce	ntrifuge		0	Bento	nite		1.2/	10.9	Bit HHP	hhp / HSI	)	32	1/2.7
Wireline Logs	5 Fo	rmation		0	Drill S	Solids	o1	3./	27.6	Bit Jet V	$\frac{\text{(el (m/s))}}{\text{(m/s)}}$			79
Coring	2 Le	in in Hole imped	;	50	Chemi	ical Con	ai 2	5.//	03.1	Ann Vel	Dr (m/s)			.12
	Sh	akers		36	Inert/F	React		1.7	752	Crit Vel	<u>DP (m/s)</u>			2
	De	esilter		0	Avera	ge SG	1.75	3.	.47	Crit Vel	DC (m/s)			2
					Carb/I	31Carb (1	n mole/L)	.4/	/ 2.	ECD (a)	1/95 (sp.gr	.)		1.33
M-I EN	GR / PHONE			<b>RIG PHON</b>	E	WA	REHOUSE	PHON	IE	DAILY	COST	CUMU	JLATIVE	COST
Jasdeep Singh		0.00000								¢ • • - ·				
Glen Sharpe	0	08-930237	/90							\$ 15,42	3.94		\$ 165,65	1.11

						WA	TER-I	BA	SED	MUD	REP	ORT	No.	14
Mi S\	NACI					Date	19/05/20	05	Dep	th/TVD	1	1825 m /	1825 m	
				14	Spud	Date	7/05/200	)5	Mu	d Type		KCI/Id	cap D	
Operator :	Santos I td			V	ater D	eptn	/1 Field/	Area	· VIC	P-44		Ceme	nting	
Report For :	Chris Wise / Pat	King					Descrip	otion	Gas	Producer				
Well Name :	Casino 4	8					Loca	ation	: Otw	ay Basin				
Contractor :	Diamond Offsho	ore					M-I Wel	I No.	:					
Report For :	Sean D Fretias /	Paul Ba	iker				<b></b>			015				
DRILLING A	SSEMBLY		CASING		MUD		<u>VE (bbl</u> la	)	Dum		TIONAL	10N DA		1700DT
Nozzles 1/32"		30in (	@137m (137TV	D)	1017	7.3(Tot)	$\frac{10}{107.8(Bit)}$	)	Pun	np Size	6.5 X 1	$\frac{12P-10}{2.in}$	6.5 X	12.in
Drill Pipe Size	Length	I	Intermediate	-		Active	Pits		Pur	np Cap	5.016 g	al/stk	5.016	gal/stk
5 in	93 m	13.375i	n @742m (7421	VD)		350	.7		Pump	stk/min	<u>83@9</u>	7%	86@	97%
Drill Pipe Size	Length	i	n @m (TVD)		lot	al Circu 458	lating Vol	_		F10 Botte	w Kate	<u> </u>	<u>48 gal/m</u> nin 85'	iin 7 stk
Drill Collar Size	Length	Proc	duction or Lin	er		In Sto	rage			Total Cir	c Time	22.7 1	min $38$	38 stk
in	m					115	0		Cir	culating P	ressure		3570 psi	
Commits Enorm	MUD PRO	DPERT	IES	D:4/	25.00				Due du et	PRODUC	TS USE		<b>24 HR</b>	S
Flow Line Temp		°C	40	P11(2	48			-	DUO-VI	<u>s</u> S		25	Size KG BG	Amt 2
Depth/TVD		m 1	824/1824	1824	4/1824			-	IDCAP I	D SHALE I	NHIBITO	R 25	KG BG	5
Mud Weight	sp	.gr. 1	.3@37°C	1.3@	<u>v</u> 42°C			-	MI BAR	(Bulk)		1 N	AT BG	4
Funnel Viscosity		s/qt	58		<u>52</u> 40	_		-						
R600/R300			49 81/57	79	+ <u>&gt;</u> 9/55			-						
R200/R100			50/35	45	5/32									
R6/R3		D	12/9	1	1/9			_						
PV VP	1b/10	CP Off <sup>2</sup>	24		24 31			-						
10s/10m/30m Gel	lb/10	0ft <sup>2</sup>	10/21/28	10/2	20/28			-						
API Fluid Loss	cc/30	min	3.6	2	3.4									
HTHP FL Temp	$\frac{cc/30}{1}$	min 22"	1/		1/			_						
Solids	1/ 	J2 Vol	17		17			-						
Oil/Water	%	Vol	/87	/	/87									
Sand	<u>%</u>	Vol	0.25	1	).4				SOLID	S EQUIP		Size	6	Hr
nH	10/	DDI	9	1	<u>2.5</u> 9			-	<u>VSM SI</u> VSM SI	haker 1 haker 2		<u>4 x 16</u> 3 x 165	)) x 20	6
Alkal Mud (Pm)			,		/				VSM SI	haker 3		4 x 10	65	6
Pf/Mf		(1	0.03/1.5	0.0	2/1.4				VSM SI	haker 4		3 x 165, 1	x 20	6
Chlorides Hardness Ca	<u> </u>	ng/l	40000	40	0000 500			-	Centrift D-Silter	ige				0
Hardness Ca	1	115/1	020	U	00			_	D-Siller					5
KCl	% by	Wt	6		6									
Idcap Sulphite Excess		ppb	3		3			_						
Sulpline Excess	ŀ	рш	0		10			-						
									М	UD PRO	PERTY	SPECIF	ICATIO	NS
								_		Weig	ght	1.	2-1.23	
						-		┝		Viscos Filtr	ate		<u>&gt;0-00</u> < 5	
								F		1 110				
R	EMARKS AND	TREA	TMENT				1. 100	- /	~ •	REMAR	KS			
Mixed 60 bbl of HiVi	s 12 ppg pill for ki	ck off pl	ug.		1	Drilled al	head to 182.	5  m.	Circulated RIH with	d 2 x B/U. F 1 OFDP for	OOH rea	ming tight	spot at 17	// m.
					1	Prepare f	or first cem	ent pl	ug.		plug back	Circulat		<i>a</i>
						1		1	C					
										1				
TIME DISTR La	ast 24 Hrs MU	D VOL A	ACCTG (bl	ol)	SO	LIDS A	NALYSIS	(%/lb	/bbl)	MUD	RHEOL	OGY & F		
Drilling	2 Water	Added		, )	KCl			2.1	/ 19.4	kp/ka (lb	<u>o•s^n/100f</u>	t <sup>2</sup> )	2.57	6/5.105
Tripping Non Productive Time	8 Mud F	Received	(	)	Low G	ravity		4.8	8/43.5	Bit Loss	(psi / %)			/
Wireline Logs	4 Forma	tion		)	Drill S	olids		3.	/ 27.6	Bit Jet Ve	<u>el (m/s)</u>	) )		/
Reaming	Left ir	Hole	(	)	Weight	t Materia	1	5.7	/ 83.1	Ann. Vel	$\frac{DP(m/s)}{DC(m/s)}$			.31
Circulating	2.5 Shake	rs	3	, 9	Inert/R	eact		1	.752	Crit Vel D	$\frac{DP}{(m/s)}$			2
	Desilt	er	4	0	Average Carh/B	<u>ge SG</u> liCarh (m	mole/L)		3.47 6/ 3	Crit Vel E	$\frac{DC}{3}$ (sn or)	)		2
M-I ENG	GR / PHONE		RIG P	HONE	Curo/D	WAR	EHOUSE	PHO	NE	DAILY C	OST	сим	JLATIVE	COST
Jasdeep Singh											-			
Glen Sharpe	08-9	3023790	1			1				\$ 2.582	45		\$ 168.23	3 56

						WATER	R-BA	<b>SEI</b>	D MUD F	REPO	RT N	lo. 1	5
MISI	MA					Date 20/05/2	2005	De	pth/TVD	182	25 m / 18	25 m	
					Spud	Date 7/05/2	005	Μ	ud Type	K	(Cl/ldca	o D	
	a			١	Nater D	Depth 71			Activity		RIH		
Operator :	Santos Ltd	/ D. / V.				Fiel	d/Are		C P-44				
Report For :	Chris Wise	e / Pat Kin	g			Desc	riptio	n: Ga	s Producer				
Contractor :	Casino 4	Offeboro							way Basin				
Report For :	Sean D Fre	offshore	Baker			141-1 44		J					
	SSEMBL	<b>Y</b>		ING	MUD	VOLUME (1	hl)		CIRC				
Bit Size 12.25 in		•	Surfa	ce	MOD	Hole	,01)	P111	nn Make JATI	ONAL 12	P-16 OII	WELL	1700PT
Nozzles 1/32"		30	0in @137m	(137TVD)		1019.3	-	P	ump Size 6	5.5 X 12.ii	n	6.5 X	12.in
Drill Pipe Size	Lengt	h	Interme	diate		Active Pits		Р	ump Cap 5	5.016 gal/	stk 5	.016 g	al/stk
5 in	m	13.3	875in @7421	n (742TVD)		568.7		Pum	o stk/min	<u>83@97%</u>		<u>86@9</u>	7%
Drill Pipe Size	Lengt	h	Interme	diate	Tot	tal Circulating V	/ol		Flow	Rate	848	gal/mi	n
In Drill Collar Size	m Lengt	h I	In (a)m (	or Liner					Total Circ	is Up Time	$\frac{\text{min}}{28.2 \text{min}}$	<u> </u>	s SO etk
in	m	.11 1	Toduction	of Linei		1150	-	0	irculating Pres	ssure	35	70 nsi	JU SIK
	MUD	PROPE	RTIES			1100			PRODUCT	S USED	LAST 2	4 HRS	;
Sample From			Pit 3@19	:00 Pit 1	3@5:15			Produ	cts		Siz	e	Amt
Flow Line Temp		°C			-								
Depth/TVD		m	1255/12	55 182	5/1825			L					
Mud Weight		sp.gr.	1.26		1.3								
Rheology Temp		s/qt °C	28		<u>0/</u> <u>49</u>								
R600/R300		U	62/44	8	0/57	—							
R200/R100			36/26	4	7/35								
R6/R3			9/7	1	3/10								
PV		cP	18		23								
YP 10./10/20C.1		$\frac{10}{1000000000000000000000000000000000$	26	7 11	34								
A PL Eluid Loss	0	$\frac{10/100 \Pi^2}{20}$ min	8/14/1	/ 11	<u>/29/31</u> 								
HTHP FL Temp	(	$\frac{c/30 \text{ min}}{c/30 \text{ min}}$	5.0		4								
Cake API/HTHP		1/32"	1/		1/								
Solids		%Vol	10.5		13								
Oil/Water		%Vol	/89.5		/87								
Sand		<u>%Vol</u>	TR		0.5			SOLI			Size		Hr
MBI		10/001	9		12.5			VSM	Shaker 1 Shaker 2	2	4 X 165 165 1 v	20	0
Alkal Mud (Pm)			9		1 45			VSM	Shaker 3	3 X	$\frac{105, 1 x}{4 x 165}$	20	0
Pf/Mf			0.2/3.5	5 0.1	2/1.85			VSM	Shaker 4	3 x	165. 1 x	20	0
Chlorides		mg/l	46000	) 4	0000			Centri	fuge				0
Hardness Ca		mg/l	1100		600			D-Silt	er				0
VC1		0/ 1 11/4	0		(								
Idean		<u>70 Uy Wt</u>	3		3								
Sulphite Excess		ppo	5		5								
Suprice Literos		ppin											
									MUD PROPE	ERTY SP	PECIFIC/	ATION	IS
									Weigh	t	1.2-1	.23	
									Viscosity	y	50-0	50	
									гниаи	5	<u> </u>	,	
R	FMARKS	AND TR	FATMEN	T				1	REMARK	s			
Pumped 55 bbl of we	eighted HiVis	s pill before	Top Plug.	•		POOH to 1505 m	pumpe	d 53 bbl	hi Vis pill. POO	OH to 1405	m and pu	mped ki	ick off
						plug to 1255 m. P	OOH to	o 1250 n	n and reverse cit	rculated the	e string con	ntents. F	РООН
						and waited on cer	nent. R	IH.					
TIME DISTR L	ast 24 Hrs	MUD VO	OL ACCTG	(bbl)	SC	DLIDS ANALYSI	S (%/I	b/bbl)	MUD F	RHEOLOG	SY & HYD	RAUL	ICS
Rig Up/Service		Oil Added	ad	0	NaCl		2	.2/24.3	np/na Valu	$\frac{\text{es}}{(n/100\text{ft}^2)}$			
Tripping	7.5	Mud Recei	ved	0	Low C	Gravity	3	.2/ 29.4	Bit Loss (p	si / %)			
Non-Productive Tim	2.5	Centrifuge		0	Bentor	nite		.8/7.1	Bit HHP (h	hp/HSI)			
Vait on Cement	2.5	Formation Left in Hol	e	0	Drill S Weigh	olids at Material	1 5	<u>.9/17.3</u> 1/74 8	Bit Jet Vel	$\frac{(m/s)}{(m/s)}$			
	17	Dumped	~	0	Chemi	ical Conc		- / 5.	Ann. Vel DI	C(m/s)			
		Shakers		0	Inert/F	React		1.7086	Crit Vel DP	(m/s)		-	
		Desilter		U	Avera Carb/F	ge SG BiCarb (m mole/L)		<u>3.58</u> 4./ 20.	Crit vel DC	<u>(m/s)</u>			
M-I EN	GR / PHON	E		<b>RIG PHON</b>	E	WAREHOUS	E PHC	ONE	DAILY CO	ST	CUMULA		COST
Jasdeep Singh		-			-								
Kelvin Leong		08-93023	790						\$ 0.00		\$ 1	68,233	.56

						WA	ATER-	BASE		) REP	ORT	No.	
Mis	MA	CO				Date	19/05/20	05	Depth/TVD		1255 m /	1255 n	า
					Spud	Date	20/05/20	05	Mud Type		KCI/Pc	lymer	-
					Water D	epth	71		Activity				
Operator :	Santos Lto	ł					Field/	Area :	Vic P 44				
Report For :	Chris Wis	e/ Pat King	g				Descri	ption:	Gas Producer				
Well Name :	Casino 4 I	DW .	-				Loc	ation :	Otway Basin				
Contractor :	Diamond	Offshore					M-I Wel	II No. :	-				
Report For :	Paul Bake	r/Mike Pra	aznik										
DRILLING /	ASSEMBL	Y	CAS	ING	MUD	VOLU	ME (bb	l)	CI	RCULA	TION DA	ТА	
Bit Size 12.25 in			Surfa	ce		Н	ole	I	Pump Make C	DILWELL	1700PT	ATIONA	L 12P-16(
Nozzles 1/32"		3	0in @137m	(137TVD)		6	74		Pump Size	6.5 X 1	12.in	6.5 X	12.in
Drill Pipe Size	Leng	th	Interme	diate		Activ	e Pits		Pump Cap		gal/stk		gal/stk
in	m	13.3	375in @7421	n (742TVD)	)	-6	74	Pu	ımp stk/min				
Drill Pipe Size	Leng	,th	Interme	diate	Tot	al Circ	ulating Vol	1	Fl	ow Rate		gal/n	nin
In	m	ir ir	<u>n @1255m (1</u>	1255TVD)		-6 L Ct	74		Bott	oms Up			
Drill Collar Size	Leng	,th	Production	or Liner		In St	orage		Total Ci	rc Time			
in	m			IVD)						Pressure			<u>_</u>
Comm1a Enom	WU		RIIES			_		Dee	PRODUC	612 03	ED LAS		.5
Sample From		00				_		Pro	ouucis			Size	Amt
Depth/TVD		<u> </u>	1255/12	55									+
Mud Weight		sn or	1233/12			-							+
Funnel Viscosity		<u>sp.gr.</u> s/at											+
Rheology Temp		°C											
R600/R300													
R200/R100													
R6/R3													
PV		cP											
YP		lb/100ft <sup>2</sup>											
10s/10m/30m Gel		<u>lb/100ft<sup>2</sup></u>											
API Fluid Loss		$\frac{\text{cc}/30 \text{ min}}{20}$											
HIHP FL Temp		$\frac{cc/30 \text{ min}}{1/22"}$				_							
Cake API/IIIP		0/Vol				_							
Oil/Water		%Vol											
Sand		%Vol						SO	I IDS FOUIF	<b>)</b>	Size		Hr
MBT		lb/bbl						VS	M Shaker 1		UILU		0
pH		10/001						VS	M Shaker 2				Ő
Alkal Mud (Pm)								VS	M Shaker 3				0
Pf/Mf								VS	M Shaker 4				0
Chlorides		mg/l						Cer	ntrifuge				0
Hardness Ca		mg/l						D-S	Silter				0
WO1		0 ( 111)											
KCI		<u>% Wt</u>											
IDCAP		рро				_							
						_							
						_				PFRTY	SPECIE		NS
						_			We	ight			NO
									Visco	sitv			
									Filt	rate			
F	REMARKS	AND TR	EATMEN	т					REMAR	RKS		-	
	a a t 0 4 1 1 ma			(661)				/0/ /lb /b b			001 8 1		
Rig Un/Service	.aວເ 24 MľS		JL AUUIG	(iau) 0	NaCl	LIDS A	AINAL I SIS	(70/UI \07)	np/na V	alues			103
Drilling		Water Add	ed	0	KCl			/	kp/ka (l	b•s^n/100	ft²)		
Tripping		Mud Recei	ved	0	Low G	ravity		/	Bit Loss	(psi / %)			
Non-Productive Tim	1	Dumped		0	Bentor	nte		/	Bit HH	$\frac{1}{\sqrt{2}}$ (hhp / H	SI)		
		Evaporatio	n	0	Weigh	t Materi	al	/	Ann Vel	$\frac{10}{\text{DP}} (\text{m/s})$			
		Centrifuge		0	Chemi	cal Con	c		Ann. Ve	<u>l DC (m/s)</u>			
		Formation		0	Inert/R	eact			Crit Vel	DP (m/s)			
		Left in Hol	e	0	Average Carb/D	ge SG	m mola/L)	/	Crit Vel	DC (m/s)			
										COST	CLINE		COST
M-I EN	IGR / PHUI	NC		RIG PHU	INE	VVA	RENUUSE	PHUNE	DAILY	5031	COMI	JLATIVE	0051
Jasdeep Singh		00 0202 2	700						¢ 0.00			¢ 0.00	
Keivin Leong		00-9302 3	170			1			\$ 0.00		1	\$ U.UU	

Date         2005/2005         Depth/VIVD         1255 m / 125 m           Operator:         Sinub about 2005/2005         Net of Yuk         Report For:           Christ Vice Path         71         Activity         Rith           Report For:         Christ Vice Path         Field/Area         Net of Yuk           Contractor:         Dimond OffShore         Mill Vice Units         Onway fission           Report For:         Damond OffShore         Mill Vice Units         Onway fission           PRILLING ASSEMBLY         Osafirac         MUD Vice Units         Dim Path Vice Vice Path           PRILLING ASSEMBLY         Osafirac         Mill Vice Vice Path         Dim Path Vice Vice Path         Pump State         State Path           PRILLING ASSEMBLY         Osafirac         Mill Vice Vice Path         Dim Path         State Path         State Path           PRIL Path State         Longin         Intermediate         Total Contractor         State Path         State Path         State Path           Sing Transmitter         Total Contractor         Total Contractor         State Path         State Path         State Path           Sing Transmitter         Total Contractor         State Path         Total Path         State Path           Sing Trans         State Path						WA	TER-I	BAS	ED MUD	REP	ORT	No.	
Support Date         Support Tors         Sum Subsect         RIH           Operator         Sum Subsect         Field/Area         Vie 74 4           Report Fors         Constrators         Support Fors         Support Fors         Support Fors           Constrators         Damand Offshore         Multicity         Support Fors         Support Fors           Report Fors         Damand Offshore         Multicity         Support Fors         Support Fors           The Post Support         Panel Mater/Miles         Support Fors         Support Fors         Support Fors           Nucles 169*1/32*         Dama Support         Support Fors         Panel Support         Support Fors           Support Fors         Length         Intermediate         Not Fors         Panel Support         Support           Support Fors         Length         Intermediate         Not Fors         Panel Support         Support           Support Fors         Length         Intermediate         Support         Support         Support           Support Fors         Support         Support         Support         Support         Support           Support Fors         Support         Support         Support         Support         Support           Support Fors <th>Mí SWAC</th> <th>;0</th> <th></th> <th></th> <th></th> <th>Date</th> <th>20/05/20</th> <th>05</th> <th>Depth/TVD</th> <th>1</th> <th>1255 m /</th> <th>1255 m</th> <th></th>	Mí SWAC	;0				Date	20/05/20	05	Depth/TVD	1	1255 m /	1255 m	
Operator         Same Id         Water Uppin         Operator         Same Id         Plaid/nois         Vie P 44           Well Name : Casino 4 DW         Contractor : Convo (Basin)         Contractor : Convo (Basin)         Convo; (Basin)           Contractor : Dammad OlShore         MUD VOLUME (bb)         Onvo; (Basin)         Contractor : Convo; (Basin)           Report For : Puul Baker/Mike Phramit         CASING         MUD VOLUME (bb)         CIRCULATION DATA           Bit Size 1.25 m 153661         Surface         MUD VOLUME (bb)         Pump Skie Coll Will .17000T (A1150NA L29.46           Drill Ppe Size         Length         Intermediate         Total Convolting Vol         Active Pish           Drill Colar Size         Length         Intermediate         Total Convolting Vol         Bettorne Units           Simul Colar Size         Length         Intermediate         Total Convolting Vol         Bettorne Units           Simul Colar Size         MUD PROPERTIES         Fondoctor on Claring Vol         Size G         Anti-           Simul Colar Size         Size G         Anti-         Size G         Anti-           Optimum Vice Dr         Colar Dr         1255/125         Fondoctor         Size G         Anti-           Single Form         Size Gitt         Size Gitt         Size Gitt					Spud	Date	20/05/20	05	Mud Type		KCI/Po	lymer	
Report To:         Chain May Plat King:         Description:         Contractor:         Description:         Description: <thdescription:< th=""> <thdescription:< th=""></thdescription:<></thdescription:<>	Operator : Sentes Ltd			V	Vater D	epth	71 Field/	Aroa :	Activity Via P 44		RI	1	
Wield Name:         Casin of DW         Constructor:         Constructor: <td>Report For : Chris Wise/P</td> <td>at King</td> <td></td> <td></td> <td></td> <td></td> <td>Descrir</td> <td>Area .</td> <td>Gas Producer</td> <td></td> <td></td> <td></td> <td></td>	Report For : Chris Wise/P	at King					Descrir	Area .	Gas Producer				
Contractor         Dimmed Offshore         Med Weil No. :           Report For: Paul Baker/Miker Prznik         ORCULATION DATA           Biste 123: Four State         MUD VOLUME (bit)         CIRCULATION DATA           Biste 123: Four State         State (123: Four State)         CIRCULATION DATA           Biste 123: Four State         State (123: Four State)         Control (112: Four State)         Control (112: Four State)           State (123: Four State)         Four State)         State (123: Four State)         State (123: Four State)         State (123: Four State)           State (123: Four State)         Four State)         Four State         State (123: Four State)         State (123: Four State)           State (123: Four State)         Four State)         Four State         State (123: Four State)         Four State)           State (123: Four State)         Four State)         Four State)         Four State)         Four State)           State (123: Four State)         Four State)         Four State)         State)         Four State)           Mull Weight         State)         Four State)         State)         Four State)         State)           State (120: State)         Four State)         State)         State)         State)         Four State)           State (120: State)         State)	Well Name : Casino 4 DW	at King						ation :	Otway Basin				
Report For:         Paul Baler/Mike Praznik           ORILLING ASSEMBLY         CASING         MUD VOLUME         (bit)         CIRCULATION DATA           Bit Size (2.25 in FX266)         30 sufface (137 VD)         674         Pump Make OILWITL 12011         Active Pils           Drill Pipe Size         Length         Intermediate         Active Pils         Pump Steme Bales         Eal/St	Contractor : Diamond Offs	shore					M-I Wel	I No. :	Othuy Bushi				
Dirtling ASSEMBLY Bits for 123 min Bissoi         CASING Surface         MUD VOLUME (bb)         CIRCULATION DATA           Norzies 1692 / 132*         Surface         Bole         Pump Mark OW UNIL 12P-Job Fill Pipe Size         653 X12 min (55 X12)	<b>Report For :</b> Paul Baker/M	like Praz	znik										
Bit Size 122 in FX563         Surface         Burlace         Hule         Pump Male OLUCENT 1200T 1 ATIONAL 12P-107           Drill Pipe Size         Length         Intermediate         Active Pits         Pump Male OLUCENT 1200T 1 ATIONAL 12P-107           Drill Pipe Size         Length         Intermediate         Active Pits         Pump Male OLUCENT 1200T 1 ATIONAL 12P-107           Drill Pipe Size         Length         Intermediate         Active Pits         Pump Male OLUCENT 1200T 1 ATIONAL 12P-107           Drill Pipe Size         Length         Intermediate         Yead         Forduction 1200T 1400T 1400	DRILLING ASSEMBLY		CASIN	G	MUD	VOLUI	ME (bbl	)	CII	RCULAT	ION DA	ГА	
Nazzles         Log / 122"         30m g137m (1371VD)         674         Pump Skd         6.5 X 12.m         6.5 X 12.m<	Bit Size 12.25 in FS2663		Surface	-		Но	ole	/	Pump Make O	ILWELL	1700PT N	ATIONA	L 12P-16(
Drill Pipe Size         Length         Intermediate         Active Pits         S48         Pump Cap         gal/sk         gal/sk         gal/sk           Drill Pipe Size         Length         135 m (21/2017)         548         Total Circulating Vol         548         Pump S(x)         Pump	Nozzles 16x9 / 1/32"	30	in @137m (13	7TVD)		67	'4		Pump Size	6.5 X 1	2.in	6.5 X	12.in
S m         m         13 375 (q)242n (242TU)         State         Pump stemm         Pump stem         Pump stemm	Drill Pipe Size Length		Intermedia	ite		Active	e Pits		Pump Cap	ĝ	gal/stk		gal/stk
Drift rep is size         Long the size         Long the size of the size	5 in m	13.37	75in @742m (	742TVD)	<b>T</b>	54	8 1	Pi	ump stk/min	Dete		1/	•
And Colury Size         Lead of the product of Labor         Instance         Total Circle Tube           95         95         0	Drill Pipe Size Length	in	Intermedia		Iota	al Circu	llating Vol		Fl(	ow Rate		gal/m	in
Sin         Display         Display         Display         Chronibility         Chronibility         State           Sample From         PH 36g19:00         Products         Size         Size         Size         Ant           Depth/TVD         m         1255/1255         MUD         Products         Size         <	Drill Collar Size Length	P	roduction or	Liner		In Sto	rage		Total Ci	rc Time			
MUD PROPERTIES         PRODUCTS USED LAST 24 HRS           Simple Term         Size         Ant           Flow Line Temp         *C         Size         Ant           Comple You         n1255/1255         Store         Size         Ant           Mud Weight         sp.ar.         1.266/21*C         Filewish         Size         Ant           Redow Store         62/244         SODUM Bicarbonate         25 KG BG         8           ROW ROO         62/244         SODUM Bicarbonate         25 KG BG         8           Solids         62/244         SODUM Bicarbonate         25 KG BG         8           Solids         62/244         SODUM Bicarbonate         25 KG BG         8           Solids         64/201         10.5         Solids         -         -           Solids         % Vol         10.5         -         -         -           ORWater         % Vol         18.5         -         -         -           Solids         % Vol         18.5         -         -         -           ORWater         % Vol         18.5         -         -         -           Solids         % Vol         10.5         -	8 in 25 m		in @m (TV)	D)		95	5		Circulating F	ressure			
Sample From         PT 3/2 (19:00           Depth/TVD         m         1255/1255           Mud Weight         spgr. 1         26/2 (16/2)           Fundel Viscosity         s/qt         58           Reology Temp         *C         49           Reology Temp         *C         10           YP         Ib/100PF         81           10s/Jon 20m Gel         Ib/100PF         89           Solids         %Vol         789           Solids         %Vol         789           PfM         9         70           Alfal Mud (Pm)         0         2.5           Collocks         mg/1         1000           KC1         % Wit         8           IDCAP         mg/2         4 x 200	MUD P	ROPER	RTIES	/	1		-		PRODUC	CTS USE	ED LAST	24 HR	S
Flow Line Temp         °C         C           Depth/TVD         m         1255/1255         SolUUM Bicarbonate         25 KG BG         8           Mud Weight         sp gr.         126@21°C         Filmel Viscosity         SS BUIUM Bicarbonate         25 KG BG         10           Rheology Temp         °C         49         SDIUM Bicarbonate         25 KG BG         10           RK033         cP         97         -	Sample From		Pit 3@19:00	0				Pro	oducts		S	lize	Amt
Depth/VD         m         1255/1255           Fund Wiscosity         s.gt.         1266/21°C           Fund Viscosity         s.gt.         126/201°C           Fund Viscosity         s.gt.         126/201°C           Reology Termp         °C         49           Roor 200 R100         36/26         10           ITHP PL Termp         cc/20 min         1           Cake AP/HTHP         122         1/           Solids         54/vol         85           Mid         15         5           Oli/Vater         54/vol         15           Solids         mg/ 46000         1           Harchess Ca         mg/1         1100           KC1         % Wt         8           IJDCAP         pb         3           Mid mee to solids. Dresed sharers         WUD PROPERTY SPECIFICATIONS           Weight fmm 10.9 pg to 10.5 pg using premis. Treated system with Citric & Bitarb	Flow Line Temp	°C				_		CI	FRIC ACID		25 K	G BG	8
Mud Weight         sp.gr.         L26/g21*C           Rheology Temp         *C         49           R200 R300         62/244         -           R200 R300         62/24         -           R200 R300         62/24         -           ARI Divid Loss         cc*20 min         -           Cake AP/HTHP         1/25         -           Solids         %Vol         10         5           Oil/Water         %Vol         70         -           Solids         %Vol         8         -           IDCAP         ppb         3         -           PiM         0.27.5         -         -           Chlorids         mg/l         100         -           KCI         % Wt         8         -           IDCAP         ppb         3         -           Intarchess Ca         mg/l         100         -	Depth/TVD	m	1255/1255			_		SO	DIUM Bicarbon	ate	25 K	KG BG	10
Fullet, vscusity         Style         35           Relology Temp         *C         49           Relology Temp         62/244	Mud Weight	sp.gr.	<u>1.26(<i>a</i>)21°C</u>	;		_							
Nature         C         32           ABOOR 300         62/24	Rheology Temp	s/qt	<u> </u>			_		$\vdash$					
B200.0100         B2/06         B           PV         eP         18           PV         B/10007         26           10s/10m/20m/Gel         B/10007         26           10s/10m/20m/Gel         B/10007         3.6           HTHEP IL remp         ec/30 min         3.6           HTHEP IL remp         ec/30 min         3.6           URVater         9/3Vol         1825           Sand         9/4Vol         172           MBT         B/bbl         9           Atkal Mud (Pm)         0         0           PYMf         0.23.5         Chlorides           Chlorides         mg/1         1100           KCI         % Wit         8           IBCAP         ppb         3           MUD PROPERTY SPECIFICATIONS         Witshaker 4           VSM Shaker 4         4 x 200         3           Viscosity         50-70         Filtrate         <5	R600/R300	U	62/44			-							
R6(F3)         9/7         Image: Constraint of the second	R200/R100		36/26										
PV         c.pl         18           TP         lb/100/l         26           10s/10m/20m Gel         lb/100/l         8/14/17           API Fluid Loss         cc/30 min         3.6           HTHP FL Temp         cc/30 min         1.6           Solids         %Vol         10.5           Oil/Water         %Vol         189.5           Sand         %Vol         189.5           MBT         lb/bbl         9           Alkal Mud (Pm)         0         0           PFMI         0.2/3.5         Coll.Dister           Chlorides         mg/l         1100           KCI         % Wt         8           IDCAP         ppb         3           IDCAP         ppb         3           MUD PROPERTY SPECIFICATIONS         Weight           Weight         1.26           VSM Shaker 3         4 x 200           Brances Ca         mg/l           IDCAP         ppb           MUD PROPERTY SPECIFICATIONS           Weight         1.26           VSM Shaker 4         4 x 200           Solutios and traps and header box and cleaned out solids. Dressed shakers           wright fron 10.9 ppt	R6/R3		9/7										
YP         Ib/1001*         26           Ib/3(10n/20m Gel         Ib/1001*         26           API Fluid Loss         cc/30 min         3.6           API Fluid Loss         cc/30 min         1           Cake AP/HTIP         1/32*         1/           Solids         %Vol         10.5           Oil/Water         %Vol         189.5           Sand         %Vol         189.5           Shift         9         1           Di/Water         %Vol         189.5           Sand         9         1           MBT         0         0           Akai Mud (Pm)         0         0           Olicides         mg/l         44.200           PfMI         0.23.5         Chorides           Chorides         mg/l         100           KC1         % Wt         8           IDCAP         pb         3           MUD PROPERTY SPECIFICATIONS         Weight           Weight         1.26           Viscosity         50-70           Filtrate         <5	PV	cP	18										
Ids/10m/30m Gel         Ib/10lt*         8/14/17           API Fluid Loss         Gc/30 min         3.6           HTHP LT remp         Cc/30 min	YP lb/	100ft <sup>2</sup>	26										
Ar1 Flue FL Temp       C:20 min       3.0         Cake AP/HTHP FL Temp       C:30 min       1/         Cake AP/HTHP FL Temp       C:30 min       1/         Cake AP/HTHP FL Temp       C:30 min       1/         Solids       % Vol       1.0.5         Oil/Water       % Vol       7.89         Solids       % Vol       7.89         MBT       Ib/bbl       9         Alkal Mud (Pm)       0       P/M         Objoides       mg/l       4.6000         Hardness Ca       mg/l       1100         KCI       % Wit       8         IDCAP       ppb       3         MEC       % Wit       8         IDCAP       ppb       3         Mup PROPERTY SPECIFICATIONS       Weight         Weight from 10.9 pg to 10.5 prg using premix. Treated system with Citric & Bicarb.       WOC. Made up BHA. Circulated riser to cut mud weight. RIH.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTS       (bbi)       Natificity       3/3.1       mpina Value.         Site of the obstand cleaned out solids       0       Natificity       3/3.1       mpina Value.       5         Timping       Mult Mid Received       2.33       Low Gravity </td <td>10s/10m/30m Gel lb/</td> <td>100ft<sup>2</sup></td> <td>8/14/17</td> <td></td>	10s/10m/30m Gel lb/	100ft <sup>2</sup>	8/14/17										
Cale API/ITIP         U/22"         U/           Solids         %4vol         10.5           Oil/Water         %4vol         189.5           Sand         %vol         TR           MBT         Ib/bbil         9           JAkal Mud (Pm)         0         VSM Shaker 1         4 x 200         3           P/M         0.23.5         Chlorides         mg/l         46000	HTHP FL Temp cc/3	80 min	5.0										
Solids         %/ol         10.5           OilWater         %/ol         10.5           Sund         %/ol         1R           MBT         Ibbbi         9           JH         0         100           Alkal Mud (Pm)         0         0           PMH         0.235         100           Chlorides         mg/l         46000           Hardness Ca         mg/l         100           Hardness Ca         mg/l         100           Alkal Mud (Pm)         0.         0           PMM         0.235.         Chlorides           IDCAP         ppb         3           IDCAP         ppb         3           MUD PROPERTY SPECIFICATIONS         Weight           Weight         1.26           Viscosity         50-70           Filtrate         <5	Cake API/HTHP	1/32"	1/										
Oil/Water         %Vol         /89.5           Sand         %Vol         T	Solids	%Vol	10.5										
Sand         %Vol         TR         Solub 2         Solub 2 </td <td>Oil/Water</td> <td>%Vol</td> <td>/89.5</td> <td></td>	Oil/Water	%Vol	/89.5										
MB1       b)/bil       9         pH       9         Alkal Mud (Pm)       0         PCMF       0.2/3.5         Chlorides       mg/l         Hardness Ca       mg/l         MB1       0         KCl       %6 Wit         B       0         MCD       0         KCl       %6 Wit         MDCAP       pb         MDCAP       pb         MDCAP       pb         MDCAP       pb         MUD PROPERTY SPECIFICATIONS         Weight from 10.9 ppt to 10.5 ppg using premix. Treated system with Citric & Bicarb.         TIME DISTR       Last 24 Hrs         MUD VOL ACCTG       (bb)         SOLIDS ANALYSIS (%/hb/bh)       MUD REDCOGY & HYDRAULICS         Rig Up/Service       Oil Added       0         Drilling       Wat Added       0         Tinpping       4       Mud Received       233         Drilling       Wat Added       0         Mud Received       233       Low Gravity         Inping       4       Mud Received       233         Ing Up/Service       Oil Added       0       NCI       373.1       prina	Sand	%Vol	TR					SC	DLIDS EQUIP	)	Size	<u></u>	Hr
Print         9         4 X 200         3           Pi/Mf         0.23,5         0	MBT	lb/bbl	9					VS	M Shaker I		<u>4 x 20</u>	0	3
Analyse     Output (1 m)     0     0       Chlorides     mg/l     46000       Hardness Ca     mg/l     1100       KCl     % Wt     8       IDCAP     ppb       JDCAP     ppb       IDCAP     ppb       IDDre     RUPS       IDPS     IDCAP	DH Alkal Mud (Pm)		9						M Shaker 2		$\frac{4 \text{ x } 20}{4 \text{ x } 20}$	0	3
Chlorides       mg/l       46000         Hardness Ca       mg/l       1100         Hardness Ca       mg/l       1100         KCI       % Wt       8         IDCAP       ppb       3         IDCAP       ppb to 10.5 ppg using premix. Treated system with Citric & Bitacdb	Pf/Mf		0 2/3 5					VS	M Shaker 4		$\frac{4 \times 20}{4 \times 20}$	0	3
Hardness Ca       mg/l       1100         KCl       % Wt       8         IDCAP       ppb       3         IDCAP       ppb       3         IDCAP       pb       3         IDCAP       pc       5         IDCAP       pc       1.26         Viscosity       50-70         IDEAP       Polated obs case <t< td=""><td>Chlorides</td><td>mg/l</td><td>46000</td><td></td><td></td><td></td><td></td><td>Ce</td><td>ntrifuge</td><td></td><td>1 A 20</td><td>0</td><td>0</td></t<>	Chlorides	mg/l	46000					Ce	ntrifuge		1 A 20	0	0
KCI       % Wt       8         IDCAP       ppb       3         IDCAP       OIL Added       0         Not       NaC       3'3.1       pyna <values< td="">         Infling       Water Added       0       KC     <!--</td--><td>Hardness Ca</td><td>mg/l</td><td>1100</td><td></td><td></td><td></td><td></td><td>D-</td><td>Silter</td><td></td><td></td><td></td><td>0</td></values<>	Hardness Ca	mg/l	1100					D-	Silter				0
KCl       % Wt       8         IDCAP       ppb       3         IDCAP       ppp bit 10.5 ppp using premix. Treated system with Citric & Bit GPI/Sitric & Git / Sitric & Git													
IDCAP       pp0       3         MUD PROPERTY SPECIFICATIONS         MUD PROPERTY SPECIFICATIONS         Weight       1.26         Viscosity       50-70         Filtrate       <5	KCI	% Wt	8										
Image: Construction of the second	IDCAP	ррв	3										
Image: mark to be address of the second s						_							
Image: Constraint of the second state of the second sta									MUD PRO	PERTY	SPECIFI	CATIO	NS
Image: Non-Poductive Tim       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Time DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       Nacl       3/3.1       np/na       Values         Drilling       Water Added       0       Nacl       3/3.1       pp/na       Values         Drilling       4       Mud Received       2393       Low Gravity       1.6/14.6       Bit HIP (http://%)       MUD RHEOLOGY & HYDRAULICS         Non-Productive Tim       Dumped       218       Bentonite       1/.7       Bit HIP (http://%)       Mud Received         Wait on Cement 16       Evaporation       0       Weight Material       5.6/8.8       Ann. Vel DP (m/s)       Wait on Cementing         Helter In Hole       0       Average SG       3.84       Crit Vel DP (m/s)       Image: Crit Vel DC (m/s)       Image: Crit Vel DP (m/s)       Image: Crit Vel									Wei	ght	1	1.26	
Filtrate       < 5         REMARKS AND TREATMENT         Dumped sand traps and header box and cleaned out solids. Dressed shakers with new 16 x 200 mesh screens. Reduced riser + surface volume mud weight from 10.9 ppg to 10.5 ppg using premix. Treated system with Citric & Bicarb.       WOC. Made up BHA. Circulated riser to cut mud weight. RIH.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       3/.3.1       np/na       Values         Drilling       Water Added       0       KCl       3/.27.2       kp/ka (lb+s^*n/100ft <sup>2</sup> )       Non-Productive Tim         Non-Productive Tim       Dumped       218       Bentonite       1./.8.9       Bit HHP (hbp / HSI)         Cementing       4       Shakers       0       Drill Solids       J/.7.8       Bit JetVel (m/s)         Wait on Cement       16       Evaporation       0       Weight Material       5.6/82.8       Ann. Vel DC (m/s)         Wait on Cement       16       Evaporation       0       Inert/React       0.712       Crit Vel DP (m/s)       Inert/React         Wait on Cement       16       Evaporation       0       Inert/React       0.712       Cit Vel DC (m/s)									Visco	sity	5	0-70	
REMARKS AND TREATMENT Dumped sand traps and header box and cleaned out solids. Dressed shakers with new 16 x 200 mesh screens. Reduced riser + surface volume mud weight from 10.9 ppg to 10.5 ppg using premix. Treated system with Citric & Bicarb.       WOC. Made up BHA. Circulated riser to cut mud weight. RIH.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       3/ 3.1       np/na       Values         Drilling       Water Added       0       KCl       3//27.2       kp/ka (lb-s² n/100f²)       Timping         Non-Productive Tim       Dumped       218       Bentonite       1/.8.9       Bit HHP (hbp/ HSI)         Cementing       4       Shakers       0       Drillisolids       1/.7       Bit zet Vel (m/s)         Wait on Cement       16       Evaporation       0       Netrial 5.6/ 82.8       Ann. Vel DP (m/s)         Wait on Cement       16       O Inett/React       0712       Crit Vel DP (m/s)       Image of the set of									Filt	rate		< 5	
Number of traps and header box and cleaned out solids. Dressed shakers with new 16 x 200 mesh screens. Reduced riser + surface volume mud weight from 10.9 ppg to 10.5 ppg using premix. Treated system with Citric & Bicarb.       WOC. Made up BHA. Circulated riser to cut mud weight. RIH.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       .3/3.1       np/na       Values         Drilling       Water Added       0       KCl       3./27.2       kp/ka (lb=s^n/100ft <sup>2</sup> )         Non-Productive Tim       Dumped       218       Bentonite       1./8.9       Bit HHP (hhp / HSI)         Cementing       4       Shakers       0       Drill Solids       .1/.7       Bit Jet Vel (m/s)         Wait on Cement       16       Evaporation       0       Inett/Reat       .0712       Crit Vel DP (m/s)         Up other       0       Carb/BiCarb (m mole/L)       4./20.       Inett/Reat       .0712       St 400.72       \$ 400.72										NC C			
with new 16 x 200 mesh screens. Reduced riser + surface volume mud         weight from 10.9 ppg to 10.5 ppg using premix. Treated system with Citric & Bicarb.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       .3/3.1       np/na       Values         Drilling       Water Added       0       KCl       3/27.2       kp/ka (lbss'n/100ft²)       Disson (lbss'n/100ft²)         Tripping       4       Mud Received       2393       Low Gravity       1.6/14.6       Bit Loss (psi / %)       Disson (lbss'n/100ft²)         Non-Productive Tim       Dumped       218       Bentonite       1/8.9       Bit HP (hhp / HSI)       Citrue (lm/s)         Cementing       4       Shakers       0       Drill Solids       1/7       Bit Jet Vel (m/s)       Citrue (lm/s)         Wait on Cement       16       Evaporation       0       Neight Material       5.6/82.8       Ann. Vel DC (m/s)       Citrue (lm/s)       Citrue (lm/	Dumped sand traps and header box at	nd cleane	d out solids. I	Dressed sha	kers V	WOC. M	lade up BHA	A. Circul	ated riser to cut i	nud weigh	t. RIH.		
weight from 10.9 ppg to 10.5 ppg using premix. Treated system with Citric & Bicarb.         TIME DISTR Last 24 Hrs       MUD VOL ACCTG (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       .3/3.1       np/na       Values         Drilling       Water Added       0       KCl       .3/27.2       Kp/Ka (Ib*s^*n/100ft²)         Tripping       4       Mud Received       2393       Low Gravity       1.6/14.6       Bit Loss (psi / %)         Non-Productive Tim       Dumped       218       Bentonite       1./8.9       Bit HHP (hhp / HSI)         Cementing       4       Shakers       0       Drill Solids       .1/.7       Bit Jet Vel (m/s)         Wait on Cement       16       Evaporation       0       Weight Material       5.6/82.8       Ann. Vel DP (m/s)         Centrifuge       0       Cherrical Cone       - / 5       Ann. Vel DP (m/s)       Image: Crit Vel DP (m/s)         Left in Hole       0       Average SG       3.84       Crit Vel DP (m/s)       Image: Crit Vel DP (m/s)         M-I ENGR / PHONE       RIG PHONE       WAREHOUSE PHONE       DAILY COST       CUMULATIVE COST         Jasdeep Singh       Kelvin Leong       08-9302 3790 </td <td>with new 16 x 200 mesh screens. Rec</td> <td>duced rise</td> <td>er + surface vo</td> <td>lume mud</td> <td></td> <td></td> <td>····· ·· <b>I</b></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td>	with new 16 x 200 mesh screens. Rec	duced rise	er + surface vo	lume mud			····· ·· <b>I</b>			0			
Bicarb.       TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       .3/3.1       np/na       Values         Drilling       Water Added       0       KCl       .3/.27.2       kp/ka<(lb+s^n/100ft²)	weight from 10.9 ppg to 10.5 ppg usi	ng premi	x. Treated sys	tem with C	itric &								
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       .3/ 3.1       np/na       Values         Drilling       Water Added       0       KCl       .3/ 27.2       kp/ka (lb*s^n/100ft²)         Tripping       4       Mud Received       2393       Low Gravity       1.6/ 14.6       Bit Loss (psi /%)         Non-Productive Tim       Dumped       218       Bentonite       1/ 8.9       Bit HHP (hhp / HSI)         Cementing       4       Shakers       0       Drill Solids       .1/ .7       Bit Jet Vel (m/s)         Wait on Cement       16       Evaporation       0       Weight Material       5.6/ 82.8       Ann. Vel DP (m/s)         Entrifuge       0       Chemical Conc       - / 5.       Ann. Vel DP (m/s)       Image: Centrifuge         Entrifuge       0       Chemical Conc       - / 5.       Ann. Vel DP (m/s)       Image: Centrifuge         Entrifuge       0       Chemical Conc       - / 5.       Ann. Vel DP (m/s)       Image: Centrifuge         Entrifuge       0       Cateroficarb (m mole/L)       4./ 20.       Image: Centrifuge       Cumulative cost	Bicarb.												
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       3/3.1       np/na       Values         Drilling       Water Added       0       KCl       3/27.2       kp/ka (lb*s^n/100ft²)       Implement         Tripping       4       Mud Received       2393       Low Gravity       1.6/14.6       Bit Loss (psi / %)       Implement         Non-Productive Tim       Dumped       218       Bentonite       1./8.9       Bit HHP (hhp / HSI)       Implement         Cementing       4       Shakers       0       Drill Solids       .1/.7       Bit Jet Vel (m/s)       Implement         Wait on Cement       16       Evaporation       0       Weight Material       5.6/82.8       Ann. Vel DP (m/s)       Implement         Kelvin Leong       0       Inert/React       .0712       Crit Vel DP (m/s)       Implement         Mit on Cement       0       Average SG       .3.84       Crit Vel DC (m/s)       Implement         Mait on Cement       0       Average SG       .3.84       Crit Vel DC (m/s)       Implement         Mait on Cement       0       0       Average SG													
TIME DISTRLast 24 HrsMUD VOL ACCTG(bbl)SOLIDS ANALYSIS (%/lb/bbl)MUD RHEOLOGY & HYDRAULICSRig Up/ServiceOil Added0NaCl3/ 3.1np/naValuesDrillingWater Added0KCl3// 27.2kp/ka(lb•s^n/100ft²)Tripping4Mud Received2393Low Gravity1.6/ 14.6Bit Loss (psi / %)Non-Productive TimDumped218Bentonite1// 8.9Bit HHP (hhp / HSI)Cementing4Shakers0Drill Solids.1/.7Bit Jet Vel (m/s)Wait on Cement16Evaporation0Weight Material5.6/ 82.8Ann. Vel DP (m/s)Centrifuge0Chemical Conc- / 5.Ann. Vel DC (m/s)Image: Crit Vel DP (m/s)Left in Hole0Average SG3.84Crit Vel DC (m/s)Image: Crit Vel DC (m/s)Uher0Carb/BiCarb (m mole/L)4 / 20.Image: Crit Vel DC (m/s)Image: Crit Vel DC (m/s)M-I ENGR / PHONERIG PHONEWAREHOUSE PHONEDAILY COSTCUMULATIVE COSTJasdeep Singh Kelvin Leong08-9302 3790\$ 400.72\$ 400.72\$ 400.72													
TIME DISTRLast 24 HrsMUD VOL ACCTG(bbl)SOLIDS ANALYSIS (%/lb/bbl)MUD RHEOLOGY & HYDRAULICSRig Up/ServiceOil Added0NaCl.3/3.1np/naValuesDrillingWater Added0KCl.3/27.2kp/ka(lb*s^n/100ft²)Tripping4Mud Received2393Low Gravity1.6/14.6Bit Loss (psi / %)Non-Productive TimDumped218Bentonite1/.8.9Bit HHP (hhp / HSI)Cementing4Shakers0Drill Solids.1/.7Bit Jet Vel (m/s)Wait on Cement16Evaporation0Weight Material5.6/82.8Ann. Vel DP (m/s)Wait on Cement16Evaporation0Inert/React.0712Crit Vel DP (m/s)Left in Hole0Average SG3.84Crit Vel DC (m/s)Other0Carb/BiCarb (m mole/L)4/.20.M-I ENGR / PHONERIG PHONEWAREHOUSE PHONEDAILY COSTCUMULATIVE COSTJasdeep SinghKelvin Leong08-9302 3790\$ 400.72\$ 400.72													
Rig Up/Service       Oil Added       O       NaCl       .3/ 3.1       np/na       Values         Drilling       Water Added       0       KCl       3./27.2       kp/ka       (lb+s^n/100ft²)         Tripping       4       Mud Received       2393       Low Gravity       1.6/14.6       Bit Loss (psi / %)         Non-Productive Tim       Dumped       218       Bentonite       1./8.9       Bit HHP (hhp / HSI)         Cementing       4       Shakers       0       Drill Solids       .1/.7       Bit Jet Vel (m/s)         Wait on Cement       16       Evaporation       0       Weight Material       5.6/82.8       Ann. Vel DP (m/s)         Vait on Cement       16       Evaporation       0       Inert/React       .0712       Crit Vel DP (m/s)         Vait on Cement       16       Average SG       3.84       Crit Vel DP (m/s)       Inert/React         Vait on Cement       0       Carb/BiCarb (m mole/L)       4./20.       Values       Values         Mait on Cement       16       8       RIG PHONE       DAILY COST       CUMULATIVE COST         Mather Singh       Kelvin Leong       08-9302 3790       \$ 400.72       \$ 400.72       \$ 400.72 <td>TIME DISTR Last 24 Hrs</td> <td></td> <td>L ACCTG</td> <td>(bbl)</td> <td>SO</td> <td>LIDS A</td> <td>NALYSIS</td> <td>(%/lb/bb</td> <td>ol) MUI</td> <td>O RHEOL</td> <td>.OGY &amp; H</td> <td>YDRAU</td> <td>LICS</td>	TIME DISTR Last 24 Hrs		L ACCTG	(bbl)	SO	LIDS A	NALYSIS	(%/lb/bb	ol) MUI	O RHEOL	.OGY & H	YDRAU	LICS
Dritting     Water Added     0     KC1     3./ 27.2     kp/ka (lbss'n/100ft')       Tripping     4     Mud Received     2393     Low Gravity     1.6/ 14.6     Bit Loss (psi / %)       Non-Productive Tim     Dumped     218     Bentonite     1./ 8.9     Bit HHP (hhp / HSI)       Cementing     4     Shakers     0     Drill Solids     .1/ .7     Bit Jet Vel (m/s)       Wait on Cement     16     Evaporation     0     Weight Material     5.6/ 82.8     Ann. Vel DP (m/s)       Centrifuge     0     Chemical Conc     - / 5.     Ann. Vel DC (m/s)	Rig Up/Service Oil	Added	1	0	NaCl			.3/3	1 np/na V	alues	22		
Mon-Productive Tim     Dumped     21/8     Bentonite     1/.8/9     Bit Loss (pst//9/)       Cementing     4     Shakers     0     Drill Solids     .1/.7     Bit Jet Vel (m/s)       Wait on Cement     16     Evaporation     0     Weight Material     5.6/82.8     Ann. Vel DP (m/s)       Vait on Cement     16     Evaporation     0     Chemical Conc     - / 5.     Ann. Vel DP (m/s)       Experiment     0     Inert/React     .0712     Crit Vel DP (m/s)       Experiment     0     Average SG     3.84     Crit Vel DP (m/s)       Under     0     Carb/BiCarb (m mole/L)     4./20.	Drilling Wa Tripping 4 Ma	ter Adde	a ed	2393	KCl	ravity		3./27	<u>/.2 kp/ka (ll</u> 4.6 Bit Loss	$\frac{\text{pes''n}/100f}{(\text{psi}/\%)}$	t~)		
Cementing       4       Shakers       0       Drill Solids       .1/.7       Bit Jet Vel (m/s)         Wait on Cement       16       Evaporation       0       Weight Material       5.6/82.8       Ann. Vel DP (m/s)         Centrifuge       0       Chemical Conc       - / 5.       Ann. Vel DP (m/s)         Formation       0       Inert/React       .0712       Crit Vel DP (m/s)         Left in Hole       0       Average SG       3.84       Crit Vel DD (m/s)         Other       0       Carb/BiCarb (m mole/L)       4./20.         M-I ENGR / PHONE       RIG PHONE       WAREHOUSE PHONE       DAILY COST       CUMULATIVE COST         Jasdeep Singh       68-9302 3790       \$ 400.72       \$ 400.72       \$ 400.72	Non-Productive Tim Dur	mped	~~	218	Benton	nite		<u>1.0, 1</u>	.9 Bit HHP	(hhp / HS	SI)		
Wait on Cernent         10         Evaporation         0         Weight Material         5.6/ 82.8         Ann. Vel DP (m/s)           Centrifuge         0         Chemical Conc         - / 5.         Ann. Vel DC (m/s)            Formation         0         Inert/React         .0712         Crit Vel DP (m/s)            Left in Hole         0         Average SG         3.84         Crit Vel DC (m/s)            Other         0         Carb/BiCarb (m mole/L)         4./ 20.             M-I ENGR / PHONE         RIG PHONE         WAREHOUSE PHONE         DAILY COST         CUMULATIVE COST           Jasdeep Singh         Kelvin Leong         08-9302 3790         \$ 400.72         \$ 400.72         \$ 400.72	Cementing 4 Sha	akers		0	Drill Se	olids	.1	.1/.	7 Bit Jet V	el (m/s)			
Boundation     O     Inert/React     .0712     Crit Vel DP (m/s)       Left in Hole     0     Average SG     3.84     Crit Vel DC (m/s)       Other     0     Carb/BiCarb (m mole/L)     4./ 20.       M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Jasdeep Singh     Kelvin Leong     08-9302 3790     \$ 400.72     \$ 400.72	wait on Cement 16 Eva	aporation atrifuge		0	Chemic	cal Conc	11	5.6/8	2.8 Ann. Vel 5 Ann Vel	$\frac{DP(m/s)}{DC(m/s)}$			
Left in Hole     0     Average SG     3.84     Crit Vel DC (m/s)       Other     0     Carb/BiCarb (m mole/L)     4./ 20.     Image: Constraint of the second	For	mation		ŏ	Inert/R	leact		.071	2 Crit Vel I	DP (m/s)			
M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Jasdeep Singh     Kelvin Leong     08-9302 3790     \$ 400.72     \$ 400.72	Lef	ft in Hole		0	Averag	ge SG	n molo/L)	3.8	4 Crit Vel I	DC (m/s)		_	
Jasdeep Singh     Kig Phone     WAREHOUSE Phone     DAILY COST     COMULATIVE COST       Kelvin Leong     08-9302 3790     \$ 400.72     \$ 400.72		ICI			$\Box$					1201	CUMU		COST
Kelvin Leong 08-9302 3790 \$ 400.72	Insdeen Singh		K		6	WAR		FRUNE		031	CONO	LATIVE	0031
	Kelvin Leong 08	-9302 37	90						\$ 400.7	2	\$	400.72	

		_		1	WATER-	BASE	ם שטח	REPOR	RT No.	1
MiSW				Da	ate 21/05/20	05 De	epth/TVD	1570	m / 1565 m	-
				Spud Da	ate 20/05/20	05 N	lud Type	KC	I/Polymer	
			V	Vater Dep	oth 71		Activity		Drilling	
Operator : San	ntos Ltd				Field	Area : Vi	ic P 44			
Report For : Chr	ris Wise/ Pat K	ing			Descri	ption : Ga	as Producer			
Well Name : Cas	sino 4 DW	-			Loc	ation : Of	tway Basin			
Contractor : Dia	mond Offshor	e			M-I We	II No. :	2			
Report For : Pau	Il Baker/Mike	Praznik								
DRILLING ASS	EMBLY	CAS	ING	MUD VO	OLUME (bb	I)	CII	RCULATION	DATA	
Bit Size 12.25 in FS266	53	Surfa	ce		Hole	Pu	mp Make O	ILWELL 1700P	T NATIONA	L 12P-16(
Nozzles 16x9 / 1/32"		30in @137m	(137TVD)		783.1	Р	ump Size	6.5 X 12.in	6.5 X	12.in
Drill Pipe Size	Length	Interme	diate	A	Active Pits	P	ump Cap	5.016 gal/stl	x 5.016	gal/stk
5 in	1409 m 1	3.375in @742r	n (742TVD)		414.9	Pum	p stk/min	100@97%	100@	97%
Drill Pipe Size	Length	Interme	diate	Total	Circulating Vo	l	Flo	ow Rate	1003  gal/m	
5 In Drill Coller Size	135 m	<u>In (a)1255m (</u>	255TVD)	I	1198 n Storage		Botto Total Cir	oms Up 29	$\frac{7.2 \text{ min}}{1.2 \text{ min}}$ $\frac{58.2 \text{ min}}{100}$	$\frac{52 \text{ stk}}{22 \text{ oth}}$
8 in	25 m	in @m (		1	1378	(	Total Cl	Pressure 50	$\frac{1200}{3300}$	555 SIK
0 111			(vD)	<u> </u>	1370				ΔST 24 UP	s
Sample From			·10 Dit 2	@08.40		Drode				Amt
Flow Line Temp	(	$rac{1}{1}$	.10 FIL3	36		CITPI			25 KG BG	5
Denth/TVD		$\frac{147}{m}$ 1478/14	73 126	0/1260			VIS		25 KG BG	19
Mud Weight	sn s	1.26@43	°C 126	@32°C		08-1	. 10		25 KG BG	5
Funnel Viscosity	<u> </u>	at 58	- 1.20	55		SODI	UM Bicarbon	ate	25 KG BG	20
Rheology Temp	C	°C 49		49		MI BA	AR (Bulk)		1 MT BG	8
R600/R300		77/58	6	2/45		KCL I	BRINE 16%		1 BL	870
R200/R100		49/37	3	7/27						
R6/R3		15/12		9/7						
PV		CP 19		17						
YP	<u>lb/100</u>	$\frac{11^2}{39}$		28						
10s/10m/30m Gel	<u>Ib/100</u>	$\frac{14}{2}$	6 7/	14/17						
API Fluid Loss	$\frac{\text{cc}/30 \text{ m}}{\text{cc}/20 \text{ m}}$	<u>in</u> 4		4.2						
Cake A DI/HTHD	1/2	111 2" 1/		1/						
Solids	0/2V	$\frac{2}{1}$		1/						
Oil/Water	/0V	ol /89		/90						
Sand	%V	ol 0.2	(	0.25		SOL	IDS EQUIP		Size	Hr
MBT	lb/b	bl 11		10		VSM	Shaker 1	4	x 200	24
pН		10	]	10.9		VSM	Shaker 2	4	x 200	24
Alkal Mud (Pm)		0.5		1		VSM	Shaker 3	4	x 200	24
Pf/Mf		0.1/2	0.	2/2.2		VSM	Shaker 4	4	x 200	24
Chlorides	mg	g/1 45000	44	4000		Centr	ifuge			0
Hardness Ca	mg	g/l 560		920		D-Sil	ter			5
VC1	0/ 1	V/4 0		0						
	% \ %	$\frac{1}{2}$		8						
IDCAI	p	3		5						
							MUD PRO	PERTY SPE	CIFICATIO	NS
							Wei	ght	1.26	-
							Visco	sity	<u>50-7</u> 0	
							Filt	rate	< 5	
REM		TREATMEN		***	1 1 1170	1070	REMAR	KS		
I reated cement contamin	ation with Bicar	b/Citric. Pump :	0 bbl SW in a	an Wa	1  sh down 11/0 to	12/3 m. Att	empt to kick	off from hard ce	ment top $(a)$ 12	1/3  m and
improve rhealogy Used	$13 \times 200 \text{VP}$ new	. I realed syste	ui with Duovi	$f_{16\%}$ stat	11eu new noie ffr	om 1508 m. l	Diffied to 15/	o in buildin g ar	igie to 22 degr	ees @
KCl brine from Fargrin	Added barite to a	vstem to increa	cu o/U DDI OI	1070 - 23	.50 IIIS.					
10.7  png @ 1500  m	indea barrie 10 S	ystem to mered	se muu weigh							
···· PP5 @1500 m.										
TIME DISTR Last	24 Hrs MUD	VOL ACCTG	(bbl)	SOLI	DS ANALYSIS	(%/lb/bbl)	MUI	O RHEOLOGY	& HYDRAU	LICS
Rig Up/Service	Oil Add	ed	0	NaCl		.2/ 2.6	np/na V	alues	0.40	9/0.321

TIME DISTR L	ast 24 Hrs	MUD VOL ACCTG	(bbl)	SOLID	S ANALYSIS (	(%/lb/bbl)	MUD RHEOL	OGY & HY	DRAULICS
Rig Up/Service		Oil Added	0	NaCl		.2/ 2.6	np/na Values		0.409/0.321
Drilling	21.5	Water Added	0	KCl		3./ 27.	kp/ka (lb•s^n/100f	t <sup>2</sup> )	4.835/7.583
Tripping	2	Mud Received	0	Low Gravi	ty	2.6/24.1	Bit Loss (psi / %)		986 / 29.9
Non-Productive Tim		Dumped	335	Bentonite		1.1/10.	Bit HHP (hhp/HS	SI)	577 / 4.9
Test Well	0.5	Shakers	151	Drill Solid	8	1./ 9.1	Bit Jet Vel (m/s)		99
Wait on Cement		Evaporation	0	Weight Ma	aterial	5.2/75.7	Ann. Vel DP (m/s)		1
		Centrifuge	0	Chemical (	Conc	- / 5.	Ann. Vel DC (m/s)		1.45
		Formation	0	Inert/React		.7375	Crit Vel DP (m/s)		2
		Left in Hole	0	Average S	G	3.66	Crit Vel DC (m/s)		2
		Other	0	Carb/BiCa	rb (m mole/L)	1.9/ 1.	ECD @ 1570 (sp.g	gr.)	1.3
M-I EN	GR / PHO	NE	<b>RIG PHONE</b>	: V	VAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Jasdeep Singh									
Kelvin Leong		08-9302 3790					\$ 18,037.05	\$	18,437.77

						WAT	ER-BA	<b>ASED</b>	MUD	REPO		lo. 2	2
MISI	MAU					Date 2	2/05/2005	Dep	th/TVD	16	662 m / 1	627 m	
					Spud	Date 2	0/05/2005	Mu	d Type		KCI/Poly	mer	
					Nater D	epth	71		Activity		Trippir	ıg	
Operator :	Santos Ltd						Field/Are	a: Vic	P 44				
Report For :	Chris Wise	/ Pat King	5				Descriptio	n: Gas	Producer				
Well Name :	Casino 4 D	W NG 1					Locatio	<b>n</b> : Otw	ay Basın				
Contractor :	Diamond C	Jffshore	.1					0.:					
Report For :	Paul Baker	/Mike Pra	Znik		MUD								
DRILLING A		T	CAS		NUD	VULUIVII	= (1001)	D					10D 1/(
Nozzles $16x9 / 1/3$	32003 32"	3(	$\sin @137m$	137TVD)		868 7	7	<u>r un</u> Pur	nn Size	$\frac{1}{65 \times 12}$	in NA	65 X	12P-100 12 in
Drill Pipe Size	Lengt	h	Intermed	liate		Active P	Pits	Pur	np Cap	5.016 ga	l/stk .	5.016 g	al/stk
5 in	m	13.3	75in @742n	n (742TVD)		493.3		Pump	stk/min	100@97	'%	100@	97%
Drill Pipe Size	Lengt	h	Intermed	liate	Tota	al Circula	ting Vol		Flov	w Rate	1003	gal/mi	in
5 in	<u>135 n</u>	n in	<u>@1255m (1</u>	255TVD)		493.3	3		Botto	ms Up	min	<u>0 stl</u>	K (
Drill Collar Size	Lengt	in I	roduction	or Liner		In Stora	ge	Cir	I otal Circ	c Time	20. / mii	$\frac{1}{00}$ nci	32 stk
0 111				VD)		915		CII			ככ 2 דפעור	00 psi • <b>A HBS</b>	
Sample From	NICL		Suction@1	9.0( Pit 3	@03.00			Product	°	13 0321		e 11100	Δmt
Flow Line Temp		°C	50	2.00 1102	54	_		DUO-VI	S		25 KG	i BG	15
Depth/TVD		m	1662/162	27 159	9/1580			OS-1	~		25 KG	BG	10
Mud Weight		sp.gr.	1.29@40	°C 1.28	3@40°C			POLYPA	AC UL		25 KG	BG	8
Funnel Viscosity		s/qt	58		67	_		IDCAP I	D SHALE IN	NHIBITOR	25 KG	BG	20
Rheology Temp		°C	49		49	_		POTASS	SIUM HYDE	ROXIDE	25 KG	i CN	1
R200/R100			82/60		<u>5//1</u> 50/45			MI BAR	(Bulk)		IMT	ВÜ	8
R6/R3			16/12	1	7/14								
PV		cP	22		24								
YP		lb/100ft <sup>2</sup>	38		47								
10s/10m/30m Gel		lb/100ft <sup>2</sup>	12/26/3	6 15	/35/42								
API Fluid Loss	с	$\frac{c/30 \text{ min}}{20}$	3.8		4.4	_							
HIHP FL Temp	с	$\frac{c/30 \text{ min}}{1/22"}$	1/		1/								
Solids		1/52 %Vol	17		1/								
Oil/Water		%Vol	/87		0/88	_							
Sand		%Vol	TR		tr			SOLID	S EQUIP		Size		Hr
MBT		lb/bbl	12		12			VSM S	haker 1	2	x200, 2 x1	80	10
pH			9.2		8.4			VSM S	haker 2	2	<u>x200, 2 x1</u>	65	10
Alkal Mud (Pm)			0.25		0.1	_		VSM S	haker 3	2	$\frac{x200, 2 x}{4, 200}$	65	10
PI/IVII Chlorides		ma/1	<u> </u>	0	<u>.1/1.1</u> 6000	_		V SIVI S			4 X200		10
Hardness Ca		mg/l	560	7	600			D-Silter					10
									•				
KCl		% Wt	8		8								
IDCAP		ppb	3		3								
						_							
						_		м			PECIFIC	ΔΤΙΟΝ	IS
									Weig	pht	12	28	
									Viscosi	ity	50-	70	
									Filtra	ate	<	5	
	EMARKS	AND TR	EATMEN	<b>F</b>	, ,		550 D/O /	· ,	REMAR	KS		D 11 1	1. 1.(2)
after trip due to high	Duovis/Idcap	) for mainte	nance. Lost	120 bbl at sh s to handle fl	akers I	Drilled to 1	1339  m. P/O to	o casing sr	ioe. Kepair I	op arive. I	Kun back in	. Drilled	1 to 1662
Used new 3 x 200 &	4 x 180 mesł	i screens	u iew sereen		0w. 1	II. Circulat			ge BIIA.				
	111 100 111001												
				(1.1.1)				L /L L N					100
Rig Up/Service	ast 24 Hrs	Oil Added	JL ACCIG	(idd) 0	NaCl	LIDS AN	ALTSIS (%/I	3/36	muu nn/na Va	hes	GI&HI	JRAUL	165
Drilling	4.5	Water Add	ed	Ő	KCl		2	2.9/26.4	kp/ka (lb	•s^n/100ft2	)		
Tripping Non Productive Time	12.5	Mud Recei	ved	0	Low G	ravity	4	1/87	Bit Loss	(psi / %)	)		
Condition Hole	5	Shakers		61	Drill Se	olids		3.3/ 30.	Bit Jet Ve	$\frac{(mp/HSI}{(m/s)}$	)		
Wait on Cement		Formation		0	Weight	Material		5./ 73.3	Ann. Vel I	DP (m/s)			
		Other Desilter		0	Chemic Inert/P	cal Conc		- / 5.	Ann. Vel I	$\frac{DC(m/s)}{P(m/s)}$			
		Desition		132	Averag	e SG		3.42	Crit Vel D	C (m/s)			
		-			Carb/B	iCarb (m n	nole/L)	2./ 6.3			-		
M-I EN	GR / PHON	E		<b>RIG PHON</b>	E	WARE	HOUSE PHO	ONE	DAILY CO	OST	CUMUL	ATIVE	COST
Jasdeep Singh													
Kelvin Leong		08-9302 3	790						\$ 11,206	.28	\$	29,644.0	05

				W	ATER-B	ASED MUD	REPOR	Г No. 3	3
Mí SV	VACO			Date	23/05/2005	Depth/TVD	1662 m	n / <mark>1627</mark> m	
				Spud Date	20/05/2005	Mud Type	KCI/I	Polymer	
			W	ater Depth	71	Activity	v	VOC	
Operator : Sa	antos Ltd				Field/Are	ea: Vic P 44			
Report For : C	hris Wise/ Pat King	g			Descriptio	on : Gas Producer			
Well Name : C	asino 4 DW				Locatio	on: Otway Basin			
Contractor : D	amond Offshore				M-I Well N	0. :			
Report For : Pa	aul Baker/Mike Pra							ATA	
Bit Size 12.25 in ES24		Surface				Dump Make OI	WELL 1700PT	JATIONAI	12D 16(
Nozzles $16x9 / 1/32"$	' 31	0in @137m (137TV	D)	86	58 7	Pump Size	65 X 12 in	65X	12  in
Drill Pipe Size	Length	Intermediate	5)	Activ	re Pits	Pump Cap	5.016 gal/stk	5.016 g	al/stk
5 in	m 13.3	375in @742m (7421	'VD)	58	0.3	Pump stk/min	100@97%	100@	97%
Drill Pipe Size	Length	Intermediate		Total Circ	ulating Vol	Floy	w Rate	1003 gal/m	in
in Dillout of	m in	<u>@1255m (1255TV</u>	D)	58	30.3	Botto	ms Up	$\min_{n \to \infty} 0 \text{ st}$	k (D. 11
Drill Collar Size	Length	in @m (TVD)	er	In St	orage	Lotal Circ	24.	$\frac{3 \text{ min}}{2200 \text{ mai}}$	50 stk
111				10	12			<u>ээоо ры</u> эт эл нос	2
Sample From		Pit $3@20.00$	Pit 30	$\overline{208.30}$		Products	IS USED LA	Size	Δmt
Flow Line Temp	°C	111 5(0/20.00	1103(0	~,00.50		CITRIC ACID	2	5 KG BG	5
Depth/TVD	m	1662/1627	1662	2/1627		DUO-VIS	2	5 KG BG	10
Mud Weight	sp.gr.	1.29@35°C	1.29(	@45°С		POLYPAC UL	2	5 KG BG	10
Funnel Viscosity	s/qt	65	(	55		IDCAP D SHALE IN	NHIBITOR 2	5 KG BG	12
Rheology Temp	°C	49		19		MI BAR (Bulk)	]	MT BG	6
R600/R300		/5/56	/5	0/33					
R6/R3		14/11	<u>40</u> 14	/11					
PV	cP	19		20					
YP	lb/100ft <sup>2</sup>	37	3	35					
10s/10m/30m Gel	lb/100ft <sup>2</sup>	13/24/31	11/2	20/26					
API Fluid Loss	<u>cc/30 min</u>	3.2	3	5.6					
HTHP FL Temp	$\frac{\text{cc}/30 \text{ min}}{1/22"}$	1/		1/					
Solids		17	1	1/					
Oil/Water	%Vol	/87	/	89					
Sand	%Vol	TR	Τ	R		SOLIDS EQUIP	Siz	ze	Hr
MBT	lb/bbl	13	12	2.5		VSM Shaker 1	2 x200,	2 x180	6
pH		9	8	3.5		VSM Shaker 2	<u>2 x200</u> ,	2 x165	6
Alkal Mud (Pm)		0.2	0.1	).]		VSM Shaker 3	<u>2 x200</u> ,	<u>2 x165</u>	6
Chlorides	mg/l	0.05/3	<u> </u>	/1.5		V SIM Shaker 4	4 X.	200	0
Hardness Ca	mg/l	1200	8	00		D-Silter			0
	0								-
KC1	% Wt	8		8					
IDCAP	ppb	3		3					
									le
						Weig	ht	1.28	10
						Viscosi	tv	50-70	
						Filtra	ite	< 5	
			_						
<b>RE</b> Pumped 60 bbl of HiVis contaminated returns (4 with Citric acid. Gelled entered into active syste header box.	MARKS AND TR s pill weighted to 12 p 2 bbl) during reverse up leaking dump val- em due to not isolating	EATMENT ppg below cement p out. Treated surface ve in Pit 2. Some se g sandtraps while cl	lug. Du volum a water eaning	mped Unable e clean. P 1200 m out	to run in bent mo laced HiVis pill. . P/O to 1145 m.	REMARI otor assembly. RIH OE . P/O to 1350 m. Placed Reversered out. WOC.	<b>(S</b> DP to 1450 m an Kick Off Plug#2	d circulated l 2 from 1350 i	hole m to
	t 24 Hrs MUD V(		<b>N</b>		ANALYSIS (%)	lb/bbl) Mu		HYDRAIII	ICS

TIME DISTR La	ast 24 Hrs	MUD VOL ACCTG	i (bbl)	SOLIDS ANALY	SIS (%/Ib/bbl)	MUD RHEOL	OGY & HYI	DRAULICS
Rig Up/Service	1.5	Oil Added	0	NaCl	.3/ 4.1	np/na Values		
Drilling		Water Added	182	KCl	2.9/26.4	kp/ka (lb•s^n/100f	t <sup>2</sup> )	
Tripping	13	Mud Received	0	Low Gravity	4.8/43.5	Bit Loss (psi / %)		
Non-Productive Tim		Dumped	42	Bentonite	1.1/9.8	Bit HHP (hhp/HS	SI)	
Condition Hole	2	Shakers	0	Drill Solids	3.1/28.6	Bit Jet Vel (m/s)		
Wait on Cement	7.5	Formation	0	Weight Material	5./ 73.1	Ann. Vel DP (m/s)		
		Other	0	Chemical Conc	- / 5.	Ann. Vel DC (m/s)		
		Desilter	0	Inert/React	1.9578	Crit Vel DP (m/s)		
				Average SG	3.42	Crit Vel DC (m/s)		
				Carb/BiCarb (m mole/	L) 1./ 5.			
M-I EN	GR / PHOI	NE	<b>RIG PHONE</b>	WAREHOU	JSE PHONE	DAILY COST	CUMUL	ATIVE COST
Jasdeep Singh								
Kelvin Leong		08-9302 3790				\$ 7.692.91	\$	37.336.96

						W	ATER-E	3AS		RE		lo. 4	
Mi SI	NA	CO				Date	24/05/200	5	Depth/TVD		1662 m / 1	627 m	-
					Spud	Date	20/05/200	5	Mud Type		KCI/Poly	mer ~	
Operator :	Santos I te	4			water D	eptn	/1 Field/A	Iroa	• Vic P 44		Drillin	g	
Report For :	Chris Wis	a e/ Jeff Tho	mson				Descrip	tion	Gas Producer				
Well Name :	Casino 4 I	DW					Loca	tion	Otway Basin				
Contractor :	Diamond	Offshore					M-I Well	No.					
Report For :	Paul Bake	r/Mike Pra	znik										
DRILLING A	SSEMBL	.Y	CAS	ING	MUD	VOLU	IME (bbl)		CI	RCULA	TION DAT	4	
Bit Size 12.25 in H	ughes Trico	ne	Surfa	ce		H	ole		Pump Make O	ILWELI	1700PT NAT	TIONAL 12	<u>P-16(</u>
Nozzles 22x3 / 1/3	32" Long	30 rth	<u>)in (a)13/m (</u>	<u>13/TVD)</u>	832	$\frac{8(10t)}{40tiv}$	$\frac{1}{640.6(B1t)}$		Pump Size	$\frac{6.5 X}{5.016}$	12.1n	$\frac{6.5 \text{ X} 12.1}{5.016 \text{ col}/s}$	<u>in</u>
5 in	1095	m 13.3	75in @742n	n (742TVD)		41	42		Pump stk/min	90@	97%	90@97%	<u>, , , , , , , , , , , , , , , , , , , </u>
Drill Pipe Size	Leng	th	Intermed	diate	Tota	al Circ	ulating Vol		Flo	ow Rate	903	gal/min	<u>.</u>
5 in	129	m in	@1255m (1	255TVD)		10	54.7		Bott	oms Up	26.6 min	4790 st	tk
Drill Collar Size	Leng	gth F	Production	or Liner		In St	orage		Total Ci	rc Time	49.1 mi	<u>1 8830 s</u>	tk
8 in	27 r	n D DDODE	in @m (1	TVD)		- 9.	34		Circulating I	ressure			
Samula From	WU	DPROPE	RIIES	.00 Dit /	2@00.00	_		D	PRODUC	15 03	SED LAST 2	4 115	Amat
Flow Line Temp		°C	<u>35</u>	.uu Pit.	JU00.00	-		P C	TRIC ACID		25 KG	BG	18
Depth/TVD		m	1207/12	07 16	62/1627			S	ODIUM Bicarbon	ate	25 KG	BG	18
Mud Weight	-	sp.gr.	1.27@30	°C 1.2	8@40°C					-		-	
Funnel Viscosity		s/qt	60		65	_		$\vdash$					
Rheology Temp		°C	<u>49</u> 67/51		49	_		$\vdash$					
R200/R100			43/32		46/35	-		$\vdash$					
R6/R3			12/9		13/11								
PV		cP	16		20								
YP 10./10/20C.1		$\frac{lb/100ft^2}{lb/10002}$	35	( 11	35	_		_					
API Fluid Loss		$\frac{10/10011^{-1}}{cc/30}$ min	3.4	0 11	34	_							
HTHP FL Temp		cc/30 min	5.1		5.1	-							
Cake API/HTHP		1/32"	1/		1/								
Solids		%Vol	12		13	_							
Oil/Water Sand		%Vol	/88 TP		/8/ tr	_		G			Sizo		Ir
MBT		lb/bbl	12		15	-		V	SM Shaker 1		$\frac{312e}{2 \times 200 \times 2 \times 10^{-2}}$	80 4	5
pH			10.5		8.4			V	SM Shaker 2		2 x200, 2 x1	.65 .5	5
Alkal Mud (Pm)			0.5		0.0	_		V	<u>SM Shaker 3</u>		2 x200, 2 x1	.65 .5	5
Pt/Mt Chlaridaa		m c /1	0.25/5	0.	<u>.05/3.8</u>	_		V	SM Shaker 4		4 x200		<u>&gt;</u>
Hardness Ca		mg/1	1600		1200	-		Г	-Silter			(	0
		<i>B</i> /											-
KC1		% Wt	8		8	_							
IDCAP		ррь	3		3	_		-					
									MUD PRO	PERT	<u>Y SPECIFIC</u>	ATIONS	
						-		$\vdash$	Visco	sity	50-	70	
									Filt	rate	<	5	
R Dumned Sandtran Ti	LEMARKS	5 AND IR	<b>EAIMEN</b> ble Citric an	d Bicarh for	cement	Waiting	on cement P	recour	REMAR e tested BOP Ma	de un 12	25" side track	RHA RIH	Soft
contamination. Took	out 155 bbl	active mud	into Pit 2 and	d diluted sys	tem o	emt obs	erved at 1176	m and	hard cmt at 1199	m. Drill	ed ahead to kic	k off to 126	0 m.
with premix to cut m	ud weight fi	rom 10.8 to 1	0.6 ppg. Mu	id severely	1	Unable	to kick off.						
contaminated with ce	ment. Dum	ping and dilu	iting to conti	rol viscosity.									
TIME DISTR La	ast 24 Hrs	MUD VC	OL ACCTG	(bbl)	SO	LIDS A	ANALYSIS (	%/Ib/k	bl) MU	D RHEC	LOGY & HYI	DRAULICS	3
Drilling	5.5	Water Added	ed	0	KCl			<u>.3/</u> 2.9/	<u>3.0 np/na V</u> 26.7 kp/ka (1	aiues b•s^n/10	0ft²)	4.672/5	323
Tripping	6.5	Mud Receiv	ved	0	Low G	ravity		4./	36.5 Bit Loss	(psi / %	) )	34509 / 15	500.4
Condition Hole		Dumped Shakers		<u> </u>	Drill Sector	nte olids		1.1	<u>9.6 Bit HHP</u> 22. Bit Jet V	<u>(hhp/l</u> el (m/s)	151)	18181 / 1: 581	54.3
Wait on Cement	8.5	Formation		0	Weight	Mater	ial	4.7/	69.6 Ann. Vel	DP (m/s	<u>;)</u>	.9	
		Other		0	Chemic Inert/P	<u>cal Con</u> eact	c	- 16	/ 5. Ann. Vel 266 Crit Vel	$\frac{DC (m/s)}{DP (m/s)}$	<u>5)</u>	1.31	
		Destitut		v	Averag	e SG		3.	47 Crit Vel	DC (m/s)	)	2	
					Carb/B	iCarb (	m mole/L)	4.7	//.7 ECD @ 1	1260 (sp	o.gr.)	1.3	
M-I EN	GR / PHOI	NE		RIG PHON	IE	WA	REHOUSE F	PHON		OST	CUMUL	ATIVE CO	ST
Kelvin Leong		08-9302 3	790						\$ 853.7	4	\$	38,190.70	

						WAT	ER-E	BASE	D MUD	REP	ORT N	lo. 5	5
Mi S\	NAC					Date 2	5/05/200	)5 D	epth/TVD	1	662 m / 1	627 m	
					Spud	Date 2	0/05/200	)5	Mud Type		KCI/Poly	mer	
				V	Vater D	epth	71		Activity		WOO		
Operator :	Santos Ltd						Field/A	Area : N	/ic P 44				
Report For :	Chris Wise/ Jef	f Thoms	on				Descrip	tion: C	Bas Producer				
Well Name :	Casino 4 DW						Loca	tion: C	Otway Basin				
Contractor :	Diamond Offsh	nore					N-I Well	No. :					
Report For :	Paul Baker/Mil	ce Prazni	k										
DRILLING A	SSEMBLY		CASING		MUD	VOLUME	E (bbl)	)	CII	RCULAT	ION DAT	4	
Bit Size 12.25 in Hu	ughes Tricone		Surface			Hole		P	ump Make O	ILWELL 1	700PT NA	ΓΙΟΝΑΙ	. 12P-16(
Nozzles 22x3 / 1/3	2"	30in	@137m (137T	'VD)		868.7			Pump Size	6.5 X 12	2.in	6.5 X	12.in
Drill Pipe Size	Length	10.055	Intermediate			Active P	its	D	Pump Cap	<u>5.016 g</u>	al/stk :	<u>5.016 g</u>	al/stk
3 In Duill Dine Cine	 Lanath	13.3/51	<u>in (a) /42m ( /4</u>	21VD)	Tat	<u>539.3</u>	tine Val	Pur	np stk/min	90( <i>a</i> )97	/%	<u>90(a)9</u>	/%
5 in	120 m	in @	1255m (1255T	WD)	100	ai Circuia 530.3	ung voi		 Rotte	ome Un	<u>903</u>	gai/mi 0 stl	11 7
Drill Collar Size	Length	Pro	$\frac{125511}{12551}$	ner		In Stora	ge		Total Ci	rc Time	25.1 mi	<u> </u>	5 stk
8 in	27 m	110	in @m (TVD)	ner		885	50		Circulating P	ressure	23	$\frac{1}{00}$ nsi	J Str
0	MUD PR	OPERT	TIES			000			PRODUC	CTS USE	D LAST 2	4 HRS	
Sample From		P	it 3@15.00	Pit 3	@04.30			Prod	lucts		Siz	ve 🛛	Amt
Flow Line Temp		°C	1000010.000	1.00	(0)0			DUO	-VIS		25 KC	i BG	12
Depth/TVD		m	1662/1627	166	2/1627			OS-1	· · · · · · · · · · · · · · · · · · ·		25 KC	6 BG	6
Mud Weight	S	p.gr. 1	.27@30°C	1.27	@30°C			POL	YPAC UL		25 KC	BG	16
Funnel Viscosity		s/qt	90		84			IDC/	AP D SHALE I	NHIBITO	R 25 KC	BG	20
Rheology Temp		°C	49		49			MI B	AR (Bulk)		1 MT	BG	9
R600/R300			70/53	7	0/52	_							
R200/R100			45/34	4	3/33	_							
<u>R6/R3</u>		. D	12/11	1	2/10	_							
	115/1	CP 00ft2	1/		24								
$\frac{1}{10s/10m/30m}$ Gel	10/1 1b/1	0011	18/50/51	11	<u>34</u> /36/38	_							
API Fluid Loss	10/1	) min	4	11,	38								
HTHP FL Temp	cc/30	) min	•		5.0								
Cake API/HTHP	1	1/32"	1/		1/								
Solids	0	%Vol	12		11								
Oil/Water	9	6Vol	/88		/89								
Sand	0	6Vol	TR		tr			SOL	IDS EQUIP	)	Size		Hr
MBT	1	b/bbl	12		12.5			VSN	<u>1 Shaker 1</u>	2	2 x200, 2 x	180	3
pH			11.5		11.8			VSN	<u>A Shaker 2</u>	2	2 x200, 2 x	165	3
Alkal Mud (Pm)			3	0.	1.2			VSN	A Shaker 3	2	<u>4 v200, 2 X</u>	165	3
PI/MI Chlorides		ma/1	47000	0.4	<u>+3/3.8</u> 6000	_		Cent	rifuge		4 X200		<u> </u>
Hardness Ca		mg/l	640	1	000	-		D-Si	ilter				0
Hurditess eu		mg/1	010		000			0.01					Ū.
KC1	0	% Wt	8		8								
IDCAP		ppb	3		3								
									MUD PRO	PERIY	SPECIFIC		IS
									Wei	ght	1.26-	1.28	
				-		_			V ISCOS	sity		5	
									гни	ale		5	
R	FMARKS AN		TMENT						REMAR	KS			
Dumped 105bbl ceme	ent contaminated	mud from	active and tor	pped up	with (	Circulated I	bottoms u	o and POF	I. RIH. Pumpe	d hi vis pill	and cement	plug at	
220bbl premix from p	oits 1 & 5 to redu	ce cement	contamination	n. Dump	ed 1	265-1100	n. Pulled	out to 104	0 m and revers	e circulated	l. WOC. Me	anwhile	made up
returns during reverse	e out. Cleaned out	t Header E	Box.	-	1	3HA etc.							_
			ACCTC (	<b>L L I</b>				0/ /16 /66 1					100
Rig Up/Service	ast 24 Hrs Mi		ACCIG (	<u>(Idd</u>	NaCl	LIDS ANA	ALYSIS (	(IDD/DDI)	MUL np/na V	J RHEUL	OGY&HY	JRAUL	ics
Drilling	Wate	er Added		200	KCl			<u>2.9/26.</u>	$7 \frac{kp}{ka}$ (ll	b•s^n/100ft	.2)		
Tripping	6 Mud	Received		0	Low G	ravity		4./ 36.5	5 Bit Loss	(psi / %)	T)		
Non-Productive Tim	1 Dum	ped		105	Benton Drill C	nte plids		1.1/9.6	Bit HHP Bit Lat V	<u>(hhp / HS</u>	1)		
Wait on Cement	9 Form	nation		0	Weight	Material		4.7/ 69	6 Ann. Vel	DP(m/s)			
Cementing	3 Othe	r		0	Chemic	cal Conc		- / 5.	Ann. Vel	DC (m/s)			
	Desi	lter		0	Inert/R	eact		1.6266	Crit Vel I	$\frac{DP(m/s)}{DC(m/s)}$			
					Carh/R	iCarb (m n	nole/L)	<u> </u>	Cin vel I	JC (III/S)			
M-I FN	GR / PHONE		RIG	PHON	E	WARF	HOUSE	HONF		OST	CUMU		COST
Jasdeep Singh					_						- enret		
Kelvin Leong	08-9	9302 3790	)						\$ 11,36	1.44	\$	49,552.1	14

						WA	TER-I	BAS	SED	MUD	REP	ORT	No. (	6
Mí SV	NAC					Date	26/05/20	05	Dept	h/TVD	1	662 m /	1627 m	
					Spud	Date	20/05/20	05	Muc	d Type		KCI/Po	lymer	
Operators	Cautaa T 44			V	Vater D	Depth	71 Field/	A #0.0				Drilli	ng	
Beport For : (	Santos Lta Chris Wise/ Ieff	fThomso	n				Descrir	Area	· VIC P	' 44 Producer				
Well Name : (	Casino 4 DW	1 11011150	11				Loca	ation	: Otwa	v Basin				
Contractor :	Diamond Offsh	ore					M-I Wel	I No.		y Dusin				
Report For : 1	Ray Breaud/Mil	ke Prazni	k											
DRILLING AS	SSEMBLY		CASING		MUD	VOLU	ME (bbl	l)		CII	RCULAT	ION DA	ГА	
Bit Size 12.25 in Hu	ghes Tricone		Surface			He	ole		Pump	Make O	ILWELL 1	1700PT N	ATIONAL	L 12P-16(
Nozzles 22x3 / 1/32	2" Length	301n (a	<u>137m (1371)</u> ptermediate	/D)	830	$\frac{1(1 \text{ ot })}{4 \text{ ot ive}}$	/ <u>583.3(Bit)</u> a Dite	)	Pum	ip Size	<u>6.5 X I</u>	2.1n	$\frac{6.5 \text{ X}}{5.016 \text{ c}}$	12.1n
5 in	899 m	13 375in	@742m (742	TVD)		559	9 9		Pump s	tk/min	<u> </u>	7%	<u> </u>	7%
Drill Pipe Size	Length	Iı	ntermediate		Tot	al Circu	lating Vol		p -	Flo	w Rate	90	)3 gal/m	in
5 in	194 m	in @12	255m (1255T)	/D)		114	3.2			Botte	oms Up	24.4 m	in 438	37 stk
Drill Collar Size	Length	Prod	uction or Lir	ler		In Sto	orage		Ciro	Total Ci	re Time	53.2 n	$\frac{111}{2200}$ pgi	/1 stk
0 111			FS			00	10				TS USF		24 HRS	\$
Sample From	MODIN	Pit	3@21:30	Pit 3	@07:30	1		Р	roducts	ICODOC			ize	Amt
Flow Line Temp		°C	35		00,100			C	CITRIC A	ACID		25 k	G BG	30
Depth/TVD		m 1	133/1133	166	2/1627			Γ	DUO-VIS	5		25 K	G BG	6
Mud Weight	s	<u>o.gr.</u> 1.2	<u>27(a)35°C</u>	1.27	<u>(a)30°C</u>	_		S	SODIUM	Bicarbon	ate	25 k	G BG	29
Rheology Temp		°C	49		49	_		⊢						
R600/R300			78/60	7	2/53									
R200/R100			52/39	4	5/34									
R6/R3		D	16/14	11	$\frac{2/10}{10}$									
PV VP	1b/10	0ff <sup>2</sup>	<u>18</u> <u>4</u> 2		<u>19</u> 34	_		_						
10s/10m/30m Gel	10/10	00ft <sup>2</sup> 1	15/32/33	10/	/16/18									
API Fluid Loss	cc/30	min	4.4		3.6									
HTHP FL Temp	cc/30	min	1/		1/	_								
Cake API/HTHP Solids	0/2	/32" Vol	1/		1/	_								
Oil/Water	/0	Vol	/88		/88	_								
Sand	%	Vol			tr			S	SOLIDS	6 EQUIP	)	Size		Hr
MBT	lb	/bbl	12		10			\ \	VSM Sh	aker 1		1x200, 3 2	<u>x180</u>	10
pH Allcal Mud (Dm)			$\frac{11}{20}$	1	<u>0.1</u> 1.7			\ \	VSM Sh	aker 2		<u>2 x200, 2 :</u> 2 x200, 2 :	<u>x165</u>	10
Pf/Mf		0	2.9	0	3/2.9	_		\ \	VSM Sh	aker 4		$\frac{2 \times 200, 2}{2 \times 200}$	<u>x105</u> x180	10
Chlorides	1	ng/l	46000	4.	5000			Ċ	Centrifug	ge		<u> </u>	1100	0
Hardness Ca	1	ng/l	800	8	800			Γ	D-Silter	-				0
KC1	0/	W/+	Q		8			_						
IDCAP	/(	ppb	3		3	-								
		rr ·	-											
											DEDTV			10
									IVIL	JU PRO Wei	oht	SPECIFI 1 2	<u>CATIO</u> 6-1-28	15
										Viscos	sitv	5	0-1.28 0-70	
										Filt	ate		< 5	
RI Added citric acid and	EMARKS AND sodium bicarbona	<b>D TREA</b>	IMENT	ud while	e	WOC R	IH with mot	tor and	circulate	REMAR	<b>KS</b> I soft ceme	ent@ 1082	m/hard.ce	ment @
circulating riser volum	ne. Further added	Citric/Bica	arb while drill	ing cem	nent.	1145 m.	Drilled cem	ient to	1146 m a	ind kicked	off.	.nt@ 1002	in/nuru ee	ment @
Used 4 x 180 mesh sci	reens.			C										
TIME DISTR La	st 24 Hrs MU	D VOL A	CCTG (b	bl)	SC	LIDS A	NALYSIS	(%/lb/l	bbl)	MU	RHEOL	OGY & H	YDRAUL	ICS
Rig Up/Service	5.5 Oil A 5 Water	aaea Added		0	KCl			.3/	26.7	np/na V kp/ka (ll	aiues 5•s^n/100f	t²)	0.37	9/0.292 2/9.275
Tripping Non Dr. 1. (1977)	12 Mud	Received		0	Low G	iravity		4./	36.7	Bit Loss	(psi / %)	, D	34509	/ 1500.4
Condition Hole	1.5 Shake	ers		23	Drill S	nte olids		1./	9.5	Bit HHP Bit Jet V	<u>(nnp / HS</u> el (m/s)	<u>)</u>	1818	1 / 154. <u>3</u> 581
Wait on Cement	Forma	ation		0	Weigh	t Materia	al	4.8/	69.9	Ann. Vel	<u>DP (m/s)</u>			.9
Cementing	Other Desilt	ter		0	Chemi Inert/R	cal Conc leact	>	- 16	/ 5. 5444	Ann. Vel Crit Vel I	$\frac{DC (m/s)}{DP (m/s)}$		1	2
	Desiti	.~4		~	Averag	ge SG		3	.47	Crit Vel I	$\frac{DC}{m/s}$			$\frac{\overline{2}}{2}$
					Carb/E	BiCarb (r	n mole/L)	8.	./ .4	ECD @ 1	146 (sp.g	gr.)	1	32
M-I ENG	K / PHONE		RIG	PHONE	=	WAF	KEHOUSE	PHON	IE	DAILY	OST	CUMU	LATIVE	COST
Jasaeep Singh Kelvin Leong	0.8 0	302 3790								\$ 2 774	26	¢	52 326	40
	00-7		I			1			1	Ψ <i>2</i> ,//Τ		4	22,220.	

						WA	ATER-E	BAS			RT No	. 1
	NA					Date	27/05/200	05	Depth/TVD	1182	m / 1182	m
					Spud	Date	27/05/200	05	Mud Type	КС	I/Polyme	r
Operator	Contos I td			V	vater D	eptn	/1 Field//	A roo :	Activity		Drilling	
Operator : Poport For :	Santos Liu Chris Wise	/Ieff Thor	ncon				Descrip	Area :	Gas Produces	-		
Well Name :	Casino 4 D	W2	115011				Loca	ation .	Otway Basin	L		
Contractor :	Diamond C	Offshore					M-I Well	I No. :	Otway Dashi			
Report For :	Ray Breau	d/Mike Pra	aznik									
DRILLING A	SSEMBLY	Y	CASING		MUD	VOLU	ME (bbl)	)	C	IRCULATION	DATA	
Bit Size 12.25 in Se	curity XL 12	20	Surface			Н	ole		Pump Make (	DILWELL 1700F	PT NATIO	NAL 12P-16(
Nozzles $3x22 / 1/3$	<u>2"</u>	1.	Total States			59	9.4		Pump Size	<u>6 X 12.in</u>	6.5	X 12.in
Drill Pipe Size	US3 n	n	Intermediate			Activ	e Pits 9.6	I	Pump Cap	<u>4.2/4 gal/sti</u>	<u>K 5.01</u> 02	6 gal/stk
Drill Pipe Size	Lengt	h	Intermediate	:	Tota	al Circ	ulating Vol	- 1	Fl	low Rate	808 ga	l/min
5 in	194 n	n				10	)79		Bot	toms Up 2	28 min 4	839 stk
Drill Collar Size	Lengt	h F	Production or Li	iner		In St	orage		Total C	irc Time 5	6.1 min	9703 stk
8 in	55 m					92	20		Circulating	Pressure	2460	
Sampla From	MUD	PROPE	RIIES	Dit 2	@08.20			D	PRODU	CIS USED L	A51 24 F	IKS
Flow Line Temp		°C	<u>10wille(<i>u</i>)22.0</u> 34	FIL 3	$\frac{(u)08.50}{47}$			C	ITRIC ACID		25 KG BC	$\frac{Am}{4}$
Depth/TVD		m	1167/1167	116	0/1156			D	UO-VIS		25 KG BC	j 7
Mud Weight		sp.gr.	1.27@32°C	1.26	@40°C			SC	ODIUM BICAR	BONATE	25 KG BC	й <u>4</u>
Funnel Viscosity		s/qt	60		54	_		II	DCAP D		25 KG BC	i 17
Rheology Temp		<b>°</b> C	49	7	49			M	II BAR (Bulk)		I MT BG	5
R200/R100			46/36	5	0/39							
R6/R3			14/10	1	5/12							
PV		cP	16		17							
YP 10a/10m/20m Cal		$\frac{1b}{100ft^2}$	37	12	$\frac{42}{10/21}$							
API Fluid Loss	C	$\frac{10}{10011^2}$	4.2	13	4 2							
HTHP FL Temp	C	$c/30 \min$	7.2		7.2							
Cake API/HTHP		1/32"	1/		1/							
Solids		%Vol	13		11							
Oil/Water		%V01	/8/		/89 tr			c			Sizo	Ur.
MBT		lb/bbl	10		10			V	SM Shaker 1		5126	0
pH		10/001	10.8	-	10.8			V	SM Shaker 2			0
Alkal Mud (Pm)			1.8		1.4			V	SM Shaker 3			0
Pf/Mf Chlaridan		···· ~ /1	0.3/3.2	0.	3/3.5			V	SM Shaker 4			0
Hardness Ca		mg/1 mg/1	920	4	<u>3000</u> 920				-Silter			0
That all 0.55 Cu		III <u>G</u> / I	)20		120				Siller			0
KCl		%	7.9		7.5							
IDCAP		ppb	3.0		2.94							
LSRV 0.3rpm												
										OPERTY SPE	CIFICAT	IONS
									We	eight	10.5	
									Visco	osity	6rpm > 1	6
						_			Fil	trate	<5	
R	EMARKS		FATMENT						REMA	RKS		
Dumped 100bbl mud	from active	pit along w	ith 30 bbl DW sw	veep to re	educe 3	30 bbl I	OW was pump	ped to c	lear up the bit. T	This was dumped	on return to	the surface.
cement affected mud.	Treated mud	d with citric	e acid, sodium bic	arbonate	e, S	Slide dr	illed to maxir	mise kie	ckoff angle. POH	I. Picked up BHA	A. RIH. Slip	and cut line.
DUOVIS and IDCAP	to address c	ement, visc	cosity and emulsif	fication.	I	RIH to	1157m and co	ontinue	d sliding to 1182	m.	11	
					ſ	NOTE: Forward	on daily rend	well cos	st restarts for this	s well. Previous v	vell costs ar	e not carried
					1	orwaru	on daily topo	011.				
TIME DISTR La	ast 24 Hrs	MUD VC	DL ACCTG (	bbl)	SO	LIDS A	ANALYSIS (	(%/lb/b	bl) MU	ID RHEOLOGY	' & HYDRA	
Drilling	11.5	Water Adde	ed	52	KCl			2.1/	∠3.0 np/na V . kp/ka (	lb•s^n/100ft <sup>2</sup> )	5	267/5.880
Tripping	9.5	Mud Receiv	ved	2036	Low G	ravity		7.7/	70. Bit Los	s (psi / %)		514/20.9
Non-Productive Tim		Dumped Shakers		100	Benton Drill Se	<u>ite</u> olids		.3/	<u>5.1 Bit HH</u> 61.9 Bit Iet V	<u>r (hhp / HSI)</u> Vel (m/s)		242/2.1 71
	]	Evaporation	ı	Ŏ	Weight	Materi	al	3.2/	47.1 Ann. Ve	el DP (m/s)		.8
		Centrifuge Formation		0	Chemic Inert/R	cal Con eact	с	- /	<u>5.</u> Ann. Ve 031 Crit Vel	$\frac{DC (m/s)}{DP (m/s)}$		1.17

 Formation
 0
 Inert/React
 5.5031
 Crit Vel DP (m/s)
 2

 Left in Hole
 0
 Average SG
 3.07
 Crit Vel DC (m/s)
 2

 Other
 0
 Carb/BiCarb (m mole/L)
 5.4/.4
 ECD @ 1182 (sp.gr.)
 1.31

 M-I ENGR / PHONE
 RIG PHONE
 WAREHOUSE PHONE
 DAILY COST
 CUMULATIVE COST

 Gordon Howie
 (08) 9302 3790
 \$ 7,027.13
 \$ 7,027.13
 \$ 7,027.13

						W	ATER-	BAS	ED MUD	REP	ORT	No.	2
MIS	MA	CO				Date	28/05/20	05	Depth/TVD		1274 m	/ <mark>1272</mark> m	
					Spud	Date	27/05/20	05	Mud Type		KCI/P	olymer	
	Q	1			Water [	Depth	71		Activity		R	IH	
Operator :	Santos Ltd	. /I ££ Th					Field/	Area :	Vic P44				
Woll Name :	Chris Wise	e/Jeff Inon	ison				Descrip	ption :	Gas Producer				
Contractor :	Diamond (	) w 2 Offshore							Otway Basin				
Report For :	Ray Breau	d/Mike Pra	znik										
DRILLING A	ASSEMBL	Y	CAS	ING	MUD	VOLU	ME (bb)	D	CIF	RCULA		ATA	
Bit Size 12.25 in S	ecurity FS26	63	Surfa	ce		Н	ole	-/	Pump Make O	ILWELL	1700PT	NATIONA	L 12P-16(
Nozzles 9x16 / 1/2	32"				647	7.2(Tot)	/616.6(Bit)	)	Pump Size	6 X 12	2.in	6.5 X	12.in
Drill Pipe Size	Leng	th	Interme	diate		Activ	e Pits		Pump Cap	0100	gal/stk	000	gal/stk
5 in Drill Ding Size	989 i	n th	Intermo	diata	Та	75 tal Cira	5.8 ulating Vol	P	ump stk/min	81(a)9	/%	92(a)	97%
5 in	194 r	n	meme	ulate	10		maning voi 72.4		Botto	oms Un		gai/II	
Drill Collar Size	Leng	th P	roduction	or Liner		In St	orage		Total Cir	rc Time			
in	m					52	25		Circulating P	ressure			
	MUE	) PROPE	RTIES						PRODUC	CTS USI	ED LAS	T 24 HR	S
Sample From		20	Active@2	0.00 F	L@04:30			Pr	oducts		25	Size	Amt
Flow Line Temp		°C m	1274/12	74 1'	$\frac{46}{220/1210}$			DU	JO-VIS	ONATE	25	KG BG	1
Mud Weight		sn or	$\frac{12/4}{12}$	$\frac{74}{10}$	220/1219 27@38°C	_		M	BAR (Bulk)	UNATE	23	MT BG	3
Funnel Viscosity		s/at	53		55	$\neg$		141	Durk)		1		5
Rheology Temp		°Ĉ	49		49								
R600/R300			67/52		81/63								
R200/R100			45/35		53/42								
K0/K3		сD	14/11		10/13	_							
YP		$\frac{cr}{1b/100ft^2}$	37		45	_							
10s/10m/30m Gel		lb/100ft <sup>2</sup>	12/18/2	1 1	5/22/27								
API Fluid Loss	(	cc/30 min	3.8		4.0								
HTHP FL Temp	(	$\frac{cc}{30} \min \frac{1}{20}$	1/		1/								
Cake API/HTHP Solida		1/32" 9/Wol	1/		1/								
Oil/Water		%Vol	/88		/88	_							
Sand		%Vol	tr		tr			SC	OLIDS EQUIP	)	Size	9	Hr
MBT		lb/bbl	10		10			VS	SM Shaker 1		1x200, 3	3x180	15
pH			10.0		10.2			VS	SM Shaker 2		2x200, 2	2x165	15
Alkal Mud (Pm)			0.8	~	$\frac{0.8}{0.2/2.7}$	_		VS	SM Shaker 3		$\frac{2x200, 2}{2x200, 2}$	$\frac{2 \times 165}{2 \times 180}$	15
Chlorides		mg/l	<u> </u>		<u>0.2/3.7</u> 47000				ontrifuge		2X200, 2	2X180	15
Hardness Ca		mg/l	960	,	1000			D-	Silter				1
KCl		%	8		8								
IDCAP I SRV 0.3rpm		рро	3		3	_							
LSKV 0.51pm													
									MUD PRO	PERTY	SPECIF	ICATIO	NS
									Wei	ght		10.5	
									Viscos	sity	6r	pm > 16	
									FIIU	ale		<5	
F	REMARKS	AND TR	EATMEN	т					REMAR	ĸs			
Treated mud with Sc	odium Bicarb	onate and D	uovis to add	lress the res	idual	Slide dr	illed ahead t	o 1274m	POH. P/U BHA	with Geo	Pilot. Nov	v RIH.	
cement effects and rl	heology. Ran	desilter for	1 hour. Dur	nped mud f	rom	Waiting	on improve	ment in v	weather to receive	e barite, di	rill water f	rom supply	y vessels
shaker header box.	for coroons					standing	g by rig.						
Used 2 new 160 shar	Kei sereens.												
TIME DISTR L	ast 24 Hrs.	MUD VO	L ACCTG	(bbl)	NaCl	ULIDS A	ANALYSIS	(%/Ib/bl	$\frac{MUE}{24.4}$	J RHEOL	LOGY & I		LICS
Drilling	11	Water Adde	d	1	KCl			.21 2	<u>kp/ka</u> (lt	<u>o•s^n/10</u> 0	ft²)	5.67	3/6.850
Tripping Non-Productive Time	12	Mud Receiv	red	0	Low C	bravity		5./4	5.6 Bit Loss	(psi / %)	SD -		/1
Condition Hole	1	Shakers		0	Drill S	Solids		3.8/ 3	4.5 Bit Jet V	$\frac{(mp/H)}{el (m/s)}$	51)		/ 1
		Evaporation	l	0	Weigh	t Materi	al	4.8/7	0.7 Ann. Vel	DP (m/s)			
		Formation		0	Inert/I	ical Con React	с	- /	S. Ann. Vel     Grit Vel I	<u>DC (m/s)</u> DP (m/s)			2
		Left in Hole	;	0	Avera	ge SG		3.3	8 Crit Vel I	DC (m/s)			2
		Other		42	Carb/l	31Carb (	m mole/L)	3.9/	2. ECD @ 1	<u>210 (sp.</u>	gr.)		1.28
M-I EN	IGR / PHON	IE		RIG PHO	NE	WA	REHOUSE	PHONE		OST	CUM	ULATIVE	COST
Gordon Howie Kelvin Leong		(08) 9302 37	790						\$ 952.5	2		\$ 7.979 F	5

						WA	ATER-	BAS		D REF	PORT I	No. (	3
Mí 5\	NACI				C	)ate	29/05/20	05	Depth/TVD		1763 m / 1	662 m	
					Spud D	)ate	27/05/20	05	Mud Type		KCI/Poly	mer	
				N	later De	pth	71		Activity	1	Drillin	g	
Operator :	Santos Ltd						Field/	Area	Vic P44				
Report For :	Chris Wise/Jeff	Thomso	on				Descrip	ption	: Gas Produce	er			
Well Name :	Casino 4 DW2						Loca	ation	: Otway Basin	n			
Contractor :	Diamond Offsho	ore					M-I Wel	l No.	:				
Report For :	Ray Breaud/Mik	e Prazn	nik										
	SSEMBLY		CASING		MUD V	OLU	ME (bbl	l)	C		TION DAT	Α	
Bit Size 12.25 in Se	curity FS2663		Surface			H	ole		Pump Make	OILWELL	1700PT NA	TIONAL	L 12P-16(
Nozzles $9x16 / 1/3$	2" T		T			86	9.2		Pump Size	6 X I	2.1n	$\frac{6.5 \text{ X}}{5.01(1)}$	12.1n
Drill Pipe Size	Length		Intermediate			ACTIV	e Pits		Pump Cap	4.274	gai/stk	<u>5.016 g</u>	sal/stk
J III Drill Dine Size	I 342 III Length		Intermediate		Total		0.0 ulating Vol		Pump stk/mm	T04( <i>u</i> )	9/70 014	a al/m	in
5 in	194 m		memetiate		Tota	13	ulating vol		Bo	ttoms Un	35.4 mi	$\frac{1}{1} \frac{gal/m}{701}$	III 19 stk
Drill Collar Size	Length	Pro	duction or Lin	er		In Ste	orage		Total C	Circ Time	63.6 mir	$\frac{1}{1}$ 125	583 stk
in	m	110		•••		14	10		Circulating	Pressure	31	00 psi	00 000
	MUD PRO	OPERT	TIES						PRODI	JCTS US	ED LAST 2	24 HRS	5
Sample From		lo	wline@22.0	lowlin	ne@15:0			Р	roducts		Siz	ze	Amt
Flow Line Temp		°C	53		52			Γ	DUO-VIS		25 KC	3 BG	5
Depth/TVD		m	1735/1650	1589	9/1560			Π	DCAP D		25 KC	3 BG	5
Mud Weight	sp	.gr. 1	.29@50°C	1.29(	<u>a)48°C</u>	_		Ν	II BAR (Bulk)		1 MT	BG	1
Funnel Viscosity		s/qt	54		57	4							
Rheology Temp		°C	49		49	-		$\vdash$					
R600/R300			/4/56	/(	<u>5/58</u>	-							
R200/R100 P6/P3			4//3/	<u> </u>	5/12	-							
PV		cP	13/11	10	18	-							
YP	1b/10	0ft <sup>2</sup>	38		40								
10s/10m/30m Gel	lb/10	0ft <sup>2</sup>	13/20/25	13/	21/26								
API Fluid Loss	cc/30	nin	4.2	4	4.2								
HTHP FL Temp	cc/30	nin											
Cake API/HTHP	1/	32"	1/		1/								
Solids	<u>%</u>	Vol	14		14	_							
Oil/water	<u> </u>	Vol	/86	1	/80 tr	-				ID	Sizo		L,
MRT	/0 	/bbl	12.5	1	2.5	-		1	/SM Shaker 1		<u> </u>		24
pH	10/	001	8.9	(	2.0			Ň	/SM Shaker 2		4x200		24
Alkal Mud (Pm)			0.5	(	).5			V	/SM Shaker 3		4x200		24
Pf/Mf			0.1/3.3	0.1	1/3.3			V	/SM Shaker 4		2x200, 2x1	80	24
Chlorides	n	ng/l	47000	47	<u>2000</u>	_		C	Centrifuge				0
Hardness Ca	n	ng/I	1200	1.	280	-		L	D-Silter				0
KC1		%	8		8	-							
IDCAP		dad	3		3								
LSRV 0.3rpm													-
						-					SPECIFIC		15
						-			Visc	cosity	6rnm	> 16	
									Fi	ltrate	<	5	
R	EMARKS AND	TREA	TMENT	~					REMA	RKS			
Treated mud with DU	OVIS and IDCAP	to main	tain properties.	Screene	d up W	ashed	down the la	st two s	stands and drilled	d ahead at $3$	$\frac{5m}{hr}$ to $1762$	5m. Marchie	
snakers to maintain n	nud weight at 10.8	ppg.				umpec	1 195 DDIS UP	ipumpa	Cl bring from Da	prepare for i	lor	I/naCI bi	rine.
Received 1050 bbl K(	<sup>~</sup> l/NaCl brine from	Pacific	Wrangler		K	eceive	u 1050 001 F	CI/INdv		cific wrang	,101		
			windigiei										
TIME DISTR La	ast 24 Hrs MU	D VOL	ACCTG (bl	bl)	SOL	IDS A	NALYSIS	(%/lb/l	obl) M	UD RHEOI	LOGY & HY	DRAUL	LICS
Rig Up/Service	Oil Ac	Ided		0	NaCl			2.1/	23.9 np/na	Values	ft2)	0.40	2/0.346
Tripping	Z5 water Mud F	Leceived		0	Low Gr	wity		8 4/	76.6 Bit Lo	$\frac{10^{-5} \text{ ii} / 100}{\text{ss} (\text{psi} / \%)}$	11 J	4.00	56/1
Non-Productive Tim	Dump	ed	1	95	Bentonit	e		.6/	5.1 Bit HI	IP (hhp / H	SI)	14	42/1
Condition Hole	Shake	rstier	2	06	Drill Sol	lids Met	al	7.3/	66.5 Bit Jet	Vel (m/s)		<u> </u>	51
Keanning	I Evapo Centri	rauon fuge		<u> </u>	Chemics	al Con	ai C	3.3/	<u> </u>	el DP (m/s)	)	1	1.33
	Forma	tion		0	Inert/Rea	act		4.7	302 Crit Ve	el DP (m/s)		1	2
	Left in Hole			0	Average Carb/Big	SG Carb (	m mole/L)	3	07 Crit Ve	$\frac{1 \text{ DC} (\text{m/s})}{1763}$	or)	+	2
	GR / PHONE		RIG		Cuto/Di		REHOUSE			<u>, 1705 (sp.</u> COST	CUMU		COST
Gordon Howie					-						JONICE		
Kelvin Leong	(08) 93	02 3790							\$ 250	69 85	\$	10 549	50

				W	ATER-B	ASED MUD R	EPOR	T No. 4	4
Mi SM				Date	30/05/2005	Depth/TVD	1998	n / 1743 m	
				Spud Date	27/05/2005	Mud Type	KCI	Polymer	
			V	Vater Depth	71	Activity	Backrea	m out of h	ole
<b>Operator</b> : Sa	ntos Ltd			-	Field/Ar	ea: Vic P44			
Report For : Ch	ris Wise/Jeff Tho	mson			Descriptio	on: Gas Producer			
Well Name : Ca	sino 4 DW2				Locatio	on: Otway Basin			
Contractor : Di	amond Offshore				M-I Well N	0. :			
Report For : Ra	v Breaud/Mike P	raznik							
	SFMBLY	CASING			IME (bbl)	CIRCI		ΔΤΔ	
Bit Size 12.25 in Secur	ty FS2663	Surface		HICE VOL	Hole	Pump Make OII W	FIL 1700P		[ 12P-16(
Nozzles $9x16 / 1/32"$	ny 1 52005	0in @137m (137TV	D)	9	76.6	Pump Size 6	X 12 in	65 X	12  in
Drill Pipe Size	Length	Intermediate	2)	Acti	ve Pits	Pump Cap 4.	274 gal/stk	5.016 s	al/stk
5 in	1777 m 13.	375in @742m (742T	VD)	56	52.4	Pump stk/min 10	02@97%		
Drill Pipe Size	Length	Intermediate	ĺ.	Total Cire	culating Vol	Flow F	Rate	938 gal/m	in
5 in	194 m			1	539	Bottoms	Up 38.	8 min 784	40 stk
Drill Collar Size	Length	Production or Line	er	In S	torage	Total Circ T	ime 68.	9 min 139	020 stk
in	m			1	01	Circulating Press	sure	3508 psi	
	MUD PROPI	RTIES				PRODUCTS	USED LA	<u>ST 24 HR</u>	<u>S</u>
Sample From		Pit 3@21.00	Pit 3	@05:00		Products		Size	Amt
Flow Line Temp	°C	55		50		CAUSTIC SODA		25 KG DM	3
Depth/TVD	m	1998/1743	181	0/1679		DEFOAM A		5 GA CN	1
Mud Weight	sp.gr.	1.29@48°C	1.28	@38°C		DUO-VIS		25 KG BG	9
Funnel Viscosity	s/qt	54		69		POLYPAC UL		25 KG BG	10
Rheology Temp	°C	49	0	49		IDCAP D		25 KG BG	6
R600/R300		/4/54	8	3/63		POTASSIUM HYDRO.	XIDE	<u>25 KG CN</u>	2
R200/R100		40/33	3	6/12		MI BAK (Bulk)		IMIBG	3
KO/KJ DV/	cD	20	1	20					
r v VP	1b/100ft <sup>2</sup>	34		<u>20</u> <u>43</u>					
10s/10m/30m Gel	10/100ft 1b/100ft <sup>2</sup>	14/27/29	13/	26/33					
API Fluid Loss	$\frac{10,1001}{\text{cc}/30 \text{ min}}$	46	15/	46					
HTHP FL Temp	cc/30 min								
Cake API/HTHP	1/32"	1/		1/					
Solids	%Vol	14		14					
Oil/Water	%Vol	/86		/86					
Sand	%Vol	tr		tr		SOLIDS EQUIP	S	ize	Hr
MBT	lb/bbl	12.5		12.5		VSM Shaker 1	42	200	24
pН		8.6		8.5		VSM Shaker 2	42	200	18
Alkal Mud (Pm)		0.15	(	0.15		VSM Shaker 3	42	200	24
Pt/Mt	/1	0.05/2.5	0.0	05/2.6		VSM Shaker 4	4x	200,	24
Chlorides Uandriana Ca	<u>mg/l</u>	46000	4	1(0		Deilter			0
nardness Ca	mg/l	1100	1	100		D-Siller			U
KC1	07	8		8					
IDCAP	70 nnh	3		3					
LSRV 0 3rpm	ppu	5		5					
Lorev 0.51pm									
							RTY SPEC		NS
		1				Weight		1.23-1.28	-
						Viscosity		6rpm>16	
						Filtrate		^<5	
<b>REM</b> Treated active system wi added GLUTE to treat th to replace volume used in volume and to level out w	MARKS AND TF ith DUOVIS and ID he system before PC n open hole. Bleed weight after heavy s	REATMENT CAP to maintain pro H. Continued to blee n premixes to mainta weep pumped.	pertie ed in p ain act	s. Also remix ive started hole se	IBOP valve on t ahead to TD of 1 ed sweep, 65 bbl: tions. Back ream to mix Flo-Pro r ction	<b>REMARKS</b> op drive backed out during 998m. TVD 1743m. Circu s @ 12 ppg to assist with h ing required to get out of h nud for next section. Will o	g connection. late hole clea iole cleaning ole. charge for ch	Reconnected an. Pump hi v POH as per S emicals at sta	and is Santos rt of 8.5"
	04 Hard MUD Y			801102					100

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(bbl)	SO	LIDS ANALYSIS	(%/lb/bbl)	MUD RHEOL	OGY & HY	DRAULICS
Rig Up/Service	2.5	Oil Added	0	NaCl		2.1/23.4	np/na Values		0.455/0.330
Drilling	13	Water Added	242	KCl		./ .	kp/ka (lb•s^n/100f	t <sup>2</sup> )	3.384/6.850
Tripping		Mud Received	0	Low G	ravity	8.5/77.	Bit Loss (psi / %)		279 / 1
Non-Productive Tir	n	Dumped	0	Benton	ite	.6/ 5.1	Bit HHP (hhp / HS	SI)	153 / 1
Condition Hole	3	Shakers	136	Drill Sc	olids	7.4/66.9	Bit Jet Vel (m/s)	·	52
Reaming	5.5	Evaporation	0	Weight	Material	3.5/51.	Ann. Vel DP (m/s)		.93
		Centrifuge	0	Chemic	al Conc	- / 5.	Ann. Vel DC (m/s)		1.36
		Formation	0	Inert/Re	eact	4.7576	Crit Vel DP (m/s)		2
		Left in Hole	0	Averag	e SG	3.07	Crit Vel DC (m/s)		2
		Other	0	Carb/B	iCarb (m mole/L)	1./ 12.5	ECD @ 1998 (sp.g	gr.)	1.33
M-I E	NGR / PHOI	NE	<b>RIG PHONE</b>		WAREHOUSE	PHONE	DAILY COST	CUMUL	ATIVE COST
Gordon Howie									
Kelvin Leong		(08) 9302 3790					\$ 5,341.31	\$	15,890.81

						WA	ATER-	BAS		REP	ORT	No.	5
MIS	MA	CO				Date	31/05/20	05	Depth/TVD	1	998 m /	' 1743 r	n
					Spud	Date	27/05/20	05	Mud Type		KCI/Po	olymer	
				1	Nater D	epth	71		Activity	P	OH to F	Run Cs	g.
Operator :	Santos Lto	t					Field/	Area :	Vic P44				
Report For :	Ron King	/Jeff Thoms	on				Descri	ption :	Gas Producer				
Well Name :	Casino 4 I	DW2					Loca	ation :	Otway Basin				
Contractor :	Diamond	Offshore					M-I Wel	II No. :					
Report For :	Ray Breau	ud/Mike Pra	znik										
DRILLING A	SSEMBL	.Y	CAS	ING	MUD	VOLU	IME (bbl	l)	CI	RCULAT	ION DA	TA	
Bit Size 12.25 in S	ecurity FS26	663	Surfa	ce		Н	ole		Pump Make O	ILWELL 1	700PT	IATION/	AL 12P-16(
Nozzles 9x16 / 1/	32"	30i	n @137m (	137TVD)		102	29.4		Pump Size	6 X 12	.in	6.5 2	K 12.in
Drill Pipe Size	Leng	,th	Intermed	liate		Activ	e Pits	-	Pump Cap	g	al/stk		gal/stk
5 in	m	13.37	<u>51n (a)</u> 742n	<u>n (742TVD)</u>	T. (	53	5.6	1 F	ump stk/min	D.(.)		1/.	
Drill Pipe Size	Leng	gth m	Intermed	llate	Tot	al Circ	ulating Vol	I	FIC	ow Kate		gal/r	nin
Drill Collar Size	Leno	nth Pi	oduction	or Liner		In St	orage		Total Ci	rc Time			
in	m	,	ouuction	or Liner		8	9		Circulating I	Pressure			
	MU		TIES				·>		PRODUC	CTS USE	DIAS	Г 24 HБ	2S
Sample From			lowline@	133 Pit 3	@04.30			Pr	oducts			Size	Amt
Flow Line Temp		°C	48	19.5 1105	53			D	EFOAM A		5 (	GA CN	1
Depth/TVD		m	1998/174	43 199	8/1743			D	UO-VIS		25	KG BG	5
Mud Weight		sp.gr.	1.3@40	°C 1.29	@30°C			PC	DLYPAC UL		25	K <u>G</u> BG	5
Funnel Viscosity		s/qt	53		52			PC	DTASSIUM HYI	DROXIDE	25	KG CN	1
Rheology Temp		°Ĉ	49		49			М	I BAR (Bulk)		11	MT BG	1
R600/R300			71/53	6	64/47	_							
R200/R100			44/33		9/30						_		
<u>R6/R3</u>		D	14/11	]	3/10								
PV VD		$\frac{CP}{1b/100\theta^2}$	18		1/								
$\frac{1}{10s/10m/20m}$ Gel		$\frac{10/10011^{-1}}{10/10011^{-2}}$	13/25/3	5 10	<u>30</u> /27/36								
API Fluid Loss		cc/30 min	4.8	5 10	4.8								
HTHP FL Temp		$\frac{cc}{30}$ min	1.0		1.0								
Cake API/HTHP		1/32"	1/		1/								
Solids		%Vol	14		13								
Oil/Water		%Vol	/86		/87								
Sand		%Vol	tr		tr			S	OLIDS EQUIF	)	Size	)	Hr
MBT		lb/bbl	15		15			V	SM Shaker 1		4x20	0	24
pH			8.5		8.6			V	SM Shaker 2		4x20	0	6
Alkal Mud (Pm)			0.1	5 0	$\frac{0.1}{0.5/2.5}$			V	SM Shaker 3		4x20	0	24
P1/IVII Chlorides		mg/1	44000	<u> </u>	<u>05/2.5</u> 4000			V	SIVI Snaker 4		4x20	0,	24
Hardness Ca		mg/l	840	-	1000			D	-Silter				0
Thurtantess eu		iiig/1	010		000			2	Sinter				v
KCl		%	8		8								
IDCAP		ppb	3		3								
LSRV 0.3rpm													
									MUD PRO	PERTY	SPECIF		DNS
									Wei	ight	 	$\frac{23-1.28}{23-1.28}$	
									V ISCO Filt	sity	01	<u>/////////////////////////////////////</u>	
									1 111	late		< <u>5</u>	
F				г					REMAR	R			
Maintained hole clea	ining propert	ties by adding	DUOVIS.	Slow transfe	r of	Back re	aming out of	f hole to	965m. RIH for w	iper trip. C	irculate b	ottoms up	o at
premix from pit 1 int	to active to n	naintain surfa	ce volume,	control weig	ht	1998m.	Flow check	and POI	H.			-	
increase and keep go	od programi	med propertie	s.										
	act 24 Hrs		ACCTG	(bbl)	50			(%//lb/b	hi) Mili				
Rig Up/Service		Oil Added		0	NaCl			2./ 2	2.3 np/na V	alues			
Drilling		Water Adde	1	101	KCl			/	. kp/ka (l	b•s^n/100ft	<sup>2</sup> )		
Tripping Non Braduction T	9	Mud Receiv	ed	0	Low G	ravity		7.9/	71.9 Bit Loss	(psi / %)	D		
Condition Hole	2.5	Shakers		90	Drill S	nte olids		.9/	58.4 Bit Iet V	<u>(nnp/HS</u> /el (m/s)	1)		
Reaming	12.5	Evaporation		0	Weigh	t Materi	ial	4.1/	60.5 Ann. Vel	<u>DP (m/s)</u>			
		Centrifuge		0	Chemi	cal Con	c	- /	5. Ann. Vel	DC (m/s)			
		Formation		0	Inert/R	teact		3.46	5 Crit Vel	$\frac{DP(m/s)}{DC(m/s)}$			
		Other		0	Carb/B	BiCarb (	m mole/L)	1./1	5.8	DC (11/8)			
M-I EN	IGR / PHO	NE		<b>RIG PHON</b>	E	WA	REHOUSE	PHONE		COST	СЛМІ	JLATIVE	E COST
Gordon Howie													
Kelvin Leong		(08) 9302 37	90						\$ 1,952	.37		\$ 17,843	3.18

						W	ATER-B	AS	ED MUD	REPO		10. E	6
IVII 5V	VAU	U			<u> </u>	Date	1/06/2005		Depth/TVD	19	991 m / 1	7 <u>43 m</u>	
				v	Spud Vator F	Date	27/05/200	5	Mud Type	N	Aixing Fl	oPro sing	
Operator : S	Santos Ltd				Valei L	eptii	Field/A	rea :	Vic P44		1651 043	ing	
Report For : I	Ron King/Jeff	Thoms	on				Descript	ion :	Gas Producer				
Well Name : (	Casino 4 DW2						Locat	ion :	Otway Basin				
Report For : 1	Diamond Offsh Ray Breaud/Mi	ore ke Pra	znik				M-I Well I	NO. :					
DRILLING AS	SEMBLY		CASING		MUD	VOLU	JME (bbl)		CIR	CULATI	ON DAT	4	
Bit Size 12.25 in		20	Surface			H	ole		Pump Make OIL	$\frac{WELL 17}{6 \times 12}$	700PT NAT	<u>FIONAL</u>	12P-16(
Drill Pipe Size	Length	30	Intermediate	)		Activ	ve Pits		Pump Size Pump Cap	0 A 12.1 ga	l/stk	0.3 A g	al/stk
5 in	m	13.3	75in @742m (742TV	/D)		22	6.3	P	ump stk/min		i) otri	0	ui/otii
Drill Pipe Size	Length		Intermediate		Tot	tal Circ	ulating Vol		Flow	Rate		gal/mi	n
Drill Collar Size	Length	Р	roduction or Line			In St	orage		Total Circ	Time			
in	m					1′	76		Circulating Pre	essure			
0 1 5	MUD PR	OPE	RTIES	<b>F1</b>	D			D	PRODUCT	'S USEI	D LAST 2	4 HRS	5
Sample From Flow Line Temp		°C	Pit 3(a)09:00	Fl	oPro			Pro	oaucts		S12	e	Amt
Depth/TVD		m	1998/1743	1	998/								
Mud Weight	S	p.gr.	1.30@30°C	1	1.26						_		
Rheology Temp		s/qt °C	<u>52</u> 49		<u>56</u> 49			-					
R600/R300			64/47	4	<u>9/3</u> 7			$\vdash$					
R200/R100			39/30	3	1/23								
R6/R3		сD	12/9	1	$\frac{10/8}{12}$	_							
YP	1b/1	000000000000000000000000000000000000	30		25								
10s/10m/30m Gel	lb/1	00ft <sup>2</sup>	10/24/33	8	/11/								
API Fluid Loss	$\frac{\text{cc}/30}{\text{cc}/30}$	min	4.7	4	4.8								
Cake API/HTHP	1	/32"	1/		1/								
Solids	0/	oVol	13		13								
Oil/Water Sand	0/	Vol	/87		/87			sc			Sizo		Hr
MBT	11	o/bbl	15					VS	M Shaker 1		4x200		24
pH			8.5		8.9			VS	M Shaker 2		4x200		0
Alkal Mud (Pm)			0.1	0	1/0 2			VS	M Shaker 3		$\frac{4 x 200}{4 x 200}$		24
Chlorides		mg/l	43000	0.	1/0.2			Ce	ntrifuge		47200,		0
Hardness Ca		mg/l	880					D-	Silter				0
KCl		%	7.8		5								
IDCAP		ppb	3										
										ERTY S			IS
						_			Viscosit	n v	6rpm	1.20 >16	
									Filtra	te	<	5	
DI		יםד ר							DEMADI	· C			
Transferred mud from	Pit #3 to Pit #1.	Using	EAT INENT Pit #1 as active. Dun	np		RIH wi	th 9.625" casing	g. Was	hed down from 17	. <b>5</b> 00m to lar	nd casing. C	emented	d with
remainder of pit #3 and	d clean to take bi	ine.		-		shoe at	1991 meters. P	ressure	tested to 4000psi.		-		
Mixed 1060 bbls FloP	ro. Flo Vis mixed	d @ 1 j	opb. Will increase to	prog	ram								
spees after wen is disp		3503 01	er snaker sereens.										
TIME DISTR La	st 24 Hrs ML	JD VO	L ACCTG (bbl	)	sc		ANALYSIS (%	%/lb/bb	ol) MUD	RHEOLC	GY & HY	ORAUL	ICS
Rig Up/Service	2 Oil A	dded	d 0		NaCl			2./ 22	2.1 np/na Valu	$les \frac{100 \text{ ft}^2}{2}$	)		
Tripping	Mud	Receiv	red 0		Low C	Gravity		5.9/ 5	54. Bit Loss (	osi / %)	/		
Non-Productive Tim	1 Shake	ped ers	223	3	Benton Drill S	nite olids		1.2/1	0.8 Bit HHP ( 8.2 Bit let Vel	$\frac{hhp / HSI}{(m/s)}$	)		
Running Casing	20 Evap	oration	0		Weigh	t Mater	ial	5.1/7	5.3 Ann. Vel D	<u>P (m/s)</u>			
Testing	I Centr Form	ation			Chemi Inert/F	ical Con React	ic	- /	5. Ann. Vel D 37 Crit Vel DF	<u>C (m/s)</u> (m/s)			
	Left	n Hole	463	3	Avera	ge SG	m mala/L)	3.3	4 Crit Vel DO	C (m/s)			
										T	CUMU		соят

\$ 0.00

\$ 17,843.18

Gordon Howie Kelvin Leong

(08) 9302 3790

					WA	TER-B	ASE		) REP	ORT	No. 7	7
Mi SWA					Date	2/06/2005		epth/TVD		1991 m /	1743 m	
				Spud	Date	27/05/2005				KCI / Po	lvmer	
			V	Vater D	epth	71		Activity		Drilling (	Cement	
<b>Operator :</b> Santos Lt	d		·			Field/Ar	ea: V	ic P44				
Report For: Ron King	g/Jeff Thom	ison				Descripti	on: G	as Producer	•			
Well Name : Casino 4	DW2					Locati	<b>on</b> : 0	tway Basin				
Contractor : Diamond	Offshore					M-I Well N	lo. :					
Report For: Ray Brea	ud/Mike Pr	aznik										
DRILLING ASSEMBI	_Y	CASING		MUD	VOLUN	IE (bbl)		CI	RCULA		ΓΑ	
Bit Size 8.5 in DBS-FMF 3553	3	Surface		1.00	Ho	le	<u> </u>	imp Make (	DILWELL	1700PT N	ATIONAL	L 12P-16(
Nozzles 5x16 / 1/32"	3 oth	<u>0in (a)13/m (13/1</u>	VD)	463	<u>3.3(10t)</u>	/458(Bit)	1	Pump Size	<u>6 X I</u>	2.1n	$\frac{6.5 \text{ X}}{5.016 \text{ c}}$	12.1n
5 in 1820	$\frac{g_{\rm III}}{2}$ m 13.2	375in @742m (74			Active 462	7	Pum	n stk/min	<u>4.274 §</u> 71@9	201/Stk 7%	<u>3.010 g</u>	201/SLK
Drill Pipe Size Len	oth	Intermediate	21 VD)	Tota	al Circu	ating Vol	1 uli	<u>ip stk/inin</u> Fl	ow Rate	62	24 gal/m	in
5 in 111	m 9.62	5in @1990m (174	1TVD)	100	920	.7		Bot	toms Up	27 mi	n 364	9 stk
Drill Collar Size Len	gth 1	Production or Li	ner		In Stor	age		Total C	irc Time	62 mi	in 836	6 stk
6.75 in 29	m				1			Circulating	Pressure	2	2730 psi	
MU	ID PROPE	RTIES	1		-			PRODU	CTS USI	ED LAST	24 HRS	5
Sample From	00	Active@22.00	FloPr	o(a)08:00	)		Prod	ucts		S	ize	Amt
Flow Line Temp	<u> </u>	1060/					DUO	-VIS		25 K	G BG	2
Deptn/TVD Mud Weight	sp gr	1909/	1.26	@30°C								
Funnel Viscosity	<u>sp.gr.</u> s/at	55	1.20	<u>6</u> 56								
Rheology Temp	°Ĉ	49		49								
R600/R300		74/54	4	7/35								
R200/R100	-	45/35	2	9/22				-	-			
R6/R3		14/11		9/7								
PV	<u>cP</u>	20		12								
YP 10c/10m/20m Col	$\frac{1b/100ft^2}{1b/100ft^2}$	34	0/	23								
A PL Fluid Loss	$\frac{10/10011^{-1}}{cc/30}$ min	14/20/31	0/	10/12								
HTHP FL Temp	$\frac{cc/30}{cc/30}$ min	7.0		7.7								
Cake API/HTHP	1/32"	1/		>1/								
Solids	%Vol	14		14								
Oil/Water	%Vol	/86		/86								
Sand	%Vol	tr		tr			SOL	IDS EQUI	P	Size		Hr
MBT	lb/bbl	15		>5			VSM	Shaker 1		105,140,2	x165	0
pH Alkal Mud (Dm)		9.2	-	<u>8.9</u> 1.1			VSM	Shaker 2		2X110, 2X	105	0
Pf/Mf			0.0	$\frac{1.1}{5/0.4}$			VSM	Shaker 4		$\frac{4 \times 64}{4 \times 12}$	• 0	0
Chlorides	mg/l	44000	12	27000			Cent	rifuge		TA 12	0	0
Hardness Ca	mg/l		1	400			D-Si	lter				0
KC1	%	8	_	6.5								
IDCAP	ppb		1	5000								
LSRV 0.3rpm			1.	5000								
									PFRTY	SPECIEL		IS .
								We	eight	1	.26	10
								Visco	osity	LSR	50-70K	
								Filt	trate		<5	
REMARK	S AND TR	REATMENT						REMA	RKS			
Mixed Hi-vis pill with Fluorscei	ine dye in sit	ig pit for spacer to	r	1	Pulled ou	t with cement	ing asser	nbly. Made u	р 8-1/2" Ві р. Ритраd	1A. KIH. I 20 bbl bi y	agged cer	nent at
Mixed up another 650 bbl FloPr	o mud			1	1900 111. 1	Jillieu celliell	i anu reu	1010 10 1998 1	n. Funipeu	50 001 III-V	is space.	
Changed down to coarse shaker	screens.											
TIME DISTR Last 24 Hrs	S MUD V	OL ACCTG (	bbl)	SO NoCl	LIDS AI	NALYSIS (%	/lb/bbl)	MU nn/no V		.OGY & H	YDRAUL	LICS
Drilling 6	Water Add	ed	0	KCl			 ./ .	kp/ka (	lb•s^n/100	ft²)	3.38	4/6.850
Tripping 12	Mud Recei	ved	0	Low G	ravity		9.2/83.3	3 Bit Los	s (psi / %)	~	39	07/1
Non-Productive Tim	Dumped		41	Benton	ite		.8/7.1	Bit HHI Bit Let V	$\frac{P}{Vel}$ (m/s)	51)	14	15 / 1 62
Running Casing	Evaporatio	n	0	Weight	Materia		2.9/42	Ann. Ve	1  DP (m/s)		1	.54
Testing	Centrifuge		0	Chemic	cal Conc		- / 5.	Ann. Ve	1 DC (m/s)		2	2.61
	Formation	e	0	Inert/Re	eact		4.2228	Crit Vel	$\frac{DP}{DC}$ (m/s)		_	2 3
	Other		0	Carb/B	iCarb (m	mole/L)	./1	ECD @	1969 (sp.	gr.)	1	.41
M-I ENGR / PHO	NE	RIG	PHON	E	WAR	EHOUSE PH	IONE	DAILY	COST	CUMU	LATIVE	COST
Gordon Howie												
Kelvin Leong	(08) 9302 3	5790						\$ 454.0	00	\$	18,297.	18

						W	ATER-	BA	SED	MUD		ORT	No.	8
	MA					Date	3/06/200	)5	Dept	h/TVD	2	352 m	/ 1774 m	1
					Spud	Date	27/05/20	05	Mud	I Type		Flo	Pro	
					Water D	Depth	71		Α	ctivity		Dri	lling	
Operator :	Santos Ltd	l					Field/	Are	a: Vic P	44				
Report For :	Ron King/	Jeff Thom	ison				Descrip	otio	n: Gas P	roducer				
Well Name :	Casino 4 E	DW2					Loca	atio	n: Otwa	y Basin				
Contractor :	Diamond (	Offshore					M-I Well	l No	o. :	-				
Report For :	Ray Breau	d/Mike Pr	aznik											
DRILLING A	SSEMBL	Y	CAS	ING	MUD	VOLU	JME (bbl	)		CI	RCULAT	ON D	ATA	
Bit Size 8.5 in DBS	S-FMF 3553		Surfa	ce		Н	Iole		Pump	Make C	ILWELL 1	700PT	NATIONA	L 12P-16(
Nozzles 5x16 / 1/3	32"	30	0in @137m (	(137TVD)		52	26.9		Pum	p Size	6 X 12	in	6.5 X	12.in
Drill Pipe Size	Leng	th	Interme	diate		Activ	ve Pits		Pum	p Cap	4.274 g	al/stk	5.016	gal/stk
5 in	2212	m 13.3	375in @742r	n (742TVD)		48	35.1		Pump st	tk/min	80@97	%	80@	97%
Drill Pipe Size	Leng	th	Interme	diate	Tot	tal Circ	culating Vol			Fle	ow Rate		743 gal/n	nin
5 in	<u>111 r</u>	n 9.62	<u>5in @1990m</u>	<u>n (1741TVD)</u>	)	1	012			Bott	oms Up	<u>26 r</u>	<u>nin 415</u>	6 stk
Drill Collar Size	Leng	th I	Production	or Liner		In St	torage	-	0.	Total Ci	rc Time	57.2	$\frac{\min}{2200}$	53 stk
6.75 in	29 n		DTIEO			5	81		Circ	ulating I	ressure		3290 psi	•
0 1 5	MUL	J PROPE	KIIES	1 00	0160	0			P	KUDU	LIS USE		01 24 HR	3
Sample From			Acitve(a)2	1.00 Activ	ve(a) 16.0	U			Products	<b>r</b> .		-	Size	Amt
FIOW Line Temp		<u> </u>	2210/17	72 22	55/1760				DEFOAM	1 A		5	GA CN	12
Mud Weight		m	2318/1/	$\frac{13}{12}$ 22	<u>33/1/09</u> 7@15°C				GLUIE 2	DITIC		2	KGPC	61
Funnel Viscosity		<u>sp.gr.</u>	1.2/(0)43	1.2	<u>7(0)45 C</u> 54				POTASSI	<u>ггоз</u> Пм нут	RUXIDE	23	KGCN	01 Q
Rheology Temp		<u>s/qt</u> °C	<u> </u>		49	_			DUAL-FI	OHT	NUAIDE	23	I B BG	0
R600/R300		U	75/58		67/51				OMYA C	ARR 8		25	KG BG	1600
R200/R100			51/40		44/35				BRINEN	aCl 18%+	-KCl 5%	1	BL BK	1700
R6/R3			18/14		15/12				DIGITAL	uci 1070	RC1 570		DEDR	1700
PV		cP	17		16									
YP		lb/100ft <sup>2</sup>	41		35									
10s/10m/30m Gel		lb/100ft2	16/22/	/ 13	3/17/22									
API Fluid Loss	(	cc/30 min	3.8		3.8									
HTHP FL Temp	(	cc/30 min												
Cake API/HTHP		1/32"	1/		<1/									
Solids		%Vol	15		15									
Oil/Water		<u>%Vol</u>	/85		/85				001100			<u>.</u>		
Sand		<u>%V0l</u>	0.25		0.25				SOLIDS		,	SIZ	<b>e</b>	Hr
MBI		10/001	<5		$\frac{<5}{10.2}$	_			VSM Sh	aker I		4 X 2	200	24
Alleal Mud (Dm)			9.7		1.4	_			VSIVI SII	aker 2		$\frac{4 \times 2}{4 \times 1}$	20	24
Df/Mf			0.1/0./	1 0	1.4				VSM Sh	aker J		4 X I	20	24
Chlorides		mg/l	120000	$\frac{1}{1}$	20000	_			Centrifue			7 7 2	.50	0
Hardness Ca		mg/1	280	5 1	280				D-Silter	50				0
That all top ou		B' -	200		200				2 51101					Ű
KCl		%	6		6									
IDCAP		ppb												
LSRV 0.3rpm			57588	4	52992									
									MU	JD PRC	PERTY S	SPECI	FICATIO	NS
										We	ight		1.26	
										Visco	sity	LS	<u>R 50-70K</u>	
										Filt	rate		<5	
									1					
Dummed 026 hbl VC		AND IR	EAIMEN	l loDro Aftor		Dumma	d 20 hbl ana a		vian logad to		(KS	ahaad ta	2252 m N	laintain
allowing FloPro mud	to shear Flo	Wis and Du	splacing to r	dded to mair	ntain	r unipeo	u 30 001 space	vith (	additions fr	om premi	iv nite	aneau u	) 2332 III. F	lamam
nrogrammed mud pro	onerties	, is and Du	un lo were d	aaca io man	nam	prograf	in properties w	v 1 tl 1 č	additions II	on prenn	ix pito			
Screened up shaker 3	to 180 meet	hand shake	r 2 & 4 to 23	0 mesh scree	ens &									
200 mesh on #1		- and shutter												
TIME DISTR L	ast 24 Hrs	MUD VC	OL ACCTG	(bbl)	SC	LIDS	ANALYSIS (	(%/	b/bbl)	MU	D RHEOL	OGY &	HYDRAU	LICS
Rig Up/Service	0.5	Oil Added		0	NaCl			6	.2/63.1	np/na V	alues		0.3	71/0.299
Drilling	23.5	Water Add	ed	0	KCl	ravity		c	./.	<u>kp/ka</u> (1 Bit Loss	$\frac{b \cdot s' \cdot n}{100 \text{ ft}}$	•)	6.12	20/9.166

Bit Loss (psi / %) Bit HHP (hhp / HSI) Bit Jet Vel (m/s) Ann. Vel DP (m/s) Crit Vel DD (m/s) Crit Vel DP (m/s) ECD @ 2352 (sp.gr.) Tripping Non-Productive Tim Condition Hole Running Casing ow Gravit lud Re <u>339 / 1</u> 242 / 1 74 Bentonite Drill Solids 676 195 Dumped ./. 8.5/77.6 .7/10.7 - / 5. Shakers Evaporation 0 Weight Material 1.96 3.47 Centrifuge Formation Left in Hole Testing 0 Chemical Conc 0 Inert/React 2 2.73 1.9/ 1.9 250 36 Average SG Carb/BiCarb (m mole/L) 1.45 Other WAREHOUSE PHONE **M-I ENGR / PHONE RIG PHONE DAILY COST CUMULATIVE COST** Gordon Howie (08) 9302 3790 \$ 84,159.40 \$ 102,456.58 Kelvin Leong

				WATER	-BAS		) REPO		lo. 9	)
MI SWAC				Date 4/06/2	005	Depth/TVD	24	04 m / 1	787 m	
			Spud	Date 27/05/2	2005	Mud Type		Flo Pr	0	
			Water D	epth 71		Activity	Ru	n Prod. S	Screen	
Operator : Santos Ltd	1			Field	d/Area :	Vic P44				
Report For: Ron King/Jeff I	homson			Desci	ription :	Gas Produce	r			
Contractor: Diamond Offsh	Nr.					Olway Basin				
Report For : Ray Breaud/Mil	re Praznik				en 140					
DRILLING ASSEMBLY		CASING	MUD	VOLUME (b	obl)	С	IRCULATI	ON DAT	4	
Bit Size 8.5 in		Surface		Hole		Pump Make	OILWELL 17	00PT NA	TIONAL	12P-160
Nozzles 1/32"	30in @1	137m (137TVD)		660.8		Pump Size	6 X 12.i	n	6.5 X 1	l2.in
Drill Pipe Size Length	Int	termediate	-	Active Pits		Pump Cap	ga	l/stk	ga	al/stk
5 In m Drill Pipe Size Length	13.375in (	<u>a/42m (/421V1</u> termediate	D) Tot	431.2 al Circulating V		ump stk/min	low Pata		gal/mi	n
5 in m	9 625in @	1990m (1741TV	D)		01	Bot	toms Un		gai/iiii	
Drill Collar Size Length	Produ	ction or Liner		In Storage		Total C	irc Time			
6.75 in m				1252		Circulating	Pressure			
MUD PR	OPERTIE	S				PRODU	CTS USED	D LAST 2	4 HRS	
Sample From	Pit #	\$3(a)20.00		_	PI	roducts		25 V C		Amt
Plow Line Temp Depth/TVD	m 24	04/1787			FI	<u>LU-VIS PLUS</u> MVA CARB 8		25 KC	BG	6 104
Mud Weight si	.gr. 1.2	8@35°C			B	RINE CALCIUN	A CHLORIDI	E 1 BL	BL	1023
Funnel Viscosity	s/qt	54								
Rheology Temp	°Ĉ	49								
R600/R300	,	73/56								
R200/R100	4	49/39								
PV	сР	17								
YP 1b/10	0ft <sup>2</sup>	39								
10s/10m/30m Gel lb/10	0ft <sup>2</sup> 1	13/17/								
API Fluid Loss cc/30	min	3.8								
HIHPFL Temp CC/30 Cake A PI/HTHP 1	min '32"	1/		_						
Solids %	Vol	15								
Oil/Water %	Vol	/85							1	
Sand %	Vol	0.25			S	OLIDS EQUI	P	Size		Hr
MBT lb	/bbl	<5			V	SM Shaker 1		$\frac{4 \times 200}{4 \times 220}$		8
DFI Alkal Mud (Pm)		9.7			V	SM Shaker 2 SM Shaker 3		$\frac{4 \text{ x } 230}{4 \text{ x } 200}$		8
Pf/Mf	0	0 1/0 4			V	SM Shaker 4		$\frac{4 \times 200}{4 \times 200}$		8
Chlorides	ng/l 1	20000			Ċ	entrifuge				0
Hardness Ca	ng/l	280			D	-Silter				6
KCl	0/	(								
	<sup>%0</sup> nnh	0								
LSRV 0.3rpm	ppu	54323								
						MUD PRO	OPERTY S	PECIFIC	ATION	S
						We	eight	1.2	26 0.70V	
				-	$\vdash$	V ISCO Fil	trate	<u> </u>	<u>0-70K</u> 5	
				-	F	1.11	iut		~	
REMARKS AND	TREAT	MENT		· ·		REMA	RKS			
Made up 200 bbl hi vis FloPro premix i	n pit 2.			Drilled ahead to T	D of 2404	m. Back reamed	d to shoe. Trip	o in to 2404	m. Circu	lated
Screened up shakers and ran desilter an	1 desander 1	to assist in contro	olling	nole clean. POH to	o run scree	ens. vring off For Crir	at 0 0nng A	nnoors wat	or in hoat	t topka
inde density			1	from excess volum	ne and red	uced weight Ca	n weight un w	vith CaCl2	sacks on	hoard
					ne una rea	deed weight. eu	ii weight up w	nii cuciz i		oouru.
		0 <b>7</b> 0 (h.h.l)			O /0/ /II- /I-					
Rig Up/Service 6 Oil A	D VOL AC		NaCl	LIDS ANALYSI	S (%/ID/D 6 2/	<b>63 1 np/na</b>	JD RHEOLO Values	GY&HY	JRAULI	CS
Drilling 3.5 Water	Added	Ő	KCl		./	kp/ka (	lb•s^n/100ft2	)		
Tripping 12.5 Mud	Received	0	Low G	ravity	7.5/	68.3 Bit Los	<u>s (psi/%)</u> P (hbn/480	)		
Condition Hole 2 Shake	rs	0	Drill S	olids	7.8/	71.2 Bit Jet	$\frac{1}{\text{Vel }(\text{m/s})}$			
Running Casing Evapo	ration	0	Weight	Material	1.4/	19.9 Ann. Ve	el DP (m/s)			
resting Centr	tion	0	Chemic Inert/R	eact	- /	<ul> <li>Ann. Ve</li> <li>Crit Vel</li> </ul>	DC (m/s) DP (m/s)			
Left i	Hole	0	Averag	e SG	2.8	34 Crit Vel	DC $(m/s)$			
Other		0	Carb/B	Carb (m mole/L)	) 1.9/	1.9				
M-I ENGR / PHONE				14/4 8 8 8 1 9 1 9 1 9 1 9			0007			
Cordon Housia		RIG PHO	ONE	WAREHOUS	E PHON	E DAILY	COST	CUMUL	ATIVE C	COST

						WATER-	BASE	ED MUC	) REP	ORT	No. '	10
MISI	NA	CO			[	Date 5/06/20	05 C	Depth/TVD		2404 m /	1787 m	
					Spud I	Date 27/05/20	005	Mud Type		FloP	ro	
Operator :	Santos I to	4			water De	eptn /1 Field	/Area · \	Vic P44		resting	вор	
Report For :	Ron King	/Jeff Thom	son			Descri	ption : (	Gas Producer	-			
Well Name :	Casino 4 I	DW2				Loc	ation: (	Otway Basin				
Contractor :	Diamond	Offshore				M-I We	II No. :					
Report For :	Ray Breau	ud/Mike Pra	aznik									
DRILLING A	SSEMBL	.Y	CAS	ING	MUD	/OLUME (bb	ol)	CI	RCULA		ΓΑ	
Bit Size 8.5 in		20	Surfa	(127TVD)		Hole 660.8	P	ump Make (	$\frac{\text{JILWELL}}{6 \times 1'}$	$\frac{1}{00PT}$ N/	65 X	<u>L 12P-16(</u> 12 in
Drill Pipe Size	Leng	th 30	Interme	diate		Active Pits		Pump Cap	0/12	gal/stk	<u>0.5 A</u>	2.111 2al/stk
5 in	m	13.3	75in @742r	n (742TVD)		611.2	Pu	mp stk/min				
Drill Pipe Size	Leng	gth	Interme	diate	Tota	l Circulating Vo	ol	Fl	ow Rate		gal/m	in
5 in Drill Collar Size	Leng	9.62	<u>5in @1990n</u> Production	<u>n (1741TVD)</u> or Liner	)	<u>611.2</u>		Bot Total C	toms Up			
6 75 in	m	,ui r	Toduction	of Linei		1076		Circulating	Pressure			
0.70 III	MU	D PROPE	RTIES			10,0		PRODU	CTS USE	ED LAST	24 HR	S
Sample From			Pit 3@21	.00			Proc	ducts		S	ize	Amt
Flow Line Temp		°C	<u> </u>			_	OMY	YA CARB 8		25 K	GBG	72
Depth/TVD Mud Waisht		m	2404/17	41 PC		_						
Funnel Viscosity		sp.gr.	<u>1.28(<i>a</i>)30</u> 54			-						
Rheology Temp		°C	49			1						
R600/R300			71/54									
R200/R100			42/33			_						
<u>R6/R3</u> <u>PV</u>		сD	15/12			_						
YP		$\frac{cr}{1b/100ft^2}$	37			_						
10s/10m/30m Gel		lb/100ft <sup>2</sup>	13/17/	/		_						
API Fluid Loss		cc/30 min	3.8									
HTHP FL Temp		$\frac{cc/30 \text{ min}}{1/22"}$	1/									
Solids		1/32 %Vol	1/									
Oil/Water		%Vol	/85			_						
Sand		%Vol	.25				SO	LIDS EQUII	Ρ	Size		Hr
MBT		lb/bbl	<5			_	VSN	M Shaker 1		4 x 20	2	0
pH Alleal Mud (Dm)			9.7			_	VSN	M Shaker 2		$\frac{4 \times 23}{4 \times 20}$	<u>)</u>	0
Pf/Mf			1/4			_	VSN	M Shaker 4		$\frac{4 \times 20}{4 \times 20}$	)	0
Chlorides		mg/l	12000	)		_	Cen	trifuge		1.1.20		0
Hardness Ca		mg/l	280				D-S	ilter				0
VC1		0/	6			_						
IDCAP		<sup>70</sup> nnh	0			_						
LSRV 0.3rpm		ppo	52560	)		_						
								MUD PRO	DPERTY	SPECIFI		NS
						_		Visco	osity	LSR	<u>.20</u> 50-70K	
						_		Filt	trate	Lon	<5	
					1							
R Used Ownersch 9 to	EMARKS	S AND TR		Т	Г			REMAI	RKS	£\$27(21.00	Continu	
Added Dirt magnet (	weight up s. 2%) to brine	and weighti	1. ing un with :	all available (	CaCl2 II	n to displace to br	ent made 10	or 1023 ddis Ca	aCI brine o	1 \$2/621.00	. Contint	led to fig
sacks. Using addition	al Flossy sa	It to increase	e brine densi	ty to 10.2 pp	g.		ine.					
-					-							
TIME DISTR La	ast 24 Hrs	MUD VC	DL ACCTG	(bbl)	SOL	IDS ANALYSIS	(%/lb/bbl	) <u>M</u> U	D RHEOL	_OGY & H	YDRAUI	LICS
Rig Up/Service	1	Oil Added	-d	0	NaCl		6.2/63	.1 np/na V	/alues lb•s^n/1004			
Tripping	8.5	Mud Receiv	ved	0	Low Gr	avity	7.5/68	.3 Bit Loss	<u>s (psi/%)</u>			
Non-Productive Tim	2.5	Dumped		0	Bentoni	te	./.	Bit HHI	$\frac{P(hhp/Hs}{hp/Hs})$	SI)		
Running Casing		Evaporation	1	0	Weight	Material	1.4/19	.2 Bit Jet V .9 Ann. Ve	$\frac{1}{1} \frac{\text{(m/s)}}{\text{(m/s)}}$			
Testing	12	Centrifuge		0	Chemic	al Conc	- / 5	. Ann. Ve	1 DC (m/s)			
		Formation	e	0	Inert/Re	eact	2 84	Crit Vel	$\frac{DP}{DC}$ (m/s)			
		Other	-	Ő	Carb/Bi	Carb (m mole/L)	1.9/ 1.9	9		I		
M-I EN	GR / PHO	NE		<b>RIG PHON</b>	IE	WAREHOUSE	PHONE	DAILY	COST	CUMU	LATIVE	COST
Gordon Howie												
Glen Sharpe								\$ 842.4	40	\$	134,582	2.26

					WA	ATER-	BA	SED N	/UD R	EPO	RT N	o. 1	1
MI SWA					Date	6/06/200	)5	Depth/	TVD	240	4 m / 17	87 m	
				Spud I	Date	27/05/20	05	Mud	Гуре		CaCl Bri	ne Fulk -	
Operator : Santos I	td		V	vater D	eptn	/1 Field//	Aroa			Ru	n Prod	upe	
Report For : Ron Kin	ng/Paul Nardon	e				Descrip	otion	Gas Pro	+ oducer				
Well Name : Casino	4 DW2	•				Loca	ation	: Otway	Basin				
Contractor : Diamon	d Offshore					M-I Well	l No.	:					
Report For : Ray Bre	aud/Mike Praz	nik											
DRILLING ASSEME	BLY	CASING		MUD		ME (bbl	)	Dumm 1		JLATIO	N DATA		120.170
Nozzles 1/32"	30in	@137m (1371	VD)		56	99	_	Pump N Pump	Size 6	$6 \times 12$ in	OPT NAT	10NAL 6 5 X 1	$\frac{12P-160}{2}$ in
Drill Pipe Size Le	ngth	Intermediate	(2)		Activ	e Pits		Pump	Cap	gal/	stk	g	al/stk
in D'II D' O' L	m 13.375	in @742m (74	2TVD)	<b>T</b> (	154	<u>4.1</u>		Pump stk	/min			1/ .	
Drill Pipe Size Le	ngth m 9.625ir	Intermediate		lota	al Circ	ulating Vol	_		Flow Flows	Lin		gal/mi	n
Drill Collar Size Le	ngth Pro	duction or Li	iner		In Ste	orage		Т	otal Circ T	ime			
in	m 6.625ir	@2404m (178	87TVD)		99	96		Circul	ating Press	sure			
M	UD PROPER	TIES	244		_				ODUCTS	USED	LAST 24	4 HRS	
Sample From Flow Line Temp	°C	ont 3(a)21.00	21t 4 E	Brin( <i>a</i> )8:0	·		H	Products		- Sacks	25 KG	BG	Amt
Depth/TVD	m	2404/1741	240	4/1741				SALT - FIN	<u>E E</u>	2 Backs	1 MT	BG	198
Mud Weight	sp.gr.	1.28@30°C	1	.21			ĺ	DIRT MAG	NET		55 GA	DM	16
Funnel Viscosity	s/qt	54			_		3	SAFE-CIDE	Ξ		25 KG	CN	5
Rheology Temp	°C	49			_		E	SAFE-COR			55 GA	DM	11
R000/R300 R200/R100		<u>/1/34</u> <u>42/33</u>			_			SAFE-VISI SAFE-SUR	E F WN		200 KG	DM	14
R6/R3		15/12					,	SAI L-SUK			200 KG	DIVI	5
PV	cP	17											
YP	lb/100ft <sup>2</sup>	37			_								
10s/10m/30m Gel	$\frac{16/100ft^2}{cc/30}$ min	$\frac{13/17/}{38}$			_		-						
HTHP FL Temp	$\frac{cc/30 \text{ min}}{cc/30 \text{ min}}$	5.8			-		-						
Cake API/HTHP	1/32"	1/					-						
Solids	%Vol	15											
Oil/Water	%Vol	/85			_						Cine		LL.
MRT	<u>% V 01</u> lb/bbl	<u>.25</u> <5			-		-	<u>SOLIDS I</u> VSM Shak	rer 1		<u>512e</u> 4 x 200		0
pH	10/001	9.7					,	VSM Shak	ter 2		4 x 230		0
Alkal Mud (Pm)		1.4						VSM Shak	ter 3		4 x 200		0
Pf/Mf		.1/.4	10	2000	_		Ľ	VSM Shak	ter 4		4 x 200		0
Hardness Ca	mg/l	280	19	2000	_			<u>Centrituge</u> D-Silter					0
	ing/1	200					-	D blitter					Ŭ
KC1	%	6											
IDCAP	ppb	525(0			_		_						
LSKV 0.5rpm		52560			_		-						
					-			MUE	PROPE	RTY SP	ECIFIC/		S
									Weight		1.2	6	
					_		-		Viscosity		LSR 50	-70K	
					_		-		Filtrate		<>		
REMARI								R	EMARKS				
Increased brine density to 1.22	SG. Built 70 bbl	high vis space	r in slug	pit C	Comple	ted scrapper	run an	nd then displ	laced to CaC	Cl brine. C	leaned and	l flushe	d flow
(FV 560 s/qt). Added Safe-cid	e and Safe-cor to	brine ready for	displace	ement. li	ine and	header boxe	s prio	r to brine re	turns.				
Dumped /16 bois Fio Pro duri	ng displacement.												
		ACCTC (	<b>h</b> hl\	501			(0/ /Ib	/hhl)					100
Rig Up/Service	Oil Added	ACCIG (	0	NaCl	LIDS F	ANAL 1 313 (	6.2	2/63.1 m	o/na Value	S	μαπτυ	RAUL	03
Drilling	Water Added	,	0	KCI				./. k	o/ka (lb•s^i	$n/100ft^2$			
Non-Productive Tim	Dumped	1	716	Low Gr Bentoni	avity		1.5	$\frac{0}{108.3}$ B	<u>it Loss (ps</u> it HHP (hh	1 / %) 10 / HSD			
Condition Hole	Shakers		0	Drill Sc	lids		7.8	B/ 71.2 B	it Jet Vel (	m/s)			
Running Casing	Evaporation Centrifuge		0	Weight Chemic	Materi	al	1.4	19.9 A	nn. Vel DP	(m/s) (m/s)			
i vouiig	Formation		0	Inert/Re	eact	~	-	- C	rit Vel DP (	(m/s)			
	Left in Hole		0	Average Carb/D	e SG	m mole/L)	2	2.84 C	rit Vel DC	(m/s)			
	ONF	RIC				REHOUSE				т			COST
Gordon Howie	U.I.L			-	•••					•			
Glen Sharpe								\$	35,040.66		\$ 1	69,622	.92

Date         Total 2005         Depth TVD         2444 m1787 m           Stud Date         Stud Date         Caci Brine           Water Depth         Triange State         Caci Brine           Mater Depth         Triange State         Caci Brine           Contractor         Stud Date         Caci Brine           Contractor         Stud Date         Caci Brine           Contractor         Stud Date         Conva Data           Port Link Scate         Long Intermediate         Mul Veloume         Oway Data           Drill Pps State         Long Intermediate         Mul Veloume         Oway Data         galaxin           Drill Pps State         Long Intermediate         Nul Veloume         Oway Data         galaxin           Drill Pps State         Long Intermediate         Nul Veloume         Oway Data         galaxin           Drill Outer State         Long Intermediate         Nul Veloume         Oway Data         galaxin           Drill Colar State         Length         Intermediate         Nul Veloume         Oway Data         galaxin           Drill Colar State         Length         Intermediate         Nul Veloume         Oway Data         galaxin         galaxin           Dril Colar State         Length <t< th=""><th></th><th></th><th></th><th></th><th></th><th>N</th><th><b>VATER-</b></th><th>BAS</th><th>ED MUD F</th><th>REPO</th><th>RT No.</th><th>12</th></t<>						N	<b>VATER-</b>	BAS	ED MUD F	REPO	RT No.	12	
Spuid Date         27/05/2005         Mud Type Activity         Completions           Operator : Santos Ld Report For : Norking Punitations         Field/Area : Vie PM         Completions           Contractor : Dimmod Offsiore         Description : Gen Podacer         Description : Gen Podacer           Contractor : Dimmod Offsiore         Mud VolUV         Oracy Basin           Mil Wellow : Dimmod Offsiore         Surface         Oracy Basin           Profit Dire Size : In termediate in thermediate in the social appendic Offsiore         Pamp Can galskit	MIS	WAC	:0			Da	te 7/06/20	05	Depth/TVD	2404	4 m / 1787 m	1	
Operator:         Sumos Lid         Pield/Area         Evidy         Completions           Report For:         Kon King Pinal Nandone         Description:         Case Moduler:         Description:         Case Moduler:           Woll Mane:         Case Moduler:         Description:         Case Moduler:         Description:         Case Moduler:           Woll Mane:         Case Moduler:         Description:         Case Moduler:         Description:         Case Moduler:           Mill Moduler:         Sumple Area         MUD VolUME:         Observation:         Description:         Case Moduler:           Drill Ppe Size:         Length         Description:         Case Moduler:         Description:         Description:         Case Moduler:         Description:         Case Moduler:         Description:         Description:         Case Moduler:         Description:         Case Moduler:         Description:         Case Moduler:         Description:         Case Moduler:         Description:         Description:         Description:         Description:         Case Moduler:         Description:         Description:         Description:         Description:         Case Moduler:         Description:         Case Moduler:         Description:         Description:         Description:         Description:         Description:         Desc						Spud Da	te 27/05/20	05	Mud Type	C	aCI Brine		
Operator         Santo I ad Report For:         Field/Area:         Ice M44 Description:           Report For:         Cashing:         Description:         Cashing:         Description:         Cashing:           Report For:         Field/Area:         Ice M44         Description:         Cashing:         Description:         Cashing:           Report For:         Field/Area:         Ice M44         Description:         Cashing:         Description:         Cashing:         Description:         Cashing:         Description:         Cashing:					1	Nater Dep	th 71		Activity	Co	ompletions		
Report For:         Ronk SingPlank Nardone:         Description:         Contractor:         Descri	Operator :	Santos Ltd					Field	/Area :	Vic P44				
Weil Name : Casting 4 DW2 Contractor : Dumond 0104orc Report For : Ray PreundMike Promit         Location : Otway Basin ML Woll No. :           DRLLING ASSEMBLY DRLLING	Report For :	Ron King/Pa	ul Nardor	ne			Descri	ption :	Gas Producer				
Contractor :         Dumma differer         MUD VOLUME         (phi)         Circulation At an analysis           DRULING ASSEMULY         CASING         MUD VOLUME         (phi)         Pump Make/OULWELL 1700/T AATRONAL 12P-106           Drill Prep Size         Length         Strate in         Origon (phi)         Strate in         (phi)         Pump Make/OULWELL 1700/T AATRONAL 12P-106           Drill Prep Size         Length         Strate in         (phi)         Active Pis         Pump Make/OULWELL 1700/T AATRONAL 12P-106           Drill Prep Size         Length         Total Circulating Vol         Flow Rate         gal/bit           Drill Collar Size         Length         Fromeworks         Total Circulating Vol         Flow Rate         gal/bit           Drill Collar Size         Length         Fromeworks         Strate Strate Analy (STVD)         Strate Strate Analy (STVD)         Strate Strate Analy (STVD)         Strate Strate Analy (STVD)         Strate Strate Analy (Strate Strate Analy (STVD)         Strate St	Well Name :	Casino 4 DW	/2				Loc	ation :	Otway Basin				
Report For :         Ray BreadWike Prazik         CASING         MUD VOLUME         (bit)         CIRCULATION DATA           Bit Size in	Contractor :	Diamond Of	fshore				M-I We	II No. :					
DRILLING ASSEMPLY         CASING         MUD VOLUME         (bit)         Drum Make (DIWFI). 1700P1         CIRCULATION DATA           Nozzie	Report For :	Ray Breaud/	Mike Praz	mik									
Bit Size         im         Surface         Hole         Pump Make OLIVELT DOPT ' ATDOXAL (2P-16)           Drill Pipe Size         Length         Intermediate (NTD)         Active Pite         Pump Size         6.212 in         6.53 L (2 in)           Drill Pipe Size         Length         Intermediate (NTD)         Total Creating Voi         Pump Size         6.23 L (2 in)           Dift Dep Size         Length         Intermediate (NTD)         Total Creating Voi         Pump Make OLIVELT DOPT ' ATDOXAL (2P-16)           Dift Dep Size         Length         Intermediate (NTD)         Total Creating Voi         Pump Size         6.23 In (2 in)           Dift Dep Size         Length (17 in)         Production on Length         Is Storage         Circulating Pressure         Size         Amt           NuD PROPERTIES         MUD PROPERTIES         Production on Length         Size         Amt         CALCUM CHLORIDI Sizes         Size         Amt           Revolues (Temp ' C         mmel Visensity ' Sit 39         Size         Amt         CALCUM CHLORIDI Sizes         Size         Amt           Dift Dromo         mmel Visensity ' Sit 39         Size         MuD         Size         Amt           Solide         get Mith         Size         MuD         Size         Mith	DRILLING A	ASSEMBLY		CASIN	G	MUD VC	DLUME (bb	1)	CIRC	ULATION	N DATA		
Nozzies         132"         30m (212m (1) (217VD)         569.9         Pump Size         6.5 X (2) m         6.5 X (2) m           m         m         13.3*5m (212m (1) (217VD)         Ford (212m (1) (212m (2) m) (212m (2) (212m (212m (2) (212m (2) (212m (212m (2) (212m (2) (212m (212m (2) (212m (21	Bit Size in			Surface			Hole		Pump Make OIL	WELL 1700	PT VATIONA	L 12P-16(	
Drift Pipe Size         Length         Intermediate         Active Pits         Pump Cap         call site         call site           Drift Pipe Size         Length         Total Circulating Vol         Liou Rate         gal/min           Drift Pipe Size         Length         editor Circulating Vol         Liou Rate         gal/min           Drift Pipe Size         Length         editor Circulating Vol         Total Circulating Vol         Total Circulating Vol           Dift Otals Size         Length         Storage         Total Circulating Vol         Total Circulating Vol           Simple From         Production or Liner         Storage         Production Circulating Pressure         Anti           Muld Weight         sp.gr. 1.2         Endeduct Temp         C         Production Circulating Pressure         CAICUM CHI DRIDE Sacks         Size Anti           New Work Storage         C         Production Circulating Pressure         Size Anti         CAICUM CHI DRIDE Sacks         Size Anti           Py         Ib/100F         Size Anti         Size Anti         Size Anti         CAICUM CHI DRIDE Sacks         Size Anti           Py         Ib/100F         Size Anti         Size Anti         Size Anti         Size Anti           District Circulating Size Anti         Size Anti         Siz	Nozzles 1/32"		30ii	<u>n @137m (13'</u>	7TVD)		569.9		Pump Size	<u>6 X 12.in</u>	6.5 X	12.in	
mm         13.3 millip 42.6m (42.1V.3)         Total (3.4, i.m. gv of International (14.2V.3)         Total (3.4, i.m. gv of International (14.2V.3) <th (1<="" (3.4,="" cold="" gv="" i.m.="" international="" of="" td=""><td>Drill Pipe Size</td><td>Length</td><td>12.27</td><td>Intermedia</td><td>te</td><td>A</td><td>ctive Pits</td><td>D</td><td>Pump Cap</td><td>gal/s</td><td>tk</td><td>gal/stk</td></th>	<td>Drill Pipe Size</td> <td>Length</td> <td>12.27</td> <td>Intermedia</td> <td>te</td> <td>A</td> <td>ctive Pits</td> <td>D</td> <td>Pump Cap</td> <td>gal/s</td> <td>tk</td> <td>gal/stk</td>	Drill Pipe Size	Length	12.27	Intermedia	te	A	ctive Pits	D	Pump Cap	gal/s	tk	gal/stk
Diff         Diff <thdiff< th="">         Diff         Diff         <thd< td=""><td>In Drill Ding Size</td><td> m</td><td>13.37</td><td><math>\frac{\sin(a)}{42m}</math></td><td>(421VD)</td><td>Total</td><td>154.1</td><td>1 P</td><td>ump stk/min</td><td>Data</td><td>ao1/m</td><td>in</td></thd<></thdiff<>	In Drill Ding Size	m	13.37	$\frac{\sin(a)}{42m}$	(421VD)	Total	154.1	1 P	ump stk/min	Data	ao1/m	in	
Drill Collar Size     Length     Production or Line (1) 1996       mit Collar Size     Total Circle Total       mit Collar Size     Circulating Pressure       MUD PROPERTIES     996       Sample From     Size 2 Anti       Flow Line Temp     Circulating Pressure       Products     Size 2 Anti       Carculating Pressure     Size 2 Anti       Carculating Pressure     Size 2 Anti       Carculating Pressure     Size 3 Anti       Carculation Pressure <td>in Dini Pipe Size</td> <td>Length</td> <td>0.625;</td> <td>mermedia</td> <td><math>\frac{10}{741 \text{TVD}}</math></td> <td>Total C</td> <td>154 1</td> <td>1</td> <td><u>ГІО</u> Вottom</td> <td>Kale s Up</td> <td>gai/II</td> <td>1111</td>	in Dini Pipe Size	Length	0.625;	mermedia	$\frac{10}{741 \text{TVD}}$	Total C	154 1	1	<u>ГІО</u> Вottom	Kale s Up	gai/II	1111	
International of the second	Drill Collar Size	Length	9.0231 Pr	aduction or	Liner	Ir	Storage		Total Circ	Time			
MUD PROPERTIES         PRODUCTS USED LAST 24 HRS           Flow Line Temp         Size         Ami           Flow Line Temp         C         Size         Ami           CALCIUM CHLORIDE Sacks         25 KG BG         9           Depth/TVD         m         CALCIUM CHLORIDE Sacks         25 KG BG         9           Recology Temp         *C         39         CALCIUM CHLORIDE Sacks         25 KG BG         9           Recology Temp         *C         39         CALCIUM CHLORIDE Sacks         25 KG BG         9           Recology Temp         *C         39         CALCIUM CHLORIDE Sacks         25 KG BG         9           Total Marking Composition         CALCIUM CHLORIDE Sacks         25 KG BG         9         CALCIUM CHLORIDE Sacks         25 KG BG         9           Total Composition         CALCIUM CHLORIDE Sacks         25 KG BG         9         CALCIUM CHLORIDE Sacks         25 KG BG         9           Total Composition         CALCIUM CHLORIDE Sacks         25 KG BG         9         CALCIUM CHLORIDE Sacks	in	m	6 625i	m @2404m (1)	787TVD)		996		Circulating Pre	ssure			
Sample From         Products         Size         Num           Depth/TVD         m		MUD	PROPER	TIES	/0/1/2/	1	//0		PRODUCT	S USED I	AST 24 HR	s	
Flow Line Temp         *C         CALCUM CHLORIDE Sacks         25 KG BG         9           Mud Weight         sp.gr.         1.2	Sample From			Pit 4@8:00				Pro	oducts		Size	Amt	
Deptit/TVD         m           Fund Wight         sp.gr.         1.2           Fund Wight         sp.gr.         1.2           Fund Wight         sp.gr.         1.2           Roboley Temp         °C         sc.           Solido         °C         sc.           Solido         °E         sc.           Filt         Sc.         Sc.           Solido         Sc.         Sc.           Chindruker         %Vo	Flow Line Temp		°C					CA	LCIUM CHLORIE	DE Sacks	25 KG BG	9	
Mid Weight         sp.gr.         1.2           Rheology Temp         % oft         39           Rheology Temp         % C         39           Rheology Temp         % C         39           Rhool Stato         100         100           R200 R100         100         100           R200 R100         100         100           R200 R100         100         100           RAW MS         0.00 R100         100           RAW MS         0.00 R100         100           RAW MS         0.00 R100         100           MITHP 11         100 R100         100           Sold and % Vol         100         100           MBT         10 MM (Pm)         9           Akad Mud (Pm)         9         100           PVM         100 MM (Pm)         9           LSRV 0.3 mm         100         100           LSRV 0.3 mm         100         100           LSRV 0.3 mm         1226 000         100           LSRV 0.3 mm         120         120           LSRV 0.3 mm         120         120           LSRV 0.3 mm         120         120           LSRV 0.1 mm         120 </td <td>Depth/TVD</td> <td></td> <td>m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Depth/TVD		m										
Fund         State         39           Relology Torp         °C           YP         °C           Solids         °C           Solids         °C           Solids         °C           Solids         °C           Solids         °C           Solids         °C           MBT         lobbi           Solids         °C           Chiords         mgl           LSR         °C           DCAP         ppbi	Mud Weight		sp.gr.	1.2									
Sheelogy Temp         °C         C           R200/R100	Funnel Viscosity		s/qt	39									
Source         Source<	Rheology Temp		°C										
K.COV.1100         CP         CP           PY	R600/R300												
SO(X2 YP         cP         cP           YP         ib/100ft²         ib/100ft²           YP         ib/100ft²         ib/100ft²           API Fluid Loss         cc/30 min         ib/100ft²           API Fluid Loss         cc/30 min         ib/100ft²           Cake API/HTIP         i/32t²         ib/100ft²           Solids         %Vol         ib/100ft²           Oil/Water         %Vol         ib/100ft²           MBT         ib/bbi         ib/100ft²           Aka Mud (Pm)         9         ib/100ft²           FMM         g26 000         ib/100ft²           KCI         %         ib/100ft²           IDCAP         ppb         ib/100ft²           LSRV 0.3rpm         ib/100ft²         ib/100ft²           Back loade 7 bitk bags of KCI on the 5/60.5 sec of CaC12 unusable dumped. Mud engineers left rig 6/605 due to lack of bed space.         ib/100ft²           TIME DISTR         Lest 24 Hrs         MUD VOL ACCT3         (b/i)           Filting         Oil Akidd         0         KCI           Mud Regineers left rig 6/605 due to lack of bed space.         ib/100ft²         ib/100ft²           TIME DISTR         Lest 24 Hrs         MUD VOL ACCT3         (b/i)         ib/100ft²	K200/R100												
Co         b) 100t2           108/10m/30m Gel         b) 100tP           108/10m/30m Gel         b) 100tP           APP Fluid Loss         cc/30 min           Cack APP/ITHP         1732"           Solids         % Voi           Solids         % Voi           Sand         % Voi           MBT         1b/bbi           pH         9           Akal Mud (Pm)         9           P/Mf         9           Akal Mud (Pm)         9           MBT         1b/bbi           D/CAP         ppb           LSRV 0.3rpm         0           LSRV 0.3rpm         0           LSRV 0.3rpm         1.26           Viscosity         LSR 50-70K           Filtrate         <	R6/R3		-D										
Image: Section of the sector of the secto		11-	CP 100ft2										
API Fluid Tass     Dec 30 min       ITTIP FL Temp     cc30 min       Cack APP/HTP     1/32"       Solids     %Vol       Oil/Water     %Vol       Sand     %Vol       MBT     hb/bbl       pH     9       Akal Mud (Pm)     9       PYMf     9       Cholorides     mg/l       Zeta     mg/l       DiCAP     mg/l <t< td=""><td><math>\frac{11}{10s/10m/30m}</math> Gel</td><td></td><td><math>\sqrt{100 ft^2}</math></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	$\frac{11}{10s/10m/30m}$ Gel		$\sqrt{100 ft^2}$										
ITTLP FL Temp         cc:30 min	API Fluid Loss		30  min										
Cake AP/HTHP         1/32"           Oil/Water         %Vol           Sand         %Vol           Sand         %Vol           Sand         %Vol           Sand         %Vol           MBT         Ib/bbl           pH         9           Alkal Mud (Pm)         9           P/Mf         Ph           Choirides         mg/l           CAlc         mg/l           Choirides         mg/l           DCAP         ppb           LSR V0.3rpm         O           LSR V0.3rpm         O           MUD PROPERTY SPECIFICATIONS           Weight         1.26           Viscosity         LSR V0.3rpm           Mud engineers left rig 6/6/05 due to lack of bed space.           REMARKS AND TREATMENT           Rek loaded 7 bulk bags of KCID unte 5/6/05 3 spacks of CaCI2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.           TIME DISTR         Last 24 Hrs           MUD VOL ACCTG         (bb)           Solids         Mud Property SPECIFICATIONS           Reg Up/Service         OIL Added           Drilling         Water Added           Solids         Nol           Solids<	HTHP FL Temp	cc/	30 min										
Solids     %Vol       Oil/Water     %Vol       Sand     %Vol       Sand     %Vol       MBT     lb/bbl       JII     9       Alkal Mud (Pm)     9       Chlorides     mg/l       Exponentiation     9       Chlorides     mg/l       IDCAP     ppb       LSR V. 3.rpm     9       MUD PROPERTY SPECIFICATIONS       Weight     1.26       Viscosity     LSR 50-70K       Filtrate     <5	Cake API/HTHP		1/32"										
Oil/Water         % Vol           Sand         % Vol           MBT         1b/bbl           MBT         1b/bbl           PI         9           Alkal Mud (Pm)         9           P/MI         0           Chlorides         mg/l           P/MI         0           Hardness Ca         mg/l           KCI         %           DCAP         ppb           LSRV 0.3rpm         0           LSRV 0.3rpm         0           LSRV 0.3rpm         0           LSRV 0.3rpm         0           LSRV 0.47 by b         1.26           Wight         1.26           Sociuda 7 bulk bags of KCI on the 5/60.5 spaces of CCI 2 unusable           dumped         0         NaCl           filture         0           Drilling         Water Added         0	Solids		%Vol										
Sand     %Vol       MBT     Ib/bbl       pH     9       Alkal Mud (Pm)     9       P/Mrt     P/Mrt       Chlorides     mg/l       Lardness Ca     mg/l       Chlorides     mg/l       KCI     %       IDCAP     ppb       LSRV 0.3rpm     O       LSRV 0.3rpm     O       MUD PROPERTY SPECIFICATIONS       Weight     1.26       Viscosity     LSR 50-70K       Filtrate     <5	Oil/Water		%Vol										
MB1         Ib/bbl         MB1         WMS Shaker 1         4 x 200         0           Alkal Mud (Pm)         9         Alkal Mud (Pm)         9         0         VSM Shaker 1         4 x 200         0           Alkal Mud (Pm)         9         0         VSM Shaker 1         4 x 200         0           Chlorides         mg/l         0         VSM Shaker 3         4 x 200         0           KCl         %         0         0         VSM Shaker 3         4 x 200         0           KCl         %         0         0         O         0         0         0           LSR V0.3rpm         0         0         0         0         0         0         0           LSR V0.3rpm         0         0         0         0         0         0         0           REMARKS AND TREATMENT         0         0         NoC         126         Viscosity         LSR 50-70K           Back loaded 7 bulk bags of KCl on the 5/605 s sacks of CaCl2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.         0         NaCl         62/         np/na <values< td="">         0           Drilling         Water Added         0         NaCl         /         kptsa/100P)         0&lt;</values<>	Sand		%Vol					SC	DLIDS EQUIP		Size	Hr	
prid       9       9         Atkal Mud (Pm)       9       9         Pf(Mf       1       1         Pf(Mf       226 000       1         Hardness Ca       mg/l       1         KCl       %       1         IDCAP       ppb       1         LSRV 0.3rpm       1       0         IDCAP       ppb       1         LSRV 0.3rpm       1       1.26         Weight       1.26       1.26         Viscosity       LSR 50-70K         Filtrate       -5         REMARKS AND TREATMENT       Weight       1.26         Back loaded 7 bulk bags of KCl on the 5/605 9 sacks of CaCl2 unusable dumped. Mud engineers left rig 6/605 due to lack of bed space.       NuD REOLOGY & HYDRAULICS         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%//bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       -7       kpka (the's n'100P)         Tipping       Wud Received       0       KCl       -7       kpka (the's n'100P)         Non-Productive Tim       Dumped       0       Bentonite       7       kpka (the's n'100P)         Non-Productive Tim	MBT		lb/bbl	0				VS	SM Shaker 1	4	4 x 200	0	
Alkal Wuld (FIII)       VSM Shaker 3       4 x 200       0         Chlorides       mg/l       226 000       0         Hardness Ca       mg/l       0       0         KCI       %       0       0         IDCAP       ppb       0       0         LSRV 0.3rpm       0       0       0         LSRV 0.3rpm       0       0       0         MUD PROPERTY SPECIFICATIONS       Weight       1.26         Weight       1.26       0       0         Visiosity       LSR 50-70K       Filtrate       <5	pH Alleal Mard (Day)			9				VS	SM Shaker 2	2	4 x 230 4 x 200	0	
PI/MI     mg/l     226 000       Hardness Ca     mg/l       Andress Ca     mg/l       Multiple     %       IDCAP     ppb       LSRV 0.3rpm	Alkal Mud (Pm)							VS	SM Shaker 3	2	4 x 200 4 x 200	0	
Childreds     Img/     220 000       KCI     %       IDCAP     ppb       IDCAP     ppb       IDCAP     ppb       ISRV 0.3rpm     IDCAP       ISRV 0.5 (Store 100 fb/6/05 9 sacks of CaCI2 unusable       Mud engineers left rig 6/6/05 due to lack of bed space.       TIME DISTR     Last 24 Hrs       MUD VOL ACCTG     (bbl)       SolIDS ANALYSIS (%/Ib/bbl)     MUD RHEOLOGY & HYDRAULICS       Rig UpService     OI Added       Orill Iod (IDCAP     NCI       Annover Coductive Tim     Dumped       Dumped     O Bentonite       //>Tripping     Mud Received     O Chemical Cone       //>Tripping </td <td>Chlorides</td> <td></td> <td>mg/1</td> <td>226.000</td> <td></td> <td></td> <td></td> <td></td> <td>ontrifuge</td> <td>2</td> <td>+ X 200</td> <td>0</td>	Chlorides		mg/1	226.000					ontrifuge	2	+ X 200	0	
Immediate Cu     Ingri     Immediate       KCl     %       IDCAP     ppb       LSRV 0.3rpm     Immediate       LSRV 0.3rpm     Immediate       IDCAP     ppb       LSRV 0.3rpm     Immediate       IDCAP     Immediate       IDCAP     Ppb       IDCAP     Immediate       IDCAP     Index       IDCAP     Index       IDCAP     IDCAP       IDDEAP     IDCAP       IDCA	Hardness Ca		mg/l	220 000				D-	Silter			0	
KCl       %       milling         IDCAP       ppb       multiple         LSRV 0.3rpm       multiple       multiple         ISQUE       MUD PROPERTY SPECIFICATIONS         Weight       1.26         Viscosity       LSR 50-70K         Filtrate       <5	That all top ou		<u>8</u> ,1					-				Ū	
IDCAP       ppb         LSRV 0.3rpm	KCl		%										
LSRV 0.3rpm         MUD PROPERTY SPECIFICATIONS         Weight       1.26         Weight       1.26         Viscosity       LSR 0.70K         Filtrate       <5         REMARKS AND TREATMENT         Back loaded 7 bulk bags of KCl on the 5/6/05. 9 sacks of CaCl2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SoLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na <values< td="">       Tipping         Tipping       Water Added       0       KCl       /       kp/ka (lbs*m/100fP)       Tripping         Torpoductive Tim       Dumped       0       Bentonite       /       Bit Loss (psi /%)       Mud RHEOLOGY &amp; HYDRAULICS         Running Casing       Evaporation       0       Weight Material       /       Ann. Vel DC (m/s)       Condition Hole         String       Centrifuge       0       Chemical Conc       -       Aum. Vel DP (m/s)       Esting         Condition Hole       Sheers       0       Diret/React       Crit Vel DP (m/s)       Crit Vel DP (m/s)       Crit Vel DP (m/s)</values<>	IDCAP		ppb										
Image: Second	LSRV 0.3rpm												
Image: Second													
Image: Second State Sta									MUD PROPE	ERTY SPE	ECIFICATIO	NS	
Viscosity       LSR 50-70K         Filtrate       <5         REMARKS AND TREATMENT         Back loaded 7 bulk bags of KCl on the 5/6/05. 9 sacks of CaCl2 unusable         dumped. Mud engineers left rig 6/6/05 due to lack of bed space.         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values       Diffing         Drilling       Water Added       0       KCl       /       Kp/ka       (brs/n100ft <sup>2</sup> )       Diffing       Di									Weigh	it	1.26		
Futrate       < 5         REMARKS AND TREATMENT       REMARKS         Back loaded 7 bulk bags of KCI on the 5/6/05. 9 sacks of CaCl2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.       REMARKS         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values         Drilling       Water Added       0       KCl       /       kp/ka (lbrs^n/100ft²)									Viscosity	y	LSK 50-70K		
REMARKS AND TREATMENT         Back loaded 7 bulk bags of KCl on the 5/6/05. 9 sacks of CaCl2 unusable dumped. Mud engineers left rig 6/6/05 due to lack of bed space.       REMARKS         TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values         Drilling       Water Added       0       KCl       /       kpika (lbs?m/100ft²)       Times (bbl)         Non-Productive Tim       Dumped       0       Bentonite       /       Bit HHP (hhp / HSI)         Condition Hole       Shakers       0       Drillid Conc       - /       Ann. Vel DP (m/s)         Testing       Centrifuge       0       Chemical Conc       - /       Ann. Vel DP (m/s)         Testing       Formation       0       Inert/React       Crit Vel DP (m/s)       Inert/Neatterial         M-I ENGR / PHONE       RiG PHONE       WAREHOUSE PHONE       DALLY COST       CUMULATIVE COST         Gordon Howie       Gilen Share       S. 103.86       S. 169.726.78									Fillrat	C	<u>~</u> 3		
Notice interview interv	F								REMARK	9			
Control of the origination origination of the origination of the origination origination origination of the origination	Back loaded 7 bulk h	hags of KCl on t	the 5/6/05	9 sacks of Ca	Cl2 unusa	ble				5			
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values       Nalues         Drilling       Water Added       0       KCl       /       kp/ka (lb/ss^n/100ft²)       Nalues       Nalues         Tripping       Mud Received       0       Low Gravity       /       Bit Loss (psi / %)       Nalues         Non-Productive Tim       Dumped       0       Bentonite       /       Bit HIP (hhp / HSI)       Condition Hole         Shakers       0       Drill Solids       /       Bit Jet Vel (m/s)       Image: Condition Hole       Shakers       Image: Condition Hole       Shakers       Image: Condition Hole       Ann. Vel DP (m/s)       Image: Condition Hole       Image: Condition Hole       Image: Condition Hole       Ann. Vel DP (m/s)       Image: Condition Hole       Image: Condition Hole       Image: Condition Hole       Image: Condition Hole       Crit Vel DP (m/s)       Image: Condition Hole       Image: Condition Hole       Crit Vel DP (m/s)       Image: Condition Hole       Image: Condition Hole       Crit Vel DC (m/s)       Image: Condition Hole       Image: Condition Hole       Crit Vel DC (m/s)       Image: Condition Hole       Crit Vel DC (m/s) <t< td=""><td>dumped. Mud engin</td><td>neers left rig 6/6</td><td>/05 due to</td><td>ack of bed sp</td><td>ace.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	dumped. Mud engin	neers left rig 6/6	/05 due to	ack of bed sp	ace.								
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values	Free C	8											
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values													
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values         Drilling       Water Added       0       KCl       /       kp/ka<(lb*s^n/100ft²)													
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values       D         Drilling       Water Added       0       KCl       /       kp/ka<(lb*s^n/100ft²)													
TIME DISTR       Last 24 Hrs       MUD VOL ACCTG       (bbl)       SOLIDS ANALYSIS (%/lb/bbl)       MUD RHEOLOGY & HYDRAULICS         Rig Up/Service       Oil Added       0       NaCl       6.2/       np/na       Values         Drilling       Water Added       0       KCl       /       kp/ka       (lbs'n/100ft²)         Tripping       Mud Received       0       Low Gravity       /       Bit Loss (psi / %)         Non-Productive Tim       Dumped       0       Bentonite       /       Bit HP (hhp/HSI)         Condition Hole       Shakers       0       Drill Solids       /       Bit Jet Vel (m/s)         Running Casing       Evaporation       0       Weight Material       /       Ann. Vel DP (m/s)         Testing       Centrifuge       0       Chemical Conc       -/       Ann. Vel DP (m/s)         Evaporation       0       Inert/React       Crit Vel DP (m/s)													
TIME DISTR         Last 24 Hrs         MUD VOL ACCTG         (bbl)         SOLIDS ANALYSIS (%/lb/bbl)         MUD RHEOLOGY & HYDRAULICS           Rig Up/Service         Oil Added         0         NaCl         6.2/         np/na         Values													
Rig op/Service       Off Added       0       NaCl       6.2/       np/na       Values         Drilling       Water Added       0       KCl       /       kp/ka (lbs*n/100ft²)       ////////////////////////////////////	TIME DISTR L	ast 24 Hrs	MUD VOL	ACCTG	(bbl)	SOLIE	S ANALYSIS	(%/lb/bb	DI) MUD F	RHEOLOG	Y & HYDRAU	LICS	
Tripping     Mud Received     0     Low Gravity     /     Bit Loss (psi / %)       Non-Productive Tim     Dumped     0     Bentonite     /     Bit Loss (psi / %)       Condition Hole     Shakers     0     Drill Solids     /     Bit Loss (psi / %)       Running Casing     Evaporation     0     Weight Material     /     Ann. Vel DP (m/s)       Testing     Centrifuge     0     Chemical Conc     -     /     Ann. Vel DP (m/s)       Formation     0     Inert/React     Crit Vel DP (m/s)	Drilling		ater Added		0	KCl		6.2	/ np/na Valu kn/ka (lb•s	es ^n/100ft²)			
Non-Productive Tim       Dumped       0       Bentonite       /       Bit HHP (hhp / HSI)         Condition Hole       Shakers       0       Drill Solids       /       Bit Jet Vel (m/s)         Running Casing       Evaporation       0       Weight Material       /       Ann. Vel DP (m/s)         Testing       Centrifuge       0       Chemical Cone       -       /       Ann. Vel DC (m/s)         Testing       Centrifuge       0       Inert/React       Crit Vel DP (m/s)       ////////////////////////////////////	Tripping	M	ud Receive	d	0	Low Grav	ity	/	Bit Loss (p	<u>si / %</u> )			
Condition Hole       Shakers       0       Drill Solids       /       Bit Jet Vel (m/s)         Running Casing       Evaporation       0       Weight Material       /       Ann. Vel DD (m/s)         Testing       Centrifuge       0       Chemical Conc       -       /       Ann. Vel DD (m/s)         Testing       Centrifuge       0       Chemical Conc       -       /       Ann. Vel DD (m/s)         Formation       0       Inert/React       Crit Vel DP (m/s)       ////////////////////////////////////	Non-Productive Tim	ı Du	umped		0	Bentonite		/	Bit HHP (h	hp/HSI)			
Kunning Casing     Evaporation     0     Weight Matchai     /     Ann. Vei DP (m/s)       Testing     Centrifuge     0     Chemical Conc     - /     Ann. Vei DP (m/s)       Formation     0     Inert/React     Crit Vel DP (m/s)       Left in Hole     0     Average SG     Crit Vel DC (m/s)       Other     0     Carb/BiCarb (m mole/L)     /       M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Gordon Howie     Glen Shame     \$ 103.86     \$ 169.726.78	Condition Hole	Sh	akers		0	Drill Solid	S aterial	/	Bit Jet Vel	(m/s)			
Formation     0     Inert/React     Crit Vel DP (m/s)       Left in Hole     0     Average SG     Crit Vel DC (m/s)       Other     0     Carb/BiCarb (m mole/L)     /       M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Gordon Howie     Glen Sharpe     \$ 103.86     \$ 169.726.78	Testing		entrifuge		0	Chemical	Conc	-	Ann. Vel Di	C(m/s)			
Left in Hole     0     Average SG     Crit Vel DC (m/s)       Other     0     Carb/BiCarb (m mole/L)     /       M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Gordon Howie     Image: Comparison of the state		Fo	ormation		Õ	Inert/Reac	t		Crit Vel DP	(m/s)			
Other     0     Carb/BiCarb (m mole/L)     /       M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Gordon Howie     Glen Sharpe     \$ 103 86     \$ 169 726 78		Le	eft in Hole		0	Average S	G	,	Crit Vel DC	(m/s)			
M-I ENGR / PHONE     RIG PHONE     WAREHOUSE PHONE     DAILY COST     CUMULATIVE COST       Gordon Howie     Glen Sharpe     \$ 103 86     \$ 169 726 78			Iner		0	Carb/BiCa	ro (m mole/L)	/					
Gen Sharpe \$ 103.86 \$ 169.726.78	M-I EN	IGR / PHONE		RI	G PHON		WAREHOUSE	PHONE		SI (	JUMULATIVE	COST	
	Gordon Howie								\$ 103.86		\$ 169.72	6 78	

						WA	TER-	BAS	SED MU	D REF	PORT	No.	13
MiSi	MAC	;0				Date	8/06/200	05	Depth/TVD	)	2404 m /	1787 r	n
					Spud I	Date	27/05/20	05	Mud Type	)	CaCl	Brine	
				V	Vater D	epth	71		Activity	1	Compl	etions	
Operator :	Santos Ltd						_Field/	Area	: Vic P44				
Report For :	Ron King/Pau	I Nardor	e				Descrip	ption	: Gas Produc	er			
Well Name :	Casino 4 DW2	2					Loca	ation	: Otway Bası	n			
Contractor :	Diamond Offs	hore					IVI-I VVEI	II NO.	:				
		like Praz						n	(			тл	
Bit Size in			Surface				nn⊏ (nn ole	1)	Pump Make	OIL WELL	1700PT		AL 12D 160
Nozzles 1/32"		30ir	@137m (137TV	/D)		56	99		Pump Size	6 X 1	$\frac{170011}{2}$ in	653	$\frac{121-100}{12}$
Drill Pipe Size	Length	0.011	Intermediate	2)		Activ	e Pits		Pump Cap	0111	gal/stk	0.0 1	gal/stk
in	m	13.37	5in @742m (742	ΓVD)		154	4.1		Pump stk/min				~
Drill Pipe Size	Length		Intermediate		Tota	l Circ	ulating Vol	1	]	Flow Rate		gal/r	nin
In Drill Caller Size	m	9.6251	<u>1 @1990m (1741</u>	TVD)		15	4.1		Bo	ottoms Up			
in Drill Collar Size	Length	6 625i	auction of Lin $@2404m (1787)$	er TVD)			orage		Circulating	Pressure			
111		ROPER	TIFS	110)			/0		PROD	UCTS US	FD I AST	24 HE	2S
Sample From						_		F	Products			Size	Amt
Flow Line Temp		°C											
Depth/TVD		m		_									
Mud Weight		sp.gr.				_							
Funnel Viscosity		s/qt				-		$\vdash$					
R600/R300		U				-		⊨					+
R200/R100						-							
R6/R3													
PV		cP											
YP	lb/	100ft <sup>2</sup>				_							
A DI Eluid Loss	<u> </u>	0 min				_							
HTHP FL Temp	$\frac{\text{cc/3}}{\text{cc/3}}$	$0 \min_{0 \min}$				_							
Cake API/HTHP		1/32"											
Solids		%Vol											
Oil/Water		%Vol				_							
Sand		%Vol				_		5	SOLIDS EQU	IP	Size	0	Hr
MB1 pH		10/001				-		X	VSM Shaker 1		$\frac{4 \text{ x } 20}{4 \text{ x } 23}$	0	0
Alkal Mud (Pm)						_		N	VSM Shaker 3		$\frac{4 \times 2}{4 \times 2}$	0	0
Pf/Mf								V	VSM Shaker 4		4 x 20	0	Ő
Chlorides		mg/l						(	Centrifuge				0
Hardness Ca		mg/l				_		Ι	D-Silter				0
KC1		0/_				_							
IDCAP		ppb				-							
LSRV 0.3rpm		PP*											
						4		$\vdash$			SPECIF		ONS
						-		-	Wie-	eight	ICD	1.20 50 701	,
						-		$\vdash$		iltrate	LSK	<5	
						1			1			~	
R	REMARKS AN	ID TRE	ATMENT						REMA	ARKS			
Back loaded 4 x 1.2	MT Flossy Salt.												
TIME DISTR L	ast 24 Hrs M		ACCTG (b	bl)	SO	LIDS A	NALYSIS	(%/lb/	bbl) M	UD RHEO	LOGY & H	YDRAL	ILICS
Drilling	Wat	ter Added		0	KCl			6	$\frac{np/na}{kp/ka}$	(lb•s^n/100	ft²)		
Tripping	Mud	d Receive	d	0	Low G	avity			/ Bit Lo	ss (psi / %)			
Non-Productive Tim	Dur Sha	nped kers		0	Bentoni Drill Sc	ite dids			/ Bit HI / Rit Lat	<u>1P (hhp / H</u> Vel (m/s)	.81)		
Running Casing	Eva	poration		0	Weight	Materi	al		/ <u>Ann.</u> V	<u>vel DP (m/s)</u>			
Testing	Cen	trifuge		0	Chemic	al Con	c	-	- / Ann. V	vel DC (m/s)	)		
	For Left	nation in Hole		0	Average	e SG			Crit Ve	$\frac{1}{2} \frac{DP}{DP} (\frac{m/s}{m/s})$			
	Oth	er		Õ	Carb/B	iCarb (1	m mole/L)		/				
M-I EN	GR / PHONE		RIG F	PHONE	E	WA	REHOUSE	PHON	E DAIL	COST	CUML	LATIVE	E COST
Glen Sharpe									\$ 0.0	0		5 169,72	26.78

			1	WATER-	BASE	D MUD RE	PORT No	<b>ɔ.</b> 14
Mí SWAC		_	Da	ate 9/06/20	05 Do	epth/TVD	2404 m / 178	7 m
			Spud Da	ate 27/05/20	)05 N	Aud Type	CaCl Brin	<b>e</b>
		N	later Dep	oth 71	/	Activity	Completio	ns
Operator : Santos Ltd	NT 1			Field	Area: V	1c P44		
Report For : Ron King/Paul	Nardone			Descri	ption : G	as Producer		
Well Name : Casino 4 DW2				LOC		tway Basin		
Contractor : Diamond Uffst	lore			IVI-I VVe	II NO. :			
					n			
Bit Size in	Su	ASING			I) Du		1700PT JATIC	NAL 12D 160
Nozzles 1/32"	30in @137	7m(137TVD)		569.9	P	Pump Size 6 X	$\frac{170011}{12}$ in 6	$5 \times 12$ in
Drill Pipe Size Length	Inter	mediate	A	ctive Pits	I	Pump Cap	gal/stk	gal/stk
in m	13.375in @7	42m (742TVD)		154.1	Pum	np stk/min		
Drill Pipe Size Length	Intern	mediate	Total	Circulating Vo	1	Flow Rate	g	al/min
in m	9.625in @199	90m (1741TVD)		154.1		Bottoms Up		
Drill Collar Size Length	Producti	on or Liner	1	n Storage		Total Circ Time		
		04m (1/8/1VD)		990			EDIAST 24	ПВС
Sample From					Produ		Size	Amt
Flow Line Temp	°C				11000	ucts	5120	Am
Depth/TVD	m							
Mud Weight s	sp.gr.							
Funnel Viscosity	s/qt							
Rheology Temp	°C							
R600/R300								
K200/K100								
NO/N3 PV	cP							
YP lb/1	00ft <sup>2</sup>							
10s/10m/30m Gel lb/1	00ft <sup>2</sup>							
API Fluid Loss cc/30	) min							
HTHP FL Temp cc/30	) min							
Cake API/HTHP	1/32" (N-1							
Solids %	Vol							
Sand 9	Vol				SOL		Size	Hr
MBT 1	b/bbl				VSM	Shaker 1	4 x 200	0
pН					VSM	Shaker 2	4 x 230	0
Alkal Mud (Pm)					VSM	Shaker 3	4 x 200	0
Pf/Mf	11				VSM	Shaker 4	4 x 200	0
Chlorides Uardraga Ca	mg/l				Centr	rifuge		0
Hardness Ca	iiig/1				D-31			0
KCl	%							
IDCAP	ppb							
LSRV 0.3rpm								
						MUD PROPERTY	<u> SPECIFICA</u>	FIONS
						Viscosity	1.26 ISP 50 /	70V
						Filtrate	LSK <u>30-</u>	/0K
						Thuate		
REMARKS AN	D TREATME	ENT				REMARKS		
TIME DISTR Last 24 Hrs MI	UD VOL ACC	TG (bbl)	SOLI	DS ANALYSIS	(%/lb/bbl)	MUD RHEC	LOGY & HYDF	AULICS
Rig Up/Service Oil A	Added	0	NaCl		6.2/	np/na Values		
Drilling Wate	er Added Received	0	KCl	vita	/	kp/ka (lb•s^n/10	0ft <sup>2</sup> )	
Non-Productive Tim Dum	need	0	Bentonite	/ity	/	Bit HHP (hhn / I	/ HSI)	
Condition Hole Shak	ters	Ő	Drill Soli	ds	/	Bit Jet Vel (m/s)	/	
Running Casing Evan	oration	0	Weight N	laterial	/	Ann. Vel DP (m/s	0	]
Testing Cent	nation	0	Inert/Real	conc	- /	Crit Vel DP (m/s	<u>9</u>	
Left	in Hole	0	Average	SG		Crit Vel DC (m/s	5	
Othe	r	0	Carb/BiC	arb (m mole/L)	/			
M-I ENGR / PHONE		<b>RIG PHONE</b>		WAREHOUSE	PHONE	DAILY COST	CUMULAT	IVE COST
						<b>•</b> • • • •		0.70(.70
Glen Sharpe						\$ 0.00	\$ 16	9,726.78

				WATER-	BASE	D MUD RE		o. 15				
MÍSWA				Date 10/06/20	05 De	epth/TVD	2404 m / 178	37 m				
			Spud I	Date 27/05/20	005 N	Aud Type	CaCl Brin	le				
Operator : Santos	I td	V	vater D	eptn 71 Field	Area · V	ACTIVITY	Completio	ns				
Report For : Ron Ki	ng/Paul Nardone			Descri	ption : G	as Producer						
Well Name : Casino	4 DW2			Loc	ation : O	tway Basin						
Contractor : Diamor	nd Offshore			M-I We	II No. :							
Report For: Ray Bro	eaud/Mike Prazn	ik										
DRILLING ASSEMI	BLY	CASING	MUD	OLUME (bb	l)	CIRCULA	TION DATA					
Bit Size in		Surface		Hole	Pu	imp Make OILWELI	L 1700PT NATI	ONAL 12P-16(				
Nozzles 1/32"	30in	@137m (137TVD)		569.9	Р	Pump Size 6 X	12.in 6	.5 X 12.in				
Drill Pipe Size Le	ength			Active Pits	- H	Pump Cap	gal/stk	gal/stk				
In Drill Dipa Siza	m 13.3/51	n (a) /42m ( /421VD)	Tote	154.1 I Circulating Vol	Pum	<u>Elow</u> Pate		al/min				
in Difficience Le	m 9.625in	@1990m (1741TVD)	100	154 1	1	Bottoms Un	2	3.41/11111				
Drill Collar Size Le	ength Pro	duction or Liner		In Storage		Total Circ Time	:					
in	m 6.625in	@2404m (1787TVD)		996	(	Circulating Pressure						
N	IUD PROPERT	IES				PRODUCTS US	SED LAST 24	HRS				
Sample From				_	Produ	ucts	Size	Amt				
Flow Line Temp	°C			_								
Depth/IVD Mud Weight	m											
Funnel Viscosity	sp.gr.			-								
Rheology Temp	°C			-								
R600/R300												
R200/R100				_								
R6/R3				_								
PV VD	<u>cP</u>											
$\frac{10}{10}$	$\frac{10/10011^2}{1b/100ft^2}$			_								
API Fluid Loss	$\frac{10/1001t}{cc/30 min}$			_								
HTHP FL Temp	cc/30 min											
Cake API/HTHP	1/32"											
Solids	%Vol											
Oil/Water	%Vol				201		0:	11				
MBT	% V 01				VSM	Shaker 1	<u> </u>	nr 0				
pH	10/001				VSM	Shaker 2	$\frac{4 \times 200}{4 \times 230}$	0				
Alkal Mud (Pm)					VSM	Shaker 3	4 x 200	0				
Pf/Mf					VSM	Shaker 4	4 x 200	0				
Chlorides	mg/l				Centr	rifuge		0				
Hardness Ca	mg/l				D-Sil	ter		0				
KC1	0/0											
IDCAP	ppb											
LSRV 0.3rpm												
				_		MUD PROPERTY	Y SPECIFICA	TIONS				
						Weight	1.26	701				
				_		V ISCOSITY Filtrate	LSK 50-	/0K				
				-		Thuate	< 3					
REMAR	KS AND TREA	TMENT				REMARKS						
	-					-						
TIME DISTR Last 24 H	Irs MUD VOL	ACCTG (bbl)	SO	LIDS ANALYSIS	(%/lb/bbl)	MUD RHEC	LOGY & HYD	RAULICS				
Rig Up/Service	Oil Added	0	NaCl KCl		6.2/	np/na Values	Oft <sup>2</sup> )					
Tripping	Mud Received	0	Low Gi	avity	/	Bit Loss (psi/%	)					
Non-Productive Tim	Dumped	0	Benton	te	/	Bit HHP (hhp/l	HSI)					
Condition Hole Running Casing	Shakers Evaporation	0	Drill Sc Weight	olids Material	/	Bit Jet Vel (m/s)						
Testing	Centrifuge	0	Chemic	al Conc	- /	Ann. Vel DC (m/s	5)					
	Formation	0	Inert/Re	eact		Crit Vel DP (m/s						
	Other	0	Averag Carb/R	e SG Carb (m mole/L)	/	Crit Vel DC (m/s	)					
MI FNGR / PH	IONE		- Curo/D		PHONE	DAILY COST	CUMULA	IVE COST				
			-	TARENOUSE		DAILT OUUT	JUNULA					
Glen Sharpe						\$ 0.00	\$ 16	59,726.78				
					WA	ATER-	BAS		) REP	ORT	<b>lo.</b> 1	16
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	MAC	U	<u> </u>		Date	11/06/200	05	Depth/TVD		2404 m / 1	787 m	
				Spud	Date	27/05/200	05	Mud Type		CaCl B	ine	
	<u> </u>			Water D	epth	71		Activity		Complet	ions	
Operator :	Santos Ltd	NT 1				Field//	Area	Vic P44				
Report For :	Ron King/Paul	Nardone				Descrip	otion :	Gas Producer				
Well Name :	Casino 4 DW2					Loca		Otway Basin				
Contractor :	Diamond Offsh	ore les Drozmile					I NO. :					
		ke Praznik	CASING			ME (bbi	<b>\</b>	CI			^	
Bit Size in			Surface	NIOD		ole (DDI	)	Pump Make C	NI WELL	1700PT NA		12P 16(
Nozzles 1/32"		30in @	137m (137TVD)		56	99		Pump Size	6 X 12	$\frac{1}{2}$ in	65X	12  in
Drill Pipe Size	Length	Int	ermediate		Activ	e Pits		Pump Cap		gal/stk	<u></u> g	al/stk
in	m	13.375in (	@742m (742TVD	)	154	4.1	]	Pump stk/min				
Drill Pipe Size	Length	Int	ermediate	Tota	al Circ	ulating Vol		Fle	ow Rate		gal/mi	in
In Daill Caller Circ	m	9.625in @	<u>1990m (1741TVI</u>	D)	15	4.1		Bott	oms Up			
Drill Collar Size	Length	Produ	ction or Liner $(1787T)/T$	N	In Sto	orage		Lotal Ci	rc Time			
111			<u>s</u>	<i>/</i> )		70			CTS US	EDIAST		
Sample From	MODIN		.0		_		р	roducts	010 001	Si	70	Amt
Flow Line Temp		°C					1	1000015		UI.		7 1111
Depth/TVD		m										
Mud Weight	S	p.gr.										
Funnel Viscosity		s/qt										
Rheology Temp		<u> </u>			_		$\vdash$					
R200/R100					-		$\vdash$					
R6/R3					-							
PV		сР										
YP	lb/1	00ft <sup>2</sup>										
10s/10m/30m Gel	<u>lb/1</u>	00ft <sup>2</sup>										
API Fluid Loss	cc/30	min										
Cake A PI/HTHP	CC/30	/32"			_		-					
Solids	0/	Vol										
Oil/Water	9/	6Vol										
Sand	9⁄	6Vol					S	OLIDS EQUIF	2	Size		Hr
MBT	11	o/bbl					V	VSM Shaker 1		4 x 200		0
pH							V	SM Shaker 2		4 x 230		0
Alkal Mud (Pm)							V	<u>/ SIM Shaker 3</u>		$\frac{4 \text{ x } 200}{4 \text{ x } 200}$		0
Chlorides		mø/l					Č	Centrifuge		4 A 200		0
Hardness Ca		mg/l					D	D-Silter				0
KCl		%										
IDCAP		ppb			_		_					
LSKV 0.51pm												
								MUD PRC	PERTY	SPECIFIC	ATION	IS
								We	ight	1.	26	
								Visco	sity	LSR 5	0-70K	
								Filt	rate	<	5	
Back loaded 2 x 1 2	<b>KEMARKS AN</b> I MT Flossy Salt	DIREAL	MENI					REMAR	KS			
Duck louded 2 x 1.2	wit i lossy buit.											
	aet 24 Hre MI			50			%/lb/b	obl) MU				201
Rig Up/Service	Oil A	dded		NaCl			6.	.2/ np/na V	alues			
Drilling	Wate	r Added	0	KCl				/ kp/ka (l	b•s^n/100	$ft^2$ )		
Non-Productive Tim	Mud Dum	ned	0	Low Gi Benton	ite			/ Bit Loss / Bit HHP	<u>5 (psi / %)</u> P (hhn / H9	SD		
Condition Hole	Shak	ers	Ő	Drill Sc	olids			/ Bit Jet V	/el (m/s)	~-/		
Running Casing	Evap	oration	0	Weight	Materi	al		/ Ann. Vel	DP (m/s)			
resung	Form	ation	0	Inert/R	eact	U	-	Crit Vel	DC (m/s)			
	Left	in Hole	Ő	Averag	e SG			Crit Vel	DC $(m/s)$			
	Other	r T	0	Carb/B	ICarb (I	m mole/L)		/				
M-I EN	GR / PHONE		RIG PHO	NE	WA	REHOUSE	PHON		COST	CUMUL	ATIVE	COST
Glen Sharpe								\$ 0.00		\$	169 726	78

						W	ATER-	BA	<u>S</u> ED	MUD	REP	ORT N	<u>lo.</u> 1	17
	WAC	U				Date	12/06/20	05	Dept	:h/TVD	2	404 m / 1	787 m	
					Spud	Date	27/05/20	05	Muc	d Type		CaCl Br	ine	
	<u> </u>			V	Vater D	epth	71		A	ctivity		Complet	ions	
Operator :	Santos Ltd						_Field/	Are	a: Vic F	P44				
Report For :	Ron King/Pat K	ing					Descri	ptio	n: Gas I	Producer				
Well Name :	Casino 4 DW2						LOC	atio	<b>n</b> : Otwa	iy Basin				
Contractor :	Diamond Offsh	ore					IVI-I VVEI		<b>b.</b> :					
Report For :	Ray Breaud/MI	ke Prazi		<u>^</u>			IME (LL	1)					•	
DRILLING P			CASIN	G	WOD		uu ⊃ivi⊏ iolo	1)	Dump		UNELI 1	700DT JA		12D 160
Nozzles 1/32"		30in	@137m (13	7TVD)		56	59.9	-	<u> </u>	n Size	$6 \times 12$	in NA	65 X	12P-100
Drill Pipe Size	Length	50111	Intermedia	ite		Activ	ve Pits		Pun	np Cap	0 A 12 g	al/stk	0.5 A	al/stk
in	m	13.375	in @742m (	742TVD)		42	4.1	-	Pump s	tk/min	p	ui/ oui	0	
Drill Pipe Size	Length		Intermedia	ite	Tota	al Circ	ulating Vol	1		Flov	v Rate		gal/mi	n
in	m	9.625in	<u>@1990m (1</u>	741TVD)		42	24.1			Botto	ms Up		-	
Drill Collar Size	Length	Pro	duction or	Liner		In St	orage	_	<i>.</i>	Total Circ	Time			
In	m MUD DD	6.625in	1 @2404m (1	(787TVD)		9	96		Circ	culating Pr	essure			
Sample From				0		_			Droderet	CODOC	13 USE		A HRS	Amet
Flow Line Temp			11 4( <i>u</i> )16:0	U		-			GUARC	) UM		25 V C	RC RC	Amt 7
Denth/TVD		m				-			JUAK U			23 KC	DO 1	/
Mud Weight	S	p.gr.	1.21											
Funnel Viscosity		s/qt												
Rheology Temp		°Č												
R600/R300														
R200/R100						_								
R6/R3		оD												
r v VP	1b/1	00ft <sup>2</sup>												
10s/10m/30m Gel	10/10	00ft <sup>2</sup>												
API Fluid Loss	cc/30	min												
HTHP FL Temp	cc/30	min												
Cake API/HTHP	1	/32"												
Solids	0/	Vol												
Oil/Water	9/ 0/	Vol										Sizo		LL r
MRT	11	ovoi /bbl							VSM Sh	aker 1		<u> </u>		0
pH	I.	001	9						VSM Sh	aker 2		4 x 230		0
Alkal Mud (Pm)									VSM Sh	aker 3		4 x 200		0
Pf/Mf									VSM Sh	aker 4		4 x 200		0
Chlorides		mg/l	228000						Centrifu	ge				0
Hardness Ca		mg/l				_			D-Silter					0
KC1		0/0												
IDCAP		pph												
LSRV 0.3rpm		ppo												
P														
									M	UD PROP	PERTY	SPECIFIC	ATION	IS
						_				Weig	ht	1.2	21	
										Viscosi Filtro	ty	n/	<u>a</u>	
										Filtra	lle	n/	a	
F	EMARKS AN										s			
Mud engineer return	ed to rig. Mixed 70	) bbl Hi	Vis pill with	5.5 ppb Gu	ıar						.0			
Gum.	-		•											
TIME DISTR L	ast 24 Hrs ML	ID VOL	ACCTG	(bbl)	SO		ANALYSIS	(%/lt	b/bbl)	MUD	RHEOL	OGY & HY	DRAUL	ICS
Rig Up/Service	Oil A	dded	-	0	NaCl				6.2/	np/na Val	lues	(2)		
Drilling	Wate	r Added	4	69	KCl	avity			/	kp/ka (lb•	<u>s^n/100ft</u>	ť)		
Non-Productive Tim	Evan	oration	4	0	Benton	ite			/	Bit HHP	(hhp / HS	I)		
Condition Hole	Centr	ifuge		Õ	Drill Sc	olids		1	/	Bit Jet Ve	<u>l (m/s)</u>			
Running Casing	Form	ation		0	Weight	Mater	ial		/	Ann. Vel I	$\frac{DP(m/s)}{DC(m/s)}$			
roomg	Other			0	Inert/Re	eact			- /	Crit Vel D	P (m/s)			
	Dum	ped		0	Averag	e SG				Crit Vel D	C (m/s)			
	Shak	ers		0	Carb/B	iCarb (	m mole/L)	-		DAUXO		0	A TIN / T	0007
M-I EN	IGR / PHUNE		R	IG PHON	=	VVA	REHUUSE	PHC	JNE	DAILY CO	ופנ	COMUL	AIIVE	031
Glen Sharpe										\$ 420.00		\$	170 146	78
Sien Shurpe						I				Ψ τ20.00		ψ	., 0,140	

						WA	TER-	BASE		) REP	ORT	No.	18
<b>Mi SV</b>	NAC					Date	13/06/20	05 D	epth/TVD	2	2404 m /	/ 1787 m	
					Spud I	Date	27/05/20	05	Mud Type		CaCl2	Brine	
					Nater D	epth	71	_	Activity		Pull A	nchors	
Operator : S	Santos Ltd						_Field//	Area : V	/ic P44				
Report For : R	Ron King/Pat	t King					Descrip	otion: (	as Producer				
Well Name : C	Casino 4 DW	2					Loca	tion: C	Itway Basın				
	Diamond Off	shore						NO. :					
	Ray Breaud/	roy Williar	ns CACINI	~								TA	
DRILLING AS	SEMBLI		CASIN	3	NUD			) D		REULAI			L 10D 1((
Bit Size 8.5 in		20in (	Surface $127m(12)$			56		P	ump Make C	$6 \times 12$	1/00P1 \	$\frac{1000}{65}$	$\frac{12P-160}{12}$ in
Drill Pipe Size	Length	<u> </u>	utermedia	(TVD)		Activ	9.9 e Pits		Pump Cap	0 1 12	al/stk	0.J A	12.111 gal/stk
in	m	13 375in	@742m (7	42TVD)		424	4 1	Pur	nn stk/min	ε	ui/stk		5 <sup>dl/ StK</sup>
Drill Pipe Size	Length	I	ntermedia	te	Tota	al Circu	ulating Vol		Fl	ow Rate		gal/m	in
in	m	9.625in (d	01990m (1	741TVD)		42-	4.1		Bott	toms Up		- U	
Drill Collar Size	Length	Prod	uction or	Liner		In Sto	orage		Total Ci	irc Time			
in	m	6.625in (d	i)2404m (1	787TVD)		99	06		Circulating 1	Pressure			
	MUD F	PROPERTI	ES						PRODU	CTS USE	ED LAS	T 24 HR	S
Sample From						_		Prod	ucts			Size	Amt
Flow Line Temp		°C						CITR	RIC ACID		25	KG BG	6
Depth/TVD		m						-					
Furnal Viscosity		sp.gr.				_		-					
Rheology Temp		°C				-							
R600/R300													+
R200/R100													
R6/R3													
PV		cP											
YP	lb	/100ft <sup>2</sup>											
10s/10m/30m Gel	lb	/100ft <sup>2</sup>											
API Fluid Loss	cc/.	30 min											
HIHP FL Temp	cc/.	30 min											
Cake API/HTHP Solids		1/32 %Vol				_							
Oil/Water		%Vol											
Sand		%Vol						SOL	IDS FOUI	<b>&gt;</b>	Size	<u>)</u>	Hr
MBT		lb/bbl						VSN	1 Shaker 1		4 x 20	00	0
pН								VSN	1 Shaker 2		4 x 23	30	0
Alkal Mud (Pm)								VSN	1 Shaker 3		4 x 20	00	0
Pf/Mf								VSN	4 Shaker 4		4 x 20	00	0
Chlorides		mg/l				_		Cent	trifuge				0
Hardness Ca		mg/1				_		D-S1	llter				0
KC1		0/_				_		-					
IDCAP		nnh											
LSRV 0 3rpm		ppo											
Lore viorpin													
									MUD PRC	PERTY	SPECIF	ICATIO	NS
									We	ight		1.21	
									Visco	osity		n/a	
									Filt	trate		n/a	
KE Adjusted Citric Acid It	EMARKS A	ND IREA	IMENI NeLay Why				D Stack Dlac	ad debris (	REMA	KKS well head	Dulling A	nchore	
presumably 11 BB of k	KCl back load	ed to Portland	$\frac{1}{4}$ BB of (	CaCl2 lvi	10 0n	/0 D01	I Stack. I lac		cap on sub sea	wen neau.	I uning A	inchors.	
Wrangler, 1000 bbl of	16% Brine av	ailable on Wi	angler.	euci2 iyi	15 011								
0			0										
TIME DISTR Las	st 24 Hrs		CCTG	(bbl)	SO	LIDS A	NALYSIS (	<u>%/lb/bbl)</u>	MU mp/ma_X	D RHEOL	OGY & F	IYDRAU	LICS
Drilling	Wa	ater Added		0	KCl			0.2/	kp/ka (1	b•s^n/100f	t <sup>2</sup> )		
Tripping	Mu	ud Received		0	Low G	ravity		/	Bit Loss	s (psi / %)			
Non-Productive Tim	Du	imped		0	Benton	ite		/	Bit HHI	$\frac{P}{1} (\frac{hhp}{HS})$	SI)		
Running Casing	Ev Sh	aporation		0	Weight	Materi:	al	/	Ann Ve	$\frac{1}{1} \frac{(m/s)}{(m/s)}$			
Testing	Ce	ntrifuge		Ŏ	Chemic	cal Con	5	- /	Ann. Ve	1  DC (m/s)			
	Fo	rmation		0	Inert/Re	eact			Crit Vel	$\frac{DP}{DC}$ (m/s)			
		n in Hole		0	Averag Carb/R	e SG iCarb (r	n mole/L)	/	Crit Vel	DC (m/s)			
MIENO					F					T200	CUM		T200
Insdeen Singh			ĸ	SPHUN	-	VVAI	LINUSE	TIONE	DAILT	0001	COM	CAIIVE	5031
Glen Sharpe	05	8-9302 3790							\$ 220 7	74		\$ 170.36	7.52

						WA	TER-E	BAS	ED MUD	REP	ORT	No. ′	19
	WA	CU				Date	14/06/200	05	Depth/TVD	2	<b>404 m</b> / '	1787 m	
					Spud I	Date	27/05/200	05	Mud Type		CaCl2	<u>3rine</u>	
	<u> </u>	1		V	Vater D	epth	71		Activity				
Operator :	Santos Lto	1 a/Dat Vin a					Field//	Area :	V1C P44				
Report For :	Chris Wis	e/Pat King					Descrip	tion :	Gas Producer				
Contractor :	Diamond	JW∠ Offshoro							Olway Basin				
Report For :	Diamonu Ray Breat	offshore	lliame				WI-I WEI	NO					
		$\mathbf{Y}$					ME (hhl)		CIR			-Δ	
Bit Size 85 in		•	Surfa	nce	mob	Ho	ole (001)	,	Pump Make OII	WELL 1	700PT 14	TIONAI	L 12P-160
Nozzles 1/32"		30	in @137m	(137TVD)		569	9.9		Pump Size	6 X 12	.in	6.5 X	12.in
Drill Pipe Size	Leng	,th	Interme	diate		Active	e Pits		Pump Cap	g	al/stk	Ę	gal/stk
in	m	13.3	75in @7421	m (742TVD)		424	.1	I	Pump stk/min				
Drill Pipe Size	Leng	th		ediate	Tota	al Circu	lating Vol		Flov	v Rate		gal/m	ın
In Drill Collar Size	I eno	9.623	roduction	$\frac{n(1/411VD)}{or Liner}$		4 <u>2</u> 2 In Sto	t.l rage		Total Circ	ns Up Time			
in	m	6 625	5 m @2404n	n (1787TVD)		99	6		Circulating Pr	essure			
	MU	D PROPE	RTIES	(1) (1) (1) (1)			•		PRODUC	TS USE	D LAST	24 HR	6
Sample From								P	oducts		S	ize	Amt
Flow Line Temp		°C											
Depth/TVD		m				_							
Mud Weight		sp.gr.				-		$\vdash$					
Rheology Temp		s/qt °C				-		$\vdash$					
R600/R300		C				-							
R200/R100												·	
R6/R3													
PV		cP				_							
YP 10x/10m/20m Cal		$\frac{16}{100ft^2}$				_							
A PL Fluid Loss		$\frac{10}{10011^2}$				_		_					
HTHP FL Temp		cc/30 min				_							
Cake API/HTHP		1/32"											
Solids		%Vol											
Oil/Water		%Vol				_		-			0.		
Sand		%V01				_		S V	OLIDS EQUIP			)	Hr 0
nH		10/001				_		V	SM Shaker 2		$\frac{4 \times 200}{4 \times 230}$	<u>/</u>	0
Alkal Mud (Pm)						_		V	SM Shaker 3		4 x 200	<u>,</u>	0
Pf/Mf								V	SM Shaker 4		4 x 200	)	0
Chlorides		mg/l						C	entrifuge				0
Hardness Ca		mg/l				_		D	-Silter				0
KC1		0/2				_		_					
IDCAP		ppb				_							
LSRV 0.3rpm		PP~											
											_		
						_			MUD PROP	PERTYS	SPECIFI		IS
						_			Weig Viacoai	ht	I	.21	
						_			<u>v iscosi</u> Filtra	te		<u>1/a</u> n/a	
						-			1 1111			u	
F	REMARKS	SAND TR	EATMEN	T					REMAR	(S			
TIME DISTR L	ast 24 Hrs	MUD VO	L ACCTG	i (bbl)	SO	LIDS A	NALYSIS (	<u>%/lb/b</u>	bl) MUD	RHEOL	OGY & H	/DRAUL	ICS
Drilling		Water Adde	d	0	KCl			0.	kp/ka (lb•	s^n/100ft	2)	+	
Tripping		Mud Receiv	ved	0	Low Gr	avity		/	Bit Loss (	psi / %)		1	
Non-Productive Tim	1	Dumped Shakers		0	Bentoni	ite		/	Bit HHP Bit Let Vo	$\frac{(hhp / HS)}{(m/s)}$	1)	+	
Running Casing		Evaporation	l <u> </u>	0	Weight	Materia	ıl	/	Ann. Vel D	<u>DP (m/s)</u>		<u> </u>	
Testing		Centrifuge		0	Chemic	al Conc		-	/ Ann. Vel I	$DC(\overline{m/s})$		+	
		Left in Hole	;	0	Average	e SG			Crit Vel D	<u>r (m/s)</u> C (m/s)		+	
		Other		Ő	Carb/Bi	iCarb (n	n mole/L)	/		- (110)			
M-I EN	IGR / PHON	NE		<b>RIG PHON</b>	E	WAR	REHOUSE	PHON	E DAILY CO	DST	CUMU	ATIVE	COST
Jasdeep Singh													
Glen Sharpe		08-9302 37	790						\$ 0.00		\$	170,367	7.52

# SECTION 11: CASING & CEMENTING SUMMARY



Well Name:

## CASING AND CEMENTING REPORT

FORM DMS F220

(

Casino-4

о.: т	- · ·	0 .	0		12		D 1/2	5		10.1	
Casing Type:	Surrac	ce Casing	Originated E	By: Pat	t King	Checked By:	Ron King	L	Date:	10 N	lay 2005
Hole Size:	17.50i	n	Total Depth	: 742	2.0m	GL-RT:	Om	C	Contractor:	Dow Schl	ell umberger
PRE-FLUSH	0bbl @ 0p	pg				<u>SPACER</u>	20.0bbl @ 8.50p	pg			
Additives:						Additives:					
CEMENT							ADDITIVES		%	Amount	Units
LEAD SLURRY:			846	Ssx							
Brand / Class:			AB	C/G			D047 Antifoam			5	gal
Slurry Yield:			2.2	3ft³/sx			D075 Extender			411	gal
Mixwater Reg't:			12.	72gal/sx							-
Actual Slurry Pur	nped:		336	5.0bbl							
Density:			12.	50000							
Cement Top (MD	)).		92	8m							
TAIL SLUBBY:	<i>,</i> ).		47	lev							
Brand / Class:							D047 Antifoom			2	aal
Clumy Vields			AD	0#3/av			D047 Antiloan			2	yai
Siurry Field.			1.1	011%SX							
Mixwater Reqt:			5.3	3gai/sx							
Actual Slurry Pur	npea:		99.								
Density:			15.	80ppg							
Cement Top (MD	0):		577	7.0m							
DISPLACEMENT	<u>[</u>				Fluid: Seawat	er @ 8.50ppg					
Theoretical Displ	.:		305.0bbl			Bumped Plug w	ith:	3	000psi		
Actual Displ.:			299.0bbl @	0gpm		Pressure Tester	d To:	3	000psi		
Displaced via:			Rig Pumps			Bleed Back:		0	bbl		
ACTIVITY		Time/Date		Returns to	Surface: Obbl mu	id, Obbl cmt					
Start Running cs	g.	19:30 9/5/05		Casing Ac	tion During Pr	eflush : No Actior	n Taken Ceme	nt : No Acti	ion Taken	Displaceme	ent : No Action
Casing On Bottor	m	07:00 10/5/05	5	Taken							
Start Circulation		08:45		Top Up Jo	b run: <mark>No</mark>		0sx (	of class			
Start Pressure Te	est	08:52		Wiper Plug	g Top: <mark>Yes</mark>						
Pump Preflush				Wiper Plug	g Bottom: Yes						
Start Mixing		09:06		Plug Set:	Manufac	cturer: Dowell Sch	hlumberger Type	e: Deep Sea	a Express		
Finish Mixing		10:20		Centralize	r Type:		Cent	ralizer Plac	cement Depth	n: 721m, 708	3m, 697m
Start Displacing		10.20									
Stop Displ /Bumr	<u> </u>	10:44		-							
Pressure Test	-										
		(		FOUIPMENT	T DETAILS						
				Stick I In					8	9 58m	
No loints			٨/+	Grade	Com	ment	Thread	Leng	th	From	То
1	18.75i	n Olt	os/ft	Grade	18.75" Wellh	ead Housing	medd	8.32n	n 8	9.58m	97.9m
1	20.00i	n Oll	os/ft		20" x 13 3	75 Swage		2.56n	n 9	97.9m	100 46m
51	13.38	n 72	hs/ft	1.80	Surface	Casing	BTC	601.84	lm 10	0 46m	702.3m
1	13 38	n 721	hs/ft	1.80	Float Co	llar.loint	BTO	12 73	m 7	02.3m	715 03m
1	12 29	0 72	bo/ft	1.80	Float Sh		BTC	12.00	m 71	5 02m	727.02m
Theoretical Bound	ad wt. of or		66/TL	00	h i luai Sil	Bradenhood Ho	ight above CL :	12.09		0.0011	121.32111
Cacing wt. prior to landing egg:					Dradenineau Reigni above GL. Um						
Actual wt. of accing (lest joint run block wt): Okib Diddefine					Tubing Speed C	izo:			7 UM	I	
Actual wt. of casing (last joint run-block wt): Ukib											
Landing wt. (after	r cementing	g and pressure	e bleed off):	Okl	D	Setting Slips:				0klb	
Cementing Job Remarks:											



## CASING AND CEMENTING REPORT

## Well Name:

Casino-4DW2

Casing Type:	Interm	ediate Casing	Originated By	:		Checked By:			Date:	01 、	Jun 2005
Hole Size:	12.25i	n	Total Depth:	19	98.0m	GL-RT:	0m		Contractor	: Dov	vell
PRE-FLUSH	10.0bbl @	8.34ppg				<u>SPACER</u>	10.0bbl @ 8.34pp	og			
Additives:	(drill water	)				Additives:	(drill water)				
CEMENT		·					ADDITIVES		%	Amount	Units
LEAD SLURRY:			202s	x							
Brand / Class:			/ G				D047			2.5	Gallons
Slurry Yield			2 23	t³/sx			D110			35.5	Gallons
Mixwater Reg't:			12.5	Roal/sx			D075			86	Gallons
Actual Slurry Pur	nned:		80.0	bl			2010				Gallons
Density:	npeu.		12.5								Guions
Cement Top (MC	n).		1/01	0m							
	<i>)</i> ).		2190	.011							
Prond / Closes			2105	*			D047			2.5	Collona
Brand / Class:			/ G				D047			2.0	Gallons
Siurry Yield:			1.16	t%SX			D110			7.5	Gallons
Mixwater Req't:			4.84	gai/sx			D193 FLAC			74	Gallons
Actual Slurry Pur	nped:		43.0	DDI							
Density:			15.8	Oppg							
Cement Top (MD	D):		1841	.0m							
DISPLACEMENT	Γ				Fluid: Drilling Flu	uid @ 10.50ppg					
Theoretical Displ	.:		452.0bbl			Bumped Plug w	ith:	-	500psi		
Actual Displ.:			448.0bbl @ 0	gpm		Pressure Tested	d To:		4000psi		
Displaced via:			Drilling Fluid			Bleed Back:			0bbl		
<u>ACTIVITY</u>		Time/Date		Returns to	o Surface: Obbl mu	d, <mark>0bbl</mark> cmt					
Start Running cs	g.	02:30		Casing Ac	tion During Pre	eflush : No Actior	Taken Cemer	t : No Ac	tion Taken	Displacem	ent : No Action
Casing On Botton	m	17:30		Taken							
Start Circulation		19:20		Top Up Jo	ob run: <mark>No</mark>		0sx o	f class			
Start Pressure Te	est	19:22		Wiper Plu	g Top: <mark>Yes</mark>						
Pump Preflush		19:29		Wiper Plu	g Bottom: Yes						
Start Mixing		20:05		Plug Set:	Manufac	turer: Dowell	Type	Deep Se	ea Express	3	
Finish Mixing		20:35		Centralize	er Type:		Centr	alizer Pla	acement D	epth:	
Start Displacing		21:00									
Stop Displ./Bump	)	21:35									
Pressure Test		21:45-21:53									
		C	ASING AND E		T DETAILS						
			5	Stick Up						79 21m	
No Joints	OD	V	Vt	Grade	Com	ment	Thread	Leno	nth	From	То
1	10 75ir	n 55.5	lhs/ft	1.80	13" Csg bc		VamTop	13.34	1m	79.21m	92.55m
7	10.75	n 55.5	lbo/ft	1.80	10 009 119		VamTop	83.20		02.55m	175 75m
1	0.62in	1 33.3	105/11		X over 10 75" V	amTon x 0 625"	VamTop	10.20	200	175 75m	199.51m
· · ·	9.0011	4/1	55/TL	200	Vam	Top	vannop	12.70	2011	110.1011	100.0111
114	9.63in	471	os/ft	L80			VamTop	1353.9	94m	188.51m	1542.45m
1	9.63in	471	os/ft	L80	X-over L-80 Va KSE	mTop b x 13Cr B p	V/Top(B)xKSB(P)	11.81	Im	1542.45m	1554.26m
11	9.63in	471	os/ft 1	3Cr 80			KSB	131.6	5m	1554.26m	1685.91m
1	9.63in	471	os/ft 1	3Cr 80	X-over 13Cr VamT	KSB b x L-80	KSB(B) x V/Top(P)	11.9	ōm	1685.91m	1697.86m
22	9.63in	471	os/ft	L80			VamTop	255.6	1m	1697.86m	1953.47m
1	9.63in	471	os/ft	L80	Float Collar X-C	D. Thread Lock	BTC x Vam-Top	12.28	Bm	1953.47m	1965.75m
1	9 63in	471	os/ft	1.80	Intermediate II	Thread Lock	BTC	11 01	Im	1965 75m	1977 66m
1	0.00m		os/ft	1.80	Float Shoe It	Thread Lock	BTC	10 //	2m	1977 66m	1990 08m
Theoretical Party			00/11	14	1 0klb	Bradenhood Lie	ight above CL:	12.42			1000.0011
		sany.		14		Bradenhood Do	scription / Longth:			/ 0~	<u> </u>
		by.		20		Tubing Speed C				7 011	•
Actual will of Casing (last joint run-block Wt): 100.0klb					Lubing Spool SI	25.			01-11		
Comenting wt. (after		j anu pressure	pieed off):	UK	IJ	Setting Slips:				UKI	,
Cementing Job F	kemarks:										

## **SECTION 12: MUDLOGGING WELL REPORT**



A.B.N 80. 007 550 923

# Casino 4DW1 & Casino 4DW2

## FINAL WELL REPORT

Prepared by



Geoservices Overseas S.A.

Geoservices Overseas S.A. Unit 1, 6 Somerset Circuit Lonsdale, S.A. 5160 Tel: 08-81863611 Fax: 08-81862611 E-mail: geosrv.adl@bigpond.com.au Santos Ltd. Santos House 91 King William Street Adelaide, S.A. 5000



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E.	Pressure Evaluation Log	Scale 1:2500

Revision	Date	Issued by	Approved by	Remarks
1	10-Jun-05	Geoservices Unit 170	Base Mudlogging Coordinator	



## 1.0 WELL DATA SUMMARY

(All depths are measured depths from rotary table (MDRT) unless otherwise specified.)

Well Name	: Casino-4DW1 & Casino-4DW2
Basin	: Otway
Permit	: VIC P-44
Operator	: Santos Limited
Drilling Rig	: Ocean Patriot
Well Classification	: Horizontal Gas Producer
Surface Location	
Latitude	: 38° 47′ 13.03″ S
Longitude	: 142° 41' 54.49" E
Easting	: 64/518 m E
Northing	: 5 705 495 m N
Depth Reference	: L.A. I. (lowest astronomical tide)
Water Depth	: 70.8 m
Rotary Table to Cashad	: 22.0 m
Rotary Table to Seabed	: 92.8 m
Casing Data	: (1) 762/508 mm (30"/20") casing shoe at 137.4 m : (2) 340 mm (13.375") casing shoe at 727.9 m Both of these casing strings were set on Casino 4 : (3) 244 mm (9.625") casing shoe at 1990.06 m on Casino 4DW2
Hole Size	: (1) 660 mm (26") + 914 mm (36") hole opener from 92.8 m to 137.4 m : (2) 444 mm (17½") hole from 137.4 m to 742 m : (3A) 311 mm (12¼") hole from 742 m to 1662 m (Casino-4DW1 – plugged back to 1082m) : (3B) 311 mm (12¼") hole from 1146 m to 1998 m
Mud Type	<ul> <li>(Casino-4DW2)</li> <li>: (4) 216 mm (8<sup>1</sup>/<sub>2</sub>") hole from 1998 m to 2404 m</li> <li>: (1) Seawater / Pre-Hydrated Gel Sweeps</li> <li>: (2) Seawater / Pre-Hydrated Gel Sweeps</li> <li>: (3) Seawater &amp; KCL / Polymer</li> <li>: (4) FloPro</li> </ul>
Offset Wells Proposed Total Depth Actual Total Depth Subsea Vertical Depth Date arrived on Location Date Well Finished Date Kicked off (DW1) Date TD Reached (DW2) Well Status	: Casino 1 (220m) : 2625 mRT MD (1755 m TVD RT) : 2404 mRT MD (1786 m TVD RT) : 1764 m TVDSS : 4 <sup>th</sup> May 2005 : 14 <sup>th</sup> June 2005 : 09:30 hours, 21 <sup>st</sup> May 2005 : 03:30 hours, 4 <sup>th</sup> June 2005 : Cased & Suspended

Revision	Date	Issued by	Approved by	Remarks
1	10-Jun-05	Geoservices Unit 170	Base Mudlogging Coordinator	



#### 2.0 GENERAL INFORMATION

#### 2.1 Executive Summary

Casino-4DW was drilled as a sub horizontal gas producer, targeting the Waarre-A sands. This field is located in the Otway Basin, licence VIC P-44. The closest well to Casino-4DW1 and Casino-4DW2 is Casino 1 (220 m). The Diamond Offshore semi-submersible rig 'Ocean Patriot' was used to drill this well.

Casino-4DW1 was drilled as a sidetrack of the previously plugged and abandoned Casino 4 well. The Kick-off plug was set from 1405m to 1255m. Ran in hole with the kick-off BHA. Tagged hard cement at 1273m and attempted to kick-off from 1277m and finally kicked off from 1308m at 09:30 hrs on the 21<sup>st</sup> of May 2005.

Casino-4DW1 was drilled as a deviated well down to 1662m, when it was decided to pull out of hole due to an insufficent build rate to reach the target.

A new BHA with downhole motor and bent sub was made up. Attempts to run in hole were unsuccessful due to excessive friction inside the 13.375" casing at around 100m.

A decision was made to set another Kick-off plug from 1200m-1350m and attempt to kick off to Casino-4DW2. The first attempt to kick off was unsuccessful and another cement plug was set from 1100m - 1265m.

A specialized 12.25" kick-off bit (#9) and directional drilling BHA was run in hole and Casino-4DW2 was successfully kicked off after tagging hard cement at 1082m. This BHA drilled until the deviated well was certain at 1157m, before being pulled out of hole and replaced with a tricone bit (#10). This was then used to extend the deviated well to 1274m before being pulled due to poor rate of penetration. A PDC bit (#11RR) was then used with a steerable Geopilot directional assembly and this drilled quickly until the top of the Waarre A target formation was encountered, and this determined the section TD of 1998m. The 9.625" casing was then run in hole and cemented with the shoe set at 1990m.

An 8.5" bit (#12) and steerable BHA was then made up and used to drill out the shoe track before the well was displaced with the new Flo-Pro mud system. The well was then drilled at a near horizontal angle through the Waarre A Sandstone until the base of this formation was encountered and the well terminated at 2404 mMD.

The well was then wiped clean without problem and the lower completion assembly was run into the hole and set with the shoe at 2400.75 mMD. The upper casing was then scraped clean and the well was displaced with brine. The upper completion assembly was then landed in place, and the well was displaced to diesel prior to well testing. The riser and BOPs were then removed, the well was capped, and anchors were pulled prior to moving off location.

No electric logs were run at the end of this well.

Geoservices provided a full mudlogging service from spud to TD during this well. This service included 'Reserval' gas monitoring and real-time online data transmission.

Revision	Date	Issued by	Approved by	Remarks
1	10-Jun-05	Geoservices Unit 170	Base Mudlogging Coordinator	



## 2.2 Geoservices Personnel

ALS Engineers	: Adderley, David : Long, Steve : Dunn, Alan
Mudloggers	: Misquitta, Patrick : Prosser, Scott : Elliott, Noel
Sample Catchers	: Dower, Leigh : Foreman, Brent

## 2.3 Contractor Information

Drilling	: Diamond Offshore
Rig name	: Ocean Patriot
Rig type	: Semi-Submersible
Mudlogging	: Geoservices Overseas S.A.
Mud engineering	: M.I. Swaco
MWD	: Sperry Sun
Wireline logging	: Baker Atlas
Cementing	: Dowel Schlumberger
Well head completion	: Cameron
ROV	: Fugro
Casing	: Weatherford
Work boats	: Far Grip, Wrangler
Helicopters	: Bristows
Catering	: E.S.S.

Revision	Date	Issued by	Approved by	Remarks
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## 2.4 Days versus Depth Progress Chart



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## 2.5 Sample Collection Summary

Six sets of washed and dried samples and three sets of samplex trays were collected during Casino-4DW1, from 1273 m to TD at 1662 m. The sampling interval for this well was 6 m.

Six sets of washed and dried samples and three sets of samplex trays were collected during Casino-4DW2, from 1110 m to TD at 2404 m.

From 1110m to 1842m, the Sampling interval was 6m and From 1842m to the TD at 2404m, the sampling interval was 3m

### Sample distribution was as follows:

Recipient	Washed a	nd Dried	Samplex Trays	
*	100 g	200 g		
Santos	2		1	
Geoscience Australia		1		
D.N.R.E.		1		
A.W.E.	1		1	
Mitsui	1		1	

One mud Sample was also collected from 2143m from Casino 4DW2

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## **3.0** <u>GEOLOGICAL INFORMATION</u>

## 3.1 Lithology and Show Summary

## (Casino-4DW1 was kicked off from Casino-4 from 1308m.)

					Drilling	Parameter	rs:					
1308-1578 m					WOB: 1	0-21 klbs		MF	: 700-101	5 gpm		
					RPM: 105-184 SPP: 1810-3420 psi							
					TRQ: 3-	•7 klb*ft						
Lithology	Lithology description	]	ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
		ave.	max.	min.	m	Gas U	ppm	ppm	ppm	ppm	ppm	ppm
SANDSTONE	Clear to translucent, occasionally light brown, fine to	15.80	71.22	1.08	1308-	0.2-	47-	1-221	1-44	0-34	0-14	0-9
	coarse, predominately medium, moderately well				1578	67.3	10331					
	sorted, subrounded to subangular, moderately											
	siliceous cement, trace white to very light brown											
	argillaceous matrix, trace glauconite, predominately											
	loose, minor friable to moderately hard aggregates,											
	poor to fair inferred porosity, no fluorescence											
SILTSTONE	Greyish brown to olive grey, arenaceous & commonly											
	grading to very fine SANDSTONE, minor glauconite											
	specks, trace carbonaceous specks, trace disseminated											
	pyrite, soft to firm, subblocky, minor amorphous.											

1578-1662 m (TD)					Drilling WOB: 9 RPM: 11 TRQ: 4	Parameter -43 klbs 15-155 .8-8.2 klb <sup>3</sup>	rs: ⊁ft	MF: SPP	880-980 g : 2840-357	gpm 75 psi		
Lithology	Lithology description	]	ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
		ave.	max.	min.	m	Gas U	ppm	ppm	ppm	ppm	ppm	ppm
SILTSTONE	Olive grey to brownish grey, greyish black, arenaceous to argillaceous, rare nodular and disseminated pyrite, trace glauconite specks, trace to minor carbonaceous specks and laminations, firm to moderately hard, subblocky to blocky.	26.33	43.7	15.4	1578- 1662	11.7- 42.9	1969- 8823	17-84	8-24	9-37	2-9	1-10

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## (Casino-4DW2 was kicked off from Casino-4 from 1146m.)

D 1146-1306 m R T				Drilling WOB: 2 RPM: 1 TRQ: 0.	Parameter 2-34 klbs 10-210 1-7 klb*ft	rs:	MF SPP	: 720-100 : 1930-35	0 gpm 80 psi			
Lithology	Lithology description		ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
		ave.	max.	mın.	m	Gas U	ppm	ppm	ppm	ppm	ppm	ppm
SANDSTONE	Clear to translucent, fine to medium grained, trace	0.5	68.6	27.8	1146-	0.7-	79-	1-9	0-2	0-2	0	0
	coarse grains, subrounded to well rounded becoming sub-angular to angular, poorly sorted, predominately loose & clean with common very fine to fine aggregates with siliceous cement, trace to common pyrite nodules, poor to fair visual and inferred porosity, no fluorescence.				1306	8.2	1565					
SILTSTONE	Medium to dark grey, predominantly arenaceous and grading to very fine Sandstone, occasionally argillaceous in parts, trace carbonaceous, trace disseminated pyrite, subblocky.											

Drilling Parameters:

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1306-1592 m					WOB: 9-36 klbs         MF : 880-985 gpm           RPM: 115-155         SPP: 2840-3580 psi           TRO: 4 2-7 5 klb*ft         SPP: 2840-3580 psi							
Lithology	Lithology description		ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
		ave.	max.	min.	m	Gas U	ppm	ppm	ppm	ppm	ppm	ppm
SILTSTONE	Medium olive brown to medium grey brown occasionally pale grey, trace glauconite specks, rare to trace carbonaceous specks, soft to firm, predominately subblocky, minor amorphous.	7.1	71.6	30.2	1306- 1592	5.2- 61.5	649- 12994	4-202	2-58	2-23	2-9	0-9
SANDSTONE	Light to medium grey, white to very light grey in part, fine to coarse grained, predominantly fine to medium grained, moderately to poorly sorted, subangular to subrounded, predominantly loose, trace weak siliceous cement, minor pale brown to white silty matrix, friable to moderately hard aggregates, common glauconite, minor pyrite, poor to occasionally fair visual and inferred porosity, no fluorescence.											

1592-1992 m					Drilling WOB: 9 RPM: 1 TRQ: 4	Parameter -43 klbs 15-155 .8-8.2 klb <sup>3</sup>	rs: *ft	MF: SPP	880-980 g : 2840-357	gpm 75 psi		
Lithology	Lithology description	]	ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
		ave.	max.	min.	m	Gas U	ppm	ppm	ppm	ppm	ppm	ppm
SILTSTONE	brownish grey to olive black, predominantly argillaceous, trace arenaceous, common carbonaceous specks, trace glauconite, trace nodular pyrite firm to moderately hard, subblocky.	7.1	50.3	26.6	1592- 1992	27.2- 77.2	5029- 13836	53- 370	25-80	16-19	9-11	8-13

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1992-2404 m (T.D.)			Drilling WOB: 8 RPM: 7 TRO: 6	Parameter 3-26 klbs 0-140 -12 klb*ft	-8:	MF SPP:	: 710-753 : 2660-354	gpm 40 psi				
Lithology	Lithology description		ROP m/h	r	Depth	Total	C1	C2	C3	iC4	nC4	C5
SANDSTONE	Clear-translucent, trace yellow to orange, fine to medium grained, subangular to subrounded, well sorted, predominantly loose, trace aggregates with weak to firm siliceous cement, white to light grey argillaceous matrix, common black lithic grains, trace carbonaceous fragments, fair visual porosity, fair to good inferred porosity, no fluorescence.	18.02	54.10	5.08	1992- 2404	8.7- 956.4	1633- 159945	35- 3572	15- 1376	7-269	8-212	9-57
SILTSTONE	Medium to dark grey to olive brown, arenaceous grading to very fine sandstone in part, abundant carbonaceous inclusions, firm to hard, sub-blocky to sub-fissile.											

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### **3.2** Gas Ratio Interpretation – Introduction

Gas composition and total gas in mud were measured using the Geoservices Reserval (A combined total gas detector and chromatograph coupled with a GZG degasser). As a backup gas detection system a Geoservices FID Chromatograph Panel (FCP) and FID Gas Panel (FGP) were in place. Both use the FID technique of measuring ions released when hydrocarbons are burnt in a pure hydrogen flame.

Gas is extracted from the mud at the shale shakers by a degasser that is essentially an agitator inside a chamber through which the mud continually passes. The GZG degasser is specially designed to degas a constant volume of mud regardless of pump rates and has the advantage of being placed as close to the flowline as possible. The gas is then drawn back to the unit through tubing to the gas analysis equipment. Independent sensors in the unit also measure H2S and CO2.

The composition of the gas in mud from the formation is significant in determining the geochemical origin and value of a show. There are several methods that can be used to determine whether the hydrocarbon gas in mud comes from a potential gas or oil zone. Amongst these methods are the Triangle Diagram (also known as the gas composition diagram), Pixler Diagram (also known as the gas ratios method) and the gas Wetness/Balance/Character plots.

## **3.3** Explanation of Gas Composition Diagrams

The Triangle or Gas Composition Diagram is used to graphically represent the hydrocarbon distribution in the gas and to determine whether it corresponds to a gas or oil reservoir. The triangular diagram is obtained by tracing lines on three scales at 120° to each other, corresponding respectively to the ratios of ethane, propane and normal butane to the total gas. The scales are arranged in such a way that if the apex of the triangle is upward, the diagram represents the analysis of gas from a gas zone, while if the apex points downwards, the diagram represents the analysis of gas from an oil zone. A large triangle diagram represents dry gas or low GOR oil, while small triangles represent wet gases or high GOR oils. The centre of the triangle should fall inside the area delineated by the dotted line, which encircles compositions that are regarded as 'normal'. If the triangle area is outside this area the gas indicates that the reservoir is not exploitable and that the heavier hydrocarbon composition is 'abnormal' i.e. hydrocarbons that are chemically altered or gases with special compositions which are not associated with oil.

The Gas Ratio Analysis Diagram is a plot of the ratio of C1 to the other gas elements. The magnitude of the methane to ethane ratio determines if the reservoir contains gas or oil or if it is non-productive. The following conclusions are possible:

Ratio C1/C2:	< 2	non-productive zone
	2 - 15	oil present
	15 - 65	gas present
	> 65	non-productive zone

The slope of the line of the ratio plot of C1/C2, C1/C3, C1/C4 and C1/C5 indicates whether the reservoir will produce hydrocarbons or hydrocarbons and water. Positive line slopes indicate production; negative line slopes indicate water-bearing formations. When using the Gas Ratio Diagram, the following points should be borne in mind:

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- 1. Productive dry gas zones may show only C1, but abnormally high shows of C1 are usually indicative of saltwater zones.
- 2. If the ratio C1/C2 is low in the oil section and the ratio C1/C4 is high in the gas section, the zone is probably non-productive.
- 3. If any ratio (C1/C5 excepted in an oil based mud) is lower than the preceding ratio then the zone is probably non-productive.
- 4. The ratios may not be definitive for zones of low permeability.
- 5. Steep gas ratio plots may be indicative of tight zones.

### 3.4 Explanation of Wetness/Balance/Character Curves

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Another method for evaluating gas zones plots against depth three ratios: hydrocarbon Wetness  $(W_h)$ , hydrocarbon Balance  $(B_h)$  and hydrocarbon Character  $(C_h)$ , where:

$W_h =$	$\frac{(C2+C3+C4+C5)}{(C1+C2+C3+C4+C5)} \times 100 (\%)$
$B_h =$	$\frac{(C1 + C2)}{(C3 + C4 + C5)}$
$C_h =$	$\frac{(C4+C5)}{C3}$

Wetness  $(W_h)$  is the primary zone indicator and provides a measure of the relative proportion of heavier gases in the overall gas show as follows:

$W_{h} < 0.5$	Light non-associated gas with low productivity potential or
	only geo-pressured methane.
$0.5 < W_h < 17.5$	Potentially productive gas with gas density increasing with
	W <sub>h</sub> .
$17.5 < W_h < 40.0$	Potentially productive oil with gravity decreasing as W <sub>h</sub>
	increases.
$W_h > 40.0$	Heavy or residual oil with low productivity potential.

As reservoir hydrocarbons become denser in the transition from gas to oil, Balance  $(B_h)$  and Wetness  $(W_h)$  values move closer together and eventually intersect. The zone guidelines for  $B_h$  combine with those for  $W_h$  to improve reliability of show evaluation as follows:

$W_{h} < 0.5$	Very light, dry gas that is almost certainly non-productive.
and $B_h > 100$	
$0.5 < W_h < 17.5$	Productive gas with gas increasing in wetness and density as
and $W_h < B_h < 100$	the two curves converge.
$0.5 < W_h < 17.5$	Productive gas condensate or a high gravity gas/oil ratio.
and $B_h < W_h$	
$17.5 < W_h < 40$	Productive oil with oil gravity decreasing - density
and $B_h < W_h$	increasing as the curves diverge.
$17.5 < W_h < 40$	Non-productive residual oil.
and $B_h > W_h$	

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Character (C<sub>h</sub>) values serve to resolve ambiguities between oil or gas indications by defining the following:

$\begin{array}{l} 0.5 < W_h < 17.5 \\ \text{and } B_h < W_h \\ \text{and } C_h < 0.5 \end{array}$	Productive wet gas or condensate.
$0.5 < W_h < 17.5$ and $B_h < W_h$ and $C_h > 0.5$	Productive high gravity and/or high GOR oil.

It is important to note that in the conclusion to each of the interpretive tools, the terms 'productive' and 'non-productive' are used in a geochemical sense. Ultimate production of a zone is dependent upon reservoir thickness and extent as well as other physical and economic factors that are not taken into account when analysing gas compositions. The methods discussed here are intended to assist the interpretive skills of the geologist or log analyst. Please refer to the Gas Ratio Log enclosure.

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#### 3.5 Gas Composition Discussion

#### Casino-DW1

From the time Casino-4DW1 was kicked from 1308m, gas monitoring commenced using the Geoservices Reserval Gas Panel.

Drilling from 1308m (1285m TVDSS) to 1578m (1539.5m TVDSS), with a mud weight of 1.26 SG, the background gas levels increased steadily from 0.2 units at the top to 67.3 units at the bottom of this interval. This steady increase appeared to be the result of a faster ROP in the Sands encountered. The gas recorded was very dry with a relative ratio of 99/1/Tr/Tr.

Drilling from 1578m (1539.5m TVDSS) to the TD of this hole at 1662m (1603.9m TVDSS) and drilling with a mud weight of 1.28 SG, the background gas ranged between 25-30 units. This gas was also very dry, comprising predominantly of C1 with minor C2 and C3, with minor traces of C4 and C5. The Relative gas ratio was 98/1/1/Tr/Tr.

#### Casino-DW2

From the time Casino-4DW2 was kicked from 1146m, gas monitoring commenced using the Geoservices Reserval Gas Panel.

Drilling at 1306m (1282m TVDSS), with a Mud Weight of 1.27 SG, the background gas levels ranged from around 2.5 units to 6 units, with interbedded sands and silts encountered. This gas was extremely dry, consisting predominantly of C1 with minor C2 and Traces of C3, with relative ratios of 99/1/Tr. There was no real gas peak of note in this interval, with a maximum of 8.2 units recorded from a Sand bed at 1300m.

Drilling from 1306m (1282m TVDSS) to 1592m (1540m TVDSS), with a mud weight of 1.3 SG, the background gas levels increased steadily from 5.5 units at the top to 55 units at the bottom of this interval. This steady increase would have to be attributed to a steady increase in the penetration rate. The composition of the gas however was the same as that in the overlying sediments with a relative ratio of 98/1/1/Tr.

Drilling from 1592m (1540m TVDSS) to 1992m (1720m TVDSS), and drilling with a mud weight of 1.27 SG, the background gas ranged between 30 and 45 units. This gas was also very dry, comprising predominantly of C1 with minor increasing C2 and traces of C3 to C5. The Relative gas ratio was 96/3/1/Tr/Tr.

On entering the Upper Waarre formation, with the mud weight maintained at 1.27 SG, the gas levels increased appreciably from 50 units to around 450 units as expected in the Sands. The composition of the gas though did not change, and consisted of 97% C1 with minor to traces of the heavier hydrocarbon gas components. The Maximum gas recorded was 524 units, at 2067m (1735.14m TVDSS).

Drilling from 2082m (1737m TVDSS) to around 2355m (1756.24m TVDSS), the gas levels in the sand ranged from 300 to 600 units with a Peak of 956.4 units at 2099m (1738.9m TVDSS), which was the maximum gas recorded for this well. This gas was also extremely dry, comprising predominantly of C1 with traces of the heavier hydrocarbon gas components. The relative ratio of the gas was 97/2/1/Tr/Tr.

On encountering a Siltstone at 2355m (1756.24m TVDSS), the gas levels dropped off steadily from around 300 units to 18 units at TD, with the composition though staying the same.

From the above discussion and the Gas Analysis Triangular diagrams on the following page, it can be concluded that the gas encountered in this well was of an extremely dry composition.

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No connection or trip gases were recorded in this well. Neither was any H2S or CO2 recorded.

## 3.6 Gas Ratio Diagrams

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#### 4.0 <u>PRESSURE ANALYSIS</u>

### 4.1 **Pressure Summary**

Formation pressures were monitored throughout this well by recording a range of indicators, which vary from direct observations of background gas and cuttings, to drilling characteristics such as torque, drag when coming off bottom, incorrect hole fill when tripping, as well as mud properties like flowline temperature. The Geoservices D'Exponent package is also used as a tool in the determination of abnormal formation pressures.

**D'Exponent:** The D'exponent trend was set in the Parratte and Skull Creek formations and the D'exponent values appeared to follow this trend right down to TD, with the shifts to the left being due to the Sands encountered. A notable shift to the right is seen from 1734m (1650m TVDSS) to the top of the Reservoir sands, indicating increasing compaction, characteristic of a cap rock. The D'exponent does not indicate any undercompacted/ Overpressured Claystones in this well.

The coefficients used in this well were:

a = 0.0002172, b = -0.4020107, Sand Line b offset = -0.0190000

**Gas:** This well was drilled with an overbalanced mud system (1.27 SG), as a result of which no connection or trip gases were recorded. The increasing background gas, in the Siltstone, were ROP related and had nothing to do with overpressure. The other significant increase in gas was due to the pay sands. One can conclude from the gas data, that the backgroound gas was liberated gas and in no way produced gas (which would be the result of negative differential pressure).

**Torque & Drag:** No unusually high Torque was noticed while drilling and neither was any abnormal drag noticed while pulling up prior to connections. It should be noted that this being a deviated well, the normal drag associated with the deviated hole was observed.

**Flowline Temperature:** The flowline temperature showed a steady increase from 45°C at 1119m to 61°C at TD. Considering the presence of a riser the flowline temperature has its shortcomings. However, there were no sudden increases in the flowline temperature to indicate an undercompacted claystone.

**Cuttings:** There were no abnormally large or unusually sharp splintery cavings or large cuttings with concave cross section observed at the shakers that may have indicated an abnormally pressured zone in this well.

The majority of indicators pointed to a normally pressured environment from surface to TD while drilling Casino 4DW1 and Casino 4DW2.

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## 4.2 Formation Pressure Plot



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## 5.0 DRILLING INFORMATION

## 5.1 Mud Record Casino-4DW1

The 12<sup>1</sup>/<sub>4</sub>" Section was drilled with KCl / Polymer mud with weight from 1.26 sg to 1.29 sg. Properties of this mud are listed below:

Depth	MW	FV	PV	YP	Gels	WL	Solids	Sand	Chlorides	Cake
m	sg	sec/qt	cps	1D/100*	1D/100*	cm/ 30"	70	70	mg/L	/32**
1478	1.26	58	19	39	14/27/36	4	11	0.2	45000	1
1599	1.28	67	24	47	15/35/42	4.4	12	Tr	46000	1
1662	1.29	58	22	38	12/26/36	3.8	13	Tr	47000	1

## Mud Record – Casino-4DW2

The  $12\frac{1}{4}$ " Section was drilled with KCl / Polymer mud with weight from 1.26 sg to 1.30 sg. Properties of this mud are listed below:

Depth	MW	FV	PV	YP	Gels	WL	Solids	Sand	Chlorides	Cake
m	sg	sec/qt	cps	lb/100'	lb/100'	Cc </th <th>%</th> <th>%</th> <th>mg/L</th> <th>/32"</th>	%	%	mg/L	/32"
						30"				
1133	1.27	68	18	42	15/32/33	4.4	12	Tr	46k	1
1160	1.26	54	17	42	13/19/21	4.2	11	Tr	45k	1
1167	1.27	60	16	37	12/20/21	4.2	13	Tr	46k	1
1220	1.3	55	18	45	15/22/27	4.0	12	Tr	47k	1
1274	1.3	53	15	37	12/18/21	3.8	12	Tr	47k	1
1345	1.3	61	19	47	15/23/28	4.2	13	Tr	47k	1
1589	1.3	57	18	40	13/21/26	4.2	14	Tr	47k	1
1735	1.3	54	18	38	13/20/25	4.2	14	0.25	47k	1
1810	1.28	69	20	43	13/26/33	4.6	14	Tr	46k	1
1998	1.29	54	20	34	14/27/29	4.6	14	Tr	46k	1
2064	1.26	59	13	31	12/22/27	4.8	14	Tr	120k	<1
2255	1.27	54	16	35	13/17/22	3.8	15	0.25	120k	<1
2318	1.27	57	17	41	16/22/	3.8	15	0.25	120k	1
2404	1.28	54	17	39	13/17/	3.8	15	0.25	120k	1

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## 5.2 Bit Record – Casino-4DW1

Bit #	Size	Make	Туре	Jets	TFA	In	Out	Run	Hrs	WOB	RPM	TORQ	SPP	Flow	Grading
	(in)				In <sup>2</sup>	(m)	(m)	(m)		klbs		kft*lbs	psi	gpm	
6	12.25"	Security	FS2263	9x16	1.767	1308	1662	354	20.32	10-32	100-	3.4-6.8	1810-	680-	1/2/WT/G/X/I/
											180		3420	1020	ER/BHA
7	12.25"	Smith	MA89PX	7x20	2.148	1662	1662	0	0	0	0	0	0	0	NOT RUN
8	12.25"	Hughes	MXCS03	Open	Open	1176	1176	0	0	0	0	0	0	0	NOT RUN

## Bit Record – Casino-4DW2

Bit #	Size	Make	Туре	Jets	TFA	In	Out	Run	Hrs	WOB	RPM	TORQ	SPP	Flow	Grading
	(in)				In <sup>2</sup>	(m)	(m)	(m)		klbs		kft*lbs	psi	gpm	
9	12.25"	Hycalog	DS43	3x18,	1.052	1146	1157	11	6.9	10-30	110-	0.01-0.08	2750-	850-	3/4/CT/X/I/WT
				1x20							120		2900	865	/PR
10	12.25"	Security	FXL12D	3x22	1.114	1157	1274	117	13.3	15-25	110-	2.8-4.5	2000-	790-	1/1/WT/A/E/I/
											165		2800	860	NO/BHA
11RR	12.25"	Security	FS2263	9x16	1.767	1274	1998	724	29.1	5-20	110-	3.2-4.4	2700-	940-	1/1/WT/A/X/I/
											130		3200	980	NO/TD
12	8.5"	Security	FMF3553	5x16	0.982	1998	2404	406	22.4	8-26	70-140	6-13	2660-	710-	1-2-CT-G-X-I-
													3540	753	NO-TD

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## 5.3 Hydraulic Listing

## Casino-4DW1 & Casino-4DW2

Depth	Mud Weight	ECD	Flow Rate	Total Pressure	Pressure Loss Across Bit	Mud Velocity Through bit	Bit Hydraulic Power	Mud Impact at Bit	Total Hydraulic	Ratio (Bit Pwr/Total Pwr)
				Loss					Power	
(m)	(s.g)	(s.g.)	(gpm)	(psi)	(psi)	(m/sec)	(hp)	(lbf)	(hp)	(%)
1574 (DW1)	1.26	1.28	1022	2832	543	73	328	1336	1710	19.2
1662 (DW1)	1.29	1.33	1022	2543	228	47	137	876	1535	8.9
1146 (DW2)	1.27	1.30	852	2558	648	79	326	1222	1287	25.3
1182 (DW2)	1.27	1.30	812	2219	526	71	252	1050	1064	23.7
1275 (DW2)	1.30	1.33	958	2438	491	68	278	1210	1379	20.2
1763 (DW2)	1.30	1.33	916	2542	450	65	243	1107	1375	17.7
2001 (DW2)	1.28	1.38	705	2424	514	70	214	903	1009	21.2
2358 (DW2)	1.27	1.41	740	2767	562	74	245	988	1209	20.3

Revision	Date	Issued by	Approved by	Remarks
1	10-Jun -05	Geoservices Unit 170	Base Mudlogging Coordinator	



## 5.4 Drilling Phase Summary

#### 5.4.1 12<sup>1</sup>/<sub>4</sub> (311 mm) Hole Section – Casino-4DW1

Dates	: 21 <sup>st</sup> to 26 <sup>th</sup> May 2005
Measured depth	: 1308 - 1662 m
TVDSS LAT	: 1285.1 – 1603.9 m
Number of bits used	: 3
Mud type	: KCl/Polymer

Casino-4DW1 was kicked off from the previously plugged and abandoned Casino 4 well bore. A  $12\frac{1}{4}$ " Security FS2263 bit with 9x16 jets was made up with a directional BHA incorporating a Geopilot and MWD tools and run in hole. The cement plug was tagged at 1273 m in  $12\frac{1}{4}$ " (311mm) open hole in Casino 4. Casino 4DW1 was officially kicked off at 09:30 hours on the  $21^{st}$  of May 2005 and deviation began from 1308 m. At 1599 m, a trip back to the  $13\frac{3}{8}$ " shoe was made in order to repair the top drive system. Ran in back to bottom and drilled ahead to 1662 m. Drilling was terminated here as the required build rate wasn't achieved to get to the target. The BHA was then pulled out of hole. This bit drilled 354m in 20.32 on bottom hours and was graded as 1/2/WT/G/X/I/ER/BHA

A new Smith MA89PX bit with 7x20 jets was made up with a new BHA with a downhole motor and bent sub. This BHA however was unable to pass through the 13.375" casing at about 100m and was subsequently pulled out of hole. A decision was then made to set a cement plug from 1200m-1350m and attempt to kick off to Casino 4DW2.

BOP pressure tests were performed before a new Hughes MXCS03 bit was made up with a BHA incorporating the Geopilot steering assembly and MWD tool. Ran in hole and tagged the top of soft cement at 1176m and hard cement at 1200m. Attempted to kick-off from 1200m to 1265m, without success, at which time it was decided to pull out and set another cement plug. The second Kick-off plug was set from 1265m to 1100m.

Picked up 12<sup>1</sup>/<sub>4</sub>" (311mm) sidetrack PDC bit DS43 and ran in hole with Sperry 6/7 lobe motor assembly, set motor bend to 1.15°. Ran in with 8" collars to confirm access to casing, but was unable to progress past 116 mMD, so pulled out and laid out PDC bit. Made up same BHA with TCI bit Hughes MXCS03, ran in hole and encountered same problem. Pulled out of hole and laid down 11.5" string stabiliser, then ran in hole again only to encounter string hanging up at 138m. Attempted to circulate and work string to no avail, so pulled out of hole. Adjusted BHA, then ran in hole with same TCI bit (#8) and ran in hole successfully to 163m without problems. Pulled out of hole, and broke out bit. Made up PDC bit DS43 (#9) and ran in hole with 12<sup>1</sup>/<sub>4</sub>" (311mm) motor assembly. Washed/reamed down to tag top of soft cement at 1078m and hard cement at 1082m. Drilled cement with surface rotation to 1145m, then slide drilled from 1145m to 1146m.

Well sidetracked to Casino-4DW2 at 00:00 hours on 27<sup>th</sup> May 2005 at 1146 mMD.

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#### 12¼ (311 mm) Hole Section – Casino 4-DW2

Dates	: 27 <sup>th</sup> to 30 <sup>th</sup> May 2005
Measured depth	: 1146 - 1998 m
TVDSS LAT	: 1123.6 – 1720.9 m
Number of bits used	: 3
Mud type	: KCl/Polymer

Casino-4DW2 was kicked off by slide drilling with 12<sup>1</sup>/<sub>4</sub>" (311mm) PDC bit DS43 and motor assembly from 1146m to 1157 mMD when the penetration slowed as it encountered hard pyrite stringers in the Timboon Sandstone formation. The bit was pulled to surface and swapped with a TCI bit FXL12D. An 11.5" string stabiliser was added to the BHA and this assembly was run in hole. Directional drilling continued with periodic surveys from 1157m to 1274m until sufficient offset was built between this deviated hole and the old hole. This BHA was then pulled to surface and changed for a rotary steerable Geopilot assembly.

This was then run in hole with 12<sup>1</sup>/4" (311mm) bit (#11RR) FS2263 and washed/reamed to bottom. Directional drilling continued from 1274m to 1945m with rapid penetration, and then drilling penetration rate was limited to a maximum of 25 m/hr from 1945m to 1998 mMD when the top of the Waarre A formation was encountered. Significant gas was circulated out and the mud conditioned prior to pulling out of hole. Tight sections were encountered from 1855-1850m and from 1585m to 1550m, near the top of the Skull Creek formation, and these were extensively backreamed and reamed during the wiper trip prior to running the 9-5/8" (244mm) casing. This was run and cemented without problem, with the shoe set at 1990 mMD (1741 mTVD).

### 5.4.2 8<sup>1</sup>/<sub>2</sub>" (216 mm) Hole Section

Dates	: 2 <sup>nd</sup> to 4 <sup>th</sup> Jun 2005
Measured depth	: 1998 - 2404 m
TVDSS LAT	: 1743 – 1786 m
Number of bits used	: 1
Mud type	: Flo-Pro

The new  $8\frac{1}{2}$ " (216mm) PDC bit (#12) FMF3553 was made up with the Geopilot/FEWD steerable drilling assembly was run in hole and tagged the top of cement at 1960m. The cement and shoe track were drilled out to 1998m. A high visual sweep was pumped and the well was displaced to new Flo-Pro drilling fluid. Directional drilling of the  $8\frac{1}{2}$ " (216mm) hole then proceeded with periodic surveys from 1998m to 2404m. Significant gas levels were encountered while drilling the Upper and Lower Waarre A Sandstone formation with background gas levels consistently above 100 units, reaching a maximum peak of 956 units, however no drilling problems were encountered while drilling overbalanced.

As the bit angle was dropped towards the base of the Lower Waarre A Sandstone, the gas levels tapered off and final TD of Casino-4DW2 was called at 2404 mMD (1786 mTVD) on 4<sup>th</sup> June 2005 at 03:30 hours.

No electric logging was run at TD. The well was prepared for production by running 6-5/8" (168mm) production sandscreens/liner to 2400 mMD and well testing took place on  $9^{\text{th}}$  to  $10^{\text{th}}$  June. The rig was officially released from Casino-4DW2 on  $14^{\text{th}}$  June 2005.

Revision	Date	Issued by	Approved by	Remarks
1	10-Jun-05	Geoservices Unit 170	Base Mudlogging Coordinator	

# **SECTION 13: RIG POSITIONING REPORT**

## RIG POSITION FIELD REPORT Casino-4



Client .	Paulas I dal			
Chem:	Santos Lto		Job Number :	P0267
Rig :	MODU Ocean I	Patriot	Date:	8-May-05
Project :	Rig move to Ca	asino-4 location		
Attention :	Ron King	Company Representative		

The surface location of the drill stem on the Ocean Patriot was derived from 60 minutes of observations of the Primary Differential GPS data, between 00:35 hrs and 01:35 hrs on completion of all anchor pre-tensioning and cementing of the 30 inch casing.

The results of the observations are as follows:

Geographical	Coordinates			Grid Coordina	tes
Latitude	38 ° 47	ţ	13.03 " South	Easting	647518.19
Longitude	142 ° 41	•	64.49 " East	Northing	5705495.28

The drill stem position is 2.84 m at a bearing of 196.54 ° Grid from the design location.

The Client supplied design location for Casino-4:

Geographical (	Coordinates			Grid Coordinates	,,
Latitude	38 ° 47	1	12.94 " South	Easting	647519.00
Longitude	142 ° 41	1	54.52 " East	Northing	5705498-00
			07.02 Last	Norming	5/05498

The Ocean Patriot's rig heading, derived from the mean of 60 minutes observation of the gyro heading is:

250.18 ° True 251 24 ° Grid

Ail coordina	ates in this field	report are quoted in the following coordinate system;	
Datum :	GDA 94	Projection : MGA	
Spheroid :	GR\$80	Zone (Central Meridian) 54 141 ° Fast	

The approximate positions of the rig anchors corrected for catenary are as follows:

Anchor	Easting	Northing	Azimuth(°)
1	646206	5705766	280.2 °
2	646506	5706380	310.8
3	647785	5706800	10.3 °
4	648258	5706391	39.2 °
5	648876	5705232	99.2 °
6	648470	5704692	129.2
7	647241	5704162	189.9 °
8	646812	5704660	219.5 °

Party Chief/Surveyor:

Michael Yorath

Company Representative:

Ron King

DOC: FSHY48-3 REV: 2

## **SECTION 14: DEVIATION SUMMARY**

Surveys and schematics are presented overleaf.

# HALLIBURTON

# **Sperry Drilling Services**

# **Directional Survey Data**

Measured	Inclination	Direction	Vertical	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/30m)
1146.00	4.50	204.71	1145.63	2.70 S	1.75 E	-2.56	TIE-IN
1166.38	5.08	197.94	1165.94	4.28 S	1.14 E	-2.53	1.19
1196.52	6.90	204.40	1195.91	7.20 S	0.02 W	-2.43	1.93
1225.28	9.13	213.00	1224.39	10.69 S	1.98 W	-1.78	2.63
1250.01	10.24	216.17	1248.77	14.11 S	4.34 W	-0.72	1.49
1257.46	10.16	218.79	1256.10	15.16 S	5.15 W	-0.32	1.90
1287.27	10.53	234.54	1285.43	18.79 S	9.01 W	2.08	2.86
1314.96	11.47	254.15	1312.62	21.01 S	13.72 W	5.75	4.16
1342.92	12.82	274.39	1339.97	21.53 S	19.49 W	11.00	4.76
1371.81	14.63	289.92	1368.04	20.04 S	26.12 W	17.74	4.25
1403.35	16.96	298.16	1398.39	16.51 S	33.93 W	26.28	3.07
1430.21	19.64	303.85	1423.89	12.15 S	41.13 W	34.54	3.59
1460.58	23.39	309.06	1452.15	5.50 S	50.05 W	45.19	4.15
1487.44	26.26	311.42	1476.52	1.79 N	58.65 W	55.76	3.39
1515.92	30.69	310.65	1501.55	10.70 N	68.90 W	68.42	4.68
1544.45	35.01	308.80	1525.51	20.57 N	80.80 W	82.98	4.66
1574.02	39.48	307.90	1549.05	31.67 N	94.84 W	99.95	4.57
1601.66	43.46	306.39	1569.75	42.71 N	109.43 W	117.43	4.45
1630.50	47.12	305.12	1590.04	54.68 N	126.06 W	137.15	3.92
1659.47	51.07	302.67	1609.01	66.87 N	144.24 W	158.39	4.52
1688.15	54.91	300.23	1626.27	78.81 N	163.78 W	180.82	4.50
1716.83	59.06	298.06	1641.90	90.51 N	184.78 W	204.55	4.74
1745.43	62.89	296.17	1655.77	101.90 N	207.04 W	229.36	4.38
1775.14	65.13	291.82	1668.79	112.74 N	231.43 W	255.99	4.55
1803.18	66.82	288.55	1680.21	121.57 N	255.46 W	281.59	3.67
1832.10	67.00	288.55	1691.55	130.04 N	280.69 W	308.19	0.19
1861.05	70.00	287.81	1702.16	138.44 N	306.27 W	335.11	3.19
1889.71	70.27	288.54	1711.90	146.85 N	331.88 W	362.05	0.77
1918.35	71.02	288.14	1721.39	155.35 N	357.53 W	389.06	0.88
1946.76	73.24	288.85	1730.11	163.93 N	383.17 W	416.09	2.45
1975.04	76.28	287.89	1737.54	172.52 N	409.07 W	443.36	3.37
2020.94	76.66	287.87	1748.28	186.22 N	451.54 W	487.96	0.25
2049.61	78.96	288.67	1754.34	195.01 N	478.14 W	515.97	2.54
2078.36	82.52	288.53	1758.96	204.06 N	505.03 W	544.33	3.72
2107.04	86.73	289.13	1761.65	213.27 N	532.05 W	572.88	4.45
2135.83	87.47	289.13	1763.10	222.70 N	559.22 W	601.63	0.77
2164.51	87.78	290.18	1764.29	232.33 N	586.20 W	630.28	1.14
2193.21	87.78	290.62	1765.40	242.33 N	613.08 W	658.96	0.46
2221.71	87.29	289.70	1766.63	252.14 N	639.81 W	687.43	1.10
2250.28	85.93	289.24	1768.32	261.65 N	666.70 W	715.95	1.51
# HALLIBURTON

# **Sperry Drilling Services**

### **Directional Survey Data**

Measured Depth		Direction	Vertical Depth	Latitude	Departure	Vertical Section	Dogleg
(metres)	(degrees)	(degrees)	(metres)	(metres)	(metres)	(metres)	(deg/som)
2279.03	86.30	289.25	1770.27	271.10 N	693.78 W	744.63	0.39
2307.85	85.37	288.38	1772.36	280.37 N	720.99 W	773.37	1.32
2336.65	82.20	287.82	1775.48	289.27 N	748.20 W	801.98	3.35
2365.23	80.01	287.52	1779.90	297.84 N	775.10 W	830.20	2.32
2394.21	79.83	287.71	1784.97	306.47 N	802.30 W	858.71	0.27
2404.00	79.83	287.71	1786.70	309.40 N	811.48 W	868.34	0.00



## **Sperry Drilling Services**

#### **Directional Survey Data**

CALCULATION BASED ON Minimum Curvature METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 289.90 DEGREES (GRID) A TOTAL CORRECTION OF 12.01 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

> HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD. HORIZONTAL DISPLACEMENT(CLOSURE) AT 2404.00 METRES IS 868.46 METRES ALONG 290.87 DEGREES (GRID)

> > RT to LAT = 22.0 m. Surveys are corrected for BHA sag. Final Survey Projected to TD.



#### SECTION 15: PALYNOLOGY REPORT

No Palynology work was carried out on Casino 4DW1/DW2 samples.