



Australian Government  
Australian Trade and Investment Commission



# **CRITICAL MINERALS PROJECTS IN AUSTRALIA**

## Acknowledgment

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# CRITICAL MINERALS PROJECTS

The following table sets out examples of current critical mineral projects (producing, under construction and in exploration).

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
NSW	Antimony	Clarks Gully Project	Hillgrove Mines Pty Ltd	Containing (proved & probable) 2.195 Mt @ 3.8 g/t Au, 2.1% Sb; (global resource) 6.25 Mt @ g/t Au, 360 g/t W and 1.6% Sb.	Hillgrove Resources Limited (ASX:HGO)	Operational – Currently in care and maintenance	<a href="http://www.hillgroveresources.com.au">www.hillgroveresources.com.au</a>
NSW	Antimony	Bielsdown Project	Anchor Resources Limited	Total estimated resource (at a cut-off of 1%) of 610 000 t @ 2.56% Sb for 15 600 t of contained Sb.	Anchor Resources Limited (ASX:AHR)	Exploration	<a href="http://www.anchorresources.com">www.anchorresources.com</a>
NSW	Cobalt	Thackaringa (Big Hill, Pyrite Hill & Railway)	Cobalt Blue	Total global resource (indicated & inferred) of 72 Mt @ 852 ppm Co (500 ppm Co cut-off).	Cobalt Blue Holdings Ltd (ASX:COB)	Advanced Exploration	Intend to undertake on-site processing in Broken Hill. <a href="http://www.cobaltblueholdings.com">www.cobaltblueholdings.com</a>
NSW	Cobalt	Owendale	Platina Resources	0.08% Co cut-off, the Resource comprises a Measured Mineral Resource of 4.0 Mt @ 0.14% Co, an Indicated Mineral Resource of 6.2 Mt @ 0.12% Co and an Inferred Mineral Resource 6.7 Mt @ 0.11% Co, equating to a Total Mineral Resource of 16.9 Mt @ 0.12% Co.	Platina Resources Ltd (ASX:PGM)	Advanced Exploration	<a href="http://www.platinaresources.com.au">www.platinaresources.com.au</a>

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NSW	Cobalt	Owendale	Platina Resources	0.08% Co cut-off, the Resource comprises a Measured Mineral Resource of 4.0 Mt @ 0.14% Co, an Indicated Mineral Resource of 6.2 Mt @ 0.12% Co and an Inferred Mineral Resource 6.7 Mt @ 0.11% Co, equating to a Total Mineral Resource of 16.9 Mt @ 0.12% Co.	Platina Resources Ltd (ASX:PGM)	Advanced Exploration	<a href="http://www.platinareources.com.au">www.platinareources.com.au</a>
NSW	Cobalt	NICO Young Nickel Cobalt Project	Jervois Mining	Inferred Mineral Resource: 167.8 Mt @ 0.59% Ni, 0.06% Co.	Jervois Mining Ltd (ASX:JRV)	Exploration	<a href="http://www.jervoismining.com.au">www.jervoismining.com.au</a>
NSW	Cobalt	Mount Gilmore Copper-Cobalt-Gold project	Corazon Mining		Corazon Mining Limited (ASX:CZN)	Exploration	Drilling campaign underway to determine resource quantity. <a href="http://www.corazon.com.au">www.corazon.com.au</a>
NSW	Cobalt	Husky and Malmumite	Victory Mines		Victory Mines Limited (ASX:VIC)	Early Exploration	<a href="http://www.victorymines.com">www.victorymines.com</a>
NSW	Cobalt	Sunrise project	CleanTeQ Resources	Cobalt/ Nickel mineral resource estimate at 0.06% cobalt cut-off, comprising 40 Mt @ 0.15% Co, 0.75% Ni (Measured), 47 Mt @ 0.12% Co, 0.55% Ni (Indicated) and 14 Mt @ 0.11% Co, 0.24% Ni (Inferred), giving contained metal of 132 000 t Co, 593 064 t Ni.	CleanTeQ Holdings Limited (ASX/TSX:CLQ)	Advanced Exploration	Intend to undertake on-site processing in Nyngan. <a href="http://www.cleanteq.com">www.cleanteq.com</a>
NSW	Cobalt	Bungonia Cobalt Project	Cazaly Resources		Cazaly Resources Limited (ASX:CAZ)	Exploration	<a href="http://www.cazalyresources.com.au">www.cazalyresources.com.au</a>
NSW	Cobalt	Husky and Malmumite	Victory Mines		Victory Mines Limited (ASX:VIC)	Early Exploration	<a href="http://www.victorymines.com.au">www.victorymines.com.au</a>

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NSW	Cobalt	Collerina Nickel-Cobalt Project	Collerina Cobalt Ltd	Mineral resource estimate at 0.7% Ni: 2.2 Mt @ 0.98% Ni, 0.04% Co (Indicated) and 15.7 Mt @ 0.88% Ni, 0.06% Co (Inferred).	Alpha HPA Limited (ASX:A4N)	Exploration	<a href="http://www.collerinacobalt.com.au">www.collerinacobalt.com.au</a>
NSW	Cobalt	Bungonia Cobalt Project	Cazaly Resources		Cazaly Resources Limited (ASX:CAZ)	Exploration	<a href="http://www.cazalyresources.com.au">www.cazalyresources.com.au</a>
NSW	Cobalt	Hylea Cobalt Project – Tiger’s Creek	Hylea Metals		Hylea Metals Limited (ASX:HCO)	Exploration	<a href="http://www.hyleametals.com.au">www.hyleametals.com.au</a>
NSW	Hafnium, Zirconium, Niobium, Tantalum, Yttrium and Rare-Earth Elements	Dubbo project	Alkane Resources	Expected to produce approximately 16 374 tpa zirconium (zirconia units), 50-200 tpa hafnium (hafnia units), 1967 tpa niobium and 6664 tpa rare earth oxides.	Alkane Resources Ltd (ASX:ALK)	Near production	Intend to undertake on-site processing in Dubbo. <a href="http://www.alkane.com.au">www.alkane.com.au</a>
NSW	Heavy Mineral Sands (Ilmenite, Leucoxene, Zircon and Rutile)	Atlas / Campaspe	Cristal Mining	6.5 Mt of contained heavy mineral.	Cristal Mining Australia Limited (National Titanium Dioxide Company Limited), which is owned by 79% Tasnee (listed Saudi joint-stock company), 20% Gulf Investment Corporation and 1% Dr Talal A. Al-Shair. The company is subject to a takeover bid from Tronox in the USA.	Near Production	Active processing site in Broken Hill. <a href="http://www.cristalmining.com">www.cristalmining.com</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
NSW	Heavy Mineral Sands (Rutile, Zircon and Ilmenite)	West Balranald Project	Iluka Resources	Measured: 11 929 kt @ 31.9% HM; Indicated: 19 874 kt @ 35.1% HM and Inferred: 4477 kt @ 26.5% HM; Insite HM: 11 965 kt; Assemblage: 12% rutile, 11% zircon, 63% ilmenite.	Iluka Resources Limited (ASX:ILU)	Near Production	Active processing facility in Victoria. <a href="http://www.iluka.com">www.iluka.com</a>
NSW	Heavy Mineral Sands (Titanium, Zirconium)	Ginkgo and Snapper Mine	Cristal Mining	Ginkgo mineral resources: 48.9 Mt @ 2% HM (Measured) and 37 Mt @ 2.1% HM (Indicated); Insite resource of 1057 kt HM and assemblage of 14% rutile, 11% zircon, 53% ilmenite.	Cristal Mining Australia Limited (National Titanium Dioxide Company Limited), which is owned by 79% Tasnee (listed Saudi joint-stock company), 20% Gulf Investment Corporation and 1% Dr Talal A. Al-Shair. The company is subject to a takeover bid from Tronox in the USA.	Operational	Active processing site in Broken Hill. <a href="http://www.cristalmining.com">www.cristalmining.com</a>
NSW	Heavy Mineral Sands (Zirconium, Titanium and Thorium)	Murray Basin	Broken Hill Prospecting	Estimation of Inferred resources of 113 Mt @ 1.8% HM at a cut-off of 1% HM (2017).	Broken Hill Prospecting Limited (ASX:BPL)	Exploration	<a href="http://www.bhpl.net.au">www.bhpl.net.au</a>
NSW	Platinum Group Metals	Owendale	Platina Resources	Indicated and Inferred Resources totalling 12.7 Mt @ 0.7 g/t Pt for its Owendale North, Cincinnati and Milverton deposits at Fifield.	Platina Resources Ltd (ASX:PGM)	Early Exploration	<a href="http://www.platinaresources.com.au">www.platinaresources.com.au</a>
NSW	Platinum Group Metals	Mulga Tank	Impact Minerals		Impact Minerals Ltd (ASX:IPT)	Exploration	<a href="http://www.impactminerals.com.au">www.impactminerals.com.au</a>
NSW	Platinum Group Metals	Fifield – Sopresa	Rimfire Pacific Mining		Rimfire Pacific Mining NL (ASX:RIM)	Exploration	<a href="http://www.rimfire.com.au">www.rimfire.com.au</a>

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NSW	Rhenium	Yeoval Porphyry Copper-Gold-Molybdenum-Rhenium Project	Ardea Resources		Ardea Resources Limited (ASX:ARL)	Exploration	<a href="http://www.ardearesources.com.au">www.ardearesources.com.au</a>
NSW	Scandium	Nyngan Scandium Project	Scandium International	Resource: 11.23 Mt @ 225 ppm Sc (Indicated) and 5.69 Mt @ 256 ppm Sc (Measured), with in-site resource of 3983 t Sc. Reserve: 1.43 million tonnes, grading 409ppm Sc (established on part of the resource).	Scandium International Mining Corp. (TSX:SCY)	Advanced Exploration	Intend to undertake on-site processing in Nyngan.
NSW	Scandium	Sunrise Project	CleanTeq International	Mineral Resource estimated at 300ppm Sc cut-off: 12.32 Mt @ 420 ppm Sc (Measured + Indicated) and 33.34 Mt @ 421 ppm Sc (Inferred), with in-site resource of 19 022 t Sc and 29 410 scandium oxide.	CleanTeQ Holdings Limited (ASX/TSX:CLQ)	Advanced Exploration	Intend to undertake on-site processing in Nyngan. <a href="http://www.cleanteq.com">www.cleanteq.com</a>
NSW	Scandium	Owendale	Platina Resources	At a cut-off of 300 ppm Sc, the scandium Mineral Resource is 35.6 Mt @ 405 ppm Sc, containing a total in-situ content of 22 000 tonnes of scandia.	Platina Resources Ltd (ASX:PGM)	Exploration	<a href="http://www.platinaresources.com.au">www.platinaresources.com.au</a>
NSW	Scandium	Flemington	Australian Mines	Maiden mineral resource: 2.5 Mt @ 403 ppm Sc (Measured) and 0.2 Mt @ 408 ppm Sc (Indicated).	Australian Mines Limited (ASX:AUZ)	Exploration	<a href="http://www.australianmines.com.au">www.australianmines.com.au</a>

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NSW	Zirconium, Yttrium, Rare-Earth Elements, Niobium, Thorium	Nurraburra	Paradigm Resources	The last published resource for Nurraburra was by Capital Mining in 2013 comprising 73 Mt @ 1250 g/t ZrO <sub>2</sub> , 146 g/t Y <sub>2</sub> O <sub>3</sub> , 327 g/t REO, 45 g/t HfO <sub>2</sub> , 126 g/t Nb <sub>2</sub> O <sub>5</sub> and 61 g/t ThO <sub>2</sub> .	Paradigm Resources is a joint venture between the New South Wales Aboriginal Land Council (NSWALC) and the Indigenous Energy Group	Early Exploration	www.paradigmresources.com.au
NT	Cobalt	Wollogorang (Stanton)	Northern Cobalt	942 000 t @ 0.13% Co, 0.06% Ni, 0.12% Cu.	ASX listed (N27)	Exploring	www.northerncobalt.com.au
NT	Cobalt	Wollogorang (Running Creek & GregJo)	Northern Cobalt	Not yet announced.	ASX listed (N27)	Exploring	www.northerncobalt.com.au
NT	Cobalt	Browns Oxide	Northern Territory Resources Pty Ltd	9.4 Mt @ 0.14% Co, 0.82% Cu, 0.14% Ni.	Privately held	In development	
NT	Cobalt	Jasper Hills	Emmerson Resources	Not yet announced.	ASX listed (ERM)	Exploring	www.emmersonresources.com.au
NT	Helium	Darwin	BOC/Linde Group	N/a.	Frankfurt & NY stock exchange listed	Producing	
NT	Lithium	Finniss	Core Lithium	7.13 Mt @ 1.4% Li <sub>2</sub> O.	ASX listed (CXO)	In development	Company hopes for first production from Finniss in late 2019. www.corelithium.com.au
NT	Lithium	Bynoe (Lei)	Lithium Plus Pty Ltd	Not yet announced.	Privately held	Exploring	
NT	Lithium	Bynoe	Lithium Australia	Not yet announced.	ASX listed (LIT)	Exploring	www.lithium-au.com
NT	Lithium	Arunta (Harts Range)	Northern Cobalt	Not yet announced.	ASX listed (N27)	Exploring	www.northerncobalt.com.au
NT	Lithium	Walabanba (Anningie)	Todd River Resources	Not yet announced.	ASX listed (TRT)	Exploring	www.trrltd.com.au
NT	Lithium	Soldiers Creek	Todd River Resources	Not yet announced.	ASX listed (TRT)	Exploring	www.trrltd.com.au
NT	Lithium	Barrow Creek	Core Lithium	Not yet announced.	ASX listed (CXO)	Exploring	www.corelithium.com.au
NT	Lithium	Arunta (Barrow Creek, Utopia, Spotted Wonder)	Lithium Plus Pty Ltd	Not yet announced.	Privately held	Exploring	
NT	Manganese	Groote Eylandt	South32	173 Mt @ 42.2% Mn.	ASX listed (S32)	Producing	www.south32.net
NT	Manganese	Bootu Creek	OM Holdings	9.95 Mt @ 22.3% Mn.	ASX listed (OMH)	Producing	www.omholdingsltd.com



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NT	Manganese	South Rosie Creek	MMG	5 Mt @ 25% Mn (non-JORC compliant).	ASX listed (MMG)	Exploring	www.mmg.com
NT	Rare-Earth Elements (Nd, Pr)	Nolans Bore	Arafura Resources	56 Mt @ 2.6% REO, 11% P2O5, 0.02% U3O8.	ASX listed (ARU)	In development	www.arultd.com
NT	Rare-Earth Elements	Charley Creek	Crossland Strategic Metals	805 Mt @ 0.029% REO.	ASX listed (CUX)	Exploring	www.crosslandstrategic.com
NT	Titanium	Mt Peake	TNG	160.4 Mt @ 0.28% V2O5, 5.3% TiO2, 23% Fe.	ASX listed (TNG)	In development	Plans to process in NT. www.tngltd.com.au
NT	Tungsten	Molyhil	Thor Mining	4.71 Mt @ 0.28% WO3, 0.13% MoS2, 18.1% Fe.	ASX listed (THR)	In development	www.thormining.com
NT	Tungsten	Hatches Creek	GWR Group	225 066 t @ 0.58% WO3 (from stockpiles) (NB: Larger in-ground resource estimate pending).	ASX listed (GWR)	Exploring	www.gwrgroup.com.au
NT	Tungsten	Nipper	Thundelarra	Not yet announced.	ASX listed (THX)	Exploring	www.thundelarra.com
NT	Zircon (Zirconium and Hafnium)	Kilimiraka	MZI Resources	5.62 Mt @ 1.6% heavy mineral sands (non 2012-JORC compliant).	ASX listed (MZI)	Exploring	www.mzi.com.au
QLD	Cobalt (& Gold and Copper)	Mt Freda	Ausmex Mining Group Limited	Reported grades in recent drilling for resource definition of 5 m @ 7.53 g/t Au and 483 ppm Co, and 7 m @ 3.32 g/t Au with 3 m @ 522 ppm Co.	Ausmex Mining Group Limited (Optionee) 100% (ASX:AMG); Young Australian Mines Ltd. (Optionor)	Reserves Development	Gold deposit with associated cobalt mineralisation. www.ausmexgroup.com.au
QLD	Cobalt (& Copper and Silver)	Capricorn Copper	EMR Capital Group	Reserves of 8.47 Mt @ 1.98% Cu with associated silver and elevated levels of Co.	EMR Capital Group (Venturer); Lighthouse Minerals Holdings Pty Ltd. (Venturer)	Operating	www.capricorncopper.com
QLD	Antimony (& Gold)	Northcote	Bulletin Resources Limited	JORC Code 2004 Resource of 3 980 000 t @ 0.3% Antimony.	Bulletin Resources Limited (Optionee) 80% (ASX:BNR); Territory Minerals Ltd. (Optionor) 20%	Feasibility	www.bulletinresources.com

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QLD	Cobalt (& Copper, Lead, Zinc and Silver)	Walford Creek	Aeon Metals Limited	Copper Lode Resource of 15.7 Mt @ 1.24% Cu, 0.98% Pb, 0.82% Zn, 33.5g/t Ag, 0.15% Co, 41.35% Py and Cobalt Peripheral Resource of 18 Mt @ 0.16% Cu, 0.85% Pb, 1.03% Zn, 21.8g/t Ag, 0.11% Co and 39.2% Py.	Aeon Metals Limited (Owner) 100% (ASX:AML)	Feasibility Started	<a href="http://www.aeonmetals.com.au">www.aeonmetals.com.au</a>
QLD	Cobalt (& Copper and Gold)	Wee Macgregor	Cohiba Minerals Limited	JORC code 2012 Inferred Resource of 1.65 Mt @ 1.6% copper with recent drilling intersecting 10m at 1.2% copper, 0.063% cobalt, maximum cobalt is 0.1% over 2 m.	Cohiba Minerals Limited (Optionee) 80% (ASX:CHK); Cape Lambert Resources Limited (Optionor) 20%; Firebird Minerals Pty Ltd (Fractional)	Reserves Development	<a href="http://www.cohibaminerals.com.au">www.cohibaminerals.com.au</a>
QLD	Cobalt (& Copper, Gold, Iron Ore, Magnetite and Silver)	Ernest Henry	Glencore	Total Resources at Dec 2015 (Measured and Indicated) 87.1 Mt @ 1.18% Cu and 0.60 g/t Au. Pyrite contains arsenic, nickel and cobalt all ranging from a few hundred ppm to a few wt.% within individual grains of pyrite.	Glencore (Venturer) 70% (ASX:ZGI); Evolution Mining Limited (Venturer) 30%	Satellite	<a href="http://www.ernesthenrymining.com.au">www.ernesthenrymining.com.au</a>
QLD	Cobalt and Rhenium (& Copper, Gold, Silver and Molybdenum)	White Range	Young Australian Mines Ltd.	Resource of 29.3 Mt @ 0.82% Cu, 0.2 ppm Au and 0.03% Co.	Young Australian Mines Ltd. (Owner) 100%; Ausmex Mining Group Limited (Fractional); Shanxi Donghui Coal Coking & Chemicals Group Co., Ltd. (Fractional); Teck Resources Limited (Fractional)	Prefeasibility/ Scoping	<a href="http://www.yamines.com.au">www.yamines.com.au</a>

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QLD	Cobalt (& Copper and Gold)	Cloncurry East	Magnum Mining and Exploration Limited	At Salebury where a JORC code 2004 Inferred Resource of 1 300 000 t @ 0.9% Cu, 0.5 g/t Au, cobalt has been intersected in drilling over up to 30 m at 0.113%. At Notlor, cobalt has been intersected in drilling over up to 46 m at 0.264%.	Magnum Mining and Exploration Limited (Optionee) 75% (ASX:MGU); Washington H. Soul Pattinson and Company Limited (Optionor) 25%	Reserves Development	www.mmel.com.au
QLD	Cobalt (& Gold, Copper and Zinc)	Lorena	Malachite Resources Limited	At Lorena a JORC code 2004 indicated/ inferred pre-mining Resource of 203 000 t @ 8.7 g/t Au was defined, unreported cobalt has been intersected in drilling.	Malachite Resources Limited (Venturer) 55% (ASX:MAR); Shanxi Donghui Coal Coking & Chemicals Group Co., Ltd. (Venturer) 21%; Ore Processing Services Pty Ltd (Venturer) 15%; BIM Metals Pty Ltd. (Venturer) 9%; BCD Resources NL (Fractional)	Operating	www.malachite.com.au
QLD	Tungsten and Graphite (& Gold, Silver, Zinc, Copper, Tin and Lead)	Croydon	Crater Gold Mining Limited	Drilling at Golden Gate has intersected graphite up to 56 m thick grading up to 6% carbon. Elsewhere drilling at the A1 geophysical anomaly intersected elevated tungsten values to 0.18% over 1 m.	Crater Gold Mining Limited (Owner) 100% (ASX:CGN)	Target Outline	www.cratergold.com.au
QLD	Cobalt (& Nickel)	Gladstone	Gladstone Pacific Nickel Ltd.	Reserves of 48.7 Mt @ 0.94% Ni & 0.06% Co in lateritic nickel deposits.	Gladstone Pacific Nickel Ltd. (Owner) 100%	Feasibility	www.mineralogy.com.au

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QLD	Cobalt and Scandium (& Nickel and Iron Ore)	SCONI	Australian Mines Limited	Ore Reserve of 33 890 000 t @ 0.67% Ni, 0.10% Co and 42 ppm Sc (2018).	Australian Mines Limited (Owner) 100% (ASX:AUZ)	Feasibility Complete	<a href="http://www.australianmines.com.au">www.australianmines.com.au</a>
QLD	Cobalt (& Copper, Gold and U3O8)	E1-Monakoff	Glencore	E1: Measured open-cut Resource of 4.6 Mt @ 0.7% copper and 0.2 g/t gold. Indicated Resource of 5.5 Mt @ 0.75% copper and 0.23 g/t gold. Inferred Resource of 0.4 Mt @ 0.9% copper and 0.3 g/t gold.  Monakoff: Indicated Resource of 2.4 Mt @ 0.95% copper and 0.3 g/t gold: Inferred Resource of 0.1 Mt @ 0.8% copper and 0.2 g/t gold.	Glencore (Owner) 100% (ASX:ZGI)	Satellite	Geological Survey of Queensland.
QLD	Cobalt (& Copper and Silver)	Mount Oxide	Zhongjin Lingnan Mining (HK) Company Limited	2017 Resource of 9.1 Mt @ 0.23% Co associated with a copper Resource of 15.9 Mt @ 1.43% Cu.	Zhongjin Lingnan Mining (HK) Company Limited (Owner) 100%	Reserves Development	<a href="http://www.perilya.com.au">www.perilya.com.au</a>
QLD	Tungsten and Lithium (& Tin)	Khartoum	Jervois Mining Limited	Tungsten to 15.25% and Indium to 33 g/t associated with Tin mineralisation has been located at historical workings.	Jervois Mining Limited (Owner) 100% (ASX:JRV)	Target Outline	<a href="http://www.jervoismining.com.au">www.jervoismining.com.au</a>

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QLD	Cobalt (& Copper, Gold, Iron Ore, U3O8 and Silver)	Rocklands Group	CuDeco Limited	2015 reserve of 10 Mt @ 1.39% Cu, 0.24 ppm Au and 504 ppm Co.	CuDeco Limited (Owner) 100% (ASX:CDU); China Oceanwide International Investment Co. Limited (Fractional)	In care and maintenance	<a href="http://www.cudeco.com.au">www.cudeco.com.au</a>
QLD	Rhenium, Cobalt and Graphite (& Copper, Gold, Silver, Molybdenum and Lead)	Mount Isa	Hammer Metals Limited	Kalman: 20 Mt @ .61% Cu, .34g/t Au, 3.7 g/t Re. Overlander: 1.8 Mt @ 1.2% Cu, .045% Co.	Hammer Metals Limited (Owner) 100% (ASX:HMX); Kabiri Resources Pty Ltd (Fractional)	Reserves Development	<a href="http://www.hammermetals.com.au">www.hammermetals.com.au</a>
QLD	Vanadium (& U3O8)	Isa	Paladin Energy Limited	Paladin hold deposits in the Isa region with a total of 98.8 Mt @ 680 ppm U3O8 with some associated copper and vanadium.	Paladin Energy Limited (Owner) 100% (ASX:PDN)	Reserves Development	<a href="http://www.paladinenergy.com.au">www.paladinenergy.com.au</a>
QLD	Vanadium (&U3O8 and Copper)	Mt Isa North	Paladin Energy Limited	Paladin hold deposits in the Isa region with a total of 98.8 Mt @ 680 ppm U3O8 with some associated copper and vanadium.	Paladin Energy Limited (Owner) 100% (ASX:PDN)	Reserves Development	<a href="http://www.paladinenergy.com.au">www.paladinenergy.com.au</a>
QLD	Cobalt and Platinum (& Nickel, Gold and Copper)	Mt Cobalt	Aus Tin Mining Limited	Resource development project that has reported drill intersections of 7 m @ 0.84% Co and 0.83% Ni and 18 m @ 0.37% Co and 0.50% Ni with individual assays of 1.2% Co and 1.26% Ni.	Aus Tin Mining Limited (Owner) 100% (ASX:ANW)	Reserves Development	<a href="http://www.austinmining.com.au">www.austinmining.com.au</a>

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QLD	Lanthanides, Rare Earth Elements, Cobalt (& Copper, Gold, U3O8 and Molybdenum)	Mary Kathleen	Hammer Metals Limited	5.5 to 7.5 Mt (tailings) @ 2 to 4% light rare earths with residual uranium and thorium grading 0.006% to 0.012% U3O8 and 0.015% to 0.03% ThO2. Light rare earths are 50% CeO2, 35% La2O3, 11% Nd2O3, 3% Pr2O3 and 1% others. Elaine: Inferred Resource of 27.7 Mt @ 0.53% Cu. Elaine Dorothy: 27.7 Mt @ 0.32% Cu, 0.08 g/t Au with spatially associated Co, U and Th. Elaine South deposit: An Inferred Resource of 83 000t @ 280 ppm U3O8 and 3200 ppm total rare earth oxides at a cut- off of 200 ppm U3O8.	Hammer Metals Limited (Owner) 100% (ASX:HMX); Glencore Plc (Fractional); Global Energy Metals Corporation (Fractional)	Reserves Development	Geological Survey of Queensland.
QLD	Indium (Copper, Tin and Silver)	Baal Gammon	Baal Gammon Copper Pty Ltd.	2012 resources of 2.8 Mt @ 1% Cu, 40 ppm Ag, 0.2% Sn and 39 ppm In with a high grade Inferred Resource of 826 kt @ 2.5% Cu, 96 ppm Ag, 0.4% Sn and 96 ppm In.	Baal Gammon Copper Pty Ltd. (Owner) 100%	Care and maintenance	
QLD	Antimony, Lithium, Bismuth (& Gold, U3O8, Copper, Silver, Lead, Zinc and Arsenic)	Chillagoe	Anchor Resources Limited	Exploration prospect that has reported bismuth grades to 0.88% and antimony grades to 0.33%.	Anchor Resources Limited (Owner) 100% (ASX:AHR)	Exploration	<a href="http://www.anchorresources.com.au">www.anchorresources.com.au</a>
QLD	Cobalt (& Nickel)	Lucky Break	Metallica Minerals Limited	Total Resource 1.02 Mt @0.8% Ni, 0.05% Co.	Metallica Minerals Limited (Owner) 100% (ASX:MLM)	Feasibility	<a href="http://www.metallicaminerals.com.au">www.metallicaminerals.com.au</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
QLD	Tungsten (& Molybdenum, Copper, Silver, and Gold)	Whitewash	Aeon Metals Limited	Indicated Resource of 185 Mt @ 0.12% Cu, 0.03% Mo, 1.6 g/t Ag. Inferred Resource of 56 Mt @ 0.11% Cu, 0.02% Mo, 1.5g/t Ag.	Aeon Metals Limited (Owner) 100% (ASX:AML)	Reserves Development	<a href="http://www.aeonmetals.com.au">www.aeonmetals.com.au</a>
QLD	Cobalt (& Copper, Gold and Silver)	Barbara	Washington H. Soul Pattinson and Company Limited	4.75 Mt @ 1.59% Cu, 0.15 ppm Au, 2.57 ppm Ag and 309 ppm Co.	Washington H. Soul Pattinson and Company Limited (Owner) 100%	Feasibility Complete	<a href="http://www.syndicatedmetals.com.au">www.syndicatedmetals.com.au</a>
QLD	Rhenium (& Molybdenum, Copper, Zinc, Lead and Silver)	Merlin	Shanxi Donghui Coal Coking & Chemicals Group Co., Ltd.	Total Resource 6.4 Mt @ 1.5 % Mo, 26.4 ppm Re and 0.30% Cu.	Shanxi Donghui Coal Coking & Chemicals Group Co., Ltd. (Owner) 100%	Feasibility	
QLD	Cobalt (& Copper, Gold and Iron Ore)	Cloncurry	Minotaur Exploration Limited	Exploration targeting copper, gold mineralisation that has associated elevated cobalt.	Minotaur Exploration Limited (Owner) 100% (ASX:MEP)	Target Outline	<a href="http://www.minotaurexploration.com.au">www.minotaurexploration.com.au</a>
QLD	Lanthanides, Cobalt and Graphite (& Copper, U3O8, Phosphate, Molybdenum, Silver and Gold)	Mt Isa	Pan Pacific Copper Co., Ltd.	Company exploring for a broad range of commodities in region known to host copper gold deposits and rare-earth deposits.	Pan Pacific Copper Co., Ltd. (Venturer) 51.3%; GBM Resources Limited (Venturer) 48.7%	Reserves Development	<a href="http://www.gbmr.com.au">www.gbmr.com.au</a>
QLD	Cobalt, Rhenium, Lanthanides and Antimony (& Copper, Gold, Molybdenum, U3O8, Silver, Lead, Zinc, Selenium and Tellurium)	Cloncurry	ActivEX Limited	Resource at Florence Bore reported as 1.61 Mt @ 0.77% Cu and 0.15% Au.	ActivEX Limited (Owner) 100% (ASX:AIV); Au NQ Gold Pty Ltd. (Fractional)	Reserves Development	<a href="http://www.activex.com.au">www.activex.com.au</a>
QLD	Cobalt (& Copper and Gold)	Duck Creek	Young Australian Mines Ltd.	Drilling at the Duck Creek project has returned intersections of up to 36m @ 2.66% Cu, 0.23 ppm Au and 238 ppm Co.	Young Australian Mines Ltd. (Owner) 100%	Reserves Development	<a href="http://www.yamines.com.au">www.yamines.com.au</a>

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
QLD	Lanthanides (& U3O8)	Broughton Creek	Broughton Minerals Pty Ltd	No resource has been determined – exploration is still in early stages, drilling has intersected rare-earth elements up to 0.1 % total REO.	Broughton Minerals Pty Ltd (Owner) 100%	Exploration	<a href="http://www.bgwgroup.com.au">www.bgwgroup.com.au</a>
QLD	Cobalt (& Copper, Gold, Zinc, Silver, Lead and Nickel)	Greenvale	Superior Resources Limited	Superior undertaking exploration focusing on copper, gold and zinc. Cobalt is currently unreported.	Superior Resources Limited (Owner) 100% (ASX:SPQ)	Reserves Development	<a href="http://www.superiorresources.com.au">www.superiorresources.com.au</a>
QLD	Yttrium and Lanthanides	Korella / Korella Bore	Australian Venus Resources Pty Ltd	Inferred Resource of 7 030 000 t @ 0.93 kg/t Y2O3 overlying rock phosphate deposit of 19.3 Mt @ 19% phosphate.	Australian Venus Resources Pty Ltd	Feasibility / Reserves Development	
QLD	Cobalt (and Copper, Gold, Silver, Zinc and Lead)	Millennium	Hammer Metals Limited	5.9 Mt @ .32% Cu, 0.11 g/t Au and 0.11 % Co.	Hammer Metals Limited (Venturer) 75% (ASX:HMX); Global Energy Metals Corporation (Venturer) 25%	Reserves Development	<a href="http://www.hammermetals.com.au">www.hammermetals.com.au</a>
QLD	Bismuth (& Gold, Silver, Copper, Molybdenum, Lead and Zinc)	Triumph	Metal Bank Limited	At the Triumph project, Metal Bank has carried out substantial reconnaissance drilling with several high-grade gold (silver) intercepts up to 10 m at 27 g/t Au, 165 g/t silver. Unreported Bismuth has been intersected in drilling.	Metal Bank Limited (Owner) 100% (ASX:MBK)	Target Outline	<a href="http://www.metalbank.com.au">www.metalbank.com.au</a>
QLD	Cobalt (& Zinc, Lead, Silver, Copper, U3O8)	Nicholson	Superior Resources Limited	Superior undertaking exploration focusing on zinc and copper. Cobalt is currently unreported.	Superior Resources Limited (Owner) 100% (ASX:SPQ)	Exploration	<a href="http://www.superiorresources.com.au">www.superiorresources.com.au</a>



State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
QLD	Tungsten and Bismuth (& Molybdenum)	Wolfram Camp	Queensland Government	Indicated Resource of 514 000 t @ 0.23% WO <sub>3</sub> and Inferred Resource of 1 879 000 t @ 0.31% WO <sub>3</sub> , Ore Reserve of 375 000t @ 0.22% WO <sub>3</sub> (Almonty Industries 2017).	Queensland Government	Care and maintenance	Deposit held under a restricted area to allow for rehabilitation activities by the State.
QLD	Zircon and Titanium (& Ilmenite, Rutile and Heavy Mineral Sands)	North Stradbroke	Sibelco Australia Limited		Sibelco Australia Limited (Owner) 100%	Operating	<a href="http://www.sibelco.com">www.sibelco.com</a>
QLD	Zircon and Titanium (& Ilmenite, Rutile, Heavy Mineral Sands and Phosphate)	Goondicum	Melior Resources Inc.	Total resource of 22 Mt @ 9.7% Ilmenite and 1.8% apatite.	Melior Resources Inc. (Owner) 100%	Operating	<a href="http://www.meliorresources.com">www.meliorresources.com</a>
QLD	Vanadium (and Molybdenum, Copper, Nickel and Zinc)	Richmond	AXF Group Pty Ltd.	Inferred Resource of 2 579 000 000 t @ 0.32% V <sub>2</sub> O <sub>5</sub> .	AXF Group Pty Ltd. (Optionee) 75%; Intermin Resources Limited (Optionor) 25%	Prefeasibility/Scoping	<a href="http://www.axfresources.com.au">www.axfresources.com.au</a>
QLD	Tungsten and Antimony (& Tin, Copper, Gold, Iron Ore, Magnetite)	Mt Ruby	Unnamed Owner		Unnamed Owner (Owner) 100%	Exploration	
QLD	Tungsten (& Tin)	Mt Carbine	Speciality Metals International Limited	Indicated Resource of main zone hard rock of 18 Mt @ 0.14%, Indicated Resource of low-grade stockpile of 12 Mt @ 0.07% and Inferred Resource of main zone hard rock of 29.3 Mt @ 0.12% (2014).	Speciality Metals International Limited (Owner) 100% (ASX:SEI)	Advanced Exploration	<a href="http://www.specialitymetalsintl.com.au">www.specialitymetalsintl.com.au</a>
QLD	Lanthanides (& Gold, Copper and U <sub>3</sub> O <sub>8</sub> )	Mt Isa East	Hammer Metals Limited		Hammer Metals Limited (Venturer) 90% (ASX:HMX); Yunnan Copper Industry (Group) Co., Ltd. (Venturer) 10%	Exploration	<a href="http://www.hammermetals.com.au">www.hammermetals.com.au</a>

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
QLD	Cobalt (& Copper, Gold, Zinc, Silver and Lead)	Highlands	Minotaur Exploration Limited	Exploration targeting copper, gold mineralisation that has associated elevated cobalt.	Minotaur Exploration Limited (Owner) 100% (ASX:MEP)	Target Outline	<a href="http://www.minotaurexploration.com.au">www.minotaurexploration.com.au</a>
QLD	Titanium (& Rutile)	TiO	Locksley Holdings Pty. Ltd.		Locksley Holdings Pty. Ltd. (Owner) 100%	Advanced Exploration	
QLD	Tungsten	Watershed	Tungsten Mining NL	Measured resource of 4.42 Mt @ 0.25% WO <sub>3</sub> ; Indicated resource of 11.51 Mt @ 0.24% WO <sub>3</sub> ; Inferred resource of 4.73 Mt @ 0.26% WO <sub>3</sub> at a cut-off grade of 0.10% WO <sub>3</sub> .	Tungsten Mining NL (Owner) 100% (ASX:TGN)	Feasibility Complete	<a href="http://www.tungstenmining.com">www.tungstenmining.com</a>
QLD	Cobalt (& Copper, Gold and U3O8)	Evening Star	Ausmex Mining Group Limited	Drilling results in exploration report intersections of 6 m @ 1108 ppm Co, 4 m @ 1,190 ppm Co and 9 m @ 400 ppm Co, 1.01 g/t Au, and 3.16% Cu.	Ausmex Mining Group Limited (Optionee) 100% (ASX:AMG); Young Australian Mines Ltd. (Optionor)	Exploration	<a href="http://www.ausmexgroup.com.au">www.ausmexgroup.com.au</a>
QLD	Titanium (& Bauxite and Gold)	Monogorilby	IronRidge Resources Limited	JORC code 2012 inferred resource of 54 894 438 t @ 28.02% Al <sub>2</sub> O <sub>3</sub> , 5.2% TiO <sub>2</sub> .	IronRidge Resources Limited (Owner) 100%	Reserves Development	<a href="http://www.ironridgeresources.com.au">www.ironridgeresources.com.au</a>
QLD	Platinum, Chromite and Cobalt (& Palladium, Nickel, Copper, Zinc, Gold and Rhodium)	Marlborough	Castillo Copper Limited	Exploring ultramafic complexes near the Marlborough Nickel Deposits where previous exploration has identified Ni to 0.74% with anomalous Co, Cr and PGEs.	Castillo Copper Limited (ASX:CCZ)	Exploration	<a href="http://www.castillocopper.com">www.castillocopper.com</a>
QLD	Bismuth, Antimony and Cobalt (& Gold, Copper, Silver, Lead, Zinc, Arsenic, Selenium and Tellurium)	Gilberton	ActivEX Limited	Exploring for gold in a region where elevated level of Sb, Bi and Co are common.	ActivEX Limited (Owner) 100% (ASX:AIV)	Target Outline	<a href="http://www.activex.com.au">www.activex.com.au</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
QLD	Manganese (& Gold)	Mary Valley	Eclipse Metals Limited	Eclipse has identified 3 manganese prospects with best drill results of 3.4 m @ 59.8% MnO and 2.4 m @ 26.3% MnO.	Eclipse Metals Limited (Optionee) 100% (ASX:EPM); Bluekebble Pty Ltd (Optionor)	Target Outline	<a href="http://www.eclipsemetals.com.au">www.eclipsemetals.com.au</a>
QLD	Tungsten (& Tin and Gold)	Slaty Range	Tungsten Mining NL	Exploration is targeting anomalous tungsten occurrences of a style similar to the known deposits in the region.	Tungsten Mining NL (Owner) 100% (ASX:TGN)	Exploration	<a href="http://www.tungstenmining.com">www.tungstenmining.com</a>
QLD	Graphite	Esmeralda	Metallica Minerals Limited	Drilling undertaken in 2015: WD001 – 95.0 m @ 6.5%2 Cg from 71 m; WD002 – 29.1 m @ 7.8%2 Cg from 72 m. Testwork undertaken to produce high purity graphite concentrate with recovery of 90.53%.	Metallica Minerals Limited (Owner) 100% (ASX:MLM)	Target Outline	<a href="http://www.metallicaminerals.com.au">www.metallicaminerals.com.au</a>
QLD	Graphite (& Copper)	Mount Dromedary	NOVONIX Limited	Mineral Resource of 14.3 Mt @ 13.3% TGC (2016).	NOVONIX Limited (Owner) 100% (ASX:NVX)	Feasibility Started	<a href="http://www.novonixgroup.com">www.novonixgroup.com</a>
QLD	Bismuth and Antimony (& Silver, Copper, Lead and Gold)	Ukalunda	NQ Minerals Plc	The Ukalunda project includes several historic polymetallic mines and prospects including the Carrington silver - bismuth mine. Current exploration is focussing on the gold and silver potential of the area.	NQ Minerals Plc (Owner) 100%	Target Outline	<a href="http://www.nqminerals.com/ukalunda">www.nqminerals.com/ukalunda</a>
QLD	Lanthanides, Rare Earth Elements, Cerium, Lanthanum, Neodymium, Praseodymium, Samarium (& Copper, Molybdenum, Gold and Silver)	Ravenswood	Stavelly Minerals Limited	Staveley undertaking exploration focussing on gold, molybdenum, copper. REEs have been reported from stream sediment sampling.	Stavelly Minerals Limited (Owner) 100% (ASX:SVY)	Target Outline	<a href="http://www.stavelly.com.au">www.stavelly.com.au</a>

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QLD	Graphite	Burke	Strike Resources Limited	Inferred Resource of 6 300 000 @ 16% TGC (2017).	Strike Resources Limited (Venturer) 60% (ASX:SRK); Burke Minerals Pty Ltd. (Venturer) 40%	Reserves Development	<a href="http://www.strikeresources.com.au">www.strikeresources.com.au</a>
QLD	Cobalt (and Copper and Gold)	Belgium	Ausmex Mining Group Limited	Historic copper mine with some elevated Co reported in exploration results.	Ausmex Mining Group Limited (Owner) 100% (ASX:AMG)	Target Outline	<a href="http://www.ausmexgroup.com.au">www.ausmexgroup.com.au</a>
QLD	Cobalt (and Copper and Gold)	Trump	Ausmex Mining Group Limited	Drilling results in recent exploration report intersections of 60 m @ 1.3% Cu with elevated Co intersections up to 448 ppm Co.	Ausmex Mining Group Limited (Owner) 100% (ASX:AMG)	Target Outline	<a href="http://www.ausmexgroup.com.au">www.ausmexgroup.com.au</a>
QLD	Vanadium	Toolebuc	Liontown Resources Limited	Inferred Resource of 83 700 000 t @ 0.30% V2O5 (2018).	Liontown Resources Limited (Owner) 100% (ASX:LTR)	Reserves Development	<a href="http://www.ltresources.com.au">www.ltresources.com.au</a>
QLD	Cobalt and Tungsten (& Gold and Copper)	Golden Mile	Ausmex Mining Group Limited	Drilling of primarily gold mineralisation has indicated some associated anomalous tungsten mineralisation.	Ausmex Mining Group Limited (Venturer) 80% (ASX:AMG); Washington H. Soul Pattinson and Company Limited (Venturer) 20%	Target Outline	<a href="http://www.ausmexgroup.com.au">www.ausmexgroup.com.au</a>
QLD	Cobalt (& Copper, Lead and Zinc)	Gorge Creek	Traka Resources Limited	Anomalous rock chip samples reported by Cobalt Qld in 2017 and 2017; 1510 ppm Pb, 6.32% K, 19.7 ppm La, 540 ppm P and other elevated REE, 1485 ppm Pb, 304 ppm Zn, 1040 ppm Ce, 491 ppm Ne, 497 ppm La, 5.44% K.	Traka Resources Limited (Optionee) 51% (ASX:TKL); Cobalt QLD Pty Ltd. (Optionor) 49%	Target Outline	<a href="http://www.trakaresources.com.au">www.trakaresources.com.au</a>
QLD	Vanadium (Copper, Molybdenum, Nickel and Zinc)	Julia Creek	QEM Limited	Inferred Resource of 1 700 000 t @ 0.34% V2O5 (2018) associated with oil shale.	QEM Limited (Owner) 100% (ASX:QEM)	Reserves Development	<a href="http://www.qldem.com.au">www.qldem.com.au</a>

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QLD	Vanadium (& Molybdenum)	Saint Elmo	Multicom Resources	Measured Resource of 20.5 Mt @ 0.28% V <sub>2</sub> O <sub>5</sub> , an Indicated Resource of 228 Mt @ 0.30% V <sub>2</sub> O <sub>5</sub> and Inferred Resource of 245 Mt @ 0.26% V <sub>2</sub> O <sub>5</sub> (2017).	Multicom Resources (Owner) 100%	Prefeasibility/ Scoping	<a href="http://www.mcres.com.au">www.mcres.com.au</a>
SA	Graphite	Siviour	Renascor Resources Ltd	80.6 Mt @ 7.9% TGC for 6.4 Mt C.	ASX listed (RNU)	Early 2019 completion of definitive feasibility study.	Scoping study provides for Australian processing with production of 123,000tpa flake graphite. Further studies for potential production spherical graphite. <a href="http://www.renascor.com.au">www.renascor.com.au</a>
SA	Graphite	Uley	Quantum Graphite Ltd	4.54 Mt @ 11.63% TGC for 520 000 t C.	ASX listed (QGL)	Care and maintenance	Uley is one deposit within the larger Mikkira Graphite district. Processing plant planned proposed for site. <a href="http://www.quantumgraphite.com">www.quantumgraphite.com</a>
SA	Graphite	Kookaburra Gully	Lincoln Minerals Ltd	2.2 Mt @ 15.1% TGC for 331 778 t C (cut off 5% TGC).	ASX listed (LML)	Scoping study 2012 completed for Kookaburra / Koppio Project 35,000tpa C concentrate production	
SA	Graphite	Koppio	Lincoln Minerals Ltd	1.85 Mt @ 9.76% TGC for 180 733 t C (cut off 5% TGC).	ASX listed (LML)	Scoping study 2012 completed for Kookaburra / Koppio Project 35,000tpa C concentrate production	Likely resource extensions for exploration target for Kookaburra / Koppio Project 32-94 Mt. <a href="http://www.lincolnminerals.com.au">www.lincolnminerals.com.au</a>
SA	Graphite	Campoona Shaft	Archer Exploration Ltd	1.65 Mt @ 9.2% TGC for 151 400 t (cut off 5% TGC).	ASX listed (AXE)	Seeking investment partners. Testwork at nano- and atomic-scale indicates high quality C. Collaboration agreement to convert graphite to graphene materials for use in batteries.	Likely resource extensions. Licence negotiations for carbon-based Qubit processors. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Graphite	Oakdale	Oakdale Resources Ltd	6.32 Mt @ 4.7% TGC for 296 570 t C (cut off 3% TGC).	ASX listed (OAR)	Preliminary scoping study	Potential for resource extension at Oakdale East. <a href="http://www.oakdaleresources.com.au">www.oakdaleresources.com.au</a>
SA	Graphite	Wilco South	Archer Exploration Ltd	6.38 Mt @ 8.8% TGC for 550 000 t (cut off 5% TGC).	ASX listed (AXE)	Resource drilling to inferred.	<a href="http://www.archerx.com.au">www.archerx.com.au</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Graphite	Campoona Central	Archer Exploration Ltd	520 000 t @ 9% TGC (cut off 5% TGC).	ASX listed (AXE)	Seeking investment partners. Testwork at nano- and atomic-scale indicates high quality C. Collaboration agreement to convert graphite to graphene materials for use in batteries.	Campoona Central is the south extension of Campoona Shaft. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Cobalt	Mutooroo	Havilah Resources Ltd	598 kt @ 0.04% Co (oxide) + 5.846 Mt @ 0.14% Co (sulphide) for 8400 t contained Co.	ASX listed (HAV)	Resource drilled, investigation of treatment processes for Co recovery from multi-commodity deposit that includes Cu, Au, and S.	Central deposit in Mutooroo Co district, with active exploration of extensive area of anomalous Co geochemistry. <a href="http://www.havilah-resources.com.au">www.havilah-resources.com.au</a>
SA	Cobalt	Kalkaroo	Havilah Resources Ltd	193.3 Mt @ 0.012% Co for 23 200 t contained Co.	ASX listed (HAV)	Advanced project, multi-commodity including Au, Cu (Mo).	<a href="http://www.havilah-resources.com.au">www.havilah-resources.com.au</a>
SA	Cobalt	Claude Hills	Metals X Ltd	33.3 Mt @ 0.07% for 23 310 t Co.	ASX listed (MLX)	Resource drilled to inferred. Multi-commodity, Ni, Fe.	<a href="http://www.metalsx.com.au">www.metalsx.com.au</a>
SA	Cobalt	North Portia	Consolidated Mining and Civil CMC	13 Mt @ 0.0154% Co for 600 t Co.	Private company	Advanced project. CMC have acquired the mining lease, with Havilah also paid 2% NSR. Multi-commodity, Cu, Au, Mo.	<a href="http://www.conmc.net.au">www.conmc.net.au</a> ; Acquired 2018 from Havilah Resources (see Havilah website for geology & resource figures)
SA	Cobalt	Windabout	Gindalbie Metals Ltd	17.7 Mt @ 0.0492% for 8690 t Co.	ASX listed (GBG)	Resource drilled. Multi-commodity, Cu, Ag.	Potential additional remaining resources in Mt. Gunson mining area in worked out deposits at Mt. Gunson, Cattlegrid, Gully, also unworked Emmie Bluff prospect. <a href="http://www.gindalbie.com.au">www.gindalbie.com.au</a>
SA	Cobalt	MG14	Gindalbie Metals Ltd	430 000t @ 0.0274% for 118 t Co.	ASX listed (GBG)	Resource drilled. Multi-commodity, Cu, Ag.	Economics of incorporating a Co only product recovery plant in the processing flow line being considered. Economics of incorporating a Co only product recovery plant in the processing flow line being considered. <a href="http://www.gindalbie.com.au">www.gindalbie.com.au</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Manganese	Jamieson Tank	Archer Exploration Ltd	Non JORC conceptual exploration target only based on historic drilling of 208 holes, 15-25 Mt, 8-12% Mn for minimum 120 000 t Mn.	ASX listed (AXE)	Testwork has confirmed MnO product suitable for electrolytic Mn dioxide (EMD) product.	www.archerx.com.au
SA	Manganese	Pernatty Lagoon		Non-JORC, 167 500 t @ 19.6% Mn for 32 660 t Mn.	No	Estimate resource 1986.	2019, EL 5792, Resource Holdings Ltd,
SA	Zircon	Mindarie A2	Murray Zircon Pty Ltd	Production 2007-15 4.5 Mt @ 4% HM for 180 000 t HM @ 27.6% Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Mined, no remaining resource.	www.murrayzircon.com.au
SA	Titanium	Mindarie A2	Murray Zircon Pty Ltd	Production 2007-15 4.5 Mt @ 4% HM for 180 000 t HM @ 5% Rutile, 57% Ilmenite, 10% Leucoxene.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Mined, no remaining resource.	www.murrayzircon.com.au
SA	Zircon	Mindarie C	Murray Zircon Pty Ltd	19.31 Mt @ 2.92% HM for 567 000 t HM with 99 645 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled.	www.murrayzircon.com.au
SA	Titanium	Mindarie C	Murray Zircon Pty Ltd	19.31 Mt @ 2.92% HM for 567 000 t HM with 310 030 t contained Ilmenite, 39 480 t contained Leucoxene, 30 170 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled.	www.murrayzircon.com.au
SA	Zircon	Amiens	Murray Zircon Pty Ltd	18.4 Mt @ 3% HM for 550 000 t HM with 107 116 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Titanium	Amiens	Murray Zircon Pty Ltd	18.4 Mt @ 3% HM for 550 000 t HM with 278 530 t contained Ilmenite, 16 908 t contained Leucoxene, 31 244 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Mercunda	Murray Zircon Pty Ltd	22.9 Mt @ 2.73% HM for 625 600 t HM with 114 139 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Mercunda	Murray Zircon Pty Ltd	22.9 Mt @ 2.73% HM for 625 600 t HM with 333 921 t contained Ilmenite, 40 382 t contained Leucoxene, 35 091 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Halidon	Murray Zircon Pty Ltd	13.6 Mt @ 4.00% HM for 543 000t HM with 86 384 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Halidon	Murray Zircon Pty Ltd	13.6 Mt @ 4.00% HM for 543 000t HM with 205 995 t contained Ilmenite, 20 000 t contained Leucoxene, 18 671 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Long Tan	Murray Zircon Pty Ltd	22.4 Mt @ 2.8% HM for 626 000 t HM with 89 348 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Long Tan	Murray Zircon Pty Ltd	22.4 Mt @ 2.8% HM for 626 000 t HM with 301 732 t contained Ilmenite, 53 980 t contained Leucoxene, 36 958 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>



State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Zircon	Lone Pine	Murray Zircon Pty Ltd	13.6 Mt @ 3.24% HM for 441 000 t HM with 111 748 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Titanium	Lone Pine	Murray Zircon Pty Ltd	13.6 Mt @ 3.24% HM for 441 000 t HM with 221 382 t contained Ilmenite, 24 537 t contained Leucoxene, 22 844 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Zircon	Perponda South	Murray Zircon Pty Ltd	29.3 Mt @ 3% HM for 863 000 t HM with 101 022 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Titanium	Perponda South	Murray Zircon Pty Ltd	29.3 Mt @ 3% HM for 863 000 t HM with 251 641 t contained Ilmenite, 98 860 t contained Leucoxene, 48 328 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Zircon	Mindarie A1	Murray Zircon Pty Ltd	8.8 Mt @ 2.7% HM for 238 000 t HM with 35 462 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	Resource figure is remaining resource post-mining. www.murrayzircon.com.au
SA	Titanium	Mindarie A1	Murray Zircon Pty Ltd	8.8 Mt @ 2.7% HM for 238 000 t HM with 123 284 t contained Ilmenite, 24 848 t contained Leucoxene, 14 042 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	Resource figure is remaining resource post-mining. www.murrayzircon.com.au
SA	Zircon	Balmoral	Murray Zircon Pty Ltd	14.4 Mt @ 3.1% HM for 451 000 t HM with 77 140 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Titanium	Balmoral	Murray Zircon Pty Ltd	14.4 Mt @ 3.1% HM for 451 000 t HM with 211 519 t contained Ilmenite, 25 564 t contained Leucoxene, 20 241 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Derrick	Murray Zircon Pty Ltd	36.8 Mt @ 3.2% HM for 1 184 000 t HM with 220 862t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Derrick	Murray Zircon Pty Ltd	36.8 Mt @ 3.2% HM for 1 184 000 t HM with 506 752 t contained Ilmenite, 76 786 t contained Leucoxene, 37 772 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Braemar	Murray Zircon Pty Ltd	44.4 Mt @ 3.1% HM for 1 385 000 t HM with 257 610 t contained Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Braemar	Murray Zircon Pty Ltd	44.4 Mt @ 3.1% HM for 1 385 000 t HM with 520 760 t contained Ilmenite, 120 495 t contained Leucoxene, 65 095 t contained Rutile.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Zircon	Mindarie B	Murray Zircon Pty Ltd	12.5 Mt @ 3.0% HM for 375 000 t HM with no Zircon % provided. ZrO2 XRF values to max 7.95 equivalent to 11.5% Zircon.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>
SA	Titanium	Mindarie B	Murray Zircon Pty Ltd	12.5 Mt @ 3.0% HM for 375 000 t HM with no contained Ilmenite, Leucoxene, Rutile grade estimates.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	<a href="http://www.murrayzircon.com.au">www.murrayzircon.com.au</a>

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SA	Zircon	Bencat	Murray Zircon Pty Ltd	Historic JORC (2000), 1.2 Mt, 3.0% HM for 36 000t HM with no Zircon % provided.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Titanium	Bencat	Murray Zircon Pty Ltd	Historic JORC (2000), 1.2 Mt, 3.0% HM for 36 000 t HM with no estimates for % Ilmenite, Leucoxene, Rutile provided.	JV with majority ownership by Guangdong Orient Zirconic Ind Sci & Tech Co., Ltd. of China	Resource drilled, multi-commodity, rutile, leucoxene, ilmenite.	www.murrayzircon.com.au
SA	Zircon	Jacinth Ambrosia	Iluka Resources Ltd	208.5 Mt @ 2.7% HM for 5.69 Mt HM with 2 766 285 t contained zircon	ASX listed (ILU)	Active mines	www.iluka.com.au
SA	Titanium	Jacinth Ambrosia	Iluka Resources Ltd	208.5 Mt @ 2.7% HM for 5.69 Mt HM with 1 502 320 t contained Ilmenite, 257 398 t contained Rutile.	ASX listed (ILU)	Active mines	www.iluka.com.au
SA	Zircon	Tripitaka	Iluka Resources Ltd	53.7 Mt @ 1.9% HM for 998 000 t HM with 646 704 t contained Zircon	ASX listed (ILU)	Resource drilled	www.iluka.com.au
SA	Titanium	Tripitaka	Iluka Resources Ltd	53.7 Mt @ 1.9% HM for 998 000 t HM with 110 778 t contained Ilmenite, 47 904 t contained Rutile.	ASX listed (ILU)	Resource drilled	www.iluka.com.au
SA	Zircon	Barton West		171.7 Mt @ 2.8% HM for 4.81 Mt HM with 480 760 t contained Zircon.	No	Historic inferred only, Kingsgate. com.au & Bao et al Econ Geol V106, pp 687 for calculated assemblage 10%Zr.	No tenure currently held
SA	Titanium	Barton West		171.7 Mt @ 2.8% HM for 4.81 Mt HM with 961 520 t contained combined Rt + Lx, 2 884 560 t contained ilmenite.	No	Historic inferred only, Kingsgate. com.au & Bao et al Econ Geol V106, pp 687 for calculated assemblage 10%Zr.	No tenure currently held

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Zircon	Typhoon	Iluka Resources Ltd	23.7 Mt @ 6.3% HM for 1 488 000 t HM with 196 416 t contained Zircon.	ASX listed (ILU)	Resource drilled	www.iluka.com.au
SA	Titanium	Typhoon	Iluka Resources Ltd	23.7 Mt @ 6.3% HM for 1 488 000 t HM with 932 976 t contained Ilmenite, 13 392 t contained Rutile.	ASX listed (ILU)	Resource drilled	www.iluka.com.au
SA	Zircon	Barton		285 Mt @ 1.9%HM for 3.32 Mt HM with 460 000 t contained Zircon.	No	Historic inferred only, redmetal.com.au	No tenure currently held
SA	Titanium	Barton		285 Mt @ 1.9%HM for 3.32 Mt HM with 2.6 Mt contained Ilmenite, 140 000 t contained Leucoxene, 120 000 t contained rutile.	No	Historic inferred only, redmetal.com.au	No tenure currently held
SA	Zircon	Sonoran	Iluka Resources Ltd	27.5 Mt @ 7.41% HM for 2.04 Mt HM with 398 873 t contained Zircon.	ASX listed (ILU)		www.iluka.com.au
SA	Titanium	Sonoran	Iluka Resources Ltd	27.5 Mt @ 7.41% HM for 2.04 Mt HM with 1 369 180 t contained Ilmenite, 30 868 t contained Rutile.	ASX listed (ILU)		www.iluka.com.au
SA	Zircon	Atacama	Iluka Resources Ltd	72.6 Mt @ 12% HM for 8.73 Mt HM with 1 442 210 t contained Zircon.	ASX listed (ILU)		www.iluka.com.au
SA	Titanium	Atacama	Iluka Resources Ltd	72.6 Mt @ 12% HM for 8.73 Mt HM with 5 898 895 t contained Ilmenite, 174 381 t contained Rutile.	ASX listed (ILU)		www.iluka.com.au
SA	Magnesium	Camel Flat	Perilya Freehold Mining Pty Ltd	Historic JORC resource (pre-2004) 13 Mt @ 42% MgCO <sub>3</sub> for 1.57 Mt contained Mg.	Private company		Based on surface geology, not drilled. Not part of the Archer magnesite project, no ML, tenure as EL 6284. www.perilya.com.au

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Magnesium	Mount Hutton Central	Archer Exploration Ltd	17.523 Mt @ 40.3% MgCO <sub>3</sub> for 2.03 Mt contained Mg.	ASX listed (AXE)		Part of Archer magnesite project. Archer ASX announcement for intended sale of their magnesite resources. Cut-off date December 2019. Archer has received from buyer notice of intention to proceed. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Mount Hutton South	Archer Exploration Ltd	125 Mt @ 42.9% MgCO <sub>3</sub> for 15.5 Mt contained Mg.	ASX listed (AXE)		Archer ASX announcement for intended sale of their magnesite resources. Cut-off date December 2019. Archer has received from buyer notice of intention to proceed. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Mount Playfair	Archer Exploration Ltd	44 Mt @ 42.5% MgCO <sub>3</sub> for 5.4 Mt contained Mg.	ASX listed (AXE)		<a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Myrtle Springs	Calix Ltd	450 000 t @ 87% MgCO <sub>3</sub> for 112 852 t contained Mg. Resource is for area within mineral tenement.	ASX listed (CXL)		Archer JORC, for area beyond confines of ML are 10 Mt, 42.5% MgCO <sub>3</sub> for 1.23 Mt contained Mg. Calix are developing a patented CFC (Calix Flash Calcination) technology involving grind to 1um, then 'flash heating' at 800 C. <a href="http://www.calix.com.au">www.calix.com.au</a>
SA	Magnesium	Witchelina	Archer Exploration Ltd	216.7 Mt @ 40% MgCO <sub>3</sub> for 25 Mt contained Mg.	ASX listed (AXE)		Archer ASX announcement for intended sale of their magnesite resources. Cut-off date December 2019. Archer has received from buyer notice of intention to proceed. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Pug Hill	Archer Exploration Ltd	20 Mt @ 42.7% MgCO <sub>3</sub> for 2.46 Mt contained Mg.	ASX listed (AXE)		Archer ASX announcement for intended sale of their magnesite resources. Cut-off date December 2019. Archer has received from buyer notice of intention to proceed. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Termination Hill	Archer Exploration Ltd	JORC @ 29 Mt, 42.8% MgCO <sub>3</sub> for 3.58 Mt contained Mg.	ASX listed (AXE)		Archer ASX announcement for intended sale of their magnesite resources. Cut-off date December 2019. Archer has received from buyer notice of intention to proceed. <a href="http://www.archerx.com.au">www.archerx.com.au</a>
SA	Magnesium	Screechowl Creek	Gawler Resources Pty Ltd	Historic JORC resource (pre2004), 36 Mt @ 44.3% MgCO <sub>3</sub> for 4.6 Mt contained Mg.	Pty company		Resource based on surface geology, not drill tested.

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
SA	Magnesium	West Mount Hut	Gawler Resources Pty Ltd	Historic JORC resource (pre2004) 67 Mt @ 44.3% MgCO <sub>3</sub> for 8.6 Mt contained Mg.	Pty company		Resource based on surface geology, not drill tested.
SA	Magnesium	Mount Livingston	Quasar Resources Pty Ltd	Pre-JORC resource. 0.7 Mt @ 93% MgCO <sub>3</sub> for 187 655 t contained Mg.	Pty company	Uranium Exploration company, no indications of interest in Mg.	No MLs. Tenure as EL 5916 Quasar Resources
SA	Zircon	Murray Basin, Eucla basin		Exploration has confirmed additional prospects for HMS in these districts.			Northern Murray Basin: Boxwood Dam, Johnsons Dam, Oakbank & Eucla basin: Sherrin, Irish Well
SA	Graphite	Eyre Peninsula, Olary District		Exploration has confirmed multiple prospects throughout Eyre Peninsula.			Sugarloaf, Mikkira Graphite District, southern Eyre Peninsula. Prospects are in the Olary area.
SA	Cobalt	Adelaide Rift Complex		Exploration has confirmed additional prospects for Co, and multi-commodity base metal-Co mineralisation in this district.			Princess Royal, Wilkins
SA	Helium	Otway basin	Beach Energy	Katnook 1 He 0.33-0.54 mol% Katnook 2 0.03-0.08 mol% Ladbroke Grove 1 0.08-0.25 mole% Caroline 1 0.008 mole%	ASX listed (BPT)		<a href="http://www.beachenergy.com.au">www.beachenergy.com.au</a>
SA	Rare-earth elements (bastnasite, synchysite, florentcrite, monazite and xenotime)	Olympic Dam	BHP	Approximate concentrations of the light REE (LREE) and heavy REE plus yttrium (HREE + Y) within the Olympic Dam total resource are 3053 ppm and 110 ppm.	ASX listed	Operating mine site	Despite this considerable endowment, no REE are currently recovered at Olympic Dam, or elsewhere in the Olympic Cu Province. This is primarily due to relatively low REE grades, small grain size of host minerals, their dissemination throughout the deposit, and the dominance of LREE over the more economically attractive HREE. Nevertheless, the distribution and mineralogy of REE in the deposit are of major interest and potentially significant for reconstructing ore genesis and regional-scale exploration with respect to potential future exploitation. <a href="http://www.bhpbilliton.com">www.bhpbilliton.com</a>

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TAS	Tungsten	Mt Lindsay	Venture Minerals	13 Mt @ 0.3% Sn, 0.2% WO <sub>3</sub> .	ASX-listed	Pre-construction	<a href="http://www.ventureminerals.com.au">www.ventureminerals.com.au</a>
TAS	Tungsten	Lutwyche	TNT Mines	0.88 Mt @ 0.47% Sn, 0.47% WO <sub>3</sub> .	ASX-listed	Exploration	<a href="http://www.tntmines.com.au">www.tntmines.com.au</a>
TAS	Tungsten	Aberfoyle	TNT Mines	5.5 Mt @ 0.2% Sn, 0.02% WO <sub>3</sub> .	ASX-listed	Exploration	<a href="http://www.tntmines.com.au">www.tntmines.com.au</a>
TAS	Tungsten	Foley Zone	Elementos	3.9 Mt @ 0.3% WO <sub>3</sub> .	ASX-listed	Exploration	<a href="http://www.elementos.com.au/projects/">www.elementos.com.au/projects/</a>
TAS	Tungsten	Kara	Tasmania Mines	28 Mt @ 0.04% WO <sub>3</sub> .	Private	Producing (as by product of iron ore)	<a href="http://www.tasmines.com.au">www.tasmines.com.au</a> (website not updated since 2017)
TAS	Tungsten	Dolphin	King Island Scheelite	7 Mt @ 1% WO <sub>3</sub> .	ASX-listed	Development	<a href="http://www.kingislandscheelite.com.au">www.kingislandscheelite.com.au</a>
TAS	Tungsten	Bold Head	King Island Scheelite	1.65 Mt @ 0.9% WO <sub>3</sub> .	ASX-listed	Exploration	<a href="http://www.kingislandscheelite.com.au">www.kingislandscheelite.com.au</a>
TAS	Tungsten	KI Tailings	King Island Scheelite	2.7 Mt @ 0.17% WO <sub>3</sub> .	ASX-listed	Exploration	<a href="http://www.kingislandscheelite.com.au">www.kingislandscheelite.com.au</a>
TAS	Tungsten Fluorospars	Moina	Geotech International	0.1% WO <sub>3</sub> , 16% CaF <sub>2</sub> .	Private	Exploration	<a href="http://www.onestoptenementshop.com/tenement/moina-fluorite-tungsten-tin-gold-lithium/">www.onestoptenementshop.com/tenement/moina-fluorite-tungsten-tin-gold-lithium/</a>
TAS	Rare Earths	Prince Darwin	Corona Resources	Resources not defined	Un-listed public company	Exploration	<a href="http://www.coronaresources.com.au">www.coronaresources.com.au</a>
TAS	Magnesium	Arthur River	HiTec Minerals	25 Mt @ 41% MgO.	100% owned by Jindalee Resources (ASX:JRL)	Exploration	<a href="http://www.jindalee.net">www.jindalee.net</a>
TAS	Cobalt	Barnes Hill	Tasmania Energy Minerals	6.6 Mt @ 0.06% Co, 0.84% Ni.	Un-listed	Exploration	
TAS	Cobalt	Avebury	Dundas Mining	29.3 Mt @ 0.023% Co, 0.9% Ni.	Un-listed	Care and maintenance	
TAS	Cobalt	Sorell Peninsular	Accelerate resources	Exploration results only	ASX-listed	Exploration	<a href="http://www.ax8.com.au">www.ax8.com.au</a>
VIC	Antimony (and Gold)	Costerfield	Mandalay Resources Ltd	Resource of 1319kt @ 3.1% Sb.	TSX-Listed (MND)	Producing	Processed into concentrate in Victoria <a href="http://www.mandalayresources.com">www.mandalayresources.com</a>
VIC	Zirconium and Titanium	Fingerboards	Kalbar Resources Ltd	Resource of 2.7 Bt @ 1.9% heavy minerals.	Unlisted Australian Public Company	Exploring/ Permitting	<a href="http://www.kalbarresources.com.au">www.kalbarresources.com.au</a>

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
VIC	Zirconium	Donald Mineral Sands	Astron Limited	Resource of 4.78 Bt @ 3.7% total heavy minerals, with the total heavy minerals on average including 19% Zircon, 9% Rutile + anatase, 33% ilmenite, 18% leucoxene and 2% monazite.	ASX-Listed (ATR)	Not yet producing	www.astronlimited.com.au
VIC	Zirconium	WIM150	Orient Zirconic	1.65 Bt Mineral Resource @ 3.7 % total heavy minerals. 552 Mt Ore Reserve @ 4.3% total heavy minerals.	Joint Venture between Orient Zirconic Pty Ltd and Million Up Ltd, a Hong Kong based investment fund	Not yet producing	www.murrayzircon.com.au
VIC	Zirconium and Rare-Earth Elements	Avonbank project	WIM Resources Pty Ltd	490 Mt @ 4.0% total heavy minerals. Total Ore Reserve 311.8 Mt @ 4.3% total heavy minerals.	Pty Company	Development	www.wimresource.com.au
VIC	Zirconium and Rare-Earth Elements	Bungalally Project	WIM Resources Pty Ltd	Inferred Resource of 205 Mt @ 2.7% total heavy minerals.	Pty Company	Exploring	www.wimresource.com.au
VIC	Zirconium	Wedderburn Project	WIM Resources Pty Ltd	Indicated and Inferred Resource of 223 Mt @ 2.9% total heavy minerals.	Pty Company	Exploring	www.wimresource.com.au
VIC	Lithium, Tantalum, Tin	Glen Willis	Dart Mining		ASX-Listed (DTM)	Exploring	www.dartmining.com.au
VIC	Lithium, Tantalum, Tin	Erskdale / Mitta	Dart Mining		ASX-Listed (DTM)	Exploring	www.dartmining.com.au
WA	Antimony	Blue Spec	Novo Resources	0.774 Mt, 0.966% Sb, 7473 t Sb.	TSX-V	Exploration	www.novoresources.com
WA	Antimony	Mt Clement-Eastern Hills	Artemis Resources Ltd (80%); Northern Star Resources Ltd (20%)	1.312 Mt, 1.733% Sb, 22.747 kt Sb.	ASX-listed (ARV; NST)	Exploration	www.artemisresources.com.au
WA	Antimony	Yallalong	Prospectors		Prospector	Exploration	
WA	Beryllium	Maroonah	Rolek Resources Ltd		ASX-listed (ARV; NST)	Exploration	www.rolek.com.au
WA	Beryllium	Red Hill Well	Rolek Resources Ltd		ASX-listed (RLK)	Exploration	Pegmatite-hosted. www.rolek.com.au



State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Beryllium	Other opportunities					Potential by-product from other pegmatite-hosted rare metal deposits, of which there are numerous in WA
WA	Bismuth	No specific projects					No stand-alone projects; Potential by-product from orogenic gold, VMS Cu-Zn-Pb and epigenetic Pb deposits, of which there are numerous projects in WA
WA	Chromium	Coobina	Mineral Resources Ltd	1.5 Mt, 29.4%, 441 t Cr.	ASX-listed (MIN)	Exploration	<a href="http://www.mineralresources.com.au">www.mineralresources.com.au</a>
WA	Chromium	West Coobina	Redstone Corporation Pty Ltd (Hancock Prospecting)		Private company	Exploration	<a href="http://www.hancockprospecting.com.au">www.hancockprospecting.com.au</a>
WA	Chromium	Imagi Well	Athena Resources Ltd		ASX-listed (AHN)	Exploration	<a href="http://www.athenaresources.com.au">www.athenaresources.com.au</a>
WA	Chromium	Milly Milly	N/A			Exploration	
WA	Chromium	Plumridge	Arrow Minerals Ltd; Independence Group Ltd		ASX-listed (AMD; IGO)	Exploration	<a href="http://www.arrowminerals.com.au">www.arrowminerals.com.au</a> <a href="http://www.independencgroup.com.au">www.independencgroup.com.au</a>
WA	Chromium	Weld Range Ni laterite	Podium Minerals Ltd	385.3 Mt, 0.78% Cr, 3005.34 kt Cr.	ASX-listed (POD)	Exploration	<a href="http://www.podiumminerals.com">www.podiumminerals.com</a>
WA	Chromium	Weld Range	Podium Minerals Ltd	63.5 Mt, 5.22% Cr, 3314.7 kt Cr.	ASX-listed (POD)	Exploration	<a href="http://www.podiumminerals.com">www.podiumminerals.com</a>
WA	Chromium	Panton	Panoramic Resources Ltd		ASX-listed (PAN)	Exploration	<a href="http://www.panoramicresources.com">www.panoramicresources.com</a>
WA	Cobalt	Binti	Pioneer Resources Ltd	2.8 Mt, 0.09% Co, 2.5 kt Co.	ASX-listed (PIO)	Exploration	<a href="http://www.pioneerresources.com.au">www.pioneerresources.com.au</a>
WA	Cobalt	Black Hills	Western Resources Pty Ltd (50%); Zetek Resources Pty Ltd (50%)	30.0 Mt, 0.03% Co, 9.0 kt Co.	Private companies	Exploration	
WA	Cobalt	Bonaparte	Victory Mines Ltd		ASX-listed (VIC)	Exploration	<a href="http://www.victorymines.com">www.victorymines.com</a>
WA	Cobalt	Camelback Bore	Glencore	4.65 Mt, 0.069% Co, 3.2 kt Co.	ASX-listed (ZGI)	Exploration	<a href="http://www.glencore.com.au">www.glencore.com.au</a>
WA	Cobalt	Canegrass	Nickelore Ltd	29.6 Mt, 0.06% Co, 17.8 kt Co.	ASX-listed (NIO)	Exploration	<a href="http://www.nickelore.com.au">www.nickelore.com.au</a>
WA	Cobalt	Carlingup – Nindilbillup	Australasian Mining Ltd	47.4 Mt, 0.022% Co, 5.42 kt Co.		Exploration	
WA	Cobalt	Carlow Castle	Artemis Resources Ltd	4.46 Mt, 0.073% Co, 19.5 kt Co.	ASX-listed (ARV)	Exploration	<a href="http://www.artemisresources.com.au">www.artemisresources.com.au</a>
WA	Cobalt	Coglia Well – Irwin Hills	Glencore; Brockman Mining	22.35 Mt, 0.112% Co, 25.1 kt Co.	ASX-listed (ZGI; BCK)	Exploration	<a href="http://www.glencore.com.au">www.glencore.com.au</a> <a href="http://www.brockmanmining.com">www.brockmanmining.com</a>

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Cobalt	Collurabbie	Rox Resources Ltd	0.573 Mt, 0.082% Co, 0.47 kt Co.	ASX-listed (RXL)	Exploration	www.roxresources.com.au
WA	Cobalt	Copernicus	Panoramic Resources Ltd	0.665 Mt, 0.045% Co, 0.3 kt Co.	ASX-listed (PAN)	Exploration	www.panoramicresources.com
WA	Cobalt	Gabanintha	Australian Vanadium Ltd	14.3 Mt, 0.021% Co, 3.0 kt Co.	ASX-listed (AVL)	Exploration	www.australianvanadium.com.au
WA	Cobalt	Hanns Camp	Central Australian Rare Earths Pty Ltd		Private company	Exploration	
WA	Cobalt	Jimberlana	AusQuest Ltd; South32	4.31 Mt, 0.063% Co, 2.7 kt Co.	ASX-listed (AQD; S32)	Exploration	www.ausquest.com.au www.south32.net
WA	Cobalt	Kalgoorlie Nickel Project – East	Ardea Resources Ltd	145.7 Mt, 0.048% Co, 70.1 kt Co.	ASX-listed (ARL)	Exploration	www.ardearesources.com.au
WA	Cobalt	Kalgoorlie Nickel Project – West	Ardea Resources Ltd	349.9 Mt, 0.053% Co, 185.2 kt Co.	ASX-listed (ARL)	Exploration	www.ardearesources.com.au
WA	Cobalt	Kalgoorlie Nickel Project – Siberia – Black Range	Ardea Resources Ltd	26.9 Mt, 0.073% Co, 19.5 kt Co.	ASX-listed (ARL)	Exploration	www.ardearesources.com.au
WA	Cobalt	Kurnalpi – Grey Dam	Carnavale Resources Ltd	14.5 Mt, 0.046% Co, 6.7 kt Co.	ASX-listed (CAV)	Exploration	www.carnavaleresources.com
WA	Cobalt	Kyarra	Great Western Exploration Ltd		ASX-listed (GTE)	Exploration	www.greatwesternexploration.com.au
WA	Cobalt	Lanfranchi Tramways	Black Mountain Metals	0.13 Mt, 0.094% Co, 0.12 kt Co.	US-listed	Care and maintenance	
WA	Cobalt	Larkins Find	Golden Life Nature Products (WA) Pty Ltd	5.2 Mt, 0.08% Co, 4.2 kt Co.	Private company	Exploration	
WA	Cobalt	Maroochydore – Broadhurst	Metals X Ltd	48.53 Mt, 0.038% Co, 18.5 kt Co.	ASX-listed (MLX)	Exploration	www.metalsx.com.au
WA	Cobalt	Minara	Golden Mile Resources Ltd	2.53 Mt, 0.05% Co, 1.3 kt Co.	ASX-listed (G88)	Exploration	www.goldenmileresources.com.au
WA	Cobalt	Mt Mulcahy	Scorpion Minerals Ltd	0.647 Mt, 0.103% Co, 0.67 kt Co.	ASX-listed (SCN)	Exploration	www.scorpionminerals.com.au
WA	Cobalt	Mt Remarkable / Duck Hill Nickel	White Cliff Minerals Ltd	3.94 Mt, 0.077% Co, 3.0 kt Co.	ASX-listed (WCN)	Exploration	www.wcminerals.com.au
WA	Cobalt	Mt Thirsty	Barra Resources Ltd; Conico Ltd	31.9 Mt, 0.126% Co, 40.1 kt Co.	ASX-listed (BAR; CNJ)	Exploration	www.barraresources.com.au www.conico.com.au
WA	Cobalt	Murrin Murrin	Glencore via Minara Resources Pty Ltd	236.3 Mt, 0.077% Co, 181.9 kt Co.	ASX-listed (ZGI)	Producing	www.minara.com.au
WA	Cobalt	NiWest	GME Resources Ltd	67.1 Mt, 0.065% Co, 43.7 kt Co.	ASX-listed (GME)	Exploration	www.gmeresources.com.au

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Cobalt	Norseman	Galileo Mining Ltd	25.1 Mt, 0.109% Co, 27.4 kt Co.	ASX-listed (GAL)	Exploration	<a href="http://www.galileomining.com.au">www.galileomining.com.au</a>
WA	Cobalt	North Telfer	Antipa Minerals Ltd	6.6 Mt, 0.039% Co, 2.6 kt Co.	ASX-listed (AZY)	Exploration	<a href="http://www.antipaminerals.com.au">www.antipaminerals.com.au</a>
WA	Cobalt	Nova-Bollinger	Independence Group Ltd	11.5 Mt, 0.079% Co, 9.1 kt Co.	ASX-listed (IGO)	Producing	<a href="http://www.independencigroup.com.au">www.independencigroup.com.au</a>
WA	Cobalt	Pardoo – Highway	Caeneus Minerals Ltd	50.0 Mt, 0.03% Co, 15.0 kt Co.	ASX-listed (CAD)	Exploration	<a href="http://www.caeneus.com.au">www.caeneus.com.au</a>
WA	Cobalt	Pelican	GSM Mining Company Pty Ltd	5.39 Mt, 0.084% Co, 4.5 kt Co.	Private company	Exploration	
WA	Cobalt	Pyke Hill	Cougar Metals NL	14.7 Mt, 0.066% Co, 9.69 kt Co.	ASX-listed (CGM)	Exploration	<a href="http://www.cgm.com.au">www.cgm.com.au</a>
WA	Cobalt	Radio Hill	Artemis Resources Ltd	1.15 Mt, 0.028% Co, 0.32 kt Co.	ASX-listed (ARV)	Exploration	<a href="http://www.artemisresources.com.au">www.artemisresources.com.au</a>
WA	Cobalt	Ravensthorpe	First Quantum Minerals Ltd	307.3 Mt, 0.027% Co, 84.3 kt Co.	TSX listed	Exploration	<a href="http://www.first-quantum.com">www.first-quantum.com</a>
WA	Cobalt	Riverina	Carnegie Gold Pty Ltd	2.2 Mt, 0.06% Co, 1.32 kt Co.	Private company	Exploration	
WA	Cobalt	Savannah	Panoramic Resources Ltd	13.2 Mt, 0.113% Co, 14.9 kt Co.	ASX-listed (PAN)	Producing	<a href="http://www.panoramicresources.com">www.panoramicresources.com</a>
WA	Cobalt	Scotia Nickel – Broad Arrow	Minotaur Exploration Ltd	1.05 Mt, 0.06% Co, 0.63 kt Co.	ASX-listed (MEP)	Exploration	<a href="http://www.minotaurexploration.com.au">www.minotaurexploration.com.au</a>
WA	Cobalt	Sherlock Bay	Sabre Resources Ltd (70%); Metals Australia Ltd (4.5%); Australasian Resources Ltd (25.5%)	24.7 Mt, 0.022% Co, 5.42 kt Co.	ASX-listed (SBR; MLS)	Exploration	<a href="http://www.sabresources.com">www.sabresources.com</a> <a href="http://www.metalsaustralia.com.au">www.metalsaustralia.com.au</a>
WA	Cobalt	Siberia Joint Venture	Eastern Goldfields Ltd	159.8 Mt, 0.035% Co, 55.3 kt Co.	ASX-listed (EGS)	Exploration	<a href="http://www.easterngoldfields.com.au">www.easterngoldfields.com.au</a>
WA	Cobalt	Silver Knight	Great Southern Nickel Pty Ltd	4.3 Mt, 0.039% Co, 1.7 kt Co.	Private company	Exploration	
WA	Cobalt	Tollu	Redstone Resources Ltd	3.9 Mt, 0.015% Co, 0.59 kt Co.	ASX-listed (RDS)	Exploration	<a href="http://www.redstone.com.au">www.redstone.com.au</a>
WA	Cobalt	Weld Range Nickel Laterite	Ausinox Pty Ltd	385.3 Mt, 0.04% Co, 154.1 kt Co.	Private company	Exploration	
WA	Cobalt	West Musgrave	Oz Minerals Ltd	283.0 Mt, 0.013% Co, 38.2 kt Co.	ASX-listed (OZL)	Exploration	<a href="http://www.ozminerals.com">www.ozminerals.com</a>
WA	Cobalt	Wilconi	A-Cap Energy Ltd; Blackham Resources	80.5 Mt, 0.06% Co, 48.3 kt Co.	ASX-listed (ACB; BLK)	Exploration	<a href="http://www.acap.com.au">www.acap.com.au</a> <a href="http://www.blackhamresources.com.au">www.blackhamresources.com.au</a>
WA	Cobalt	Wingellina	Metals X Ltd	215.8 Mt, 0.07% Co, 151.1 kt Co.	ASX-listed (MLX)	Exploration	<a href="http://www.metalsx.com.au">www.metalsx.com.au</a>
WA	Cobalt	Yerilla	Glencore via Minara Resources Pty Ltd	7.78 Mt, 0.082% Co, 0.47 kt Co.	ASX-listed (ZGI)	Exploration	<a href="http://www.minara.com.au">www.minara.com.au</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Cobalt	Yerilla Jade	Australian Jade Mining Pty Ltd	90.8 Mt, 0.046% Co, 42.2 kt Co.	Private company	Exploration	
WA	Cobalt	Other opportunities					Potential by-product in sediment-hosted Cu-Co and orthomagmatic Ni-Cu deposits, of which there are numerous other examples in WA.
WA	Gallium	Pinjarra extraction plant	Anascot Pty Ltd		Private company	Care and maintenance	
WA	Gallium	No specific projects					No stand-alone projects; potential by-product from bauxite, of which there are numerous projects in WA.
WA	Germanium	No specific projects					No stand-alone projects; potential by-product from sphalerite in VMS Zn-Cu and MVT Zn-Pb deposits of which there are numerous examples in WA.
WA	Graphite	Ajana	Anson Resources Ltd		ASX-listed (ASN)	Exploration	<a href="http://www.ansonresources.com">www.ansonresources.com</a>
WA	Graphite	Corkwood	Sayona Mining Ltd		ASX-listed (SYA)	Exploration	<a href="http://www.sayonamining.com.au">www.sayonamining.com.au</a>
WA	Graphite	Dalgaranga	Murchison Gold Mines Pty Ltd; Gascoyne Resources Ltd		Private company; ASX-listed (GCY)	Exploration	<a href="http://www.gascoyneresources.com.au">www.gascoyneresources.com.au</a>
WA	Graphite	Donnelly River	D Mazza		Prospector	Exploration	
WA	Graphite	Eucla West	Forge Resources Crown Pty Ltd (24.95%), Wild Side (WA) Pty Ltd (24.95%) and Westover Holdings Pty Ltd (50.1%)		Private companies	Exploration	
WA	Graphite	Glenburgh	Hurricane Prospecting Pty Ltd		Private company	Exploration	
WA	Graphite	Greenhills	Blackearth Minerals NL		ASX-listed (BEM)	Exploration	<a href="http://www.blackearthminerals.com.au">www.blackearthminerals.com.au</a>
WA	Graphite	McIntosh	Hexagon Resources Ltd (49.0%); Mineral Resources Ltd (51.0%)	21.5 Mt, 4.526% Total Graphitic Carbon, 973.1 kt TGC.	ASX-listed (HXG; MIN)	Exploration	<a href="http://www.hexagonresources.com">www.hexagonresources.com</a> <a href="http://www.mineralresources.com.au">www.mineralresources.com.au</a>
WA	Graphite	Munglinup	Renascor Resources Ltd		ASX-listed (RNU)	Exploration	<a href="http://www.renascor.com.au">www.renascor.com.au</a>
WA	Graphite	Munglinup	Gold Terrace Pty Ltd (49%); Mineral Commodities Ltd (51%)	3.625 Mt, 15.308% Total Graphitic Carbon, 554.929 kt TGC.	Private company; ASX-listed (MRC)	Exploration	Currently investigating sphoidisation at Doral Fused Materials PL Kwinana plant <a href="http://www.mineralcommodities.com">www.mineralcommodities.com</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Graphite	Munglinup	Ultracharge Ltd		ASX-listed (UTR)	Exploration	www.ultra-charge.net
WA	Graphite	Munglinup North	Metalicity Ltd		ASX-listed (MCT)	Exploration	www.metalicity.com.au
WA	Graphite	Northern Gully	Blackearth Minerals NL		ASX-listed (BEM)	Exploration	www.blackearthminerals.com.au
WA	Graphite	Springdale	Comet Resources Ltd	15.60 Mt, 4.75% Total Graphitic Carbon, 741.0 kt TGC.	ASX-listed (CRL)	Exploration	www.cometres.com.au
WA	Graphite	Yalbra	Buxton Resources Ltd	4.022 Mt, 16.17% Total Graphitic Carbon, 650.357 kt TGC.	ASX-listed (BUX)	Exploration	www.buxtonresources.com.au
WA	Graphite	Yalbra	Blackearth Minerals NL		ASX-listed (BEM)	Exploration	www.blackearthminerals.com.au
WA	Graphite	Henderson	First Graphene Ltd		ASX-listed (FGR)	Producing	Graphene production facility built at Henderson, to process ore from Sri Lanka www.firstgraphene.com.au
WA	Helium	No specific projects					Prospectivity is untested in WA; potential to be sourced from natural gas fields in onshore and offshore WA.
WA	Indium	No specific projects					Potential by-product from sphalerite in VMS Zn-Cu and MVT Zn-Pb deposits of which there are numerous examples in WA.
WA	Lithium	Bald Hill	Alliance Mineral Assets Ltd	26.5 Mt, 0.965% Li <sub>2</sub> O, 255.8 kt Li <sub>2</sub> O.	ASX-listed (A40)	Producing	www.allianceminerals.com.au
WA	Lithium	Buldania	Liontown Resources Ltd		ASX-listed (LTR)	Exploration	Pegmatite-hosted www.ltresources.com.au
WA	Lithium	Cocanarup	Lithium Australia NL		ASX-listed (LIT)	Exploration	www.lithium-au.com
WA	Lithium	Cowan	Cowan Lithium Ltd			Exploration	www.cowanlithium.com.au
WA	Lithium	Forrestania	Marindi Metals Ltd		ASX-listed (MZN)	Exploration	www.marindi.com.au
WA	Lithium	Forrestania	Western Areas Ltd		ASX-listed (WSA)	Exploration	www.westernareas.com.au
WA	Lithium	Forrestania Rubellite	L A Bell (15%); F R Rose (14%); Marindi Metals Ltd (70%)		Prospectors; ASX-listed (MZN)	Exploration	www.marindi.com.au
WA	Lithium	Goldfields Lithium Alliance	Cazaly Resources Ltd (50%); Lithium Australia NL (50%)		ASX-listed (CAZ; LIT)	Exploration	www.cazalyresources.com.au www.lithium-au.com

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WA	Lithium	Greenbushes	Tianqi (51%) and Albemarle (49%) via Talison Lithium Australia Pty Ltd	157.1 Mt, 2.25% Li <sub>2</sub> O, 3532.2 kt Li <sub>2</sub> O.	China-listed; US-listed	Producing	LiOH/LiCO <sub>3</sub> plants being constructed by both JV partners
WA	Lithium	Greenbushes	Lithium Australia NL		ASX-listed (LIT)	Exploration	www.lithium-au.com
WA	Lithium	Greenbushes South	Venture Minerals Ltd		ASX-listed (VMS)	Exploration	www.ventureminerals.com.au
WA	Lithium	Kathleen Valley	Liontown Resources Ltd	21.2 Mt, 1.36% Li <sub>2</sub> O, 288.3 kt Li <sub>2</sub> O.	ASX-listed (LTR)	Exploration	Pegmatite-hosted www.ltresources.com.au
WA	Lithium	Lake Johnson	Lithium Australia NL		ASX-listed (LIT)	Exploration	Pegmatite-hosted www.lithium-au.com
WA	Lithium	Lake Johnston	Poseidon Nickel Ltd		ASX-listed (POS)	Exploration	Pegmatite-hosted www.poseidon-nickel.com.au
WA	Lithium	Lake Percy	White Cliff Minerals Ltd; Liontown Resources Ltd		ASX-listed (WCN; LTR)	Exploration	Pegmatite-hosted www.wcminerals.com.au www.ltresources.com.au
WA	Lithium	Lynas Find	Pilbara Minerals Ltd	5.3 Mt, 1.56% Li <sub>2</sub> O, 82.7 kt Li <sub>2</sub> O.	ASX-listed (PLS)	Exploration	Pegmatite-hosted www.pilbaraminerals.com.au
WA	Lithium	Malinda	Arrow Minerals Ltd		ASX-listed (AMD)	Exploration	Pegmatite-hosted arrowminerals.com.au
WA	Lithium	Mallina	Great Sandy Pty Ltd (20%); Sayona Mining Ltd (80%)		Private company; ASX-listed (SYA)	Exploration	Pegmatite-hosted www.sayonamining.com.au
WA	Lithium	Marble Bar	MacArthur Minerals Ltd (50%); Southern Hemisphere Mining Ltd (50%)		TSX-listed; ASX-listed (SUH)	Exploration	Pegmatite-hosted www.macarthurminerals.com www.shmining.com.au
WA	Lithium	Moriarty	Maximus Resources Ltd (25%); Lepidico Ltd (75%)		ASX-listed (MXR; LPD)	Exploration	Pegmatite-hosted www.maximusresources.com www.lepidico.com
WA	Lithium	Mt Alexander	Zenith Minerals Ltd		ASX-listed (ZNC)	Exploration	Pegmatite-hosted www.zenithminerals.com.au
WA	Lithium	Mt Cattlin	Galaxy Resources Ltd	16.7 Mt, 1.28% Li <sub>2</sub> O, 214.4 kt Li <sub>2</sub> O.	ASX-listed (GXY)	Producing	Pegmatite-hosted www.gxy.com
WA	Lithium	Mt Edwards	Neometals Ltd		ASX-listed (NMT)	Exploration	Pegmatite-hosted www.neometals.com.au
WA	Lithium	Mt Francisco	Redstone Corporation Pty Ltd (Hancock Prospecting) (20%); Pilbara Minerals Ltd (80%)		Private company; ASX-listed (PLS)	Exploration	Pegmatite-hosted www.hancockprospecting.com.au www.pilbaraminerals.com.au

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WA	Lithium	Mt Holland	Kidman Resources Ltd (50%); Sociedad Quimica y Minera de Chile S.A. (50%)	189.0 Mt, 1.50% Li <sub>2</sub> O, 2842.7 kt Li <sub>2</sub> O.	ASX-listed (KDR); US-listed	Exploration	Pegmatite-hosted www.kidmanresources.com.au www.sqm.com
WA	Lithium	Mt Marion	Reed Industrial Minerals Pty Ltd	71.4 Mt, 1.37% Li <sub>2</sub> O, 976.2 kt Li <sub>2</sub> O.	Private company	Producing	
WA	Lithium	Mt York	Kairos Minerals Ltd		ASX-listed (KAI)	Exploration	www.kairosminerals.com.au
WA	Lithium	Paynes Find	Private interests (10%); Mineral Commodities Ltd (90%)		ASX-listed (MRC)	Exploration	Pegmatite-hosted www.mineralcommodities.com
WA	Lithium	Pilgangoora	Altura Mining Ltd	50.5 Mt, 1.02% Li <sub>2</sub> O, 512.4 kt Li <sub>2</sub> O.	ASX-listed (AJM)	Producing	Pegmatite-hosted www.alturamining.com
WA	Lithium	Pilgangoora	Pilbara Minerals Ltd	207.9 Mt, 1.32% Li <sub>2</sub> O, 2736.5 kt Li <sub>2</sub> O.	ASX-listed (PLS)	Producing	Pegmatite-hosted www.pilbaraminerals.com.au
WA	Lithium	Pilgangoora	Sociedad Quimica y Minera de Chile S.A.		US-listed	Exploration	www.sqm.com
WA	Lithium	Pioneer Dome	Pioneer Resources Ltd		ASX-listed (PIO)	Producing	First production is of Cs (pollucite) www.pioneerresources.com.au
WA	Lithium	Poona	B R Legendre (10%); Venus Metals Corporation Ltd (15%); Pilgangoora Minerals Pty Ltd (75%)		Prospector; ASX-listed (VMC); Private company	Exploration	www.venusmetals.com.au
WA	Lithium	Seabrook Rare Metals Venture	Tungsten Mining NL (20%); Lithium Australia NL (80%)		ASX-listed (TGN; LIT)	Exploration	www.tungstenmining.com www.lithium-au.com
WA	Lithium	Split Rocks	Zenith Minerals Ltd		ASX-listed (ZNC)	Exploration	www.zenithminerals.com.au
WA	Lithium	Tabba Tabba	Fortescue Metals Group Ltd		ASX-listed (FMG)	Exploration	Pegmatite-hosted www.fmg.com.au
WA	Lithium	Turner River	De Grey Mining Ltd		ASX-listed (DEG)	Exploration	www.degremining.com.au
WA	Lithium	Widgiemooltha	Mincor Resources NL		ASX-listed (MCR)	Exploration	www.mincor.com.au
WA	Lithium	Wodgina East	Kairos Minerals Ltd (25%); Altura Mining Ltd (75%)		ASX-listed (KAI; AJM)	Exploration	www.kairosminerals.com.au www.alturamining.com

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WA	Lithium	Wodgina Mining Assets	Mineral Resources Ltd (50%); Albemarle Corporation (50%)	259.2 Mt, 1.17% Li <sub>2</sub> O, 3032.3 kt Li <sub>2</sub> O.	ASX-listed (MIN); US-listed	Producing	www.mineralresources.com.au www.albemarle.com
WA	Lithium	Wodgina South	Venus Metals Corporation Ltd (25%); Pilgangoora Minerals Pty Ltd (75%)		ASX-listed (VMC)	Exploration	www.venusmetals.com.au
WA	Lithium	Yalgoo	MacArthur Minerals Ltd			Exploration	www.macarthurminerals.com
WA	Lithium	Youanmi	Venus Metals Corporation Ltd (20%); Lepidico Ltd (80%)		ASX-listed (VMC; LPD)	Exploration	www.venusmetals.com.au www.lepidico.com
WA	Lithium	Young River	Renascor Resources Ltd		ASX-listed (RNU)	Exploration	www.renascor.com.au
WA	Lithium	Other opportunities					Untested potential to be sourced from petroleum field brines in onshore and offshore WA.
WA	Magnesium	Bandalup	R J Butler (35%); Ashbridge Holdings Pty Ltd (65%)	1.1 Mt, 97% MgCO <sub>3</sub> , 1100 kt MgCO <sub>3</sub> .	Prospector; Private company	Exploration	Magnesite
WA	Magnesium	Bulong	M R Dalla- Costa	3.44 Mt, 97% MgCO <sub>3</sub> , 3336.8kt MgCO <sub>3</sub> .	Prospector	Exploration	Magnesite
WA	Magnesium	Coolgardie	Blue Tiger Mines Pty Ltd			Exploration	Magnesite
WA	Magnesium	Duck Hill	N/A	0.001 Mt, 100% MgCO <sub>3</sub> , 1 kt MgCO <sub>3</sub> .		Exploration	Magnesite
WA	Magnesium	Eulamanna	Glencore via Minara Resources Pty Ltd		ASX-Listed (ZGI)	Exploration	Magnesite
WA	Magnesium	Four Corners	N/A	9.6 Mt, 100% MgCO <sub>3</sub> , 9600 kt MgCO <sub>3</sub> .		Exploration	Magnesite
WA	Magnesium	Lawlers	Glencore via Minara Resources Pty Ltd	94.9 Mt, 100% MgCO <sub>3</sub> , 94 900 kt MgCO <sub>3</sub> .	ASX-Listed (ZGI)	Exploration	Magnesite www.minara.com.au
WA	Magnesium	Mt Burges	M P Strindberg		Prospector	Exploration	Magnesite
WA	Magnesium	Murrin Murrin	Glencore via Minara Resources Pty Ltd	46.9 Mt, 100% MgCO <sub>3</sub> , 46 900 kt MgCO <sub>3</sub> .	ASX-Listed (ZGI)	Exploration	Magnesite www.minara.com.au
WA	Manganese	701 Mile	Great Sandy Pty Ltd		Private company	Exploration	



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WA	Manganese	Balfour South – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Barramine	Great Sandy Pty Ltd		Private company	Exploration	
WA	Manganese	Battery Hub	Pure Manganese Pty Ltd		Private company	Exploration	
WA	Manganese	Bee Hill – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Beyondie	N/A			Exploration	
WA	Manganese	Bryah	Cazaly Resources Ltd; Caravel Minerals Ltd		ASX-listed (CAZ;CVV)	Exploration	www.cazalyresources.com.au www.caravelminerals.com.au
WA	Manganese	Bryah Basin	Bryah Resources Ltd		ASX-listed (BYH)	Exploration	www.bryah.com.au
WA	Manganese	Black Hills	Western Resources Pty Ltd; Zetek Resources Pty Ltd	30.0 Mt, 0.15% Mn, 44.7 kt Mn.	Private companies	Exploration	
WA	Manganese	Butcherbird – Yanneri	Element 25 Ltd	180.7 Mt, 10.8% Mn, 19 534.8 kt Mn.	ASX-listed (E25)	Exploration	www.element25.com.au
WA	Manganese	Cane Well – June Hill	Rio Tinto via Rio Tinto Exploration Pty Ltd		ASX-listed (RIO)	Exploration	www.riotinto.com
WA	Manganese	Capricorn	Zenith Minerals Ltd		ASX-listed (ZNC)	Exploration	www.zenithminerals.com.au
WA	Manganese	Capricorn NW	P R Gianni		Prospector	Exploration	
WA	Manganese	Carawine – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Coppermine Creek – Naendip	N/A			Exploration	
WA	Manganese	Carina	Mineral Resources Ltd via Polaris Metals Pty Ltd	23.5 Mt, 0.46% Mn, 108.9 kt Mn.	ASX-listed (MIN)	Exploration	www.mineralresources.com.au
WA	Manganese	Davis River – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Dingo Creek	N/A			Exploration	
WA	Manganese	Earaheedy	Gibb River Diamonds Ltd (20%); Alloy Resources (80%)		ASX-listed (GIB; AYR)	Exploration	www.gibbriverdiamonds.com www.alloyres.com

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Manganese	Earaheedy	Rumble Resources Ltd; Zenith Minerals Ltd	4.0 Mt, 20.0% Mn, 801.6 kt Mn.	ASX-listed (RTR; ZNC)	Exploration	rumbleresources.com.au www.zenithminerals.com.au
WA	Manganese	East Pilbara	Element 25 Ltd		ASX-listed (E25)	Exploration	www.element25.com.au
WA	Manganese	Elsa Mary	Sinosteel Midwest Corporation Ltd	0.95 Mt, 21.9% Mn, 207.9 kt Mn.	China SOE	Exploration	www.smcl.com.au
WA	Manganese	Enachedong	N/A			Exploration	
WA	Manganese	Fig Tree	Fortescue Metals Group Ltd	113.0 Mt, 0.01% Mn, 11.3 kt Mn.	ASX-listed (FMG)	Exploration	Magnetitic BIF www.fmgl.com.au
WA	Manganese	Fig Tree – Woodie Woodie	N/A			Exploration	
WA	Manganese	Flanagan Bore	Consolidated Global Investments Ltd			Exploration	
WA	Manganese	Goodiadarrie	N/A			Exploration	
WA	Manganese	Halls Creek	Legacy Iron Ore Ltd		ASX-listed (LCY)	Exploration	www.legacyiron.com.au
WA	Manganese	Hamersley Gorge	N/A			Exploration	
WA	Manganese	Horseshoe	Peak Hill Manganese Pty Ltd		Private company	Exploration	
WA	Manganese	Horseshoe Range	Horseshoe Manganese Pty Ltd	0.86 Mt, 20.8% Mn, 178.1 kt Mn.	Private company	Producing	
WA	Manganese	Innawalley Pool	Aquila Resources Pty Ltd (50%); American Metals and Coal International Inc (AMCI; 25.5%); Pohang Iron and Steel Co Ltd (POSCO; 24.5%)	63.0 Mt, 0.04% Mn, 25.2 kt Mn.		Exploration	www.aquilaresources.com.au www.amcigroup.com www.posco.com
WA	Manganese	Kallona Pool	N/A			Exploration	
WA	Manganese	King X – Earraheedy	N/A			Exploration	
WA	Manganese	Kumarina	Element 25 Ltd		ASX-listed (E25)	Exploration	www.element25.com.au
WA	Manganese	Manganese Range	Apex Minerals NL (10%); Abra Mining Pty Ltd (90%)			Exploration	
WA	Manganese	Meecharra	Witx Pty Ltd		Private company	Exploration	

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Manganese	Mesa JV – Ant Hill	Mineral Resources Ltd via Auvex Resources Ltd (50%); Mesa Minerals Ltd (50%)	9.6 Mt, 19.4% Mn, 1862 kt Mn.	ASX-listed (MIN; MAS)	Care and Maintenance	www.mineralresources.com.au www.mesaminerals.com.au
WA	Manganese	Midgengadge	Tetra Resources Ltd			Exploration	
WA	Manganese	Minestat	N/A			Exploration	
WA	Manganese	Mt Chester	Silver Lake Resources Ltd		ASX-listed (SLR)	Exploration	www.silverlakeresources.com.au
WA	Manganese	Mt Divide – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Mt Egerton	N/A			Exploration	
WA	Manganese	Mt Finnerty Iron	Mineral Resources Ltd via Polaris Metals Pty Ltd	4.66 Mt, 0.27% Mn, 12.6 kt Mn.	ASX-listed (MIN)	Exploration	www.mineralresources.com.au
WA	Manganese	Mt Lucky	Glencore (40%); Glencore via Minara Resources Pty Ltd (60%)			Exploration	www.glencore.com.au www.minara.com.au
WA	Manganese	Mt Minnie	N/A			Exploration	
WA	Manganese	Mt Padbury – Brosnan	N/A			Exploration	
WA	Manganese	Mt Padbury	Element 25 Ltd		ASX-listed (E25)	Exploration	www.element25.com.au
WA	Manganese	Mt Sydney – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Mt Thirsty	Barra Resources Ltd (50%); Conico Ltd (50%)		ASX-listed (BAR; CNJ)	Exploration	www.barraresources.com.au; www.conico.com.au
WA	Manganese	Nicholas Downs	Hancock Prospecting Pty Ltd	19.5 Mt, 27.17% Mn, 5298.2 kt Mn.	Private company	Care and Maintenance	www.hancockprospecting. com.au
WA	Manganese	North Pole	Haoma Mining NL			Exploration	www.haoma.com.au
WA	Manganese	Oakover	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Oakover South	Forrestania Pty Ltd	64.0 Mt, 10.0% Mn, 6418.0 kt Mn.	Private company	Exploration	
WA	Manganese	Parker Range – Mt Caudan	Cazaly Resources Ltd	10.8 Mt, 0.47% Mn, 50.9 kt Mn.	ASX-listed (CAZ)	Exploration	www.cazalyresources.com.au
WA	Manganese	Peak Hill	Desert Resources Pty Ltd		Private company	Exploration	

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Manganese	Ripon Hills	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Robertson Range	N/A			Exploration	
WA	Manganese	Six Mile Well	N/A			Exploration	
WA	Manganese	Skull Springs – Woodie Woodie	Consolidated Minerals Pty Ltd		Private company	Exploration	www.consmin.com
WA	Manganese	Skull Springs SW	FMG Pilbara Pty Ltd		Private company	Exploration	
WA	Manganese	South Woodie Woodie – Enacheddong Creek	Bardoc Gold Ltd (80%); Planet Mining Pty Ltd (20%)	14.24 Mt, 13.3% Mn, 1897.7 kt Mn.	ASX-listed (BDC); Private company	Exploration	www.bardocgold.com.au
WA	Manganese	Table Hill	N/A			Exploration	
WA	Manganese	Weelarrana	N/A			Exploration	
WA	Manganese	West Kundip	Galaxy Resources Ltd		ASX-listed (GXY)	Exploration	www.gxy.com
WA	Manganese	West Pilbara – Red Hill	Red Hill Iron Ltd (40%); Aquila Resources Pty Ltd (30%); American Metals and Coal International Inc (AMCI; 15.3%); Pohang Iron and Steel Co Ltd (POSCO; 14.7%)	734.0 Mt, 0.025% Mn, 182.6 kt Mn.	ASX-listed (RHI); Private company; Other	Care and Maintenance	www.redhilliron.com.au www.aquilaresources.com.au www.amcigroup.com www.posco.com
WA	Manganese	Wilson	N/A			Exploration	
WA	Manganese	Wolfe	N/A			Exploration	
WA	Manganese	Woodie Woodie (Mining Corridor)	Consolidated Minerals Pty Ltd	16.98 Mt, 29.0% Mn, 4924.6 kt Mn.	Private company	Producing	www.consmin.com
WA	Manganese	Woodlands	Apex Minerals NL (10%); Abra Mining Pty Ltd (90%)		Private companies	Exploration	
WA	Manganese	Yalleen	American Metals and Coal International Inc (AMCI; 50%); Aquila Resources Pty Ltd (50%)	84.3 Mt, 0.06% Mn, 47.8 kt Mn.		Exploration	www.amcigroup.com www.aquilaresources.com.au
WA	Niobium	Hastings-Brockman	Hastings Technology Metals Ltd	41.4 Mt, 0.359% Nb <sub>2</sub> O <sub>5</sub> , 148.8 kt Nb <sub>2</sub> O <sub>5</sub> .	ASX-listed (HAS)	Exploration	Alkaline volcanic-hosted deposit www.hastingstechmetals.com

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Niobium	Mt Deans	H A N Stringberg (33.33%); M P Strindberg (33.33%); S H F Strindberg (33.33%)	9.1 Mt, 0.012% Nb <sub>2</sub> O <sub>5</sub> , 1.1 kt Nb <sub>2</sub> O <sub>5</sub> .	Prospectors	Exploration	
WA	Niobium	Mt Weld (Crown)	Lynas Corporation Ltd	37.6 Mt, 1.07% Nb <sub>2</sub> O <sub>5</sub> , 403.7 kt Nb <sub>2</sub> O <sub>5</sub> .	ASX-listed (LYC)	Exploration	Carbonatite-hosted; undeveloped resource www.lynascorp.com
WA	Niobium	Nardoo Hill	Venus Metals Corporation Ltd		ASX-listed (VMC)	Exploration	www.venusmetals.com.au
WA	PGE	Byro	N/A			Exploration	
WA	PGE	Collurabbie	Rox Resources Ltd	0.573 Mt, 0.85 g/t Pt (487.1 kg Pt), 1.49 g/t Pd (853.8 kg Pd).	ASX-listed (RXL)	Exploration	www.roxresources.com.au
WA	PGE	Copper Hills	Venus Metals Corporation Ltd		ASX-listed (VMC)	Exploration	www.venusmetals.com.au
WA	PGE	Duketon	Duketon Mining Ltd	7.64 Mt, 0.255 g/t Pt (1949.2 kg Pt), 0.335 g/t Pd (2560 kg Pd).	ASX-listed (DKM)	Exploration	www.duketonmining.com.au
WA	PGE	Eastman Bore – Louisa Downs	N/A			Exploration	
WA	PGE	Fields Find	N/A			Exploration	
WA	PGE	Indee – Three Kings	Redstone Corporation Pty Ltd (Hancock Prospecting)		Private company	Exploration	www.hancockprospecting.com.au
WA	PGE	Kalgoorlie Nickel Project – Siberia – Black Range	Ardea Resources Ltd	26.92 Mt, 0.145 g/t Pt (3907.8 kg Pt), 0.146 g/t Pd (3936 kg Pd).	ASX-listed (ARL)	Exploration	www.ardearesources.com.au
WA	PGE	Lamboos – Edison	Hawthorn Resources Ltd (20%); Thundelarra Ltd (80%)		ASX-listed (HAW; THX)	Exploration	www.hawthornresources.com www.thundelarra.com
WA	PGE	Mt Carnage	N/A			Exploration	
WA	PGE	Munni Munni	Artemis Resources Ltd (70%); Platina Resources Ltd (30%)	23.6 Mt, 1.1 g/t Pt (25 960 kg Pt), 1.495 g/t Pd (35 280 kg Pd), 0.1 g/t Rh (2360 kg Rh).	ASX-listed (ARV; PGM)	Exploration	www.artemisresources.com.au www.platinareources.com.au
WA	PGE	Munni Munni – East Coast	Global Strategic Metals NL (70%); Legend Mining NL (30%)			Exploration	www.legendmining.com.au
WA	PGE	Ora Banda Sill	N/A			Exploration	

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	PGE	Panton	Panoramic Resources Ltd	14.32 Mt, 2,189 g/t Pt (31 343.7 kg Pt), 2.39 g/t Pd (34 259 kg Pd).	ASX-listed (PAN)	Exploration	www.panoramicresources.com
WA	PGE	Plumridge	N/A			Exploration	
WA	PGE	Red Billabong	Northern Star Resources Ltd		ASX-listed (NST)	Exploration	www.nsr ltd.com
WA	PGE	Weld Range Complex	Podium Minerals Ltd	9.8 Mt, 0.511 g/t Pt (5008 kg Pt), 0.466 g/t Pd (4570 kg Pd).	ASX-listed (POD)	Exploration	www.podiumminerals.com
WA	PGE	West Musgrave	Oz Minerals Ltd (51%); Cassini Resources Ltd (49%)	439.0 Mt, 0.07 g/t Pt (30 916 kg Pt), 0.102 g/t Pd (44 666 t Pd).	ASX-listed (OZL; CZI)	Exploration	www.ozminerals.com www.cassiniresources.com.au
WA	PGE	Wildara	Minotaur Exploration Ltd	0.6 Mt, 0.5 g/t PGE, 0.3 t PGE.	ASX-listed (MEP)	Exploration	www.minotaurexploration.com.au
WA	PGE	Yarawindah Brook	Cassini Resources Ltd (80%); Souwest Metals Pty Ltd (20%)	2.7 Mt, 0.9 g/t PGE, 2.43 t PGE.	ASX-listed (CZI); Private company	Exploration	www.cassiniresources.com.au
WA	PGE	Yuinmery	Redstone Corporation Pty Ltd (Hancock Prospecting) (24.18%); Empire Resources (75.82%)		Private company; ASX-listed (ERL)	Exploration	www.hancockprospecting.com.au www.resourcesempire.com.au
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Browns Range	Northern Minerals Ltd	9.07 Mt, 0.632% TREO, 57.31 kt TREO.	ASX-listed (NTU)	Producing	Hydrothermal vein-hosted; Pilot hydrometallurgical plant on site to produce mixed REE carbonate. www.northernminerals.com.au
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Cummins Range	N/A	0.687 Mt, 3.38% TREO, 23.22 kt TREO.		Exploration	Carbonatite-hosted
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Cundeelee	N/A			Exploration	Carbonatite-hosted
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Hastings-Brockman	Hastings Technology Metals Ltd	41.4 Mt, 0.211% TREO, 87.46 kt TREO.	ASX-listed (HAS)	Exploration	Alkaline volcanic-hosted deposit www.hastingstechmetals.com
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	John Galt	Northern Minerals Ltd		ASX-listed (NTU)	Exploration	www.northernminerals.com.au
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Jungle Well	N/A			Exploration	Kimberlite dyke-hosted

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Mt Weld	Lynas Corporation Ltd	93.0 Mt, 3.69% TREO, 3428.7 kt TREO.	ASX-listed (LYC)	Producing	Some initial processing (mineral concentration) is undertaken at site, but primary processing is currently undertaken in Malaysia; Note status of Malaysian processing facility is currently subject to regulatory uncertainty. <a href="http://www.lynascorp.com">www.lynascorp.com</a>
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Ponton	Galaxy Resources Ltd		ASX-listed (GXY)	Exploration	<a href="http://www.gxy.com">www.gxy.com</a>
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Tanami West	Orion Metals Ltd (65.0%); PVW Resources NL (35.0%)		ASX-listed (ORM); Private company	Exploration	<a href="http://www.orionmetals.com.au">www.orionmetals.com.au</a> <a href="http://www.pvwresources.com.au">www.pvwresources.com.au</a>
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Trigg Hill	Lithium Australia NL		ASX-listed (LIT)	Exploration	<a href="http://www.lithium-au.com">www.lithium-au.com</a>
WA	Rare-Earth Elements (Nd, Pr, heavy Rare-Earth Elements)	Yangibana	Hastings Technology Metals Ltd	21.74 Mt, 1.17% TREO, 254.4 kt TREO.	ASX-listed (HAS)	Construction	Carbonatite-hosted <a href="http://www.hastingstechmetals.com">www.hastingstechmetals.com</a>
WA	Rhenium	No known projects					Potential by-product from molybdenite in porphyry- and skarn-related Cu-Mo and W-Mo deposits, of which there are several deposits in WA (Calingiri, Spinifex Ridge, Mt Mulgine).
WA	Scandium	Kalgoorlie Nickel – Black Range	Ardea Resources Ltd	23.92 Mt, 40.3 g/t Sc, 0.963 kt Sc.	ASX-listed (ARL)	Exploration	<a href="http://www.ardearesources.com.au">www.ardearesources.com.au</a>
WA	Scandium	Other opportunities					Potential by-product in orthomagmatic Ni-Cu deposits, of which there are numerous other examples in WA.
WA	Tantalum	Arthur River			Private company	Exploration	
WA	Tantalum	Arthur River	San Rita Pty Ltd	0.61 Mt, 0.030% Ta <sub>2</sub> O <sub>5</sub> , 181.5 t Ta <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	
WA	Tantalum	Bald Hill	Alliance Mineral Assets Ltd	29.0 Mt, 0.016% Ta <sub>2</sub> O <sub>5</sub> , 4675.0 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (A40)	Producing	<a href="http://www.allianceminerals.com.au">www.allianceminerals.com.au</a>
WA	Tantalum	Beryl Hill	N/A			Exploration	
WA	Tantalum	Binneringie	H A N Stringdberg (50%); S H F Strindberg (50%)	1.58 Mt, 0.015% Ta <sub>2</sub> O <sub>5</sub> , 243.0 t Ta <sub>2</sub> O <sub>5</sub> .	Prospector	Exploration	

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Tantalum	Bore Creek	MacArthur Minerals Ltd (50.0%) Southern Hemisphere Mining Ltd (50%)		ASX-listed (SUH)	Exploration	www.macarthurminerals.com; www.shmining.com.au
WA	Tantalum	Cobalark	Geological Resources Pty Ltd		Private company	Exploration	
WA	Tantalum	Dalgaranga Tantalite	Krakatoa Resources Ltd	0.01 Mt, 0.1% Ta <sub>2</sub> O <sub>5</sub> , 10.0 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (KTA)	Exploration	www.ktaresources.com
WA	Tantalum	Gascoyne	Lithium Australia NL		ASX-listed (LIT)	Exploration	www.lithium-au.com
WA	Tantalum	Greenbushes Tantalum	Global Advanced Metals Pty Ltd	335.0 Mt, 0.017% Ta <sub>2</sub> O <sub>5</sub> , 56 191.8 t Ta <sub>2</sub> O <sub>5</sub> .		Exploration	Pegmatite-hosted Also contains an undisclosed amount of Ta in the Greenbushes lithium mine (Talison Lithium Australia Pty Ltd). www.globaladvancedmetals.com
WA	Tantalum	Hastings-Brockman	Hastings Technology Metals Ltd	41.4 Mt, 0.018% Ta <sub>2</sub> O <sub>5</sub> , 7556.0 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (HAS)	Exploration	www.hastingstechmetals.com
WA	Tantalum	Johnsons Well	Zen Minerals Pty Ltd	0.13 Mt, 0.019% Ta <sub>2</sub> O <sub>5</sub> , 25.1 t Ta <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	
WA	Tantalum	Kathleen Valley	Liontown Resources Ltd	21.2 Mt, 0.016% Ta <sub>2</sub> O <sub>5</sub> , 3435.0 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (LTR)	Exploration	Pegmatite-hosted www.ltresources.com.au
WA	Tantalum	Lynas Find	Pilbara Minerals Ltd	5.3 Mt, 0.009% Ta <sub>2</sub> O <sub>5</sub> , 493.8 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (PLS)	Exploration	Pegmatite-hosted www.pilbaraminerals.com.au
WA	Tantalum	Moolyella	Duketon Consolidated Pty Ltd (90%); Ultracharge Ltd (10%)	1.90 Mt, 0.002% Ta, 38 t Ta.	ASX-listed (UTR)	Exploration	Pegmatite and associated alluvials www.ultra-charge.net
WA	Tantalum	Mt Cattlin	Galaxy Resources Ltd	11.8 Mt, 0.016% Ta <sub>2</sub> O <sub>5</sub> , 1876.2 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (GXY)	Producing	Pegmatite-hosted www.gxy.com
WA	Tantalum	Mt Deans	H A N Stringberg (33.33%); M P Strindberg (33.33%); S H F Strindberg (33.33%)	9.1 Mt, 0.022% Ta <sub>2</sub> O <sub>5</sub> , 1963.0 t Ta <sub>2</sub> O <sub>5</sub> .	Prospectors	Exploration	Pegmatite-hosted
WA	Tantalum	Mt Edon	Sayona Mining Ltd		ASX-listed (SYA)	Exploration	www.sayonamining.com.au
WA	Tantalum	Mt Weld (Crown)	Lynas Corporation Ltd	37.6 Mt, 0.025% Ta <sub>2</sub> O <sub>5</sub> , 9219.0 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (LYC)	Exploration	Carbonatite-hosted; undeveloped resource www.lynascorp.com
WA	Tantalum	Mungaleena	Attagold Pty Ltd	0.19 Mt, 0.004% Ta <sub>2</sub> O <sub>5</sub> , 6.7 t Ta <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	



State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Tantalum	Niobe – Dalgara	Diversity Resources Pty Ltd	0.22 Mt, 0.020% Ta <sub>2</sub> O <sub>5</sub> , 43.8 t Ta <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	
WA	Tantalum	Paynes Find	Private interests (10%)	0.07 Mt, 0.019% Ta <sub>2</sub> O <sub>5</sub> , 13.6 t Ta <sub>2</sub> O <sub>5</sub> .	Private; ASX-listed (MRC)	Exploration	<a href="http://www.mncom.com.au">www.mncom.com.au</a>
WA	Tantalum	Pilgangoora	Pilbara Minerals Ltd	207.9 Mt, 0.012% Ta <sub>2</sub> O <sub>5</sub> , 24 231 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (PLS)	Producing	Pegmatite-hosted <a href="http://www.pilbaraminerals.com.au">www.pilbaraminerals.com.au</a>
WA	Tantalum	Shaw River	Attgold Pty Ltd	0.20 Mt, 0.008% Ta <sub>2</sub> O <sub>5</sub> , 16.2 t Ta <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	
WA	Tantalum	Shaw River	Capital Mining Ltd	0.45 Mt, 0.004% Ta <sub>2</sub> O <sub>5</sub> , 19.6 t Ta <sub>2</sub> O <sub>5</sub> .		Exploration	
WA	Tantalum	Shaw River	Haoma Mining NL	0.59 Mt, 0.003% Ta <sub>2</sub> O <sub>5</sub> , 17.2 t Ta <sub>2</sub> O <sub>5</sub> .		Exploration	<a href="http://www.haoma.com.au">www.haoma.com.au</a>
WA	Tantalum	Shaw River – Cooglegong Creek	Redstone Corporation Pty Ltd (Hancock Prospecting) (90%); Duketon Consolidated Pty Ltd (10%)	0.33 Mt, 0.007% Ta <sub>2</sub> O <sub>5</sub> , 23.8 t Ta <sub>2</sub> O <sub>5</sub> .		Exploration	<a href="http://www.hancockprospecting.com.au">www.hancockprospecting.com.au</a>
WA	Tantalum	Smith Bore	N A Calder	0.16 Mt, 0.003% Ta <sub>2</sub> O <sub>5</sub> , 5.3 t Ta <sub>2</sub> O <sub>5</sub> .	Prospector	Exploration	Alluvial
WA	Tantalum	Tabba Tabba – Strelley	Global Advanced Metals Pty Ltd	0.32 Mt, 0.009% Ta <sub>2</sub> O <sub>5</sub> , 29 t Ta <sub>2</sub> O <sub>5</sub> .		Exploration	<a href="http://www.globaladvancedmetals.com">www.globaladvancedmetals.com</a>
WA	Tantalum	Warda Warra Tantalite	D J Burge (50%); J Burge (50%)	0.01 Mt, 0.018% Ta <sub>2</sub> O <sub>5</sub> , 1.98 t Ta <sub>2</sub> O <sub>5</sub> .	Prospectors	Exploration	Pegmatite and associated alluvials
WA	Tantalum	Western Shaw – Trigg Hill	Lithium Australia NL	0.1 Mt, 0.001% Ta <sub>2</sub> O <sub>5</sub> , 1.4 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (LIT)	Exploration	<a href="http://www.lithium-au.com">www.lithium-au.com</a>
WA	Tantalum	Wodgina Mining Assets	Mineral Resources Ltd (50%); Albemarle Corporation (50%)	260.2 Mt, 0.016% Ta <sub>2</sub> O <sub>5</sub> , 41 994.3 t Ta <sub>2</sub> O <sub>5</sub> .	ASX-listed (MIN); US-listed	Producing	<a href="http://www.mineralresources.com.au">www.mineralresources.com.au</a> <a href="http://www.albemarle.com">www.albemarle.com</a>
WA	Titanium	Albany Silica Sand	City of Albany	2.713 Mt, 0.42% TiO <sub>2</sub> , 11 kt TiO <sub>2</sub> .		Producing	Silica sand
WA	Titanium	Arrowsmith	VRX Silica Ltd	193.6 Mt, 0.2% TiO <sub>2</sub> , 387 kt TiO <sub>2</sub> .	ASX-listed (VRX)	Exploration	Silica sand <a href="http://www.ventnorresources.com.au">www.ventnorresources.com.au</a>
WA	Titanium	Balla Balla	BBI Group Pty Ltd	455.9 Mt, 13.8% TiO <sub>2</sub> , 62 955 kt TiO <sub>2</sub> .		Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.bbigr.com.au">www.bbigr.com.au</a>
WA	Titanium	Barrambie	Neometals Ltd	47.2 Mt, 22.2% TiO <sub>2</sub> , 10 470 kt TiO <sub>2</sub> .	ASX-listed (NMT)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.neometals.com.au">www.neometals.com.au</a>

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Titanium	Canegrass	Bluebird Battery Metals Australia Pty Ltd	79.0 Mt, 6.25% TiO <sub>2</sub> , 4935 kt TiO <sub>2</sub> .	TSX-V listed	Exploration	V-Ti magnetite in mafic intrusion www.bluebirdbattery.com
WA	Titanium	Capel	Iluka Resources Ltd	0.673 Mt, 0.149% TiO <sub>2</sub> , 1 kt TiO <sub>2</sub> .	ASX-listed (ILU)	Producing	Heavy mineral sand deposit www.iluka.com
WA	Titanium	Cashmere Downs	Cashmere Iron Ltd	3.4 Mt, 0.1% TiO <sub>2</sub> , 3 kt TiO <sub>2</sub> .		Exploration	Channel IF www.cashmereiron.com
WA	Titanium	Cyclone	Diatreme Resources Ltd	3.54 Mt, 22.0% Ti, 778.8 kt Ti.	ASX-listed (DRX)	Exploration	Heavy mineral sand deposit www.diatreme.com.au
WA	Titanium	Fig Tree	Fortescue Metals Group Ltd	113.0 Mt, 0.08% TiO <sub>2</sub> , 90 kt TiO <sub>2</sub> .	ASX-listed (FMG)	Exploration	Magnetitic BIF www.fmg.com.au
WA	Titanium	Gabanintha	Australian Vanadium Ltd	658.6 Mt, 7.3% TiO <sub>2</sub> , 48 187 kt TiO <sub>2</sub> .	ASX-listed (AVL)	Exploration	V-Ti magnetite in mafic intrusion www.australianvanadium.com.au
WA	Titanium	Gabanintha	Technology Metals Australia Ltd	119.9 Mt, 9.72% TiO <sub>2</sub> , 11 650 kt TiO <sub>2</sub> .	ASX-listed (TMT)	Exploration	V-Ti magnetite in mafic intrusion www.tmtlimited.com.au
WA	Titanium	Greater Mummaloo	Top Iron Pty Ltd	51.6 Mt, 1.8% TiO <sub>2</sub> , 911 kt TiO <sub>2</sub> .	Private company	Care and maintenance	Magnetitic BIF www.topiron.com.au
WA	Titanium	Irvine Island	Pluton Resources Ltd	543.0 Mt, 0.2% TiO <sub>2</sub> , 1067 kt TiO <sub>2</sub> .		Exploration	Magnetitic BIF
WA	Titanium	Medcalf – Bremer Range	Audalia Resources Ltd	31.8 Mt, 8.4% TiO <sub>2</sub> , 2668 kt TiO <sub>2</sub> .	ASX-listed (ACP)	Exploration	www.audalia.com.au
WA	Titanium	Mindijup	Mindijup Sand Mining Pty Ltd	3.3 Mt, 0.2% TiO <sub>2</sub> , 7 kt TiO <sub>2</sub> .		Exploration	Silica sand
WA	Titanium	Mindijup	T T Sand Pty Ltd	22.2 Mt, 0.04% TiO <sub>2</sub> , 8 kt TiO <sub>2</sub> .		Producing	Silica sand; JV between Tochu Corporation Ltd and Toyota Tsusho (Sydney) Pty Ltd
WA	Titanium	Mt Padbury	Sinosteel Ocean Capital Pty Ltd	13.3 Mt, 0.1% TiO <sub>2</sub> , 17 kt TiO <sub>2</sub> .		Exploration	
WA	Titanium	Mt Weld (Crown)	Lynas Corporation Ltd	37.6 Mt, 4.01% TiO <sub>2</sub> , 1509 kt TiO <sub>2</sub> .	ASX-listed (LYC)	Exploration	Carbonatite-hosted; undeveloped resource www.lynascorp.com
WA	Titanium	Ophthalmia	Brockman Mining Ltd via Brockman Mining Australia Pty Ltd	217.0 Mt, 0.15% TiO <sub>2</sub> , 319 kt TiO <sub>2</sub> .	ASX-listed (BCK)	Exploration	www.brockmanmining.com
WA	Titanium	Robinson Range	PepinNini Minerals Ltd (60%); Auris Minerals Ltd via Grosvenor Gold Pty Ltd (40%)	4.3 Mt, 0.2% TiO <sub>2</sub> , 9 kt TiO <sub>2</sub> .	ASX-listed (PNN; AUR)	Exploration	www.pepinini.com.au www.aurisminerals.com.au
WA	Titanium	Robinson Range	Sinosteel Midwest Corporation Ltd	2.25 Mt, 0.2% TiO <sub>2</sub> , 4 kt TiO <sub>2</sub> .	China SOE	Exploration	Magnetitic BIF www.smcl.com.au

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Titanium	Speewah	King River Resources Ltd	4,712.0 Mt, 1.983% Ti, 93 451 kt Ti.	ASX-listed (KRR)	Exploration	V-Ti magnetite in mafic intrusion www.kingriverresources.com.au
WA	Titanium	Unaly Hill	Surefire Resources NL	86.2 Mt, 4.5% TiO <sub>2</sub> , 3888 kt TiO <sub>2</sub> .	ASX-listed (SRN)	Exploration	www.surefireresources.com.au
WA	Titanium	Victory Bore	High Grade Metals Ltd	151.0 Mt, 6.7% TiO <sub>2</sub> , 10 162 kt TiO <sub>2</sub> .	ASX-listed (HGM)	Exploration	V-Ti magnetite in mafic intrusion www.highgrademetals.com.au
WA	Titanium	Weld Range Iron Ore	Sinosteel Midwest Corporation Ltd	20.0 Mt, 0.1% TiO <sub>2</sub> , 20 kt TiO <sub>2</sub> .	China SOE	Exploration	Magnetitic BIF www.smcl.com.au
WA	Titanium	Yarraloola	Coziron Resources Ltd	93.3 Mt, 0.15% TiO <sub>2</sub> , 136 kt TiO <sub>2</sub> .	ASX-listed (CZR)	Exploration	www.coziron.com
WA	Titanium	Youanmi Vanadium	Venus Metals Corporation Ltd (90%); B R Legendre (10%)	330.6 Mt, 5.95% TiO <sub>2</sub> , 19 672 kt TiO <sub>2</sub> .	ASX-listed (VMC); Prospector	Exploration	V-Ti magnetite in mafic intrusion www.venusmetals.com.au
WA	Titanium	Australind TiO <sub>2</sub> Pigment plant	Cristal Pigment Australia Ltd			Producing	
WA	Titanium	Kemerton TiO <sub>2</sub> Pigment Plant	Cristal Pigment Australia Ltd			Producing	
WA	Tungsten	Big Hill – Cookes Creek	Tungsten Mining NL	11.5 Mt, 0.146% WO <sub>3</sub> , 16.8 kt WO <sub>3</sub> .	ASX-listed (TGN)	Exploration	www.tungstenmining.com
WA	Tungsten	Callie Soak	Tungsten Mining NL	0.186 Mt, 0.33% WO <sub>3</sub> , 0.614 kt WO <sub>3</sub> .	ASX-listed (TGN)	Exploration	www.tungstenmining.com
WA	Tungsten	Kilba Tungsten / Tungsten Mining	Tungsten Mining NL	4.98 Mt, 0.244% WO <sub>3</sub> , 12.12 kt WO <sub>3</sub> .	ASX-listed (TGN)	Exploration	www.tungstenmining.com
WA	Tungsten	Koolyanobbing	N/A			Exploration	
WA	Tungsten	Loves Find	J S Macdonald		Prospector	Exploration	
WA	Tungsten	Mt Mulgine Tungsten	Tungsten Mining NL	70.9 Mt, 0.175% WO <sub>3</sub> , 124.3 kt WO <sub>3</sub> .	ASX-listed (TGN)	Exploration	Skarn-greisen www.tungstenmining.com
WA	Tungsten	O'Callaghans	Newcrest Mining Ltd	78.0 Mt, 0.330% WO <sub>3</sub> , 257.1 kt WO <sub>3</sub> .	ASX-listed (NCM)	Exploration	Skarn www.newcrest.com.au
WA	Vanadium	Balla Balla	BBI Group Pty Ltd	455.9 Mt, 0.655% V <sub>2</sub> O <sub>5</sub> , 2987.5 kt V <sub>2</sub> O <sub>5</sub> .	Private company	Exploration	V-Ti magnetite in mafic intrusion www.bbgroup.com.au
WA	Vanadium	Barrambie	Neometals Ltd	47.2 Mt, 0.624% V <sub>2</sub> O <sub>5</sub> , 294.6 kt V <sub>2</sub> O <sub>5</sub> .	ASX-listed (NMT)	Exploration	V-Ti magnetite in mafic intrusion www.neometals.com.au
WA	Vanadium	Buddadoo	Budf Pty Ltd (15%); Coziron Resources Ltd (85%)		Private company; ASX-listed (CIZ)	Exploration	V-Ti magnetite in mafic intrusion www.coziron.com

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Vanadium	Canegrass	Bluebird Battery Metals Australia Pty Ltd	79.0 Mt, 0.637% V2O5, 503.4 kt V2O5.	TSX-V listed	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.bluebirdbattery.com">www.bluebirdbattery.com</a>
WA	Vanadium	Coates	Australian Vanadium Ltd		ASX-listed (AVL)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.australianvanadium.com.au">www.australianvanadium.com.au</a>
WA	Vanadium	Dean	Thundelarra Ltd		ASX-listed (THX)	Exploration	<a href="http://www.thundelarra.com">www.thundelarra.com</a>
WA	Vanadium	Gabanintha	Australian Vanadium Ltd	683.1 Mt, 0.576% V2O5, 3,934.4 kt V2O5.	ASX-listed (AVL)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.australianvanadium.com.au">www.australianvanadium.com.au</a>
WA	Vanadium	Gabanintha	Technology Metals Australia Ltd	119.9 Mt, 0.826% V2O5, 989.8 kt V2O5.	ASX-listed (TMT)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.tmtlimited.com.au">www.tmtlimited.com.au</a>
WA	Vanadium	Katanning	N/A			Exploration	
WA	Vanadium	Medcalf – Bremer Range	Audalia Resources Ltd	31.8 Mt, 0.451% V2O5, 143.3 kt V2O5.	ASX-listed (ACP)	Exploration	<a href="http://www.audalia.com.au">www.audalia.com.au</a>
WA	Vanadium	Minigwal	Anglogold Ashanti Australia Ltd		ASX-listed (AGG)	Exploration	<a href="http://www.anglogoldashanti.com">www.anglogoldashanti.com</a>
WA	Vanadium	Musgrave – Jameson	97992001 Pty Ltd (50%); Gibb River Diamonds Ltd (50%)		Private company; ASX- listed (GIB)	Exploration	<a href="http://www.gibbriverdiamonds.com">www.gibbriverdiamonds.com</a>
WA	Vanadium	Speewah	King River Resources Ltd	4,712.0 Mt, 0.295% V2O5, 13,922.4 kt V2O5.	ASX-listed (KRR)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.kingriverresources.com.au">www.kingriverresources.com.au</a>
WA	Vanadium	Unaly Hill	Surefire Resources NL	86.2 Mt, 0.420% V2O5, 362.0 kt V2O5.	ASX-listed (SRN)	Exploration	<a href="http://www.surefireresources.com.au">www.surefireresources.com.au</a>
WA	Vanadium	Victory Bore	High Grade Metals Ltd	151.0 Mt, 0.440% V2O5, 664.4 kt V2O5.	ASX-listed (HGM)	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.highgrademetals.com.au">www.highgrademetals.com.au</a>
WA	Vanadium	Windimurra	Atlantic Ltd	234.0 Mt, 0.490% V2O5, 1145.5 kt V2O5.		Care and maintenance	V-Ti magnetite in mafic intrusion <a href="http://www.atlanticptyltd.com.au">www.atlanticptyltd.com.au</a>
WA	Vanadium	Youanmi	Venus Metals Corporation Ltd (90%); B R Legendre (10%)	330.6 Mt, 0.287% V2O5, 947.8 kt V2O5.	ASX-listed (VMC); Prospector	Exploration	V-Ti magnetite in mafic intrusion <a href="http://www.venusmetals.com.au">www.venusmetals.com.au</a>
WA	Hafnium	Hastings- Brockman	Hastings Technology Metals Ltd	36.2 Mt, 0.032% HfO2, 11.6 kt HfO2.	ASX-listed (HAS)	Exploration	Alkaline volcanic-hosted deposit <a href="http://www.hastingstechmetals.com">www.hastingstechmetals.com</a>
WA	Hafnium	Other opportunities					Potential by-product from zircon in heavy mineral sand deposits, of which there are many in WA.
WA	Zirconium	Hastings- Brockman	Hastings Technology Metals Ltd	41.4 Mt, 0.898% ZrO2, 371.6 kt ZrO2.	ASX-listed (HAS)	Exploration	Alkaline volcanic-hosted deposit <a href="http://www.hastingstechmetals.com">www.hastingstechmetals.com</a>

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Zirconium	Mt Weld (Crown)	Lynas Corporation Ltd	37.6 Mt, 301% ZrO <sub>2</sub> , 113.1 kt ZrO <sub>2</sub> .	ASX-listed (LYC)	Exploration	Carbonatite-hosted www.lynascorp.com
WA	Zirconium	Atlas – North Perth Basin	Image Resources NL	5.22 Mt, 9.8% zircon, 510.3 kt zircon.	ASX-listed (IMA)	Exploration	Heavy mineral sand deposit www.imageres.com.au
WA	Zirconium	Bidaminna – North Perth Basin	Image Resources NL; A R F Maslin	1.35 Mt, 5.4% zircon, 73 kt zircon.	ASX-listed (IMA); Prospector	Exploration	Heavy mineral sand deposit www.imageres.com.au
WA	Zirconium	Boonanning – North Perth Basin	Image Resources NL	3.98 Mt, 14.3% zircon, 567.6 kt zircon.	ASX-listed (IMA)	Producing	Heavy mineral sand deposit www.imageres.com.au
WA	Zirconium	Bunbury Area Operations	Cristal Mining Australia Ltd	37.35 Mt, 9.4% zircon, 3507.3 kt zircon.		Producing	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Bunker Bay	N/A	0.54 Mt, 3.5% zircon, 18.9 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Busselton	Doral Mineral Sands Pty Ltd	0.53 Mt, 12.9% zircon, 68.7 kt zircon.	100% owned by Japan-based Iwatani Corporation	Producing	Heavy mineral sand deposit www.doral.com.au
WA	Zirconium	Capel	Iluka Resources Ltd	9.91 Mt, 8.8% zircon, 872.5 kt zircon.	ASX-listed (ILU)	Producing	Heavy mineral sand deposit www.iluka.com
WA	Zirconium	Capel – Stratham	Cristal Mining Australia Ltd	0.1 Mt, 4.3% zircon, 4.2 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Cataby	Iluka Resources Ltd	13.79 Mt, 8.4% zircon, 1164.0 kt zircon.	ASX-listed (ILU)	Producing	Heavy mineral sand deposit www.iluka.com
WA	Zirconium	Coburn Zircon	Strandline Resources Ltd	19.6 Mt, 21.7% zircon, 4246.0 kt zircon.	ASX-listed (STA)	Exploration	Heavy mineral sand deposit www.strandline.com.au
WA	Zirconium	Cookernup	Cristal Mining Australia Ltd	0.42 Mt, 9.9% zircon, 41.6 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Cooljarloo	Tronox Ltd	4.39 Mt, 9.5% <sup>^</sup> zircon, 432 kt zircon.		Producing	Heavy mineral sand deposit www.tronox.com
WA	Zirconium	Cooljarloo West	Tronox Ltd	2.13 Mt, 12.2% zircon, 259.3 kt zircon.		Exploration	Heavy mineral sand deposit www.tronox.com
WA	Zirconium	Coolup Mineral Sands	Cristal Mining Australia Ltd	0.34 Mt, 7.9% zircon, 27.1 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Cyclone	Diatreme Resources Ltd	4.7 Mt, 27.0% zircon, 1269.0 kt zircon.	ASX-listed (DRX)	Exploration	Heavy mineral sand deposit www.diatreme.com.au
WA	Zirconium	Denmark	N/A	0.21 Mt, 5.0% zircon, 10.5 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Dongara	Tronox Ltd	3.36 Mt, 11.1% zircon, 372.9 kt zircon.		Exploration	Heavy mineral sand deposit www.tronox.com

State/ Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Zirconium	Eneabba	Iluka Resources Ltd	28.13 Mt, 11.3% zircon, 3177.5 kt zircon.	ASX-listed (ILU)	Exploration	Heavy mineral sand deposit www.iluka.com
WA	Zirconium	Eneabba	Sheffield Resources Ltd	5.72 Mt, 12.3% zircon, 703.2 kt zircon.	ASX-listed (SFX)	Exploration	Heavy mineral sand deposit www.sheffieldresources.com.au
WA	Zirconium	Eucla West	Forge Resources Crown Pty Ltd (50%); Westover Holdings Pty Ltd (25%); Wild Side (WA) Pty Ltd (25%)	21.5 Mt, 0.5% zircon, 107.5 kt zircon.	Private companies	Exploration	Heavy mineral sand deposit
WA	Zirconium	Gilmore	Iluka Resources Ltd	3.11 Mt, 7.8% zircon, 241.8 kt zircon.	ASX-listed (ILU)	Exploration	Heavy mineral sand deposit www.iluka.com
WA	Zirconium	Glenarty Creek	N/A	3.88 Mt, 2.0% zircon, 77.5 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Gordon Inlet	N/A	0.37 Mt, 19.7% zircon, 72.9 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Hassell Beach	Cristal Mining Australia Ltd	0.53 Mt, 24.0% zircon, 127.2 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Hopelands East	Cristal Mining Australia Ltd	1.99 Mt, 9.0% zircon, 178.7 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Hopeland West – Serpentine	N/A	1.55 Mt, 7.9% zircon, 122.8 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Israelite Bay	N/A	0.50 Mt, 14.0% zircon, 70.0 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	James Price Point	N/A	0.02 Mt, 11.0% zircon, 2.2 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Jangardup	Cristal Mining Australia Ltd	0.09 Mt, 8.0% zircon, 7.2 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Jangardup	Strategic Energy Resources Ltd	2.64 Mt, 10.0% zircon, 264.1 kt zircon.	ASX-listed (SER)	Exploration	Heavy mineral sand deposit www.strategicenergy.com.au
WA	Zirconium	Kemerton – Australind	Cristal Mining Australia Ltd	1.13 Mt, 5.0% zircon, 56.6 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Keysbrook	MZI Resources Ltd	2.8 Mt, 13.0% zircon, 364.4 kt zircon.	ASX-listed (MZI)	Producing	Heavy mineral sand deposit www.mzi.com.au
WA	Zirconium	Leschenault Peninsula	N/A	0.50 Mt, 2.0% zircon, 10.1 kt zircon.		Exploration	Heavy mineral sand deposit

State/Territory	Critical Mineral(s)	Project Name	Company Name	Mineral Inventory	Company Ownership	Project Status	Other Information
WA	Zirconium	Ludlow Tuart Forest National Park	WA Department of Lands	0.51 Mt, 5.0% zircon, 25.5 kt zircon.		N/A	Heavy mineral sand deposit
WA	Zirconium	McCalls	Sheffield Resources Ltd	84.0 Mt, 4.7% zircon, 3956.2 kt zircon.	ASX-listed (SFX)	Exploration	Heavy mineral sand deposit www.sheffieldresources.com.au
WA	Zirconium	Pinjarra	Doral Pty Ltd	0.92 Mt, 6.0% zircon, 55.2 kt zircon.	100% owned by Japan-based Iwatani Corporation	Exploration	Heavy mineral sand deposit www.doral.com.au
WA	Zirconium	Port Gregory Garnet	GMA Garnet Pty Ltd	1.18 Mt, 0.08% zircon, 0.9 kt zircon.		Producing	Heavy mineral sand deposit www.gmagarnet.com
WA	Zirconium	Regans Ford	Image Resources NL	0.95 Mt, 10.0% zircon, 95.4 kt zircon.	ASX-listed (IMA)	Exploration	Heavy mineral sand deposit www.imageres.com.au
WA	Zirconium	Scott Coastal Plain – Governor Broome	Astro Resources NL; Iluka Resources Ltd	0.89 Mt, 10.8% zircon, 96.1 kt zircon.	ASX-listed (ARO; ILU)	Exploration	Heavy mineral sand deposit www.aro.com.au www.iluka.com
WA	Zirconium	Scott River	Cristal Mining Australia Ltd	7.02 Mt, 4.0% zircon, 280.8 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Telfer East	N/A	0.12 Mt, 3.0% zircon, 3.6 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Thunderbird – Dampier Mineral Sands	Sheffield Resources Ltd	223.0 Mt, 8.3% zircon, 18 552.0 kt zircon.	ASX-listed (SFX)	Construction	Heavy mineral sand deposit www.sheffieldresources.com.au
WA	Zirconium	Waroona – Harvey	Iluka Resources Ltd	1.7 Mt, 7.2% zircon, 122.7 kt zircon.	ASX-listed (ILU)	Exploration	Heavy mineral sand deposit www.iluka.com
WA	Zirconium	Whicher	Cristal Mining Australia Ltd	0.71 Mt, 12.2% zircon, 86.3 kt zircon.		Exploration	Heavy mineral sand deposit www.cristalmining.com
WA	Zirconium	Whitby	Gold Fusion Pty Ltd	7.23 Mt, 6.5% zircon, 467 kt zircon.	Private company	Exploration	Heavy mineral sand deposit
WA	Zirconium	Witchcliffe	Strategic Sands Pty Ltd	9.44 Mt, 3.0% zircon, 283.3 kt zircon.	Private company	Exploration	Heavy mineral sand deposit
WA	Zirconium	Woodlands – Ensor	N/A	1.25 Mt, 2.2% zircon, 27.4 kt zircon.		Exploration	Heavy mineral sand deposit
WA	Zirconium	Rockingham zirconia plant	Halliburton Australia Pty Ltd			Producing	Processing plant

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