

**DAILY GEOLOGICAL REPORT**DATE: 24 Dec 2009  
REPORT NO.: 21  
( associated DDR # 21 )**WELL: CBM93-004**

RIG	Wallis Rig D 39	RIG TYPE	Land
COMPLETION TYPE	Single Gas Producer	TARGET	Test gas potential of Puni Coal Measures
Depth at Midnight (MD)	773.0 m	SPUD DATE	04 Dec 2009
DAYS SINCE SPUD	20.39 ( Days on well: 23.00)	LAST CASING	4.500 in @ 501.0 m MD
PRESENT DEPTH MD	773.0 m	BACKGROUND GAS	3.00 Unit @ 750.0 m
24 Hr Progress (Geology)	29.0 m	MAX GAS	9.00 Unit @ 752.0 m
AVERAGE ROP	6.00 m/h	MUD WEIGHT	1.05 sg (WBM)
Operations Status @ 0600hrs	In Fall Off phase of DST 3	ECD	
PROGNOSSED TD	1,350.0m MD 1,350.0m TVD	ESTIMATED PORE PRESSURE	

**Well Details**

Latitude:	24.00° 52.00" 10.92' South	UTM(N/S):	RT - MSL:	186.00 m DF MSL
Longitude:	135.00° 50.00" 59.64' East	UTM(E/W):	GL Elevation:	185.0 m

**Operations Summary and General Remarks**

OPERATION SUMMARY:	Cored from 744 to 773m. Circulated and cleaned hole. Pulled out, set up for DST 3, 758.9 - 773m, Injectivity Fall Off Test  Don't believe gas data is either consistent or reliable - low flow through annulus, inadequate setting for trap, and plenty of exposure to air before mud reaches trap in blooie line. Can't see a solution due to rig design. However... TG steady around 3 units, peak C1 10.5ppm at 748.5m. Desorption gas low, best 435ml at 713m, 455ml at 747m, otherwise in 260 - 400ml range.
NEXT OPERATION:	Complete DST 3. RIH, recommence coring

**Casing Run**

OD	LOT/FIT	Csg Shoe (MD/TVD)	Remarks
7"	sg / sg	245.51 m / 245.51 m	
4 1/2"	sg / sg	501.00 m / 501.00 m	4 1/2" 114mm 10.8ppf Range 1 Ozcom Vam

**Lithology Summary**

Interval MDBRT (m) From To	Lithology	%	Description
744.00 - 773.00	Coal with carb clystn, sltstn and minor sandstone	100	<b>Coal</b> Mostly interbedded coal and carbonaceous claystone, in part at top of sequence fining upwards from sandstone through siltstone and claystone. See core description for more information

**Gas Readings**

Depth (m)	Total Gas (ppm)	BGG (ppm)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	iC5 (ppm)	nC5 (ppm)
748.00 - 749.00			7 - 11	2 - 3	0 -	0 -	0 -	0 -	0 -

**Comment-** Gas detection system unreliable**Prognosis and Preliminary Correlation**

Top	Actual Depth (186.00 m DF MSL)			Prognosis	H/L	Pick Criteria	Remarks
	MD	TVD	MDSS				
Namba Formation	1.00	1.00	-185.00		N/A		
Eyre Formation	28.00	28.00	-158.00		N/A		
Winton Formation	35.00	35.00	-151.00		N/A	Change to grey claystone	Top placed halfway through 10m sample interval
MacKunda Fm	95.00	95.00	-91.00		N/A	Presence of glauconite fragments in claystone	Top placed halfway through 10m sample interval
Oodnadatta Formation	276.00	276.00	90.00		N/A		

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Top	Actual Depth (186.00 m DF MSL)			Prognosis	H/L	Pick Criteria	Remarks
	MD	TVD	MDSS	MD			
Bulldog Shale	357.00	357.00	171.00		N/A	First appearance of Inoceramus fragments	
Cadna-owie Fm	406.00	406.00	220.00	435.00	29.0 H	Non calcareous Coarse loose sandstone	
Algebuckina Sandstone	424.00	424.00	238.00		N/A	Coarse friable sandstone	
Purni Formation	498.00	498.00	312.00	550.00	52.0 H	Claystone below m-c sandstone	

**Core**

Core #:	55	Start Depth (MD):	744.0 m
Formation:	Purni Formation	End Depth (MD):	750.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	6.0 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	744.0 - 750m; Coal, black, dull, rare bright bands and laminae, vertical fractures		

**Core**

Core #:	56	Start Depth (MD):	750.0 m
Formation:	Purni Formation	End Depth (MD):	756.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	6.0 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	750.00 - 752.75m; Coal, black, dull, rare bright bands and laminae, vertical fractures 752.75 - 756.0m; Siltstone, 70%, light grey, grading upwards from Sandstone, 30%, light grey, fine		

**Core**

Core #:	57	Start Depth (MD):	756.0 m
Formation:	Purni Formation	End Depth (MD):	762.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	6.0 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	756.0 - 760.7m; Sandstone, light grey, medium grained 760.7 - 762.0m; Coal, black, dull, rare bright bands and laminae, vertical fractures		



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### Core

Core #:	58	Start Depth (MD):	762.0 m
Formation:		End Depth (MD):	768.0 m
Contractor:		Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	6.0 m
Encapsulation Type:			

Shipping:

Comments:

Core Description: 762.0 - 766.61m; Coal, black, dull, rare bright bands and laminae, vertical fractures  
766.61 - 766.88m; Siltstone, light grey  
766.88 - 768.0m; Coal, as above

### Core

Core #:	59	Start Depth (MD):	768.0 m
Formation:	Purni Formation	End Depth (MD):	773.1 m
Contractor:		Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	5.4 m
Encapsulation Type:			

Shipping:

Comments:

Core Description: 768.0 - 771.0m; Coal, black, dull, rare bright bands and laminae, vertical fractures  
771.0 - 773.0m; Claystone, carbonaceous, black, firm, fractured, grading to coal as above

### Well Geologist

Graham McClung