

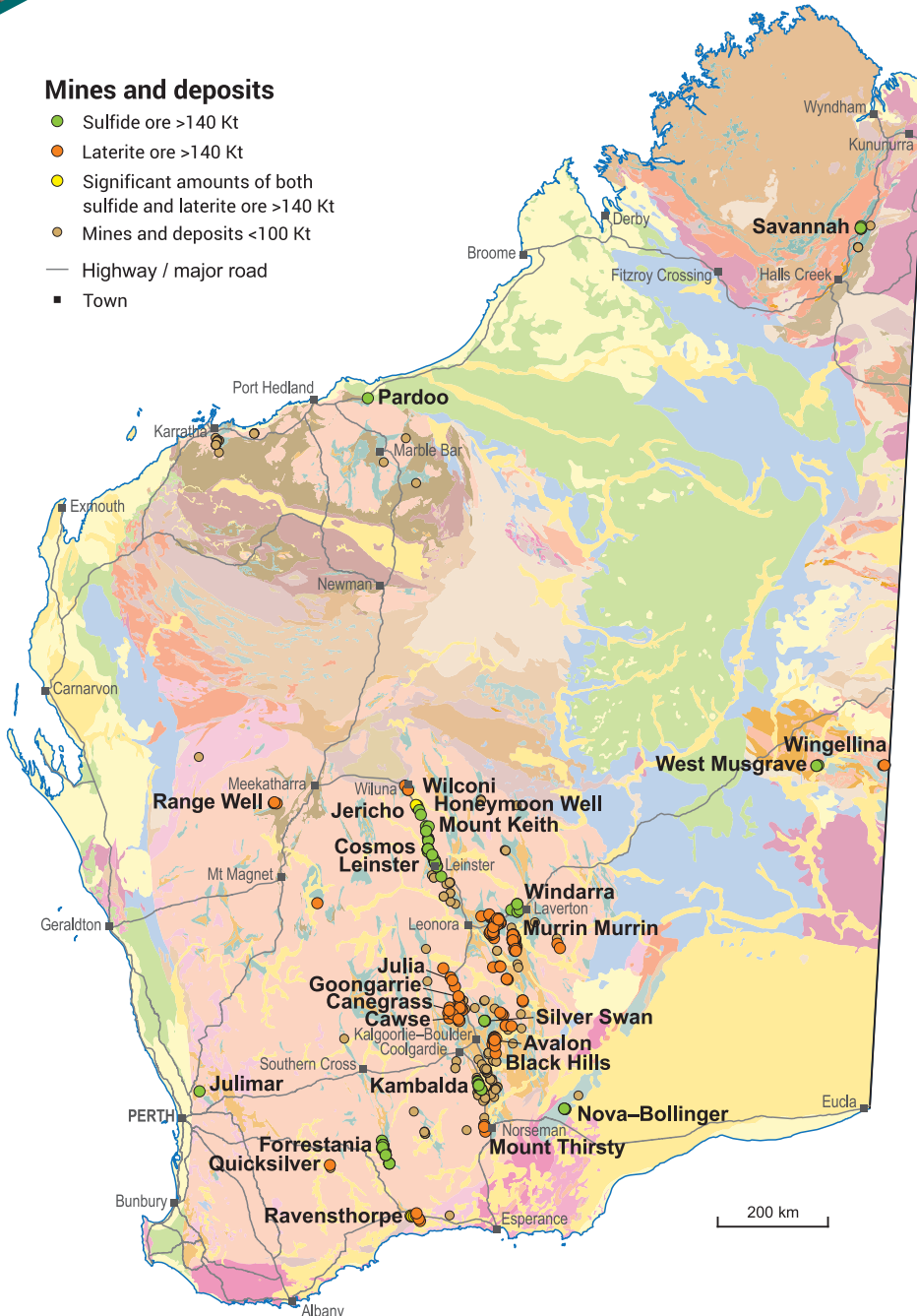
NICKEL-COBALT

INVESTMENT OPPORTUNITIES

WORLD-CLASS RESOURCE PROVINCE | SECURE INVESTMENT LOCATION
WORLD-LEADING GEOSCIENTIFIC DATA | GLOBAL MINING SERVICES INDUSTRY

Mines and deposits

- Sulfide ore >140 Kt
- Laterite ore >140 Kt
- Significant amounts of both sulfide and laterite ore >140 Kt
- Mines and deposits <100 Kt
- Highway / major road
- Town



Western Australia hosts world-class nickel deposits

- Western Australia is ranked among the top global producers of nickel and cobalt
- In 2021–22, nickel sales reached \$4.9 billion from eight operations located in the Eastern Goldfields, Albany Fraser and Kimberley regions
- Sales value of cobalt reached \$522 million in 2021–22, produced as a byproduct from the Murrin Murrin, Nova Bollinger and Ravensthorpe operating nickel mines
- Western Australia began producing battery-grade nickel sulfate from BHP Kwinana refinery in 2021, which will ramp up to 100 000 tonnes each year

New mining and exploration activity

- The new Shoemaker-Levy mine at the Ravensthorpe project began operating
- Construction continues at the Odysseus Underground Mine at the Cosmos Project
- Nickel maiden Mineral Resource Estimates were announced for the Sabre deposit (Fisher East project; Cannon Resources), the T5 deposit (Carr Boyd; Estrella Resources), the Coglia North and South deposits (Coglia Project; Panther Metals) and the Baker deposit (Kambalda Nickel Project; Lunnon Metals)
- Recent Mineral Resource Estimates updates were announced for the Wilconi (Wiluna Mining, A-Cap Resources), Cosmos (IGO), Julimar (Chalice Mining), Panton (Future Metals), Silver Swan – Black Swan (Poseidon), Kambalda (Mincor Resources), Mt Edwards (Widgie Nickel) and Fisher East (Cannon Resources)
- Exploration continues across the State, with new discoveries announced for Emu Lake (Ardea Resources), Gillet North (Widgie Nickel) and Callisto North (Galileo Mining)

\$4946 m
Sales value



147 190 t
Tonnes sold



8213
Full-time
employees



\$3600 m*
Investment
projects



5th
Production
world ranking



(2021–22 financial year; for nickel only)

* Includes projects planned, possible, committed or under construction as of September 2022

Government of Western Australia
Department of Mines, Industry Regulation and Safety

Geological Survey of
Western Australia



dmirs.wa.gov.au

Nickel projects with resources >140 Kt contained nickel

Resources estimated according to JORC 2012

Project	Status	Owner	Resources (Mt)	Av. grade (% Ni)	Contained Ni (kt)	Av. grade (% Co)	Contained Co (t)	Resource date
Kalgoorlie Nickel Project	Feasibility	Ardea Resources	830.0	0.71	5 906	0.05	383 225	16/06/2021
Mt Keith	Operating	BHP Group	643.7	0.58	3 730			30/06/2021
Range Well	Exploration	EV Metals	353.0	0.65	2 302	0.04	145 490	01/10/2021
Murrin Murrin	Operating	Glencore Plc	200.9	1.01	2 027	0.08	164 876	31/12/2020
Leinster	Operating	BHP Group	194.8	1.04	2 024			30/06/2021
Wingellina	Feasibility	Nico Resources	215.8	0.91	1 952	0.07	151 086	30/06/2016
Ravensthorpe	Operating	First Quantum / Pohang Iron and Steel Co.	310.8	0.55	1 717	0.03	87 328	31/12/2021
Avalon^	Exploration	Wingstar Investments	169.8	0.83	1 403			31/12/2012
Cawse^	Exploration	Wingstar Investments	176.5	0.69	1 220			31/12/2013
Honeymoon Well	Exploration	BHP Group (Nickel West)	176.8	0.69	1 218			30/06/2021
West Musgrave	Feasibility	Oz Minerals	389.1	0.30	1 170	0.01	45 304	23/09/2022
NiWest	Pre-feasibility	GME Resources	85.3	1.03	880	0.07	55 445	30/06/2019
Wilconi	Exploration	Wiluna Mining / A-Cap Resources	91.0	0.73	666	0.05	46 790	18/03/2022
Cosmos	Under development	IGO	67.0	0.99	661			30/08/2022
Julimar	Exploration	Chalice Mining	348.0	0.16	561	0.02	55 850	08/07/2022
Coglia	Exploration	Panther Metals	70.6	0.64	449	0.05	32 136	27/06/2022
Jericho	Exploration	BHP Group (Nickel West)	74.0	0.55	407			30/06/2021
Forrestania Nickel#	Exploration	IGO / Great Western Exploration	17.9	1.61	287			30/06/2021
Range Well Chromium^	Exploration	EV Metals	63.5	0.38	241	0.04	25 400	24/09/2013
Panton	Feasibility	Future Metals	128.9	0.18	235	0.02	19 891	21/06/2022
Savannah	Operating	Panoramic Resources	13.5	1.56	210	0.10	13 328	22/07/2021
Canegrass^	Exploration	Gardner, Robert Charles	29.6	0.71	209	0.06	17 760	27/11/2007
Silver Swan – Black Swan	Feasibility	Poseidon Nickel	29.9	0.69	206	0.02	5 191	04/07/2022
Kambalda	Operating	Mincor Resources	5.2	3.80	199	0.08	482	25/07/2022
Julia^	Exploration	Wingstar Investments	25.9	0.74	193			31/10/2011
Black Hills^	Exploration	Zetek Resources / Western Resources	30.0	0.64	192	0.03	9 000	18/09/2006
Carlingup–Nindilbillup*	Exploration	Nickelsearch	29.7	0.59	174	0.03	4 316	23/08/2021
Quicksilver	Exploration	Golden Mile Resources	26.3	0.65	170	0.04	11 354	19/11/2018
Nova–Bollinger	Operating	IGO	11.2	1.52	169	0.05	5 604	31/12/2021
Mt Edwards	Exploration	Widgie Nickel	10.7	1.58	169	0.05	1 387	09/03/2022
Pardoo	Exploration	Caeneus Minerals	50.0	0.30	152	0.03	15 000	31/03/2010
Windarra	Feasibility	Poseidon Nickel	9.7	1.53	148			16/07/2014

Resource estimates have been rounded

*Project includes Western Areas T5 Lounge Lizard Disseminated Zone and T5 Flying Fox Disseminated Zone

* RAV series deposits – komatiite-hosted nickel sulfide deposit while John Ellis – Laterite hosted

*Resource estimates are not JORC 2012 compliant

Spatial and resource estimates data sourced from WA Mines and Mineral Deposit database (MINEDEX)

 Sulfide

 Laterite

 Laterite + sulfide

For more information

MINEDEX is a spatial and textual database of mining and exploration activity

MINEDEX www.dmirs.wa.gov.au/minedex

GeoVIEW.WA is a free GIS-based spatial viewer

GeoVIEW.WA www.dmirs.wa.gov.au/geoview

Contact us

Sarah Sargent, Mineral Investment Specialist
Geological Survey and Resource Strategy Division

Email: minerals.investors@dmirs.wa.gov.au

Tel: +61 8 9222 3890

The DMIRS MINEDEX, Statistics, and Geoscience and Titles Information teams have contributed to the production of this flyer



Government of Western Australia
Department of Mines, Industry Regulation and Safety

December 2022

Geological Survey of Western Australia

