

LIST OF ALL SHALE GAS AND BASIN-CENTRED TIGHT GAS RESOURCE ESTIMATES IN THE NORTHERN TERRITORY

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References and descriptions of resources are detailed in accompanying text documents (*BeetalooSubBasinSummaryMay2017.pdf* and *KnownConventionalUnconventionalPetroleumPotentialMay2017.pdf*).

Shale gas resource estimates

Basin / prospect	Potentially in place			Potentially recoverable			Reference
	P90 Bscf	P50 Bscf	P10 Bscf	Low estimate Bscf	Best estimate Bscf	High estimate Bscf	
McArthur Basin (Beetaloo Sub-basin)							
<i>lower Kyalla Fm</i>	31 470	52 260	86 970	21 830	37 290	63 810	RPS (2013)
<i>lower Kyalla Fm</i>					3 000		Rawsthorn (2013)
<i>middle Velkerri Fm</i>					16 000		Rawsthorn (2013)
<i>middle Velkerri Fm</i>	65 012	104 220	166 770	45 090	74 500	122 780	RPS (2013)
<i>middle Velkerri Fm (entire B-shale pool)</i>	434 000#	601 000#	841 000#	37 000#	103 000#	197 000#	Origin (2017a)
<i>middle Velkerri Fm (within Origin's tenure)</i>	360 000#	496 000	692 000#	30 000#	85 000	163 000#	Origin (2017a) and Falcon (2017)
<i>middle Velkerri Fm (within Pangaea's tenure)</i>		113 000#		12 100#	23 900#		Alnes (2016)
<i>middle Velkerri Fm (within Imperial's tenure)</i>	383	1 192	3 086				Imperial Oil and Gas, ASX Release 10/09/2016
<i>middle Velkerri Formation (basinwide)</i>	118 000	202 000	293 000				Weatherford (2017)
	Contingent Resource			Original Gas in Place			
	1C	2C	3C		2C		
<i>middle Velkerri Fm (within Origin's tenure)</i>		6 600			61 000		Origin (2017b)
	Potentially in place			Potentially recoverable			
McArthur Basin	P90 Bscf	P50 Bscf	P10 Bscf	Low estimate Bscf	Best estimate Bscf	High estimate Bscf	
<i>Barney Creek Fm (within Armour's tenure)</i>	3 800.8	12 970.5	39 085.1				MBA (2012)
<i>Barney Creek Fm (within Imperial's tenure)</i>	3 304	8 699	20 172				Imperial Oil and Gas, ASX Release 10/09/2016
<i>Wollogorang Formation (within Imperial's tenure)</i>	1 384	1 185	2 371				Imperial Oil and Gas, ASX Release 10/09/2016
<i>Wollogorang Formation (within Armour's tenure)</i>				5	6 900	141 404	Armour Energy, ASX Release 21/09/2015
<i>McDermott Formation (within Armour's tenure)</i>				26	10 120	152 107	Armour Energy, ASX Release 21/09/2015
Amadeus Basin							
<i>Horn Valley Sltst</i>	2 600	11 300	23 800				DSWPET (2011)

- Denotes commercial-in-confidence resource not in the public domain

Basin-centred gas (tight gas) prospective resources

Basin / prospect	Potentially in place			Potentially recoverable			Reference
McArthur Basin (Beetaloo Sub-basin)	P90 Bscf	P50 Bscf	P10 Bscf	Low estimate PJ (Bscf)	Best estimate PJ (Bscf)	High estimate PJ (Bscf)	
<i>Moroak Sst</i>	1 360	8260	51 240	950	5900	36 720	RPS (2013)
<i>Bessie Creek Sst</i>	35 220	62 310	107 030	(24 580)	(44 310)	(78 480)	RPS (2013)
Amadeus Basin	P90 PJ (Bscf)	Mean PJ (Bscf)	P10 PJ (Bscf)				
<i>Stairway Sst</i>	(1 100)	(5 100)	(10 500)				DSWPET (2011)
<i>Pacoota Sst</i>	2 545 (2 400)	10 392 (9 800)	20 891 (19 700)				DSWPET (2011)

Basin-wide resource estimates by Rawsthorn (2013) for AWT International

Basin / prospect	Gas pod	Area (km ²)	Best Estimate Recoverable Resource (Bscf)	Recoverable Resource (Bscf/km ²)
McArthur Basin				
<i>Barney Creek Fm</i>	Wet	2 867	7 000	2.91
<i>Kyalla Fm</i>	Dry	898	3 000	2.62
<i>Velkerri Fm</i>	Dry	6 092	16 000	2.62
Amadeus Basin				
<i>Horn Valley Sltst</i>	Dry	7 267	16 000	2.19
Pedirka Basin				
<i>Purni Fm</i>	Dry	29 357	43 000	1.46
Georgina Basin				
<i>Arthur Creek Fm</i>	Dry	14 433	50 000	2.91
Bonaparte Basin				
<i>Milligans Fm</i>	Dry	2 752	6 000	1.60

Prospective Resource estimates of shale gas plays (Rawsthorn 2013). Resource figures for Bonaparte, Georgina and Pedirka basins are not NT-specific and include resources calculated for adjacent jurisdictions (WA, SA and Qld). There is insufficient information provided with these estimates to assess their validity. The resource for the Pedirka Basin may be related to coal rather than shale.