

**South Australia's Developing Projects
Resource Estimates and Production Statistics**



Prepared by DSD 29/06/2017

Developing Projects	Commodity	Status	Total Resource & Ore Reserve (unless otherwise indicated)	Estimated Contained Commodity (from Resource)	Proposed Annual Production
Carrapateena – OZ Minerals Carrapateena Pty Ltd www.ozminerals.com	Cu-Au-Ag	Developing Mining Proposal	134 Mt (ind. & inf.) at 1.5% Cu, 0.6 g/t Au, 6.5 g/t Ag <i>ASX Release 9/12/2016</i> Ore Reserve 70 Mt (probable) at 1.8% Cu, 0.7 g/t Au, 8.4 g/t Ag <i>ASX Release 7/11/2016</i>	1 970 000 t Cu, 2 570 000 oz Au, 27 900 000 oz Ag 7/11/2016 (reserve) 1.3 Mt Cu, 1.7 Moz Au, 19 Moz Ag 18/11/2016	4 Mtpa first 3 years: 66 000 tpa Cu, 82 000 ozpa Au LOM: 61 000 tpa Cu, 63 000 ozpa Au
Kalkaroo – Havilah Resources Limited www.havilah-resources.com.au	Cu-Au	Assessment	copper-gold 232.5 Mt at 0.49% Cu, 0.37 g/t Au gold cap 21.7 Mt at 0.74 g/t Au <i>ASX 29/03/17</i>	1 139 000 t Cu, 2 770 000 oz Au + 515 000 oz Au (in gold cap)	9 Mtpa ore for 34 000 tpa copper and 104 000 oz pa gold 14+ years
North Portia – Havilah Resources Limited www.havilah-resources.com.au	Cu-Au-Mo	JORC Resource	11.3 Mt (ind & inf) at 0.89 % Cu, 0.64 g/t Au, 500 g/t Mo <i>ASX Release 23/11/10</i>	101 095 t Cu, 232 514 oz Au, 5650 t Mo	
Khamsin – OZ Minerals Ltd www.ozminerals.com	Cu-Au-Ag	JORC Resource	202 Mt at 0.6% Cu, 0.1 g/t Au, 1.7 g/t Ag and 86 ppm U <i>ASX Release 26/05/14</i>	1.1 Mt Cu, 0.9 Moz Au and 11 Moz Ag	N/A
Bungalow – Centrex Metals Limited www.centrexmetals.com.au	Fe ₃ O ₄	JORC Resource	338 Mt at 29.6% Fe (34.3% DTR conc. at 69.7% Fe) includes Minbrie <i>ASX Release 25/05/12</i>	80 806 000 t Fe (DSD estimate)	5 Mtpa of magnetite concentrate production to be exported via a 100km slurry pipeline from Port Spencer
Snaefell – Cu-River Mining Australia Pty Limited www.curiver.com.au	Fe ₃ O ₄	JORC Resource	569 Mt at 27.1% Fe (using 18% Fe cut-off)	<154 000 000 t Fe (DSD estimate)	
Fusion – Eyre Iron Pty Ltd www.eyreiron.com.au www.centrexmetals.com.au Wuhan Iron & Steel (Group) Co.	Fe ₃ O ₄	JORC Resource	969.4 Mt at 25.5% Fe, 48.7% SiO ₂ (22.4% DTR at 66.9% Fe, 5.2% SiO ₂) includes Koppio, Brennand, Kapperna, Iron Mount and Bald Hill deposits <i>ASX Release 17/09/15</i>	145 270 406 t Fe (DSD estimate)	
Gum Flat – Lincoln Minerals Limited www.lincolnminerals.com.au	Fe ₂ O ₃ – Fe ₃ O ₄	JORC Resource		14 227 599 t Fe (DSD estimate)	
Hawks Nest – Arrium Mining Ltd www.arrium.com	Fe ₂ O ₃ – Fe ₃ O ₄	JORC Resource	102.5 Mt (ind. & inf.) at 37.4% Fe 569 Mt (meas. ind. & inf.) at 35% Fe	11 080 000 t Fe (hematite) and <199 150 000 t Fe (magnetite) (DSD estimate)	
Maldorky – Havilah Resources Limited www.havilah-resources.com.au	Fe ₃ O ₄	Assessment	147 Mt (ind.) at 30.1% Fe <i>ASX Release 10/6/11</i>	<44 247 000 t Fe (DSD estimate)	2.4 Mtpa. Start-up 1 Mtpa; studying options to 40 Mtpa
Mutooroo Magnetite – Minotaur Exploration Pty Ltd www.minotaurexploration.com.au	Fe ₃ O ₄	JORC Resource	1.5 Bt magnetite at 15.2% Fe DTR and 69.8% Fe <i>ASX Release 24/11/11</i>	<159 000 000 t Fe (magnetite) (DSD estimate)	
Razorback – Magnetite Mines Limited www.magnetitemines.com MOU with Sinosteel Resources	Fe ₃ O ₄	Feasibility Studies	2 732 Mt (ind. & inf.) at 15.3% eDTR, 18.2% Fe, 48.1% SiO ₂ , 8.0% Al ₂ O ₃ , 0.18% P = 418 Mt (contained conc. equivalent)16.5% at 67.4 % Fe, 4.74% SiO ₂ , 0.54% Al ₂ O ₃ , 0.016% P and 0.003% S Ironback 1.187(inf.)at 21% Fe, 44.1 SiO ₂ ,7.2% Al ₂ O ₃ , 0.21% P <i>ASX Release 11/06/13</i>	Razorback 281 732 000 t Fe (DSD estimate)	9.3 Mtpa magnetite concentrate (67.4% Fe), proposed +25 year mine life
Crocker Well – Sinosteel Uranium SA Pty Ltd http://en.sinosteel.com/qqzg/hwjg/2007-09-13/1745.shtml	U	JORC Resource	18.84 Mt (ind. & inf.) at 0.03% U ₃ O ₈ 250 000t (inf.) at 0.16% U ₃ O ₈	5290 t U ₃ O ₈	
Junction Dam – Marmota Energy Limited www.marmotaenergy.com.au	U	JORC Resource	4.36 Mt at 0.044% (basal) and 0.025% (upper) eU ₃ O ₈ <i>ASX Release 18/11/11</i>	1 510 t eU ₃ O ₈	
Samphire – Samphire Uranium Ltd www.samphireuranium.com.au	U	JORC Resource	64.5 Mt at 230ppm (100ppm eU ₃ O ₈ cut-off grade-Blackbush deposit) <i>ASX release 27/09/13</i>	14 850 t eU ₃ O ₈	
Atacama – Iluka (Eucla Basin) Pty Ltd www.iluka.com	HM	Feasibility Studies	93.0 Mt (inf.) at 8.2 % HM, 7.63 Mt in-situ HM, 13% zircon, 2% rutile, 69% ilmenite	7 626 000 t HM, 991 380 t zircon, 152 520 t rutile, 1 006 020 t ilmenite (DSD estimate)	

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Sonoran – Iluka (Eucla Basin) Pty Ltd <i>www.iluka.com</i>	HM	Feasibility Studies	30.1 Mt (inf.) at 7.3% HM, 2.2 Mt in-situ HM, 17% zircon, 2% rutile, 67% ilmenite <i>ASX Release 17/04/12</i>	2 197 300 t HM, 373 541 t zircon, 43 946 t rutile, 1 472 191 t ilmenite (DSD estimate)	
Tripitaka – Iluka (Eucla Basin) Pty Ltd <i>www.iluka.com</i>	HM	JORC Resource	58.4 Mt (inf.) at 1.8% HM, 1.05 Mt in-situ HM, 64% zircon, 5% rutile, 10% ilmenite	1 051 200 t HM, 672 768 t zircon, 52 560 t rutile and 105 120 t ilmenite (DSD estimate)	
Typhoon – Iluka Resources Limited <i>www.iluka.com</i>	HM	Feasibility Studies	24.3 Mt (inf.) at 6.0% HM, 1.46 Mt in-situ HM, 13% zircon, 2% rutile, 69% ilmenite	1 458 000 t HM, 189 540 t zircon, 29 160 t rutile and 5 261 940 t ilmenite (DSD estimate)	
Bird-in-Hand – Terramin Australia Limited <i>www.terramin.com.au</i>	Au	Developing Mining Proposal	588 000 t at 13.3 g/t Au and 6.0 g/t Ag <i>ASX release 10/08/16</i>	252 000 oz Au ASX release 10/08/16	
Barns – Andromeda Metals Ltd <i>www.andromet.com.au</i>	Au	JORC Resource	2.11 Mt at 1.6 g/t Au	107 000 oz Au	
Tunkillia – WPG Resources Ltd <i>www.wpgresources.com.au</i>	Au-Ag	Developing Mining Proposal	12.32 Mt at 1.41 g/t Au, 3.7 g/t Ag <i>ASX Release 04/02/15</i>	558 000 oz Au, 1.5 Moz Ag ASX Release 04/02/15	492 000 oz over 6 years ~70 000 ozpa
Flinders – Perilya Freehold Mining Pty Ltd <i>www.perilya.com.au</i>	Zn	JORC Resource	Reliance 308 000 t at 27.9% Zn and 1.5% Pb North Moolooloo (ind.) 214 000 t (ind.) at 34.36% Zn and 1.35% Pb	73 500 t Zn	N/A
Menninnie Dam – Terramin Australia Limited <i>www.terramin.com.au</i>	Zn-Pb-Ag	JORC Resource	7.7 Mt (inf.) at 3.1% Zn, 2.6% Pb and 27 g/t Ag	238 700 t Zn, 200 200 t Pb and 6 684 140 oz Ag (DSD estimate)	N/A
Paris – Investigator Resources Limited <i>www.investres.com.au</i>	Ag	JORC Resource	9.3 Mt (inf.) at 139 g/t Ag using 50 g/t silver cut-off <i>ASX Release 19/04/17</i>	42 Moz Ag (inf.) ASX release 19/04/17	N/A
Mutooroo – Havilah Resources Limited <i>www.havilah-resources.com.au</i>	Cu-Co	JORC Resource	13.1 Mt at 1.48% Cu, 0.14% Co <i>ASX Release 18/10/10</i>	192 000 t Cu, 17 500 t Co, 92 000 oz Au, 2.5 Mt sulphur	N/A
Arckaringa – Arckaringa Coal Chemical Joint Venture Co Pty Ltd <i>www.altonaenergy.com</i>	CTL	Feasibility Studies	7.8 billion t (nonJORC est.) sub-bituminous coal Wintinna JORC est. 1.287 billion tonnes – 187 Mt (meas.), 650 Mt (ind.) and 450 Mt (inf.)	Up to 7 Billion barrels of diesel/naphtha	Aiming for: 50-100 years open-cut coal, CTL 10 mmbbl pa diesel/jet fuel 560 MW co-generation power facility
Poochera – Minotaur Exploration Pty Ltd <i>www.minotaurexploration.com.au</i>	kaolin	JORC Resource	Carey's Well – 16.3 Mt (meas.) bright white kaolinised granite yielding 8 Mt of -45micron kaolin within 47.2 Mt (inf.) of white to off-white kaolinised granite Ore Reserve Properties for Poochera hydrous – 90.7 ISO, 0.6 CIE b, 92% -2mm, 99% qz 0.1% kaolinite, 0.3% Fe ₂ O ₃ , 43.6% Al ₂ O ₃ , 0.07% TiO ₂ , BDL <1.6ppm lead		
Campoona – Archer Exploration Limited <i>www.archerexploration.com.au</i>	graphite	Assessment	8.55 Mt at 9.0% Cg <i>ASX release 06/08/14</i>	~ 770 800 t Cg ASX release 06/08/14	campaign mine up to 10,000 tpa graphite concentrate over 16 year mine life
Sivour – Renascor Resources Limited <i>www.renascor.com.au</i>	graphite	Feasibility Studies	16.8 Mt (ind. & inf.) @ 7.4% TGC (3% cutoff grade) <i>ASX Release 17/03/16</i>	1 243 200 t TGC	
Sivour – Renascor Resources Limited <i>www.renascor.com.au</i>	graphite	JORC Resource	16.8 Mt (ind. & inf.) @ 7.4% TGC (3% cutoff grade) <i>ASX Release 17/03/16</i>	1 243 200 t TGC	
Oakdale – Oakdale Resources Limited <i>www.oakdaleresources.com.au</i>	graphite	JORC Resource	6.22 Mt (ind. & inf.) at 4.8% TGC <i>ASX Release 27/10/15</i>	298 560 t graphitic carbon	94 500 tpa over 3 years
Sivour – Renascor Resources Limited <i>www.renascor.com.au</i>	graphite	JORC Resource	16.8 Mt (ind. & inf.) @ 7.4% TGC (3% cutoff grade) <i>ASX Release 17/03/16</i>	1 243 200 t TGC	

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Government of South Australia
Department of State Development

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Blank fields indicate parameters that have not been published by the company

*Expansion studies underway

** Annual production published in company reports or reported to DSD if not published

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