

Trefoil-2

Date : 09 Nov 2009

Geology Report Number : 27

(associated DDR # 40)

Well Details

Depth MDBRT:	2633.0m	Rig:	Kan Tan IV	Date:	09 Nov 2009
Depth TVDBRT:	2633.0m	Progress:	100.0m	Report Start:	0000
Depth TVDSS:	2607.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	39.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	34.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	2520.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	11.00ppg /		

Operations Summary

24hr Summary:	Drilled ahead in 216 mm (8 1/2") hole section to 2633 mMDRT while troubleshooting. LWD tool failed. Pulled out of hole. Replaced LWD string. RIH.
Forward Plan:	Continue to RIH, drill ahead in 216 mm (8 1/2") hole section.

General Comments

00:00 TO 24:00 Hrs ON 09 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Gas equipment calibrated 5 Nov 09. Sperry: 3 MWD engineers on board. Recorded data log quality OK.
Operational Comments	Sperry: Apparent total tool failure at 2627 mMDRT. No pulses from 2629 - 2633 mMDRT. Replaced entire LWD tool string due excessive vibration in previous run. No physical evidence for pulser failure apart from apparent mud gel.
Operational Comments	FEWD sensor distances from bit to 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.81 m Resistivity (EWR-P4) 5.16 m Directional (PCD) 10.02 m Density (ALD) 14.82 m Porosity (CTN) 18.62 m Sonic (BAT) 23.37 m Caliper (ACAL) 31.20 m
Operational Comments	FEWD sensor distances from bit from 2633 mMDRT: Vibration 0.00 m Gamma (DGR) 2.83 m Resistivity (EWR-P4) 5.17 m Directional (PCD) 10.07 m Density (ALD) 15.56 m Porosity (CTN) 19.43 m Sonic (BAT) 24.20 m Caliper (ACAL) 31.02 m

WBM Data

Mud Type:	KCI POLYMER	Flowline Temp:	Cl:	41000mg/l	Low Gravity Solids:	Viscosity	68sec/qt
Sample From:	2	MWD Circ Temp:	Hard/Ca:	375mg/l	High Gravity Solids:	PV	11cp
Time:	21:30 hrs	Glycol CP Temp:	MBT:	11	Solids (corrected):	YP	26lb/100ft ²
Weight:	9.40ppg	Glycol:	PM:	0.3	H2O:	Gels 10s	10
ECD TD:		Nitrates:	PF:	0.25	Oil:	Gels 10m	12
ECD Shoe:		Sulphites:	MF:	1.9	Sand:	Fann 003	9
ECD Cuttings:		API FL:	pH:	9	Barite:	Fann 006	11
KCI Equiv:	9%	API Cake:	PHPA Excess:			Fann 100	25
						Fann 200	32
						Fann 300	37
						Fann 600	48

Shakers, Volumes and Losses Data				Engineer : Mike Lawrance / James Munford			
Available	2250.0bbl	Losses	0.0bbl	Equip.	Descr.	Mesh Size	Hours
Active	697.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/50 bottom	
Mixing	0.0bbl	Surf+ Equip	0.0bbl	Shaker 2	Brandt VSM 300	20 top/50 bottom	8
Hole	709.0bbl	Dumped		Shaker 3	Brandt VSM 300	20 top/50 bottom	8
Slug		De-Gasser		Shaker 4	Brandt VSM 300	20 top/50 bottom	
Reserve	844.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge					

Comment

Formation Tops

Formation	Prognosed		Actual		Diff.	Thickness MD (m)	Pick Criteria
	MDBRT (m)	TVDSS (m)	MDBRT (m)	TVDSS (m)	+ / - TVD (m)		
Torquay Group	95.00	69.00	95.00	69.00	0.00	823.00	Sea floor
Lower Miocene Seismic Marker	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Upper Angahook	1168.00	1142.00	1162.00	1136.00	6.00	169.00	GR decrease, res increase
Angahook Volcanics Equiv	1323.00	1297.00	1331.00	1305.00	-8.00	238.00	GR decrease, res increase
Lower Angahook	1564.00	1538.00	1569.00	1543.00	-5.00	281.00	GR decrease, res increase
Demons Bluff	1839.00	1813.00	1850.00	1824.00	-11.00	255.00	Res increase
Eastern View Coal Measures	2092.00	2066.00	2105.00	2079.00	-13.00	0.00	Res decrease

Lithology Summary

Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2629.00 - 2633.00	Min:15 Avg:25 Max:34	SILTSTONE interbedded with SANDSTONE. SILTSTONE (40-95%): brownish grey, brownish black, olive black, olive grey, soft to firm to moderately hard, blocky to subblocky to subfissile, trace carbonaceous material, trace lithic fragments, trace coal, trace micromica. SANDSTONE (5-60%): very light grey to light grey to clear to opaque, olive grey, 20% very fine, 50% fine, 30% medium grained, loose to firm, poorly to moderately sorted, subrounded to subangular, subspherical to spherical to subelongate, trace silica cement, trace calcareous cement, trace pyrite cement, trace lithic fragments, trace carbonaceous material, trace coal, trace nodular pyrite, poor to good inferred visual porosity, no hydrocarbon indications.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2629.00 - 2633.00	Drilled	0.119	0.0421	0.0026	0.0015	0.0020	0.0007	0.0014	0.000

06:00 Hrs Update

Time:	06:00 Hrs on 10 Nov 2009
Depth:	2633 mMDRT/2633 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	RIH W/ 81/2 Drilling assy #26.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Larissa Hansen