

## DAILY GEOLOGICAL REPORT

<b>Date:</b>	06 January 2009	<b>Rig:</b>	Ocean Patriot
<b>Report Number:</b>	19	<b>Bit Diameter:</b>	216 mm
<b>Report Period:</b>	06:00 - 06:00 Hours	<b>Last Casing:</b>	244 mm @ 3243.9 mMDRT
<b>Spud Date:</b>	20-Dec-2008 17:30 Hours	<b>FIT:</b>	1.60 sg EMW @ 3252.0 mMDRT
<b>Days From Spud:</b>	16.5	<b>Mud Weight:</b>	1.14 sg
<b>Depth @ 0600 Hrs:</b>	4384.0 mMDRT	<b>ECD:</b>	1.28 sg
	-3253.3 mTVDAHD	<b>Mud Type:</b>	KCl Polymer
<b>Lag Depth:</b>	4360.0 mMDRT	<b>Mud Chlorides:</b>	59000 mg/L
<b>Last Depth:</b>	3764.0 mMDRT	<b>Est. Pore Pressure:</b>	N/A
<b>Progress:</b>	620.0 m	<b>Last Survey:</b>	4327.69 mMDRT
<b>Water Depth:</b>	504.9 m	<b>Deviation:</b>	Inc. 46.56°
<b>RT:</b>	21.5 m		Az. 183.64°

### OPERATIONS SUMMARY

**24 HOUR SUMMARY:** Drilled 216 mm directional hole from 3764.0 m to 4384.0 mMDRT.

**NEXT 24 HOURS:** Continue drilling 216 mm directional hole from 4384.0 mMDRT to approximately 4650.0 mMDRT. Pull out of hole to pick up high-torque drill pipe and new bit if required.

**CURRENT OPERATION**

**@ 06:00 HRS (06-Jan-2009):** Drilling 216 mm directional hole at 4384.0 mMDRT.

### GEOLOGICAL SUMMARY

**LITHOLOGY**

**INTERVAL:** 3755.0 to 3762.0 mMDRT (-2821.8 to -2826.6 mTVDAHD)  
**ROP (Range):** 3.0 to 20.0 m/h  
**Av. ROP:** 8.0 m/h

**Interbedded SILTSTONE, GLAUCONITIC SANDSTONE and GLAUCONITIC SILTSTONE.**

**SILTSTONE (35%):** off white to light grey, light greenish grey, rare to minor very fine arenaceous grains, trace calcareous, trace very fine glauconite, trace micromicaceous, soft to dominantly firm, sub-fissile to sub-blocky.

**GLAUCONITIC SANDSTONE (30%):** clear to translucent, light greenish grey, dominantly very fine to fine, well sorted, dominantly sub-rounded to rounded, occurring as soft to firm aggregates with a dispersive light grey to dark greenish grey glauconitic/argillaceous matrix, abundant very fine to medium glauconite grains and pellets, occasionally loose after washing, poor visible porosity, no hydrocarbon fluorescence.

**GLAUCONITIC SILTSTONE (35%):** olive grey to dark olive grey, greyish brown to dusky brown, non calcareous, very arenaceous grading to SANDY SILTSTONE, trace to common micromicaceous, trace nodular pyrite, common fine glauconite grains, firm, dominantly sub-fissile to sub-blocky.

**INTERVAL:** 3762.0 to 4290.0 mMDRT (-2826.6 to -3188.7 mTVDAHD)  
**ROP (Range):** 9.0 to 201.0 m/h  
**Av. ROP:** 46.0 m/h

**Interbedded SANDSTONE with minor SILTSTONE.**

**SANDSTONE (60 to 95%):** clear to translucent, common pale yellowish grey, trace very light grey, trace frosted, medium to very coarse, fine to very coarse in part, dominantly coarse to very coarse, poor to moderately sorted, angular to dominantly sub-angular, rare sub-rounded, weak siliceous cement, weak pyrite cement, trace pyrite nodules, clean, loose, poor to fair inferred porosity, no hydrocarbon fluorescence.

**SILTSTONE (5 to 40%):** olive grey to dark olive grey, medium grey, greyish brown, non calcareous, trace very finely arenaceous, trace to common micromicaceous, trace disseminated pyrite, trace nodular pyrite,

trace very fine glauconite grains, soft to dominantly firm, dominantly sub-fissile to sub-blocky.

**INTERVAL:** 4290.0 to 4360.0 mMDRT (-3188.7 to -3236.8 mTVDAHD)  
**ROP (Range):** 26.0 to 70.0 m/h  
**Av. ROP:** 45.0 m/h

**Interbedded SANDSTONE with minor SILTSTONE.**

SANDSTONE (90 to 95%): clear to translucent, trace frosted, fine to very coarse, minor fine, common very coarse, poorly sorted, angular to dominantly sub-angular, rare sub-rounded, weak siliceous cement, weak pyrite cement, trace nodular pyrite, clean, loose, poor inferred porosity, no hydrocarbon fluorescence.  
 SILTSTONE (5 to 10%): olive grey to dark greenish grey, medium dark grey to grey black, non calcareous, trace very finely arenaceous, trace to minor micromicaceous, trace very fine glauconite grains, soft to dominantly firm, very dispersive, sub-fissile to sub-blocky.

**GAS SUMMARY**

Background Gas							
INTERVAL (mMDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
3755.0 - 3762.0	0.01	50	0	0	0	0	0
3762.0 - 4290.0	0.02	68	0	2	0	0	0
4290.0 - 4360.0	0.01	52	0	1	0	0	0

**SAMPLE QUALITY**

5.0 metre bagged samples from 3755.0 m to 3850.0 mMDRT.  
 10.0 metre bagged samples from 3850.0 m to 3860.0 mMDRT (due to high ROP).  
 5.0 metre bagged samples from 3860.0 m to 4090.0 mMDRT.  
 10.0 metre bagged samples from 4090.0 m to 4140.0 mMDRT (due to high ROP).  
 5.0 metre bagged samples from 4140.0 m to 4160.0 mMDRT.  
 10.0 metre bagged samples from 4160.0 m to 4270.0 mMDRT (due to high ROP).  
 5.0 metre bagged samples from 4270.0 m to 4290.0 mMDRT.  
 10.0 metre bagged samples from 4290.0 m to 4360.0 mMDRT (due to high ROP).

**MUDLOGGING EQUIPMENT / PERSONNEL**

All systems fully functional.

The gas line from the Gas trap to the BHI Mudlogging unit has been checked regularly and found to be good.

**MWD**

Run #5, Bit Run #4RR: 216 mm LWD Tool offsets to bit:

Tool	Serial #	Distance to bit (m)
Gamma Ray	EcoScope YC85	9.84
APWD	EcoScope YC85	10.00
Density	EcoScope YC85	11.04
Caliper	UltraSonic Caliper	11.46
Resistivity	EcoScope YC85	12.88
Neutron Porosity	EcoScope YC85	13.13
Direction and Inclination	TelescopeMWD VG67	20.16
GVR Resistivity	GVR 41872	26.45
Sonic	SonicVision 46324	32.71

**WIRELINE**

Baker-Atlas wireline tools arrived on the rig on 05 January 2009 and crew due on the rig today.

**REMARKS**

The drilling of the 216 mm directional hole continued from 3764.0 m to 4384.0 mMDRT.

**WELLSITE GEOLOGISTS**

Trevor Lobo / Justin Eastwood