

Trefoil-2

Date : 21 Oct 2009

Geology Report Number : 15

(associated DDR # 21)

Well Details

Depth MDBRT:	2520.0m	Rig:	Kan Tan IV	Date:	21 Oct 2009
Depth TVDBRT:	2520.0m	Progress:	236.0m	Report Start:	0000
Depth TVDSS:	2494.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	20.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	15.67
Water Depth (MSL)	69.0m	Last Csg Shoe:	930.0m		
RT-ASL(MSL)	26.0m	F.I.T. / L.O.T.:	/ 15.15ppg		

Operations Summary

24hr Summary:	Drilled 311 mm (12-1/4") hole to section TD. Circulated hole clean. Conducted wiper trip to 2267 mMDRT.
Forward Plan:	POOH, run and cement 244mm (9-5/8") casing.

General Comments

00:00 TO 24:00 Hrs ON 21 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers. Gas equipment calibrated 15 Oct 09. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go.
Operational Comments	FEWD sensor distances from bit: Vibration 0.00 m Gamma (DGR) 12.34 m Resistivity (EWR-P4) 14.81 m Directional (PCD) 19.76 m
Operational Comments	311mm (12-1/4") hole section TD at 2520 mMDRT at 1900 21st Oct 09

WBM Data

Mud Type: KCI POLYMER	Flowline Temp:	Cl: 43500mg/l	Low Gravity Solids:	Viscosity	53sec/qt
Sample From: 4	MWD Circ Temp:	Hard/Ca: 320mg/l	High Gravity Solids:	PV	14cp
Time: 2045	Glycol CP Temp:	MBT: 10	Solids (corrected):	YP	28lb/100ft²
Weight: 9.30ppg	Glycol:	PM: 0.5	H2O: 94%	Gels 10s	10
ECD TD:	Nitrates:	PF: 0.4	Oil:	Gels 10m	15
ECD Shoe:	Sulphites:	MF: 0.9	Sand: %	Fann 003	10
ECD Cuttings:	API FL: 3.7cc/30min	pH: 9.5	Barite:	Fann 006	12
KCI Equiv: 9%	API Cake: 1/32nd"	PHPA Excess:		Fann 100	28
				Fann 200	35
				Fann 300	42
				Fann 600	56

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	2982.0bbl	Losses	539.0bbl	Equip.	Descr.	Mesh Size	Hours
Active	238.0bbl	Downhole		Shaker 1	Brandt VSM 300	20 top/50bottom	22
Mixing	220.0bbl	Surf+ Equip	113.0bbl	Shaker 2	Brandt VSM 300	20 top/50bottom	22
Hole	1178.0bbl	Dumped	419.0bbl	Shaker 3	Brandt VSM 300	20 top/50bottom	22
Slug	31.0bbl	De-Gasser		Shaker 4	Brandt VSM 300	20 top/50bottom	22
Reserve	1315.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge	7.0bbl				

Comment Note:
Inadvertently dumped 419 bbls overboard, investigation in progress.

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	904.00	878.00	918.00	892.00	-14.00	244.00	GR increase
Seismic Marker							
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
2284.00 - 2373.00	Min:5 Avg:19 Max:82	Interbedded SANDSTONE, CLAYSTONE and SILTSTONE with minor DOLOMITE and COAL beds SANDSTONE (0-100%): clear, opaque, light olive grey, very light grey, loose and friable, predominantly fine grained, 10% very fine, 10% very coarse grained, poor to very poor sorted, subangular to subrounded, subspherical to subelongate, 15% white clay matrix, poor siliceous cement, traces lithic fragments, traces carbonaceous material, poor to fair visual porosity, no hydrocarbon indications. CLAYSTONE (0-60%): olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, micromicas. SILTSTONE (0-100%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, thin carbonaceous threads, laminae and specks. DOLOMITE (0-5%): pale yellowish orange, dark yellowish orange, greenish grey, moderately hard to hard, conchoidal to splintery. COAL (0-5%): black, brownish black, soft, woody to bright, in part as laminae.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2373.00 - 2520.00	Min:6 Avg:18 Max:80	SILTSTONE grading in parts to ARGILLACEOUS SILTSTONE, with minor SANDSTONE and CLAYSTONE beds. SILTSTONE (0-100%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace carbonaceous specks, thin coaly laminae, finely disseminated pyrite. ARGILLACEOUS SILTSTONE (0-90%): olive grey, light grey, brownish grey, soft, amorphous to sticky, traces coal and carbonaceous material, 30% clay. SANDSTONE (0-100%): bluish white, very light grey, clear, 10% very fine, 60% fine, 20% medium, 10% coarse clear quartz grains, coarse fraction occurs as loose grains, fine fraction occurs as friable poorly cemented aggregates, subrounded to subangular (shattered), poorly sorted, subspherical to subelongate, 5% white clay matrix, poor inferred visual porosity, no hydrocarbon indications. CLAYSTONE (0-60%): olive grey, dark greenish grey, firm to moderately hard, subblocky, trace micromicas, trace foraminifera, shell fragments.

Gas Data									
Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2284.00 - 2373.00	Drilled	0.099	0.0664	0.0027	0.0013	0.0004	0.0002	0.0001	0.000
2350.00 - 2350.00	Peak	0.211	0.1442	0.0063	0.0034	0.0014	0.0007	0.0006	0.000
2373.00 - 2520.00	Drilled	0.147	0.0826	0.0049	0.0028	0.0017	0.0006	0.0010	0.000
2431.00 - 2431.00	Peak	0.213	0.1381	0.0083	0.0038	0.0024	0.0009	0.0016	0.000
2516.00 - 2516.00	Peak	0.214	0.1336	0.0079	0.0046	0.0024	0.0010	0.0011	0.000

Survey								
MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2310.29	0.9		2310.03	31.3	0.3	31.3	0.0	MWD
2339.67	0.8		2339.41	31.8	0.3	31.8	0.0	MWD
2398.22	0.8		2397.96	32.6	0.0	32.6	0.0	MWD
2426.57	1.1		2426.30	33.1	1.1	33.1	0.0	MWD
2454.95	1.0		2454.68	33.6	0.4	33.6	0.0	MWD
2484.55	1.1		2484.27	34.1	0.3	34.1	0.0	MWD

06:00 Hrs Update

Time:	06:00 Hrs on 22 Oct 2009
Depth:	2520 mMDRT/2520 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Pulling out of hole at 930mRT.
Formation:	Eastern View Coal Measures
Lithology:	No Drilling
ROP:	No Drilling
Gas:	No Drilling

Wellsite Geologist(s)

(Days) - Dennis Archer (Nights) - Brenton Richards