



**DAILY GEOLOGICAL REPORT**

DATE: 22 Dec 2009  
 REPORT NO.: 19  
 ( associated DDR # 19 )

**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)	699.0 m	SPUD DATE	04 Dec 2009
DAYS SINCE SPUD	18.39 ( Days on well: 21.00)	LAST CASING	4.500 in @ 501.0 m MD
PRESENT DEPTH MD	714.0 m	BACKGROUND GAS	0.02 Unit @ 695.0 m
24 Hr Progress (Geology)	24.0 m	MAX GAS	0.03 Unit @ 704.5 m
AVERAGE ROP	8.70 m/h	MUD WEIGHT	8.70 sg (WBM)
Operations Status @ 0600hrs	Pulled back to shoe prior to crew changeout.	ECD	
PROGNOSED 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:	<p>Completed DST 2 Injectivity Fall Off Test (664.5 - 675.0m) Fall off similar to DST 1 on field indications. POOH, Test BOP. RIH, core from 675 - 699m through interbedded coals and sandstones grading up through siltstone and claystone to coal. Coals generally as above from below 585m, mostly dull, light, low drilling and desorption gas.</p> <p>Background gas very low, average around 5ppm, with brief CH4 peaks to 9ppm at 696m 4ppm at 705m, and 6ppm at 711m.</p> <p>Desorption results continued low to 687m but are slightly improved between 694 and 707m</p> <p>Expect top Unit B 760 - 770m, but correlation with CBM 93001 still ambiguous</p>
NEXT OPERATION:	Pull back to shoe for crew change. Continue 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
675.00 - 699.00	Interbedded coal, clystn, siltstn & sndstn	100	<b>Coal</b> Several upward fining sequences from medium sandstone to coal. Main coals at Coals at 677.81 - 687.07m (9.26m), 694.25 - 706.66m (12.42m) and 712.7 - 714mTD (1.3m+) - total 22.98m. See core descriptions 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)
696.00 - 696.00			8 -	1 -	0 -	0 -	0 -	0 -	0 -

**Comment-**

711.50 - 711.50			6 -	2 -	0 -	0 -	0 -	0 -	0 -
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**Comment-**

**Prognosis and Preliminary Correlation**

Top	Actual Depth (186.00 m DF MSL)			Prognosis	H/L	Pick Criteria	Remarks
	MD	TVD	MDSS	MD			
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		



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**Prognosis and Preliminary Correlation**

Top	Actual Depth (186.00 m DF MSL)			Prognosis	H/L	Pick Criteria	Remarks
	MD	TVD	MDSS	MD			
MacKunda Fm	95.00	95.00	-91.00		N/A	Change to grey claystone	Top placed halfway through 10m sample interval
Oodnadatta Formation	276.00	276.00	90.00		N/A	Presence of glauconite fragments in claystone	Top placed halfway through 10m sample interval
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	
Algebuckina Sandstone	424.00	424.00	238.00		N/A	Coarse loose sandstone	
Purni Formation	498.00	498.00	312.00	550.00	52.0 H	Coarse friable sandstone	
						Claystone below m-c sandstone	

**Core**

Core #:	41	Start Depth (MD):	675.0 m
Formation:	Purni Formation	End Depth (MD):	677.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	6.0 m
Sleeve Type:		Amount Recovered:	2.0 m
Encapsulation Type:			

Shipping:

Comments: 24hr summary;  
 Coals at 677.81 - 687.07m (9.26m), 694.25 - 706.66m (12.42m) and 712.7 - 714mTD (1.3m+), forming the tops of upward fining sequences from thin medium to fine sandstones grading up through siltstone, claystone and carb claystone.

Core Description: 675.0 - 675.05m; Coal, black, dull, fractured  
 675.05 - 675.25m; Carbonaceous claystone, black, fractured  
 675.25 - 677.0m; Siltstone, 60%, light grey, grading to vf sandstone and interlaminated with sandstone and claystone.  
 Claystone, 40%, dark grey

**Core**

Core #:	42	Start Depth (MD):	677.0 m
Formation:	Purni Formation	End Depth (MD):	681.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	m
Sleeve Type:		Amount Recovered:	4.0 m
Encapsulation Type:			

Shipping:

Comments: Cleat not easily visible in coal, but fractures which develop when it dries suggests it is present at 2-5mm intervals, particularly in bright bands

Core Description: 677.0 - 677.81m; Siltstone, 60%, light grey, grading to vf sandstone and interlaminated with sandstone and claystone.  
 Claystone, 40%, dark grey  
 677.81 - 681.0m; Coal, black, dull with common bright laminae, irregular vertical fractures.

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<b>Core</b>			
Core #:	43	Start Depth (MD):	681.0 m
Formation:	Purni Formation	End Depth (MD):	687.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	m
Sleeve Type:		Amount Recovered:	6.0 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	681.0 - 687.0m; Coal, black, dull with common bright laminae, irregular vertical fractures.		

<b>Core</b>			
Core #:	44	Start Depth (MD):	687.0 m
Formation:	Purni Formation	End Depth (MD):	687.3 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	m
Sleeve Type:		Amount Recovered:	0.1 m
Encapsulation Type:			
Shipping:			
Comments:	Blocked jets		
Core Description:	687.0 - 687.3m; Coal, black, dull with common bright laminae, irregular vertical fractures.		

<b>Core</b>			
Core #:	45	Start Depth (MD):	687.3 m
Formation:	Purni Formation	End Depth (MD):	693.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	m
Sleeve Type:		Amount Recovered:	5.7 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	687.3 - 690.76m; Sandstone, 50%, light grey, fine, grading medium to very fine, thinly interbedded with Siltstone, 50%, light grey, with minor interlaminated claystone. 690.76 - 693.0m; Sandstone, light grey, medium, friable, soft, clay matrix, rare carbonaceous laminae		

<b>Core</b>			
Core #:	46	Start Depth (MD):	693.0 m
Formation:	Purni Formation	End Depth (MD):	699.0 m
Contractor:	Wallis Drilling	Core Diameter:	61 mm
Equipment:		Barrel Length:	m
Sleeve Type:		Amount Recovered:	5.6 m
Encapsulation Type:			
Shipping:			
Comments:			
Core Description:	693.0 - 693.1m; Sandstone, light grey, medium, friable, soft, clay matrix, rare carbonaceous laminae 693.1 - 694.25m; Sandstone, light grey, medium, hard, quartzose, white clay matrix 694.25 - 699.0m; Coal, black, dull, light, occasional bright bands, vertical fractures		

**Well Geologist**

Graham McClung