

Trefoil-2

Date : 20 Oct 2009

Geology Report Number : 14

(associated DDR # 20)

Well Details

Depth MDBRT:	2284.0m	Rig:	Kan Tan IV	Date:	20 Oct 2009
Depth TVDBRT:	2284.0m	Progress:	13.0m	Report Start:	0000
Depth TVDSS:	2258.0m	RTE agl:		Report End:	2400
Hole Size:	12.250in	GLE amsl:	0 (m)	Days On Location:	19.38
Hole Size Carbide:		Last Csg Size:	13.375in	Days since Spud:	14.67
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:	Completed POOH. Made up cement head and casing hanger. RIH. Washed down through tight sections. Drilled ahead in 311 mm (12-1/4") hole section.
Forward Plan:	Drill ahead in 311mm (21-1/4") hole to section TD.

General Comments

00:00 TO 24:00 Hrs ON 20 Oct 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers on board. Gas equipment calibrated 15 Oct 09. Installed GFF gas traps further along possum belly. Sperry: 3 MWD engineers, 1 DD on board. Back up tool strings for 311 mm (12-1/4") hole section ready to go. Shallow test OK.
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

WBM Data

Mud Type:	KCI POLYMER	Flowline Temp:		Cl:	44000mg/l	Low Gravity Solids:		Viscosity	57sec/qt
Sample From:	4	MWD Circ Temp:		Hard/Ca:	340mg/l	High Gravity Solids:		PV	16cp
Time:	2045	Glycol CP Temp:		MBT:	15	Solids (corrected):		YP	31lb/100ft²
Weight:	9.50ppg	Glycol:		PM:	0.5	H2O:	93%	Gels 10s	11
ECD TD:		Nitrates:		PF:	0.5	Oil:		Gels 10m	16
ECD Shoe:		Sulphites:		MF:	1.2	Sand:	%	Fann 003	10
ECD Cuttings:		API FL:	4.1cc/30min	pH:	9.5	Barite:		Fann 006	12
KCI Equiv:	9%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	30
								Fann 200	38
								Fann 300	47
								Fann 600	63

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Kosta Georgiou

Available	2887.4bbl	Losses	336.0bbl	Equip.	Descr.	Mesh Size	Hours
Active	98.0bbl	Downhole	4.0bbl	Shaker 1	Brandt VSM 300	20 top/50bottom	18
Mixing	305.0bbl	Surf+ Equip	327.0bbl	Shaker 2	Brandt VSM 300	20 top/50bottom	18
Hole	1171.4bbl	Dumped		Shaker 3	Brandt VSM 300	20 top/50bottom	18
Slug	5.0bbl	De-Gasser		Shaker 4	Brandt VSM 300	20 top/50bottom	18
Reserve	1308.0bbl	De-Sander					
Kill		De-Silter					
		Centrifuge	5.0bbl				

Comment Electrician repaired shakers - all ok.

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
2271.00 - 2284.00	Min:7 Avg:15 Max:91	Interbedded SANDSTONE, SILTSTONE and CLAYSTONE with minor DOLOMITE and COAL beds. SANDSTONE (40-85%): very light grey, 40% coarse, 50% very coarse, 10% granular, clear loose quartz grains, subrounded to subangular (shattered), poorly sorted, subspherical, trace lithic fragments, kaolinite clay matrix washing out, good inferred visual porosity, 5% rock flour, no hydrocarbon indications. SILTSTONE (0-20%): brownish grey, brownish black, olive grey, soft to firm, subblocky, trace lithic fragments, pyrite, thin carbonaceous laminae. CLAYSTONE (15-30%): olive grey, medium grey, soft to firm, subblocky, trace lithic fragments, shell fragments, glauconite. DOLOMITE (0-15%): pale yellowish orange, dark yellowish orange, moderately hard to hard, conchoidal to splintery. COAL (0-5%): black, brownish black, soft to friable, subblocky, trace finely disseminated pyrite.

Gas Data									
Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2271.00 -	Trip	2.206	2.0647	0.0753	0.0128	0.0047	0.0001	0.0012	0.000
2271.00 - 2284.00	Drilled	0.129	0.1026	0.0016	0.0011	0.0008	0.0003	0.0006	0.000

Survey								
MDBRT (m)	Incl. (deg)	Corr. Az (deg)	TVDBRT (m)	'V' Sect (deg)	Dogleg (deg/30m)	N/S (m)	E/W (m)	Tool Type
2253.19	0.6		2252.94	30.6	0.0	30.6	0.0	MWD
2281.35	0.8		2281.10	30.9	0.7	30.9	0.0	MWD

06:00 Hrs Update	
Time:	06:00 Hrs on 21 Oct 2009
Depth:	2370 mMDRT/2370 mTVDR
Progress Since Midnight (m):	86
Status @ 0600hrs:	Drilling 12.25" hole. Depth at 06:00 hrs, 2370m
Formation:	Eastern View Coal Measures
Lithology:	Interbedded SILTSTONE, CLAYSTONE and SANDSTONE.
ROP:	Ave 20.0 m/hr (4.7-42.4 m/hr)
Gas:	Ave BG 0.1027%, C1 0.0706%, C2 0.0028%, C3 0.0013%, iC4 0.0004%, nC4 0.0001%, C5 0.0001, CO2 0.0000%

Wellsite Geologist(s)	
(Days) - Dennis Archer	(Nights) - Brenton Richards