

South Australia's Major Operating/Approved Mines
Resource Estimates and Production Statistics



Prepared by DSD 14/11/2018

Major Operating/Approved Mines	Commodity	Status	Total Resource (unless otherwise stated)	Ore Reserve	Contained Commodity (from Resource)	Annual Production
Olympic Dam – BHP Billiton Olympic Dam Operations Pty Ltd www.bhpbilliton.com	Cu-U-Au-Ag	Operating	10 100 Mt at 0.78% Cu, 0.25 kg/t U ₃ O ₈ , 0.33 g/t Au, 1.0 g/t Ag <i>Annual Report 2017</i>	508 Mt (sulfide) at 1.99% Cu, 0.58 kg/t U ₃ O ₈ , 0.72 g/t Au, 4.0 g/t Ag 37 Mt (low grade) at 1.13% Cu, 0.36 kg/t U ₃ O ₈ , 0.51 g/t Au, 3 g/t Ag <i>Annual Report 2017</i>	(Total Resource, sulfide only) 78 780 000 t Cu 2 525 000 t U ₃ O ₈ 97 416 762 oz Au 324 722 544 oz Ag <i>(MRD estimate)</i> (reserve, sulfide) 10 109 200 t Cu 294 640 t U ₃ O ₈ 11 759 457 oz Au 65 330 317 oz Ag <i>(MRD estimate)</i>	2017: 142 400 t Cu (cathode), 3661 t UOC, 79 199 oz Au, 683 000 oz Ag <i>qtr rpt June 2017</i>
Prominent Hill – OZ Minerals Prominent Hill Operations Pty Ltd www.ozminerals.com	Cu-Au-Ag	Operating	140 Mt (copper resource) at 1.2% Cu, 0.5 g/t Au and 3 g/t Ag 25 Mt (gold resource) at 0.1% Cu, 1.3 g/t Au and 2 g/t Ag <i>ASX Release 21/11/17</i>	74 Mt at 1.0% Cu, 0.6 g/t Au and 3.0 g/t Ag <i>ASX Release 21/11/17</i>	copper resource 1 600 000 t Cu, 2 500 000 oz Au and 13 000 000 oz Ag gold resource 20 000 t Cu, 970 000 oz Au, 1 300 000 oz Ag <i>ASX Release 21/11/17</i> 730 000 t Cu, 1 500 000 oz Au, 7 000 000 oz Ag <i>ASX Release 21/11/17</i>	2017: 112 008 t Cu, 126 713 oz Au and 791 404 oz Ag (in conc.) <i>qtr rpt Dec 2017</i>
Carrapateena – OZ Minerals Carrapateena Pty Ltd www.ozminerals.com	Cu-Au-Ag	Under construction	134 Mt (ind. & inf.) at 1.5% Cu, 0.6 g/t Au, 6.5 g/t Ag <i>ASX Release 24/08/2017</i>	79 Mt (probable) at 1.8% Cu, 0.7 g/t Au, 8.5 g/t Ag <i>ASX Release 24/08/2017</i>	1 970 000 t Cu, 2 570 000 oz Au, 27 900 000 oz Ag <i>ASX Release 24/08/2017</i> (reserve) 1 400 000 t Cu, 1 800 000 oz Au, 22 000 000 oz Ag <i>ASX Release 24/08/2017</i>	4 Mtpa first 3 years: 66 000 tpa Cu, 80 000 ozpa Au LOM (20 years): 65 000 tpa Cu, 67 000 ozpa Au <i>ASX Release 24/08/2017</i>
Kanmantoo – Hillgrove Resources Limited www.hillgroveresources.com.au	Cu-Au-Ag	Operating	34.5 Mt at 0.6% Cu, 0.10 g/t Au, 1.2 g/t Ag <i>ASX release 18/10/16</i>	9.5 Mt at 0.6% Cu, 0.07 g/t Au, 1.0 g/t Ag <i>ASX release 18/10/16</i>	Resource: 211 000 t Cu, 113 813 oz Au and 1 331 040 oz Ag <i>ASX release 18/10/16</i> Reserve: 57 000 t Cu, 21 380 oz Au and 305 432 oz Ag <i>ASX release 18/10/16</i>	2016-17: 13 987 t Cu, 6 775 oz Au, 103 885 oz Ag (in conc.) <i>qtr rpt June 2017</i>
Hillside – Rex Minerals Ltd www.rexminerals.com.au	Cu-Au	ML granted (PEPR pending)	337 Mt at 0.6% Cu, 0.14 g/t Au <i>ASX release 25/5/15</i>	82 Mt at 0.62% Cu, 0.16 g/t Au <i>ASX release 25/5/15</i>	(resource) 1 967 600 t Cu 1 416 240 oz Au <i>ASX release 25/5/15</i> (reserve) 509 262 t Cu 431 504 oz Au <i>ASX release 25/5/15</i>	proposed: 6 Mtpa for 35 000 t Cu, 24 000 oz Au as Cu-Au conc, first 12 years <i>Ext Feas Study May 2015</i>
Middleback Range – SIMEC Mining www.simec.com/mining	Fe ₂ O ₃ , Fe ₃ O ₄	Operating	Hematite 183.3 Mt at 56.7% Fe Magnetite 179.0 Mt at 36.6% DTR and 34.8% Fe beneficiated hematite stockpile 57.4 Mt at 45.9% Fe <i>ASX release 19/08/15</i>	Hematite reserves 23.1 Mt at 57.9% Fe, 5.8% SiO ₂ , 2.8% Al ₂ O ₃ , 0.05% P Magnetite reserves 61.9 Mt at 39.6% DTR and 38.3% Fe, 19.9% SiO ₂ Beneficiated hematite stockpile 15.9 Mt (52% recovery) 61.0% Fe <i>ASX release 19/08/15</i>	Resource: 103 900 000 t Fe (hematite) 62 300 000 t Fe (magnetite) 26 300 000 t Fe (stockpile) <i>(MRD estimate)</i> Reserve: 13 300 000 t Fe (hematite) 23 700 000 t Fe (magnetite) <i>(MRD estimate)</i>	2016-17: ~9.5 Mt iron ore
Cairn Hill – Cu-River Mining Australia Pty Limited	Fe ₃ O ₄ , Cu, Au	Operating	11.4 Mt at 49.5% Fe (magnetite) 0.4% Cu and 0.1 g/t Au	6.9 Mt at 51.2% Fe, 0.43% Cu, 0.13 g/t Au (Phase 1 pit area 28/12/09)	5 643 000 t Fe <i>(MRD estimate)</i>	2016-17: ~0.6 Mt magnetite concentrate, ramping up to 3 Mtpa by 2018
Peculiar Knob – Southern Iron Pty Ltd (Subject to Deed of Company Arrangement) www.simec.com/mining	Fe ₂ O ₃	Care and Maint.	Southern Iron (Peculiar Knob and Hawks Nest) Hematite resources 34.2 Mt at 61.0% Fe, 9.75% SiO ₂ , 1.1% Al ₂ O ₃ , 0.05% P <i>2014 ore statement</i>	Southern Iron (Peculiar Knob and Hawks Nest) Hematite reserves 19.7 Mt at 61.8% Fe, 0.03% P (as at June 2014, no reserve declared June 2015) <i>2014 ore statement</i>	Southern Iron Hematite contained resource 25 200 000 t Fe <i>(MRD estimate)</i> no reserve declared June 2015	N/A <i>qtr rpt June & December 2015</i>

South Australia's Major Operating/Approved Mines Resource Estimates and Production Statistics



Government of South Australia
Department of State Development

Prepared by DSD 14/11/2018

Major Operating/Approved Mines	Commodity	Status	Total Resource (unless otherwise stated)	Ore Reserve	Contained Commodity (from Resource)	Annual Production
Central Eyre Iron Project – Iron Road Limited www.ironroadlimited.com.au	Fe ₃ O ₄	ML granted (PEPR pending)	4 510 Mt (meas. ind. & inf.) at 16.0% Fe, 53.0% SiO ₂ , 13.0% Al ₂ O ₃ , 0.08% P and 3.5% LOI <i>ASX release 27/02/15</i>	3 681 Mt (prov. and prob.) at 15.07% Fe, 53.7% SiO ₂ , 12.06% Al ₂ O ₃	~721 600 000 t Fe (resource) <i>(MRD estimate)</i> ~554 700 000 t Fe (reserve)	~21.5 Mtpa, 67% Fe conc. +25 year mine life
Wiggerup – Centrex Metals Limited www.centrexmetals.com.au	Fe ₂ O ₃	PEPR Approved	13.3 Mt (ind.) at 57.7% Fe, 4.9% SiO ₂ , 2.8% Al ₂ O ₃ , 5.1% LOI, 0.5% P <i>Annual Report 2015</i>		7 616 400 t Fe <i>(MRD estimate)</i>	proposed: 1–1.5 Mtpa
Four Mile – Quasar Resources P/L	U	Operating	Four Mile 9.8 Mt at 0.33% U ₃ O ₈ Four Mile Northeast 7.5 Mt (inf.) at 0.30% U ₃ O ₈		Four Mile 32 000 t U ₃ O ₈ Four Mile Northeast 22 680 t U ₃ O ₈	2016: 1690 t UOC
Beverley – Heathgate Resources P/L www.heathgate.com.au	U	Operating	Beverley: 7.7 Mt at 0.27% U ₃ O ₈ Beverley North: 2.2 Mt at 0.18% U ₃ O ₈		Beverley: 21 000 t U ₃ O ₈ Beverley North: 4000 t U ₃ O ₈ (0.15m% GT cut-off) <i>(MRD estimate)</i>	N/A
Honeymoon – Boss Resources Ltd www.bossresources.com.au	U	Care and Maint.	43.5 Mt at 660 ppm eU308 (includes Gould's Dam & Jason's) <i>ASX Release 15/03/17</i>	3.64 Mt (prob) at 0.063% U <i>ASX Release 31/12/12</i>	28 800 t U308 (resource) (includes Gould's Dam & Jason's) <i>ASX Release 16/09/16</i> 2 688 t U (reserve) <i>ASX Release 31/12/12</i>	proposed restart–400tpa for 12mths, stage2 –900tpa, stage3 –1450 tpa <i>ASX Release 31/05/17</i>
Jacinth–Ambrosia – Iluka Resources Limited www.iluka.com	HM	Operating	208.5 Mt material for 5.7 Mt in situ HM, 48.7% zircon, 26.4% ilmenite, 4.5% rutile <i>ASX release 20/02/2017</i>	103.4 Mt at 3.8% HM, for 3.95 Mt HM, 49.8% zircon, 27.3% ilmenite, 4.5% rutile <i>ASX release 20/02/2017</i>	2 766 200 t zircon, 1 502 400 t ilmenite, 257 272 t rutile, (of total resource) <i>ASX release 20/02/2017</i> (reserve) 1 961 778 t zircon, 739 715 t ilmenite, 177 262 t rutile <i>ASX release 20/02/2017</i>	2016: 247 000 t zircon, 37 600 t rutile, 113 000 t ilmenite (saleable and upgradeable) <i>qtr rpt June 2017</i>
Mindarie – Murray Zircon Pty Ltd www.murrayzircon.com.au	HM	Rehab.		48.1 Mt material at 3.7% HM for 1.8 Mt in situ HM, 19.9% zircon, 48.9% ilmenite, 5.0% rutile & 6.5% leucosene <i>Website 01/01/16</i>	(reserve) 358 200 t zircon, 880 200 t ilmenite, 90 000 t rutile, 117 000 t leucosene	N/A
Challenger – WPG Resources Ltd (Administrators Appointed) www.wpgresources.com.au	Au	Care and Maint.	1 621 000 t at 6.99 g/t Au <i>ASX release 29/09/17</i>	537 200 t at 5.60 g/t Au <i>ASX release 29/09/17</i>	364 000 oz Au (resource) <i>ASX release 29/09/17</i> 96 700 oz Au (reserve) <i>ASX release 29/09/17</i>	2016–17: 45 703 oz Au <i>qtr rpt June 2017</i>
Portia – Benagerie Gold Pty Ltd (100% subsidiary of Havilah Resources) www.havilah-resources.com.au	Au	Operating	720 000 t at 2.9 g/t Au (inf.)	53 200 oz Au <i>(PEPR 17/12/2014)</i>	67 000 oz Au	2016–17: 19 192 oz Au <i>ASX Release 20/07/2017</i>
White Dam – Exco Resources Ltd www.whsp.com.au Washington H. Soul Pattinson–owner (through subsidiary Exco)	Au	Operating	5.42 Mt at 0.97 g/t Au <i>website 11/08/2017</i>	5.4 Mt at 1.04g/t gold	169 400 oz Au (resource) <i>website 11/08/2017</i> 181 000 oz Au (reserve) <i>(PEPR 01/01/2012)</i>	2016: ~2500 oz Au
Tarcoola – WPG Resources Ltd (Administrators Appointed) www.wpgresources.com.au	Gold	Care and Maint.	1 600 000 t at 1.7 g/t Au <i>ASX Release 21/09/2017</i>	567 200t at 3.0 g/t Au <i>ASX Release 21/09/2017</i>	87 600 oz Au <i>ASX Release 21/09/2017</i> 54 300 oz Au <i>ASX Release 21/09/2017</i>	2017: 5 179 oz Au <i>qtr rpt June 2017</i>
Beltana – Perilya Limited www.perilya.com.au	Zn	Care and Maint.	Total resource 972 000 t at 29.8% Zn, (ind.) 375 600 t at 32.6% Zn (2009 remaining) 308 000 t at 28% Zn	Stockpile depleted by 2011/12		N/A
Angas – Terramin Australia Limited	Pb, Zn, Cu, Au, Ag	Care and Maint.	1.29 Mt of 5.75% (combined zinc and lead) <i>Annual Mining Compliance Report 2016</i>	0.19 Mt at 8.27% Zn, 3.29% Pb, 0.22% Cu, 40 g/t Ag, 0.55 g/t Au		N/A <i>sept qtr rpt 2013</i>
Leigh Creek – Alinta Energy Group www.alintaenergy.com	Coal	Rehab.	900 Mt coal (upper series, middle series and lower series)	40 Mt coal (reserves to 2009)		2016 (final): 0.6 Mt coal

South Australia's Major Operating/Approved Mines Resource Estimates and Production Statistics



Government of South Australia
Department of State Development

Prepared by DSD 14/11/2018

Major Operating/Approved Mines	Commodity	Status	Total Resource (unless otherwise stated)	Ore Reserve	Contained Commodity (from Resource)	Annual Production
Uley – Quantum Graphite Operations Pty Ltd (Subject to Deed of Company Arrangement)	graphite	Care and Maint.	4.54 Mt at 11.63% TGC (3.5% cutoff) <i>ASX release 14/5/15</i>	2.917 Mt at 12.1% TGC <i>ASX Release 14/5/15</i>	520 000 t TGC (resource) 353 618 t TGC (reserve) <i>ASX Release 14/5/15</i>	nil
Campoona – Archer Exploration Limited <i>www.archerexploration.com.au</i>	graphite	ML granted (PEPR pending)	8.55 Mt at 9.0% TGC <i>ASX release 06/08/14</i>		770 800 t (meas. ind. & inf.) TGC <i>ASX release 06/08/14</i>	campaign mine up to 10,000 tpa graphite concentrate over 16 year mine life
Kookaburra Gully – Lincoln Minerals Limited <i>www.lincolnminerals.com.au</i>	graphite	ML granted (PEPR pending)	2.03 Mt at 15.2% TGC (5% cutoff grade) <i>ASX release 17/5/17</i>		331 778 t TGC	proposed: Up to 40 000tpa TGC (up to 98%) <i>ASX Release 27/04/17</i>

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

*Expansion underway or in approvals stage

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

Disclaimer. The contents of this report are for general information only and are not intended as professional advice, and the Department of State Development (and the Government of South Australia) make no representation, express or implied, as to the accuracy, reliability or completeness of the information contained in this report or as to the suitability of the information for any particular purpose. Use of or reliance upon the information contained in this report is at the sole risk of the user in all things and the Department of State Development (and the Government of South Australia) disclaim any

Further information and contacts:

Website www.minerals.statedevelopment.sa.gov.au

Email: dsd.minerals@sa.gov.au