# Santos -

## HENRY 2DW1 ST1

Page 1 of 3

## DAILY GEOLOGICAL REPORT

#### **DGR 14**

Date:	16 October 2008	Licence / State:	VIC/P44
Report Period: Days From Spud: Current Hole Size:	06:00 – 06:00 Hours EST 13 216mm (8 ½")	Rig: RT - SEAFLOOR: WATER DEPTH RT:	OCEAN PATRIOT 87.8m 67.0m MSL 20.8m MSL
Depth @ 06:00 Hrs EST: 24 Hr Progress:	2521m MDRT PTD:   1734.5m TVDRT Sidetrack from   -1713.7m SS Henry 2:   441m Henry 2: Henry 2:		2627m MDRT 03:00 hrs on 3 <sup>rd</sup> October,2008
06:00 – 06:00 EST			
Current Operation:	Drilling 216mm (8½") directional	at 20 m/hr.	
Nope Cost (Drill)\$	(C&S)\$ 37.4 million (P&A)\$		Cost To Date:

Casing Data	Hole Size	Depth	Casin	g Size	Wt:		Т	Гуре	Shoe	Depth	LOT
	914 mm	131.7m	762mm (	(30")	461 kg/m		Con	ductor	131.7m	1	n/a
	(36")				(310 lb/ft)	)					
	445mm (17.5")	657m	340mm (13.375n	nm)	101 kg/m (68 lb/ft)		L80	BTC	652m		2.21sg (18.4ppg)
	311mm (12.25")	2050m	244mm ( 273mm (		70 kg/m / 82.8 kg/m		L80		2042.7	n	n/a
Mud Data	Type:	Wt:	Visc:	WL:	PH:	KC	):	CI -:	PV/YP:	Rn	nf:
20:00hrs	DIF	10.0	40	4.0	8.5	-		65K	11 / 28	0.0	61Ωm @ 25.1°C
Dit Data	Make	<b>.</b> .	Type		Sizo		I U a		Motoro		Condition

Bit Data	No.	Make		Гуре	Size	Hours	Meters	Condition
Current	3	Smith	PDC	MDI616	216mm (8 ½")	18.8	471	In Hole
Previous								

Surveys	Туре	MD (m)	Inclination	Azimuth (T)	TVD (m)	Offset (m)	Direction (T)
	MWD	2464.7	93	122	1738.2	1116.4	121
	MWD	2494.3	94	122	1736.4	1145.9	121

## **OPERATIONS SUMMARY**

### Previous 24 hrs Operations Summary at 06:00 hrs EST

Drill ahead 216mm (8<sup>1</sup>/<sub>2</sub>") directional hole from 2080m to 2521m.

<u>Anticipated Operations:</u> Drill ahead 216mm (8½") directional hole to total depth of +/-2627m. Circulate hole clean. Perform wiper trip to casing shoe.



## HENRY 2DW1 ST1

## DAILY GEOLOGICAL REPORT

**DGR 14** 

	FORMATION TOPS							
FORMATION	ACTUAL TOP		High / Low	High / Low	PROGNOSED TOP			
	(mMDRT)	(mSS MSL)	Prognosis (m)	Henry 1	(MDmRT)	(mSS MSL)		
SEA LEVEL	20.8	0.0			20.8	0.0		
HEYTSBURY GP	87.8	-67.0	1.0 High	0.5 High	88.8	-68.0		
MEPUNGA FM	720.0	-699.2	0.2 Low	56.1 High	720.0	-699.0		
DILWYN FM/	848.0	-827.1	24.1 Low	24.4 High	824.0	-803.0		
WANGERRIP GP								
				Henry 2				
PEMBER MUDSTONE	1092.5	-1065.6	0.5 High	0.5 High	1092.2	-1066.1		
PEBBLE POINT FM	1131.0	-1102.4	1.3 Low	1.3 Low	1128.9	-1101.1		
MASSACRE SHALE	1201.0	-1168.7	0.4 Low	0.4 Low	1199.5	-1168.3		
TIMBOON FM	1214.5	-1181.6	0.2 Low	0.2 Low	1213.3	-1181.4		
PAARATTE FM	1413.0	-1359.2	2.3 High	2.3 High	1416.1	-1361.5		
SKULL CREEK MDST	1665.0	-1537.8	5.4 High	5.4 High	1669.1	-1543.2		
K85 UNCONFORMITY	2040.0	-1688.7	5.0 High	5.0 High	2071.6	-1693.7		
WAARRE A	2040.0	-1688.7	5.0 High	5.0 High	2071.6	-1693.7		
TOTAL DEPTH					2627.0	-1703.2		

## HYDROCARBON SHOW SUMMARY

INTERVAL	LITHOLOGY & HYDROCARBON FLUORESCENCE	GAS

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

## **GEOLOGICAL SUMMARY**

INTERVAL ROP (m/hr)	LITHOLOGY	GAS (Peak / BG) Composition
2080 – 2113m 10 – 89 m/hr Av: 36 m/hr	MASSIVE SANDSTONE. <u>SANDSTONE</u> : off white, clear to translucent, very fine to occasionally fine, well sorted, sub-angular to dominantly sub-round, moderately siliceous cement, common to abundant off white argillaceous matrix, occasional lithics, minor carbonaceous specks and rare fragments, loose, friable, minor moderately hard, poor visual porosity, poor to occasionally fair inferred porosity, no fluorescence.	200 U 97/2/1/tr/tr PG: 2111m 295 U 97/2/1/tr/tr CO2: 3899ppm
2113 – 2130m 8 – 89 m/hr Av: 49 m/hr	MASSIVE SANDSTONE WITH TRACE SILTSTONE. <u>SANDSTONE</u> : off white, clear to translucent, very fine, well sorted, sub- angular to sub-round, moderately siliceous cement, common to abundant off white argillaceous matrix, occasional to common lithics, minor carbonaceous specks and rare fragments, loose, friable, minor moderately hard, poor visual and inferred porosity, no fluorescence. Note: calcium carbonate in mud system. <u>SILTSTONE</u> : pale grey, occasionally medium grey, argillaceous, occasional carbonaceous specks, very soft to firm, dispersive in part, sub-blocky, amorphous.	30 U 97/2/1/tr/tr CO2: 2200ppm

## HENRY 2DW1 ST1

Page 3 of 3

Santos	DAILY GEOLOGICAL REPORT	DGR 14
2130 – 2210m 15 – 90 m/hr Av: 45 m/hr	<u>SANDSTONE</u> : clear to translucent, off white, very fine to fine, well sorted, sub-angular to dominantly sub-round, weak to moderately siliceous cement, common to abundant light grey argillaceous matrix, minor lithics, minor carbonaceous specks and laminations, rare pyrite nodules, rare glauconite grains, common loose grains, friable, minor moderately hard, poor visual and inferred porosity, no fluorescence.	200-300 U 97/2/1/tr/tr CO2: 1500-2800ppm
2210 – 2315m 4 – 120 m/hr Av: 40 m/hr	<u>SANDSTONE</u> : translucent, light grey, clear, fine to medium grained, moderately well sorted, sub angular to predominately sub rounded, weak calcareous & siliceous cement, minor light grey argillaceous matrix, abundant carbonaceous specks / flecks and minor fragments, rare lithics, trace nodular pyrite, friable aggregates, predominately loose, fair inferred porosity, trace mineral fluorescence.	250-350 U 97/2/1/tr/tr PG: 2215m 1360U 97/2/1/tr/tr PG: 2297m 995U 97/2/1/tr/tr CO2: 200-500ppm
2315 – 2396m 14 – 163 m/hr Av: 61 m/hr	<u>SANDSTONE</u> : translucent, clear, white, occasionally light grey, fine to medium grained, trace coarse – very coarse, moderately sorted, sub angular to sub rounded, rare to common weak calcareous cement, rare siliceous cement, common carbonaceous fragments and thin laminae, trace nodular pyrite, trace biotite, trace lithics, fair to good inferred porosity, minor mineral fluorescence.	100 – 390 U 97/2/1/tr/tr CO2: 10-340ppm
2396 – 2465m 1 – 93 m/hr Av: 14 m/hr	<u>SANDSTONE</u> : clear to translucent, off white, fine to medium, very fine in part, well sorted, sub-angular to dominantly sub-round, moderately calcareous cement, minor off white to pale grey argillaceous matrix, minor carbonaceous specks, generally loose grains, friable to moderately hard, fair inferred porosity, poor visual porosity, trace mineral fluorescence.	10 – 30 U 96/3/1/tr/tr PG: 2422m 219U 96/3/1/tr/tr CO2: 0 – 1730ppm
2465 – 2490m 20 – 86 m/hr Av: 45 m/hr	<u>SANDSTONE</u> : clear to translucent, off white in part, fine to medium, well sorted, sub-angular to dominantly sub-round, moderately calcareous cement, rare to minor off white argillaceous matrix, minor carbonaceous specks, rare disseminated pyrite, generally loose grains, minor friable, fair visual and inferred porosity, trace mineral fluorescence.	BG 240 U 96/3/1/tr/tr CO2: 0 ppm
2490 – 2520m 6 – 70 m/hr Av: 33 m/hr	MASSIVE SANDSTONE WITH TRACE SILTSTONE. <u>SANDSTONE</u> : clear to translucent, off white to pale grey, fine to medium, minor coarse to very coarse, poorly sorted, sub-angular to sub- round, angular in part, moderately calcareous cement, minor to common off white to pale grey argillaceous to silty matrix, minor carbonaceous specks, rare pyrite nodules, loose, minor friable, fair visual and inferred porosity, trace mineral fluorescence. <u>SILTSTONE</u> : pale to medium grey, grey brown, arenaceous, minor to common carbonaceous specks, micro mica, moderately hard to hard, blocky to sub-blocky.	50 – 220 U 97/2/1/tr CO2: 200ppm

#### **REMARKS**:

LWD Sensor Offsets from the Bit: (216mm (8½") hole section)Xceed-Ecoscope-MWDGR:9.71mRes:12.75mD&I:20.56mPor:13.16mDen:10.97mCaliper:11.33mPWD:9.87m