origin

Australian Drilling Associates Pty Ltd ADA

Trefoil-2

Date : 11 Nov 2009 | **Geology Report Number : 29** | (associated DDR # 42)

Well Details

Depth MDBRT:	2983.0m	Rig:	Kan Tan IV	Date:	11 Nov 2009
Depth TVDBRT:	2983.0m	Progress:	349.0m	Report Start:	0000
Depth TVDSS:	2957.0m	RTE agl:		Report End:	2400
Hole Size:	8.500in	GLE amsl:	0 (m)	Days On Location:	41.38
Hole Size Carbide:		Last Csg Size:	9.625in	Days since Spud:	36.67
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 core point at 2983 mMDRT.
Forward Plan:	POOH, pick up core barrel, RIH.

General Comments

00:00 TO 24:00 Hrs ON 11 Nov 2009

Operational Comments	Geoservices: 2 Data engineers, 2 mudloggers, 2 sample catchers on board. Reserval Gas equipment calibrated 5 Nov 09, standard gas equipment calibrated 10 Nov 09. Sperry: 3 MWD engineers on board.
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:	KCl POLYMER	Flowline Temp:		Cl:	40000mg/l	Low Gravity Solids:		Viscosity	46sec/qt
Sample From:	2	MWD Circ Temp:		Hard/Ca:	350mg/l	High Gravity Solids:		PV	14cp
Time:	21:30 hrs	Glycol CP Temp:		MBT:	12	Solids (corrected):		YP	29lb/100ft²
Weight:	9.45ppg	Glycol:		PM:	0.3	H2O:	93%	Gels 10s	9
ECD TD:		Nitrates:		PF:	0.25	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	11
KCl Equiv:	8%	API Cake:	1/32nd"	PHPA Excess:				Fann 100	28
								Fann 200	37
								Fann 300	43
								Fann 600	57

Shakers, Volumes and Losses Data

Engineer : Mike Lawrance / Fergus Spencer

Available	**1911.8bbl**	**Losses**	**0.0bbl**
Active	640.0bbl	Downhole	
Mixing	0.0bbl	Surf+ Equip	0.0bbl
Hole	608.2bbl	Dumped	
Slug		De-Gasser	
Reserve	663.6bbl	De-Sander	
Kill		De-Silter	
		Centrifuge	

Equip.	Descr.	Mesh Size	Hours
Shaker 1	Brandt VSM 300	20 top/50 bottom	
Shaker 2	Brandt VSM 300	20 top/50 bottom	24
Shaker 3	Brandt VSM 300	20 top/50 bottom	24
Shaker 4	Brandt VSM 300	20 top/50 bottom	

Comment

Printed on 12 Nov 2009

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	39.20	GR increase, res increase
TL40 Sand	2971.00	2945.00	2977.00	2950.60	-5.60	0.00	GR decrease

Lithology Summary

Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2774.00 - 2827.50	Min:11 Avg:26 Max:31	CLAYSTONE with minor interbeds of ARGILLACEOUS SILTSTONE and SANDSTONE CLAYSTONE (90-100%): medium grey to medium dark grey, olive grey to light olive grey, soft to moderately hard, subblocky to blocky, trace carbonaceous material. ARGILLACEOUS SILTSTONE (0-10%): brownish black, olive black, olive grey to brownish grey, soft to firm, subblocky to blocky, trace carbonaceous material, trace lithic fragments. SANDSTONE (0-5%): white to very light grey, clear to opaque, 10% fine, 20% medium, 70% coarse grains, loose to moderately hard, moderately to well sorted, rounded to angular, subspherical to spherical, trace silica cement, fair inferred visual porosity, no hydrocarbon fluorescence.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2827.50 - 2914.00	Min:5 Avg:24 Max:36	SILTSTONE interbedded with SANDSTONE and CLAYSTONE with thin COAL beds SILTSTONE (5-100%): olive grey, brownish black, soft to firm, subblocky to blocky, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace micromicas, trace black, bright coal pieces. CLAYSTONE (0-65%): olive grey, olive black, soft to firm, subblocky to blocky, increase in carbonaceous material. SANDSTONE (0-80%): white to very light grey, 40% very fine, 60% fine, firm, moderately to well sorted, subrounded to subangular, subspherical, trace silica cement, trace carbonaceous material, trace dispersed coal pieces, fair inferred visual porosity, no hydrocarbon fluorescence. COAL (0-10%): brownish black to black, soft to firm, argillaceous and dull to sub-vitreous, bright in part, conchoidal fracture in part, traces amber.
Interval MDBRT (m) From To	ROP (m/hr)	Lithology
2914.00 - 2983.00	Min:1 Avg:10 Max:101	SILTSTONE interbedded with thick SANDSTONE and CLAYSTONE, minor COAL beds SILTSTONE (20-90%): olive grey, brownish black to olive black, soft to firm, subblocky to blocky, 5% argillaceous material, trace carbonaceous material as thin laminae and specks, trace lithic fragments, trace to 2% brown and clear mica flakes, trace black, bright coal pieces. SANDSTONE (10-90%): white to very light grey, clear and opaque when loose, in part multicoloured, light olive grey, mottled, lithofeldspathic in part, loose to friable quartzose, 5% very fine, 5% fine, 30% medium, 40% coarse, 20% very coarse, trace granular grains, rounded to subangular, poor to moderately sorted, subspherical to spherical, 5% clay matrix, 1% altered feldspars, trace to 2% carbonaceous material, trace to 1% mica flakes, fair to good inferred visual porosity, no hydrocarbon fluorescence. CLAYSTONE (0-65%): brownish grey, olive grey to olive black, soft to firm, blocky to subblocky, trace dark mica flakes trace carbonaceous material. COAL (0-5%): black, greyish black, soft, splintery.

Gas Data

Depth Interval (m)	Gas Type	Total Gas (%)	C1 (%)	C2 (%)	C3 (%)	iC4 (%)	nC4 (%)	C5 (%)	CO2 (%)
2774.00 - 2827.50	Drilled	0.290	0.1121	0.0189	0.0154	0.0041	0.0030	0.0018	0.000
2827.50 - 2914.00	Drilled	0.370	0.1714	0.0246	0.0171	0.0041	0.0025	0.0018	0.000
2830.00 -	Peak	2.276	1.2091	0.1739	0.1596	0.0442	0.0427	0.0280	0.000
2914.00 - 2983.00	Drilled	0.178	0.0963	0.0091	0.0065	0.0038	0.0026	0.0027	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
2791.49	1.8	85.3	2791.12		24.9			MWD
2819.89	1.9	85.2	2819.50		25.2			MWD
2847.72	2.1	83.7	2847.31	24.6	0.2			MWD
2876.19	2.2	81.9	2875.76	25.5	0.2			MWD
2905.64	2.5	85.8	2905.19	26.1	0.3			MWD
2935.67	2.6	82.7	2935.19	26.7	0.2			MWD
2963.22	2.9	85.2	2962.71	27.3	0.4			MWD

06:00 Hrs Update

Time:	06:00 Hrs on 12 Nov 2009
Depth:	2983 mMDRT/ 2983 mTVDRT
Progress Since Midnight (m):	0
Status @ 0600hrs:	Cont to POOH BHA
Formation:	Eastern View Coal Measures
Lithology:	No drilling
ROP:	No drilling
Gas:	No drilling

Wellsite Geologist(s)

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