

**BEETALOO BASIN, NORTHERN TERRITORY, AUSTRALIA**

**LOCATION MAP**



## **WELL DATA CARD**

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<b>WELL: SHENANDOAH-1A</b> (Re-entry and deepening of Shenandoah-1)		<b>WELL TYPE: GAS EXPLORATION</b>	
<b>BLOCK / STATE: EP98 / NORTHERN TERRITORY</b>		<b>STATUS: PLUGGED &amp; SUSPENDED PENDING RE-ENTRY</b>	
<b>TYPE STRUCTURE: DEEP BASIN AXIS</b>		<b>TOTAL DEPTH: 2714.3mMDRT, 2713.4mTVDRT, Drl 2714.5mMDRT, 2713.6mTVDRT, Lgr</b>	
<b>SEISMIC STATION: 200m southwest of SP 1725, Line MC92-100</b>		<b>RIG: ADS RIG-6</b>	
<b>LONGITUDE: 133° 34' 38.22" E</b> <b>LATITUDE: 16° 37' 22.16" S</b> (GDA 94, GRS80 Ellipsoid)	<b>EASTING: 348248m</b> <b>NORTHING: 8161624m</b> (MGA 94, Zone 53k South)	<b>DEEPENING COMMENCED: 06:00 hrs, 23/08/2009</b> <b>TD REACHED: 20:00 hrs, 11/10/2009</b> <b>RIG RELEASED: 12:00 hrs, 19/10/2009</b>	
<b>ELEVATIONS (AHD): GROUND: 226.8m RT: 231m</b>		<b>PROGNOSED TOTAL DEPTH: 3000m MDRT (-2769mSS)</b>	

<b>CASING SIZE</b> 244mm (9.625")	<b>SHOE DEPTH</b> 1555m Driller & Logger	<b>TYPE</b> 36 LB/FT K55, BT&C
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AGE	FORMATION TOPS*	LOGGER'S DEPTH (m)			TRUE THICK.	HIGH (H) LOW (L)
		MDRT	TVDRT	SSTVD	(m)	(m)
M. PROTEROZOIC	LOWER KYALLA FM (1)	1489.0	1488.4	-1257.4	227.9	5.1 H
M. PROTEROZOIC	MOROAK SANDSTONE (1)	1717.0	1716.3	-1485.3	482.9	7.2 H
M. PROTEROZOIC	UPPER VELKERRI FM (1)	2200.0	2199.2	-1968.2	514.4	70.7 L
M. PROTEROZOIC	VELKERRI 'A' BED	2400.0	2399.1	-2168.1	51.0	9.4 H
M. PROTEROZOIC	(LOWER VELKERRI 'A' BED)	2451.0	2450.1	-2219.1	N/A	N/P
M. PROTEROZOIC	VELKERRI 'B' BED	2470.0	2469.1	-2238.1	33.0	59.4 H
M. PROTEROZOIC	(LOWER VELKERRI 'B' BED )	2503.0	2502.1	-2271.1	N/A	N/P
M. PROTEROZOIC	VELKERRI 'C' BED	Absent	Absent	Absent	N/A	N/A
M. PROTEROZOIC	LOWER VELKERRI FM (1)	2558	2557.1	-2326.1	156.5+	N/P
M. PROTEROZOIC	BESSIE CREEK SANDSTONE (1)	not penetrated	not penetrated	not penetrated	N/A	not penetrated
	TOTAL DEPTH	2714.5	2713.6	-2482.6	N/A	534.9 H

N/P = NOT PROGNOSED, N/A= NOT APPLICABLE. (1) Primary gas objectives. \* Nomenclature changed since well proposal was completed.

### DRILL-STEM TEST SUMMARY

TEST No.	FORMATION	INTERVAL (m)	FLOW TIME (mins)	SHUT IN TIME (mins)	FLOWING PRESS. IP / FP (psia)	SHUT IN PRESS. ISI / FSI (psia)	MAXIMUM SURFACE PRESSURE (psig)	FLUID TO SURF (mins)	TC/BC (in)	REMARKS
1	Kyalla Formation & upper Moroak Sst	1580-1745	5	0	-	-	0	none	0.7 / 0.25	On-bottom test. Packer seat failed after 5 mins pre-flow. There was no recovery

### FULL HOLE CORES SUMMARY

	FORMATION	FROM (m)	TO (m)	REMARKS
1	LOWER KYALLA FORMATION	1585	1595.5	CUT: 10.5m, RECOVERED 10.5m (100%)
2	VELKERRI FORMATION	2511	2517.38	CUT: 6.38m, RECOVERED 6.37m (99.8%)

### LOGGING WHILE DRILLING (LWD) SUMMARY

RUN	TYPE OF LOG	REMARKS: STANDARD RESOLUTION DATA FROM TD TO CASING SHOE AT 1555m, STEP / SAMPLE VALUE 0.2m.		
1	<b>Baker Hughes INTEQ OnTrak (GAMMA-RESISTIVITY)</b>	<b>FROM (m)</b>	<b>TO (m)</b>	<b>MAX TEMPERATURE. 81.8°C (179F) @ 2714m</b>
	GRAFM	2699.6	1920	GAMMA RAY – APPARENT, FILTERED
	TCDM	2714.2	1933	DOWNHOLE TEMPERATURE
	RACHM	2698.4	1918.6	RESISTIVITY ATTENUATION - CORRECTED
	RPCHM	2698.4	1918.6	RESISTIVITY PHASE - CORRECTED
	ROPA	2699	1934	AVERAGE INSTANTANEOUS ROP

### WIRELIN LOGGING SUMMARY (AT TOTAL DEPTH)

RUN	TYPE OF LOG	INTERVAL		REMARKS
1	<b>GAMMA-RESISTIVITY-SONIC-SP (MINISLAM)</b>	<b>FROM (m)</b>	<b>TO (m)</b>	STANDARD RESOLUTION DATA FROM TOTAL DEPTH AT 2714m TO CASING SHOE AT 1555m. SAMPLE VALUE 0.0762m. <b>MAX TEMPERATURE. 109°C (228F) @ 2684m AFTER 22.8 HRS STATIC MUD.</b>
	GR	2688.5	1498	GR TO 56m INSIDE CASING
	SP	2679	1555	SPONTANEOUS POTENTIAL (SPSBDH)
	DT24	2696	1555	MAC-SONIC . FULL WAVE TD-2370m & 1700-1555m. FIRST ARRIVAL (24" INTERVAL) 2370-1700m
	RD-RS	2708	1555	DEEP AND SHALLOW RESISTIVITY
	RMLL	2713	1555	INVADED ZONE RESISTIVITY
	CAL	2713	1555	MLL CALIPER
2	<b>GR-NEUTRON-DENSITY-PEF</b>	<b>FROM (m)</b>	<b>TO (m)</b>	<b>MAX TEMPERATURE. 108°C (226F) @ 2696m AFTER 34 HRS STATIC MUD.</b>
	GR	2703.5	1555	GAMMA RAY – LOGS DEPTH MATCHED TO RUN-1.
	ZDNC- ZCOR	1543	1555	BULK DENSITY AND CORRECTION FACTOR
	CALX	1542	1555	DENSITY CALIPER
	CNC	1542	1555	NEUTRON POROSITY (LIMESTONE MATRIX)
	PE	1542.5	1555	PHOTO-ELECTRIC
3	<b>GR-MREX</b>	2571	1820	MAGNETIC RESONANCE GAMMA RAY LOG <b>MAX TEMPERATURE. 108°C (226F) @ 2554m AFTER 37 HRS STATIC MUD.</b>
4	<b>GR-STAR</b>	2529.5	1555	BOREHOLE IMAGER – FOUR INTERVALS LOGGED: 2529.5-2358.3m, 2304.6-2150m, 2150-1817.6m, 1814.8-1555m

### NET PAY SUMMARY

LOG INTERPRETATION				REMARKS
Interval, m	Net Pay, m	Ø, %	SW, %	
943-1016 Upper Kyalla Fm	51	7.5	50	Gas pay is based on greater than 5% porosity and less than 80% water saturation. Interpreted pay has yet to be tested.
1570-1670 Lower Kyalla Fm	88	7.5	46	
1717-1802 Moroak Sandstone	68	7.3	51	
2405-2503 Velkerri Fm A & B	37	7.1	37	
2514-2557 Lwr Velkerri Fm B	28	7.2	36	