

Trefoil-2

Date : 18 Nov 2009

Geology Report Number : 36

(associated DDR # 49)

Well Details

Depth MDBRT:	3235.0m	Rig:	Kan Tan IV	Date:	18 Nov 2009
Depth TVDBRT:	3235.0m	Progress:	27.0m	Report Start:	0000
Depth TVDSS:	3209.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	48.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	43.67
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 216 mm (8-1/2") hole to well TD of 3235 mMDRT. Circulated hole clean. Pulled out of hole. Rigged up and ran wireline log #1: PEX-HRLA-HNGS-CMR.
Forward Plan:	Continue to run wireline log #1: PEX-HRLA-HNGS-CMR. POOH. Rig up and run wireline log #2: MDT-GR-LEHQT

General Comments

00:00 TO 24:00 Hrs ON 18 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 12 Nov 09. Sperry: 3 MWD engineers on board. Schlumberger Wireline: 2 engineers, 4 operators, 1 technician on board. Main tool strings for FMI-DSI and MDT/XPT runs checked OK.
Operational Comments	FEWD sensor distances from bit from 3175 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: 38000mg/l	Low Gravity Solids:	Viscosity	61sec/qt
Sample From: 2	MWD Circ Temp:	Hard/Ca: 360mg/l	High Gravity Solids:	PV	14cp
Time: 22:00 hrs	Glycol CP Temp:	MBT: 10	Solids (corrected):	YP	29lb/100ft²
Weight: 9.50ppg	Glycol:	PM: 0.2	H2O: 93%	Gels 10s	8
ECD TD:	Nitrates:	PF: 0.1	Oil:	Gels 10m	12
ECD Shoe:	Sulphites:	MF: 2.2	Sand: .3 %	Fann 003	9
ECD Cuttings:	API FL: 5.0cc/30min	pH: 9	Barite:	Fann 006	10
KCI Equiv: 7%	API Cake: 1/32nd"	PHPA Excess:		Fann 100	28
				Fann 200	37
				Fann 300	43
				Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Jay Wan / James Munford

Available	1585.7bbl	Losses	66.4bbl	Equip.	Descr.	Mesh Size	Hours
Active	598.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/50 bottom	16
Mixing	0.0bbl	Surf+ Equip	58.8bbl	Shaker 2	Brandt VSM 300	20 top/50 bottom	16
Hole	860.0bbl	Dumped		Shaker 3	Brandt VSM 300	20 top/50 bottom	
Slug		De-Gasser		Shaker 4	Brandt VSM 300	20 top/50 bottom	
Reserve	127.7bbl	De-Sander					
Kill		De-Silter					
		Centrifuge evaporation	7.6bbl				

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	596.50	Res decrease
Eocene Unconformity	2691.00	2665.00	2701.50	2675.10	-10.10	157.30	GR decrease
2973 Seismic Marker	2841.00	2815.00	2858.80	2832.40	-17.40	79.00	GR decrease, res decrease
Base Low A1 Zone	2922.00	2896.00	2937.80	2911.40	-15.40	38.70	GR increase, res increase
TL40 Sand	2971.00	2945.00	2976.50	2950.10	-5.10	8.50	GR decrease
TL50 Sand	2981.00	2955.00	2985.00	2958.40	-3.40	9.50	GR decrease
TL60 Sand	2992.00	2966.00	2994.50	2967.90	-1.90	73.50	GR decrease
Cretaceous	3056.00	3030.00	3068.00	3041.70	-11.70	62.50	GR decrease
TF50 Sand	3123.00	3097.00	3130.50	3103.70	-6.70	19.30	GR decrease
TF80 Sand	3142.00	3116.00	3149.80	3123.00	-7.00	30.20	GR decrease
Total Depth (TD)	3221.00	3195.00	3235.00	3208.00	-13.00	0.00	

Lithology Summary		
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
3208.00 - 3235.00	Min:3 Avg:15 Max:27	Interbedded ARGILLACEOUS SANDSTONE and SILTSTONE, minor interbeds of SANDSTONE and CLAYSTONE ARGILLACEOUS SANDSTONE (15-70%): white to very light grey, light grey to medium light grey, clear, 15% clay, 40% very fine, 40% fine, 20% medium, trace very coarse grains, soft to firm, moderately to well sorted, subrounded to rounded, subspherical to spherical, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence. SILTSTONE (25-80%): medium light grey to medium grey, olive grey, brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material. SANDSTONE (0-20%): white to very light grey, light grey, clear, 30% very fine, 50% fine, 20% medium grains, firm to moderately hard, moderately to well sorted, subrounded to rounded, subspherical to spherical, 1% silica cement, trace carbonaceous material, poor inferred visual porosity, no hydrocarbon fluorescence. CLAYSTONE (0-5%): light brownish grey to brownish grey, moderate yellowish grey to greyish brown, soft to firm, subblocky to blocky, trace carbonaceous material.

Gas Data									
Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
3208.00 - 3235.00	Drilled	0.249	0.1281	0.0097	0.0048	0.0020	0.0013	0.0011	0.000

06:00 Hrs Update	
Time:	06:00 Hrs on 19 Nov 2009
Depth:	3235 m/3234 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont/ W/ Wire line logging, Run # 1.
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Larissa Hansen