

## DAILY GEOLOGICAL REPORT

<b>Date:</b>	28 December 2008	<b>Rig:</b>	Ocean Patriot
<b>Report Number:</b>	10	<b>Bit Diameter:</b>	311 mm
<b>Report Period:</b>	06:00 - 06:00 Hours	<b>Last Casing:</b>	340 mm @ 1735.9 mMDRT
<b>Spud Date:</b>	20-Dec-2008 17:30 Hours	<b>Integrity Test:</b>	N/A
<b>Days From Spud:</b>	7.5	<b>Mud Weight:</b>	1.16 sg
<b>Depth @ 0600 Hrs:</b>	2545.0 mMDRT	<b>ECD:</b>	1.22 sg
	-1998.3 mTVDAHD	<b>Mud Type:</b>	KCl Polymer
<b>Lag Depth:</b>	2520.0 mMDRT	<b>Mud Chlorides:</b>	49000 mg/L
<b>Last Depth:</b>	1750.0 mMDRT		
<b>Progress:</b>	795.0 m	<b>Last Survey:</b>	2508.14 mMDRT
<b>Water Depth:</b>	504.9 m	<b>Deviation:</b>	Inc. 47.77°
<b>RT:</b>	21.5 m		Az. 190.15°

### OPERATIONS SUMMARY

**24 HOUR SUMMARY:** Directionally drilled 311mm hole from 1750.0 m to 2545.0 mMDRT.

**NEXT 24 HOURS:** Continue directional drilling 311mm hole to the planned section TD.

**CURRENT OPERATION**

**@ 06:00 HRS (28-Dec-2008):** Directionally drilling 311mm hole at 2545.0 mMDRT.

### GEOLOGICAL SUMMARY

**LITHOLOGY**

**INTERVAL:** 1741.7 to 2050.0 mMDRT (-1463.6 to -1664.9 mTVDAHD)  
**ROP (Range):** 4.0 to 142.0 m/h  
**Av. ROP:** 59.0 m/h

**CALCISILTITE with minor CALCILUTITE and CALCARENITE interbeds and thin DOLOMITE stringers.**  
**CALCISILTITE** (20 to 90%): medium light grey to light olive grey, light greenish grey, argillaceous in part grading to **CALCILUTITE**, trace very fine sand grains, trace very fine glauconite, trace micromicaceous, soft to firm, sub fissile to sub blocky.  
**CALCILUTITE** (5 to 65%): very light grey to light greenish grey, off white, silty in part grading to **CALCISILTITE**, trace very fine glauconite, trace forams, trace ooids, soft to firm, amorphous to sub blocky.  
**CALCARENITE** (5 to 50%): very light grey to light greenish grey, off white to pale yellow orange, very fine to fine, well sorted, trace fine to coarse sub angular quartz grains, silty in part grading to **CALCISILTITE**, trace very fine glauconitic grains, firm to moderately hard, poor visible porosity, no hydrocarbon fluorescence.  
**DOLOMITE** (Nil to 5%): light brown, dark yellowish brown, crystalline, very calcareous, grades to **DOLOMITIC LIMESTOME**, moderately hard to hard, brittle.

**INTERVAL:** 2050.0 to 2520.0 mMDRT (-1664.9 to -1981.5 mTVDAHD)  
**ROP (Range):** 6.0 to 137.0 m/h  
**Av. ROP:** 67.0 m/h

**Interbedded CALCISILTITE and CALCILUTITE grading to CALCAREOUS CLAYSTONE with depth and trace CALCARENITE.**

**CALCISILTITE** (35 to 60%): light grey to light olive grey, light greenish grey, off white, argillaceous in part grading to **CALCILUTITE**, trace very finely arenaceous, trace very fine glauconite, trace micromicaceous, trace very fine carbonaceous specks, soft to firm, sub fissile to sub blocky.  
**CALCILUTITE** (15 to 30%): very light grey to light olive grey, off white, silty in part grading to **CALCISILTITE**, increasing clay content in part grading to **CALCAREOUS CLAYSTONE** with depth, trace very fine glauconite, soft to firm, amorphous to sub blocky.

CALCAREOUS CLAYSTONE (15 to 30%): medium grey to light olive grey, abundantly calcareous grading from CALCILUTITE with depth, trace micromicaceous, trace very fine glauconite, trace very fine carbonaceous specks, silty, soft to dominantly firm, sub blocky to blocky.

CALCARENITE (Nil to 5%): light grey to medium light grey, very fine to fine, well sorted, silty in part grading to CALCISILTITE, trace very fine arenaceous, trace very fine glauconitic grains, firm to moderately hard, poor visible porosity, no hydrocarbon fluorescence.

**GAS SUMMARY**

Background Gas							
INTERVAL (mMDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
1741.7 - 2050.0	0.10	867	0	2	0	0	0
2050.0 - 2520.0	0.11	942	0	3	0	0	0

**No gas peaks recorded.**

**SAMPLE QUALITY**

3.3 m bagged sample from 1741.7 m to 1745.0 mMDRT.

Spot 5.0 m samples at 1750.0, 1755.0, 1760.0, 1765.0, 1770.0 m (due to work done at the shakers).

5.0 m bagged samples from 1770.0 m to 1930.0 mMDRT.

10.0 m bagged samples from 1930.0 m to 2450.0 mMDRT (due to high ROP).

5.0 m bagged samples from 2450.0 m to 2520.0 mMDRT.

**MUDLOGGING EQUIPMENT / PERSONNEL**

All systems fully functional.

The Total gas calibration had to be checked at the start of drilling due to erratic Total gas readings. The Total gas values from the lagged depth of 1741.7 m to 1745.0 mMDRT are derived from the Chromatograph gas values. From 1745.0 mMDRT, all Total gas values are correct.

After performing a "lift test" to ascertain the efficiency of both the BHI Mudlogging and Anadrill air motors, it was found that the BHI Mudlogging was not as efficient as that of Anadrill's. BHI Mudlogging have been advised to get their Geolograph checked.

**MWD**

Run #3, Bit Run #3: 311 mm LWD Tool offsets to bit:

Tool	Serial #	Distance to bit (m)
APWD	arcVISION 4126	10.67
Resistivity	arcVISION 4126	11.38
Gamma Ray	arcVISION 4126	11.43
Direction and Inclination	TeleScopeMWD E0442	18.99
Sonic	sonicVISION E2665	28.05

Anadrill monitored depth through the supply of BHI's Kelly bottle depth tracking data through WITS.

After testing both the BHI Mudlogging and Anadrill air motors it was decided to rig up the Anadrill Geolograph line back on from the start of drilling of the stand at 2067.0 mMDRT. The Anadrill Engineer was on the rig floor at the start of drilling of each stand (when the snagging was most likely to occur) and observed to make sure that the Geolograph cable line did not get snagged.

Anadrill monitored depth through the supply of BHI's Kelly bottle depth tracking data through WITS and in parallel with their Geolograph until the stand down at 2295.0 mMDRT.

From 2295.0 mMDRT, the Anadrill sensor on the Geolograph line was unhooked, ready to be used if BHI are unable to provide depth data through WITS.

**REMARKS**

The 311mm section was directionally drilled from 1750.0 m to 2545.0 mMDRT.

**WELLSITE GEOLOGISTS**

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