



Northern Territory Geological Survey

Department of Industry, Tourism and Trade

Critical Minerals in the Northern Territory 2024

resourcingtheterritory.nt.gov.au



THE
TERRITORY
BOUNDLESS POSSIBLE

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Acknowledgement

The Northern Territory Government respectfully acknowledges Aboriginal and Torres Strait Islander peoples as the First Nations people of this country. We acknowledge the continuing connection to lands, waters and communities, and the evolving cultures of all our First Nations peoples. We pay our respects to all Aboriginal and Torres Strait Islander cultures, and to their leaders - past, present and emerging.

Cover image: Azurite and malachite mineralisation near Jervois, Aileron Province, Northern Territory.

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Foreword

The Northern Territory has the critical minerals that are needed to advance new technologies and tackle the issue of climate change.

Global demand is rapidly growing for critical minerals, presenting a substantial economic and strategic opportunity for the Northern Territory and our partners to develop secure supply chains to support the clean energy transformation.

Of the world's critical minerals, the Northern Territory has estimated mineral resources for 17, with high potential for a further 12.

We want more investment in our critical minerals sector and the Northern Territory Government's \$9.5 million *Resourcing the Territory* program provides exploration grants and free-of-charge geoscience data to support and de-risk exploration investment.

The Territory is already a global leader in manganese production, has emerging rare earths and copper projects and has Australia's only lithium mine outside of WA, located just outside of Darwin. New discoveries are being made, leading to a growing pipeline of projects for a diverse range of commodities.

This document outlines the known resource inventory of the Territory's critical minerals, which highlights the exciting opportunities presented by existing and developing projects.

We are also ensuring that the right policy settings are in place to be globally competitive, while remaining committed to sustainable practices and mine rehabilitation. With the increasing focus in our key markets on environmental, social and governance (ESG) credentials and tracking of whole-of-life carbon emissions for critical minerals projects, there are also real opportunities for the Territory to derive a competitive advantage as an ethical and environmentally-responsible supplier of critical minerals, including downstream processing and manufacturing.

I'm excited by the opportunities the critical minerals industry presents for the Northern Territory, in creating jobs, growing downstream industries, supporting decarbonisation and growing our economy.



Hon Mark Monaghan
Minister for Mining





Introduction

The Northern Territory is well placed to become an important player in global supply chains for the critical minerals that are required for new technologies and the energy transition.

This document outlines the Territory's resource endowment of its current list of 17 critical minerals – aluminium, cobalt, copper, gallium, graphite, lithium, magnesium, manganese, molybdenum, nickel, phosphate, rare earth elements, titanium, tungsten, vanadium, zinc and zirconium – as well as its geological potential for a further 12 emerging critical minerals.

The demand for critical minerals is expected to keep growing to support renewable energy, battery storage and high-technology industries.

Further exploration is needed to ensure an ongoing pipeline of critical minerals projects that can underpin investment in downstream processing and the development of long-term supply chains.

This presents significant economic and strategic opportunities for the Northern Territory to become a reliable supplier of minerals to support the transition to a decarbonised economy.

To support exploration, the Northern Territory Government provides \$9.5 million each year towards the *Resourcing the Territory* program through exploration grants and innovative geoscience programs to de-risk and accelerate critical minerals exploration in the Territory.

Resourcing the Territory

\$9.5 million per year to support exploration

The Territory Government is committed to attracting and supporting increased exploration for critical minerals through the \$9.5 million per annum *Resourcing the Territory* program, which is funded on an ongoing basis. Through the program the Territory Government provides high-quality geoscience data free-of-charge to explorers, and provides grant funding to support eligible industry exploration programs.

Geophysics and Drilling Collaborations grants

A flagship component of *Resourcing the Territory* is a \$3 million per annum competitive exploration grants program that awards co-funding of up to 50% of the cost of drilling (both greenfields and brownfields), regional scale geophysical surveys, innovative exploration targeting and advancing critical minerals projects. The advancing critical minerals category has been added in 2024 to support the assessment of critical minerals endowment or recoverability using new or existing sample sets.

Co-funding amounts are capped between \$50,000 and \$200,000 per project dependent on the project category, with a minimum of \$2 million funding per year directed into projects targeting critical minerals.

Recent co-funded drilling projects have contributed to the discovery of new critical minerals resources at Barkly (rare earths, vanadium, gallium) and Leliyn (graphite). For further information, visit resourcingtheterritory.nt.gov.au/gdc

Pre-competitive geoscience programs

In addition to the grants program, the NT Geological Survey (NTGS) applies precompetitive geoscience and partners with the research sector and industry to explore opportunities to identify new sources of critical minerals and help de-risk investment in the sector. This includes:

Documenting the Territory's critical minerals resources

- Compiling and publishing inventories of known resources and occurrences of critical minerals in the Territory.

Geochemical sampling and analysis for critical minerals

- Geochemically re-analysing existing sample sets for a full suite of elements including critical minerals.
- Investigating potential for processing of tailings and other legacy mine waste in the Territory to contain critical minerals, including mine waste testing and characterisation in partnership with the University of Queensland.

New geoscience on critical minerals

- Upgrading regional geophysical datasets to assist exploration targeting.
- Undertaking geoscience and mineral system studies in the Pine Creek region and Aileron Province that will aid assessment of potential for critical minerals such as rare earths, lithium, nickel, antimony, platinum group elements, tin and cobalt.
- Developing research collaborations to apply science to support critical minerals exploration such as improving targeting for lithium bearing pegmatites, and investigating rare earths deposit styles across the Territory.
- Participating in ongoing geoscience studies and collaborations on the Territory's vast Proterozoic basins that have high potential for sediment-hosted copper- cobalt, zinc and manganese.

For more information visit, resourcingtheterritory.nt.gov.au

NTGS geologist mapping
in Pine Creek Orogen



What are critical minerals?

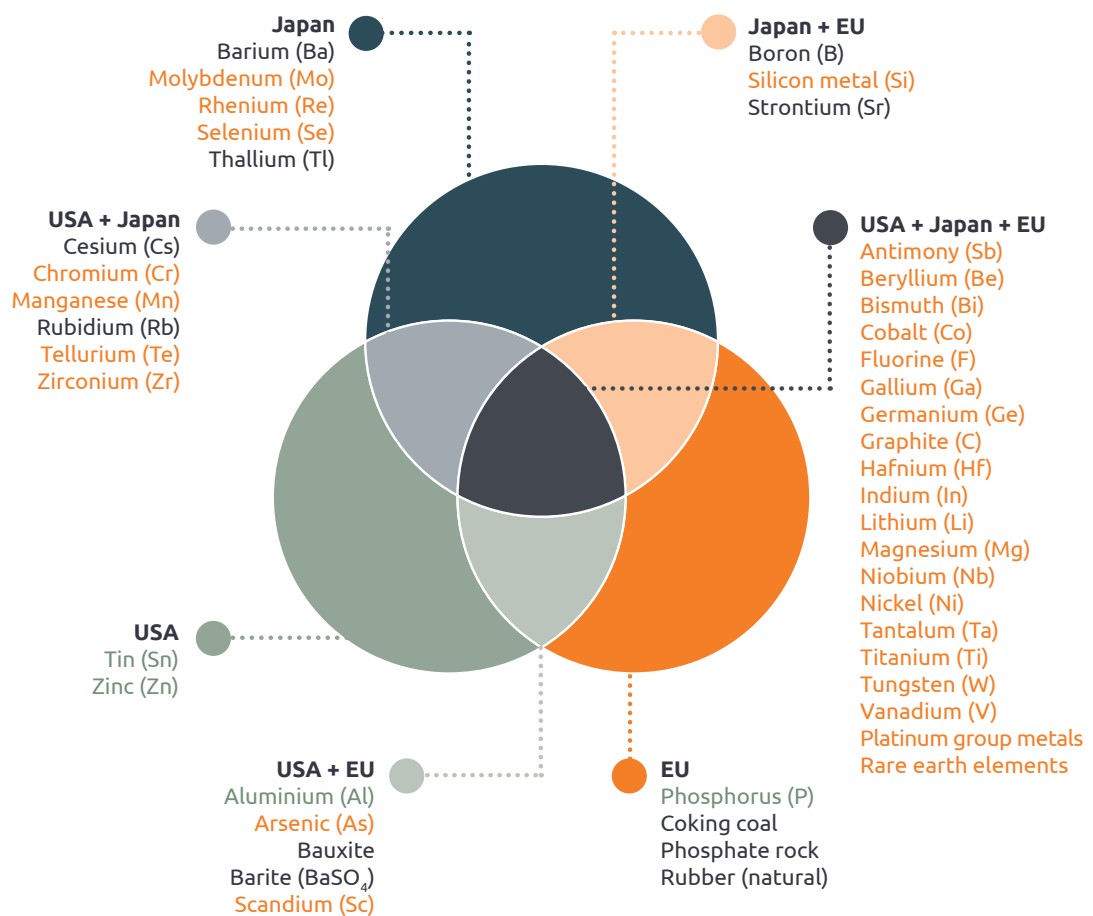
Geoscience Australia defines critical minerals as metals, non-metals and minerals that are considered essential for the functioning of modern technologies, economies or national security, which are in demand from our strategic international partners and that are vulnerable to supply chain disruption due to geological scarcity, geopolitical issues, trade policy or other factors.

Among these important commodities are metals and semi-metals used in the manufacture of wind turbines, electric vehicles, solar panels, rechargeable batteries, mobile phones and computers, flat screen monitors, fibre-optic cables, semi-conductors, defence industry technology and products, as well as aerospace, medical and high-tech applications.

The Australian government's critical minerals list includes 31 minerals. Additionally, the Australia's strategic materials list includes aluminum, copper, phosphorus, tin and zinc.

Criticality is a subjective concept and individual countries develop their own lists of critical minerals based on the relative importance of particular minerals to their industrial and strategic requirements. Assessments of criticality are also essentially snapshots at a particular time and are subject to change. A summary and comparison of the minerals currently defined as critical by some of Australia's important trading partners is shown below. A compilation of recent global critical minerals lists is available via QR code on page 15.

Minerals identified as 'Critical' by United States, Japan and the European Union



Australia's 31 critical minerals shown in orange (also includes High purity alumina)

Australia's strategic materials shown in green (defined in December 2023, also includes copper)

The Northern Territory's critical minerals

The Territory's list of critical minerals are those minerals considered critical or strategic by Australia and/or key trading partners for which the Territory has defined mineral resources. The Territory's defined mineral resources include Measured, Indicated and Inferred Mineral Resources as reported under the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves.

The table below lists the Northern Territory's 17 critical minerals. Of these, 13 are on the Australia's critical minerals list and 4 are on Australia's strategic materials list. Most are also on [critical or strategic materials lists](#) of key trading partners such as USA, UK, EU, Japan, India and South Korea.

The Territory's critical minerals	Emerging critical minerals in the Territory
Aluminium	Antimony
Cobalt	Bismuth
Copper	Fluorine
Gallium	Germanium
Graphite	High purity alumina
Lithium	Niobium
Magnesium	Platinum-group elements
Manganese	Scandium
Molybdenum	Silicon
Nickel	Tantalum
Phosphate	Tellurium
Rare earth elements	Tin
Titanium	
Tungsten	
Vanadium	
Zinc	
Zirconium	

Of these 17 critical minerals, the Territory currently produces manganese, lithium, aluminium (as bauxite), zinc and titanium (as ilmenite). There are also opportunities for significant near-term production of additional critical minerals including rare earth elements, phosphate, copper, cobalt, magnesium, and tungsten from advanced projects in the Territory.

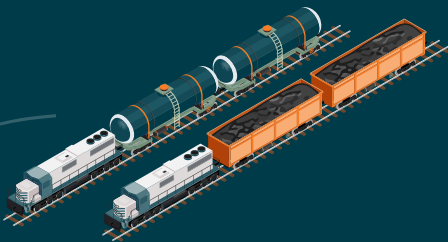
Twelve critical minerals with known occurrences and exploration potential in the Territory are also listed above and are considered to be the Territory's emerging critical minerals. These emerging critical minerals are all on Australia's critical minerals or strategic materials lists.

The Territory's enabling infrastructure



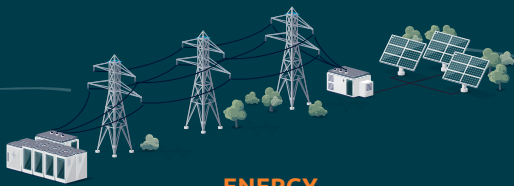
SHIPPING

Australia's closest deepwater port to east Asian markets.



RAILWAY

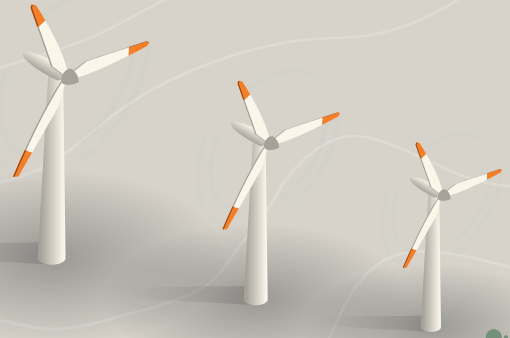
North-south rail corridor linking to Darwin Port.



ENERGY

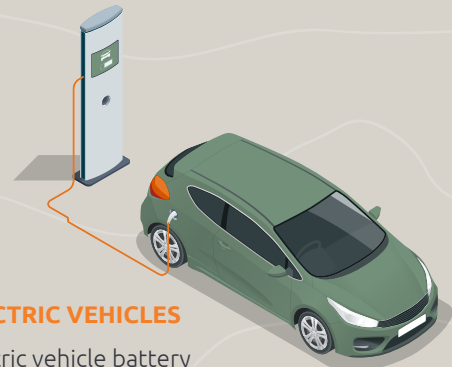
Large natural gas resources with network of pipelines.

World-class solar irradiation supporting renewable energy generation.



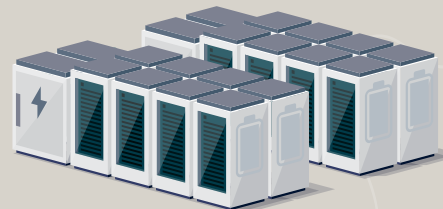
WIND TURBINES

Wind turbines require concrete, steel, iron, fibreglass, polymers, aluminium, copper, zinc and rare earth elements.



ELECTRIC VEHICLES

Electric vehicle battery chemistries depend on lithium, cobalt, manganese, nickel, and graphite.



BATTERY STORAGE

Lithium, nickel, cobalt, manganese, phosphate and graphite are crucial to battery performance, longevity and energy density.



HIGH TECH AND ELECTRONICS

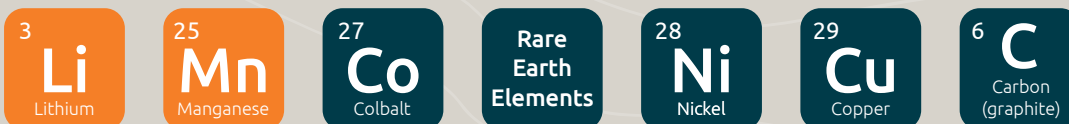
Cobalt, copper, lithium, nickel, rare earth elements and lesser known critical minerals are all essential for producing electronics and other high tech products.

Potential applications of the Territory's critical minerals

Renewable energy



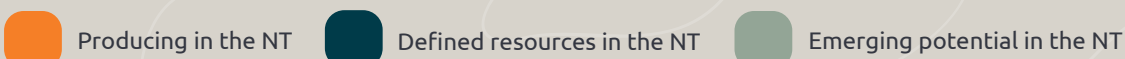
Electric vehicles



Energy storage



High tech industries and electronics



Critical minerals mines, projects and resources.

The Territory has six operating mines for critical minerals, ten critical minerals projects at various stages of regulatory approvals or project financing, and a pipeline of earlier stage projects with defined mineral resources.

There are opportunities to become involved in the Territory's critical minerals industry including early-stage exploration opportunities through to project financing, equity or offtake.

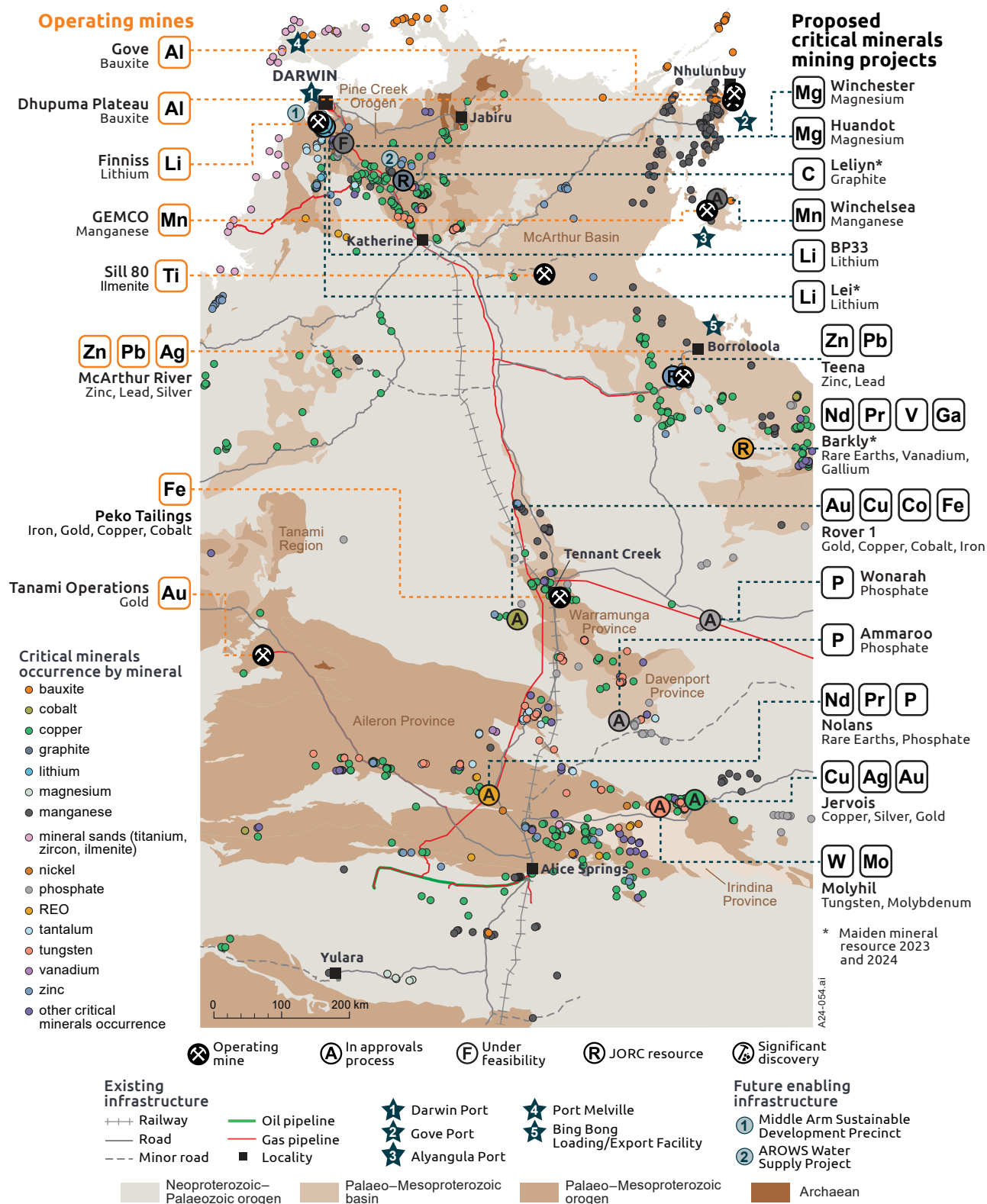
More detail on advanced critical minerals projects in the Territory can be found in the [*Australian Critical Minerals Prospectus*](#).



Spodumene concentrate at Finiss Lithium Operation, courtesy of Core Lithium Ltd



Northern Territory's critical minerals endowment



Northern Territory's critical minerals resource inventory

Critical mineral	On trading partners' lists ¹	Unit	NT defined resources (2022-23) ²	Territory annual production (2022-23) ³	NT total past production ⁴	Australian economic demonstrated resources ⁵ (2022)	Australian production (2022) ⁶	Global production (2022) ⁷
Lithium (Li)	US, EU, UK, Japan, India, Korea	kt Li	213.4 kt	18.1 kt ⁸	18.1	7,046	75	143
Manganese (Mn)	US, EU, Japan, Korea	Mt Mn ore	165.4 Mt	5.9 Mt	147	496	4.5 ⁹	18.7 ¹⁰
Zinc (Zn)	US	Mt Zn	22.4 Mt ¹⁰	0.26 Mt	>5	64.30	1.24	13
Aluminium (Al)	US, EU	Mt bauxite	>68 Mt ¹¹	11.2 Mt	323	3,521	102.3	380
Titanium (Ti)	US, EU, Japan, India, Korea	kt ilmenite	>368 kt ¹²	47.5 kt	>145	303,300	700	14,900
		kt rutile	57 kt ¹²	0	no data	39,000	200 ¹³	600
		kt leucoxene	34 kt ¹²	0	0	no data	no data	no data
		kt TiO ₂	8,501 kt	0	0	no data	no data	no data
Cobalt (Co)	US, EU, UK, Japan, India, Korea	kt Co	87.1 kt	0	0	1,742	5.8 ¹⁴	185
Copper (Cu)	India	Mt Cu	1.28 Mt ¹⁵	0	1.98	101.5	0.882	22
Phosphate (P ₂ O ₅)	EU, India	Mt phosphate rock	2036 Mt	0	0	1,080	>0.4 ¹⁶	220
		Mt P ₂ O ₅	323.5 Mt	0	0	178	no data	no data
Magnesium (Mg)	US, EU, Japan, UK, Korea	Mt magnesite	25.7 Mt	0	0	284	0.59 ¹⁷	25 ¹⁸
Rare earth elements (REE)	US, EU, UK, Japan, India, Korea	kt oxide	1,773.5 kt	5 kt*	0	5,700	16 ¹⁹	300
Vanadium (V)	US, EU, UK, Japan, India, Korea	kt V	698.1 kt	0	0	8,510	0	100
Gallium (Ga)	US, EU, UK, Japan, India, Korea	kt Ga	6 kt	0	0	no data	no data	no data
Graphite (C)	US, EU, UK, Japan, India, Korea	kt C	14,200 kt	0	0	8,500	0	1,300
Tungsten (W)	US, EU, UK, Japan, India, Korea	kt W	14.7 kt	0	6	568	0.23 ²⁰	84
Molybdenum (Mo)	Japan, India, Korea	kt Mo	4.4 kt	0	no data	687	0.28 ²¹	250
Nickel (Ni)	US, Japan, India	Mt Ni	0.05 Mt	0	0	24.1	0.16	3.3
Zirconium (Zr)	US, Japan, India, Korea	kt zircon	>495 kt ¹²	0	no data	88,300	500 ¹³	2,200

Scan here for global critical mineral list



Scan here for footnotes



Scan here for reference list



Table modified from Australian and global commodity data from Geoscience Australia's Table 3: [Australia's Identified Mineral Resources](#) as at December 2023.

Northern Territory (NT) defined resources include all publicly announced total JORC mineral resources (Measured, Indicated and Inferred).

*proposed future annual production



Lithium



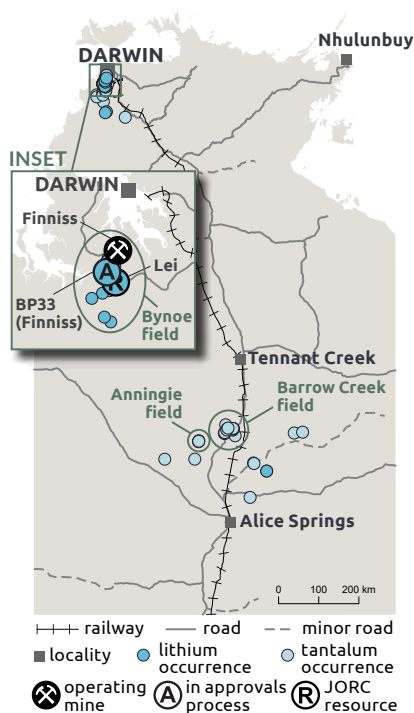
BATTERIES



ELECTRIC VEHICLES



ELECTRONICS



Global lithium demand expected to increase in the medium term driven by the lithium-ion batteries for electric vehicles and consumer electronics.

The Territory is Australia's only lithium producer outside of Western Australia and is well-placed to help meet this demand.

The Territory has significant lithium resources and exploration potential associated with spodumene-bearing pegmatites in the Bynoe pegmatite field, located close to the port of Darwin, where the Territory's first lithium mine is in production.

Ongoing exploration by multiple companies is expected to grow the resource base in the Bynoe field. Total lithium resources increased by 84% in 2023, with resource upgrades by Core Lithium and a maiden Indicated and Inferred mineral resource defined by Lithium Plus Minerals Ltd at the Lei deposit 5 km from Core Lithium's BP33 deposit. There are also numerous earlier stage exploration projects underway, including in the Barrow Creek and Anningie pegmatite fields in the Aileron Province of Central Australia.

Lithium mineral resources

Name	Total JORC mineral resource	Contained Li (kt)	Company
Finniss	30.6 Mt @ 1.31% Li ₂ O	186.2	Core Lithium Ltd
Grants	2.78 Mt @ 1.47% Li ₂ O	Included in Finniss global resource	
BP33	10.5 Mt @ 1.53% Li ₂ O	Included in Finniss global resource	
Carlton	6.18 Mt @ 1.38% Li ₂ O	Included in Finniss global resource	
Lei	4.1 Mt @ 1.43% Li ₂ O	27.2	Lithium Plus Minerals Ltd
Total		213.4	

Case study: Finniss

Core Lithium Ltd | ASX:CXO
www.corelithium.com.au

Core Lithium Ltd commenced production at the Territory's first lithium mine at the Finniss project near Darwin in late 2022. Mining has progressed at the Grants open pit mine with production guidance of 90–95 kt of spodumene concentrate in 2023/24, plus 46 kt of lithium fines. Concentrate is trucked 88 km to Darwin Port for export.

An updated feasibility study is underway at BP33 deposit, after a doubling of the mineral resource in 2023. Staged development is planned to start at BP33, with other deposits to follow.



Operating mine



JORC Ore Reserves 10.6 Mt @ 1.3% Li₂O



Mine life to 12+ years



Production rate 90–95 ktpa @ 4.7% Li₂O



Close to Darwin Port

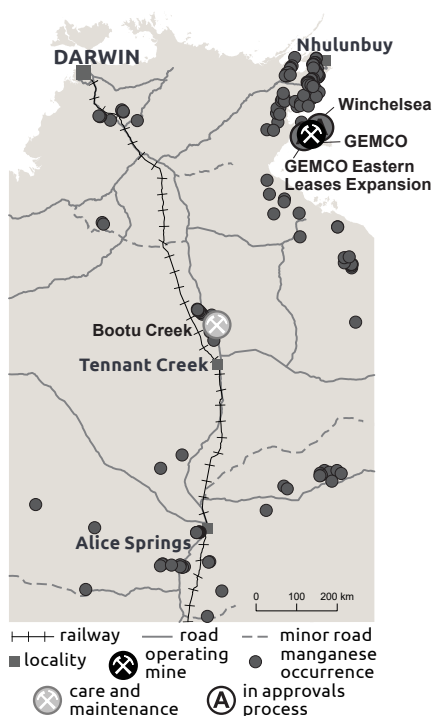


Exploring downstream opportunities



Current lithium explorers in the Territory:

- [Core Lithium Ltd](#), [Lithium Plus Minerals Ltd](#), [Ragusa Minerals Ltd](#), [Charger Metals NL](#), [Evergreen Lithium Ltd](#) and [DeSoto Resources Ltd](#) are having early stage exploration success near Darwin, including in the Bynoe pegmatite field.
- [Askari Metals Ltd](#), [Australasian Metals Ltd](#), [Encounter Resources Ltd](#), [Core Lithium Ltd](#), [Eastern Metals Ltd](#), [Lithium Springs Ltd](#), [Oceana Lithium Ltd](#) and [Tivan Ltd](#) are commencing exploration in the Aileron Province in central Australia including the Barrow Creek and Anningie pegmatite fields.



The Territory is a world leader in manganese production, and will continue to be a major supplier of manganese to meet demand for alloying and battery applications.

GEMCO's Groote Eylandt manganese mine is the world's largest and lowest cost manganese mine. The mine has been in operation since 1966, it produces more than 15% of global production and is the largest contributor annually to the NT mineral production value. A mine expansion into their Eastern Leases was approved in 2023, which should increase the life of mine beyond 2030. OM Manganese Ltd's Bootu Creek mine was in operation from 2006–2021 and a new manganese mine is proposed on Winchelsea Island, near Groote Eylandt with feasibility and early construction works ongoing.

Manganese mineral resources

Deposit	Total JORC mineral resource	Manganese ore (Mt)	Company
GEMCO (ROM)	127 Mt @ 43.6% Mn	127	South 32 Ltd
GEMCO (sands)	13 Mt @ 20% Mn	13	South 32 Ltd
Winchelsea	18.5 Mt @ 20.9% Mn	18.5	Winchelsea Mining Pty Ltd
Bootu Creek	6.92 Mt @ 13.18% Mn	6.9	OM Manganese Ltd
Total		165.4	

Case study: Winchelsea

Winchelsea Mining Pty Ltd
www.wmining.com.au

Winchelsea Mining Pty Ltd are progressing the approvals process for a new manganese mine on Winchelsea Island, off the coast of Groote Eylandt, targeting production for 2025. The proposed project involves low-cost shallow mining with little or no overburden and is majority owned by the local Traditional Owners through the Anindilyakwa Advancement Aboriginal Corporation. The workers base camp was completed in 2023.



Under feasibility



CAPEX A\$100M



Jobs
100 construction
155 mining



16-year
initial
mine life



Mining
agreement with
Anindilyakwa
Land Council

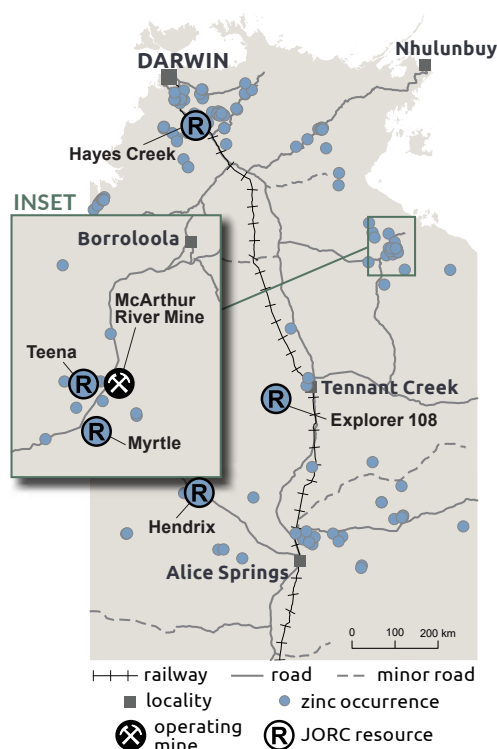


Mineral lease
granted 2022



Manganese production in the Territory:

- \$14.9 billion worth of manganese produced in the Territory in the past decade.
To view the Northern Territory's mineral production value statistics, visit industry.nt.gov.au/economic-data-and-statistics/mining-and-energy/mineral-production-statistics
- Exploration opportunities for sedimentary and hydrothermal manganese deposits.



The Territory is a major zinc producer, and is highly prospective for a range of zinc mineralisation styles.

Glencore's McArthur River mine has been continuously mined since 1995 and is one of Australia's largest zinc mines with a mine life past 2040. Teck Resources Ltd's Teena deposit, located close to McArthur River is the largest recent zinc discovery in Australia. The greater McArthur Basin, South Nicholson Basin and Lawn Hill Platform remain highly prospective for sediment-hosted zinc. This forms part of the Carpentaria Zinc Belt which extends into Queensland and is the world's most productive zinc province with substantial undercover potential in the NT.

The Pine Creek Orogen, Aileron Province and Bonaparte Basin also have known resources and high potential for polymetallic zinc, lead and silver deposits.

Select zinc mineral resources

Deposit	Total JORC mineral resource	Contained Zn (Mt)	Company
McArthur River Mine	136 Mt @ 9.85% Zn, 4.4% Pb, 45 g/t Ag	14.5	Glencore PLC
Teena	58 Mt @ 11.1% Zn, 1.6% Pb	6.4	Teck Resources Ltd
Myrtle	43.6 Mt @ 4.1% Zn, 0.9% Pb	1.8	Teck Resources Ltd
Explorer 108	11.9 Mt @ 3.2% Zn, 2.0% Pb, 11.1 g/t Ag	0.4	Castile Resources Ltd
Hayes Creek	4.1 Mt @ 4.35% Zn, 0.91% Pb, 1.8 g/t Au, 124 g/t Ag, 0.25% Cu	0.2	PNX Metals Ltd
Hendrix	2.6 Mt @ 6.7% Zn, 0.9% Cu, 1.5% Pb, 35 Ag g/t	0.2	Trinex Metals Ltd
Total		22.4	

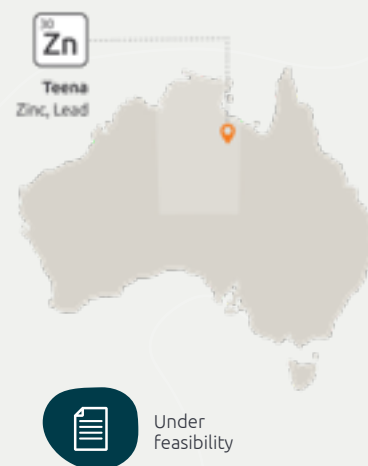
Case study: Teena

Teck Resources Ltd | NYSE:TECK
www.teck.com

Teck Resources Ltd's Teena zinc project is the largest zinc deposit discovered in Australia in the past 30 years, and is located 8 km west of the McArthur River mine. It is a large shale-hosted zinc-lead deposit of a similar style to McArthur River.

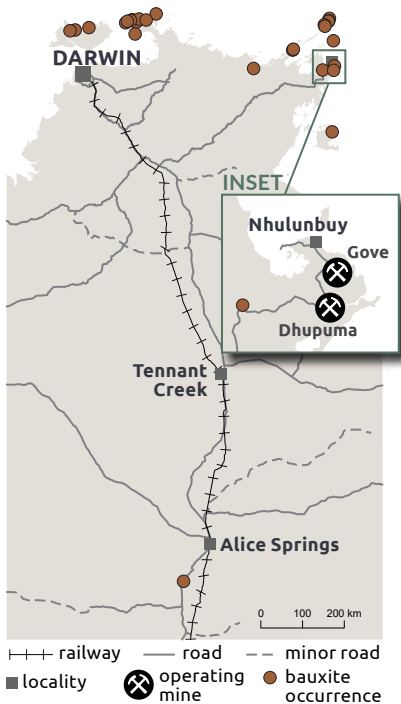
It was discovered in 2013 by Teck Resources in a joint venture with Rox Resources Ltd, with a maiden resource announced in 2016. Teck are now 100% owners of the project, and have continued to advance exploration.

In 2022, Teck announced that Teena is one of five zinc projects globally that are being assessed to identify development options and paths to realise value of the assets.



Zinc production in the Territory:

- McArthur River is the world's 5th largest zinc mine, and is part of the world's most productive zinc province.
- More than \$6 billion worth of zinc produced in NT in the past decade. To view the Northern Territory's mineral production value statistics, visit industry.nt.gov.au/economic-data-and-statistics/mining-and-energy/mineral-production-statistics



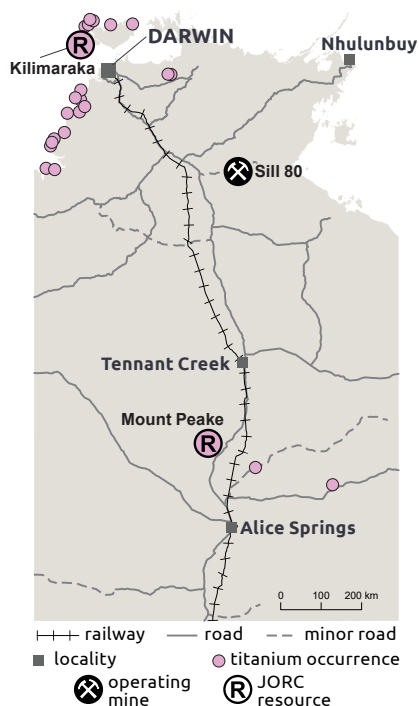
Aluminium is an essential material for the energy transition, as an element of electrical infrastructure, solar panels, and wind turbines, and also has application in some batteries and permanent magnets.

The Territory is a long term producer of bauxite from Rio Tinto's Gove bauxite mine in the Carpentaria Basin in north eastern Arnhem Land. Gove has been mined continuously for more than 40 years with a mine life extending to 2030. Gove produces around 11 million tonnes per annum (tpa) of bauxite and accounts for nearly all past bauxite production and 90% of identified bauxite resources in the NT.

A smaller mine run by the Aboriginal-owned Gulkula Mining Company has been in operation at the Dhupuma Plateau near Gove since 2017 and produces around 500,000 tpa of bauxite. Further lateritic bauxite deposits occur along the northern coastline of Arnhem Land and adjacent islands.

Aluminium/bauxite mineral resources

Name	Total JORC mineral resource	Contained Bauxite (Mt)	Company
Gove	68 Mt @ 48.7% Al_2O_3	68	Rio Tinto
Dhupuma Plateau	Not publicly announced		Gulkula Mining Co. Pty Ltd

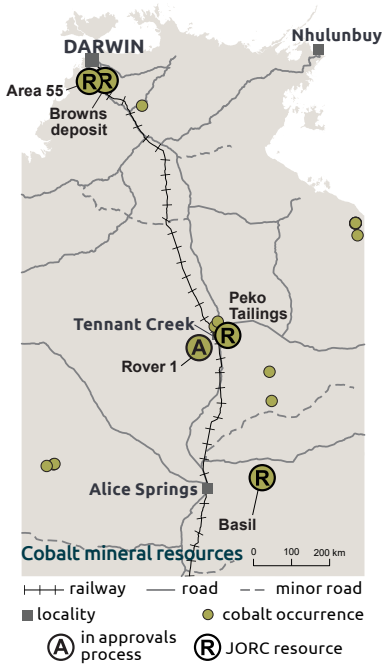


Australian Ilmenite Resources Pty Ltd's Sill 80 ilmenite mine produces high quality ilmenite (titanium-iron oxide) from mineral sands associated with weathered dolerite. While there is no publicly available JORC resources, production is expected to continue past 2030. Ilmenite also occurs in other mineral sands deposits in the NT, including coastal sands on the Tiwi Islands.

Tivan Ltd's Mount Peake deposit in the northern Aileron Province also contains a significant titanium resource associated with vanadium-rich magnetite in a layered mafic intrusion.

Titanium mineral resources

Name	Total JORC mineral resource	Contained titanium product (kt)	Company
Sill 80	Not publicly announced		Australian Ilmenite Resources Pty Ltd
Mount Peake	160.4 Mt @ 0.28% V_2O_5 , 5.3% TiO_2 , 23% Fe	8,501 kt TiO_2	Tivan Ltd
Kilimaraka	56.2 Mt @ 1.6% Heavy mineral sands (60.9% titanium bearing minerals)	368 kt ilmenite, 57 kt rutile and 34 kt leucoxene	Tiwi Resources Pty Ltd



There is strong demand for cobalt to accommodate the rapid growth of the lithium-ion battery market for electric vehicles.

The Territory is an emerging producer of cobalt associated with ironstone-hosted copper-gold mineralisation in the Tennant Creek and Rover mineral fields. In the Rover field, Castile Resources Ltd have defined a cobalt resource at the Rover 1 copper-gold deposit, and are planning future production of pure cobalt metal. High-grade copper and cobalt intersections have been reported at Emmerson Resources Ltd's Hermitage and Jasper Hills prospects north of Tennant Creek. Opportunities also exist to extract cobalt from tailings associated with historic mines in the Tennant Creek field. Elmore Ltd's Peko Tailings project is currently producing magnetite, with potential to extract cobalt and copper from the tailings.

The largest known cobalt resource in the NT is at the Browns deposit near Batchelor in the Pine Creek Orogen, where cobalt occurs within a large resource that also contains copper, nickel and lead.

Sediment hosted cobalt-nickel-copper mineralisation occurs in the McArthur Basin, with significant exploration underway for sediment-hosted copper-cobalt mineralisation.

In Central Australia, laterite-hosted nickel-cobalt occurs in the southwestern Aileron Province and mafic-hosted copper-cobalt resources have been defined in the Irindina Province.

Cobalt mineral resources

Name	Total JORC mineral resource	Contained Co (kt)	Company
Rover 1	5.58 Mt @ 1.76 g/t Au, 1.49% Cu, 0.07% Co, 23.2% magnetite	3.9	Castile Resources Ltd
Peko Tailings	3.62 Mt @ 1.1 g/t Au, 0.22% Cu, 0.1% Co	3.6	Elmore Ltd
Basil	26.5 Mt @ 0.57% Cu, 0.05% Co	13.3	Typhon Minerals Pty Ltd
Stanton	0.94 Mt @ 0.13% Co, 0.12% Cu, 0.061% Ni	1.2	NT Minerals Ltd
Browns Sulfide	45.1 Mt @ 0.35% Cu, 3.74% Pb, 0.73% Zn, 0.09% Co, 0.07% Ni	40.6	Northern Territories Resources Pty Ltd
Browns Oxide	9.4 Mt @ 0.82% Cu, 0.14% Co, 0.14% Ni	13.2	Northern Territories Resources Pty Ltd
Area 55	8.7 Mt @ 0.51 % Cu, 0.13 % Co, 0.15 % Ni	11.3	Northern Territories Resources Pty Ltd
Total		87.1	



In approvals process



CAPEX
A\$280.2M



JORC Ore Reserves
3.11 Mt @ 2.02 g/t Au,
1.52% Cu, 0.07% Co,
22.9% Magnetite



8+ year
mine life



Production rate
28,7000 oz Au | 6,900 t Cu |
300 t Co | 75,300t Magnetite



Looking for
offtake in 2025

Case study: Rover 1

Castile Resources Ltd | ASX:CST
www.castile.com.au

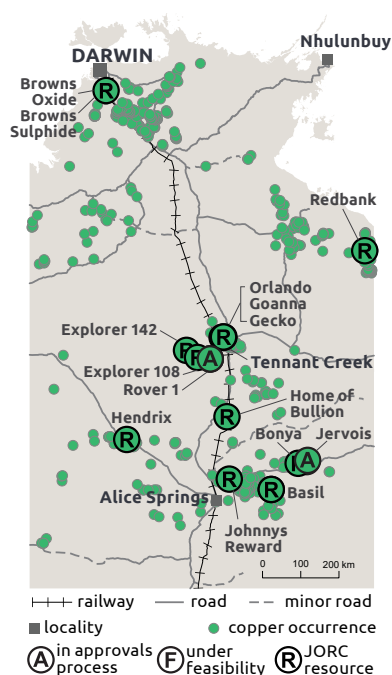
Castile Resources Ltd's Rover 1 is a polymetallic iron oxide copper-gold (IOCG) deposit located 80 km southwest of Tennant Creek.

The project has completed a pre-feasibility study proposing an underground operation, utilizing an electrified load and haul fleet, with downstream processing to produce gold dore, 99% copper metal, 99% cobalt and high grade industrial magnetite.

Castile Resources Ltd have a Bankable Feasibility Study in progress with final metallurgical test work in preparation for test pilot plant. Potential for resource growth exists with the deposit open at depth and similar ore bodies identified nearby.



Rover 1
Cobalt



Copper remains key to global decarbonisation and electrification with demand rapidly expected to outgrow supply. The Territory remains underexplored for copper with opportunities across many provinces and mineralisation styles.

The Aileron province is a significant emerging greenfields copper province with a variety of mineralisation styles identified across a large area. The most advanced project is KGL Resources Ltd's Jervois copper project, which has mining approvals in place.

The Warramunga Province hosts the Tennant Creek mineral field, where the majority of the Territory's past copper production has been sourced from ironstone-hosted gold-copper-bismuth deposits. Significant copper-gold resources remain in the field, and the associated Rover field, including Castile's Rover 1 deposit. Recent high grade copper-gold discoveries near Tennant Creek include the Hermitage and Bluebird prospects. Vast areas east of Tennant Creek have high potential for copper-gold deposits beneath sedimentary cover.

The greater McArthur Basin, and equivalent successions in the South Nicholson Basin and Lawn Hill Platform have substantial and largely untested potential for sediment-hosted copper mineralisation. South32 Ltd are undertaking regional scale greenfields exploration programs for sediment-hosted copper in joint-venture with Encounter Resources Ltd.

Select copper mineral resources

Deposit	Total JORC mineral resource	Contained Cu (kt)	Company
Jervois	23.8 Mt @ 2.02% Cu, 25.3 g/t Ag, 0.25 g/t Au	480.8	KGL Resources Ltd
Rover 1	5.58 Mt @ 1.76 g/t Au, 1.49% Cu, @ 0.07% Co, 23.2% magnetite	83.1	Castile Resources Ltd
Home of Bullion	3.1 Mt @ 1.7% Cu, 2.0% Zn, 1.1% Pb, 35 g/t Ag, 0.17 g/t Au, 0.02% Co	52.7	Eastern Metals Ltd
Basil	26.5 Mt @ 0.57% Cu, 0.05% Co	151.1	Typhon Minerals Pty Ltd
Hendrix	2.6 Mt @ 6.7% Zn, 0.9% Cu, 1.5% Pb, 35 g/t Ag	23.4	Trinex Metals Ltd
Explorer 142	176,000 t @ 5.21% Cu, 0.21 g/t Au	9.2	Castile Resources Ltd
Explorer 108	5.7 Mt @ 0.36% Cu	20.5	Castile Resources Ltd
Gecko	1.48 Mt @ 2.5% Cu	37.0	CuFe Ltd
Goanna	2.92 Mt @ 1.84% Cu, 0.17 g/t Au	53.7	CuFe Ltd
Orlando	2.89 Mt @ 1.3% Cu, 1.4 g/t Au	37.6	CuFe Ltd
Redbank	8.4 Mt @ 1.1% Cu	92.4	NT Minerals Ltd
Browns Oxide	9.4 Mt @ 0.82% Cu, 0.14% Co, 0.14% Ni	77.1	Northern Territories Resources Pty Ltd
Browns Sulfide	45.1 Mt @ 0.35% Cu, 3.74% Pb, 0.73% Zn, 0.09% Co, 0.07% Ni	157.9	Northern Territories Resources Pty Ltd
Total		1,276.4	

Case study: Jervois

KGL Resources Ltd | ASX:KGL
www.kglresources.com.au

KGL Resources Ltd plan to develop an open cut and underground mine to produce copper concentrate at Jervois, 270 km northeast of Alice Springs. All mining and environmental approvals are in place with an investment decision pending.

The mine will consist of two open cut mines (Reward and Bellbird) that will be developed first, followed by underground mining at four deposits.

The feasibility study is based on a mine with a 11.75 year life, producing 26,700 t per year of copper, 945 koz of silver and 6.5 koz of gold within a concentrate.

Copper concentrate from the project will be trucked to the Glencore smelter in Mount Isa. The copper mineral resource is likely to continue to grow with further exploration, and strong potential to extend the mine life.



Mining approvals in place



JORC Ore Reserves
11.73 Mt @ 2.1% Cu,
0.29 g/t Au, 29.8 g/t Ag



11.75+ year
mine life



Production rate
24,700 tpa Cu

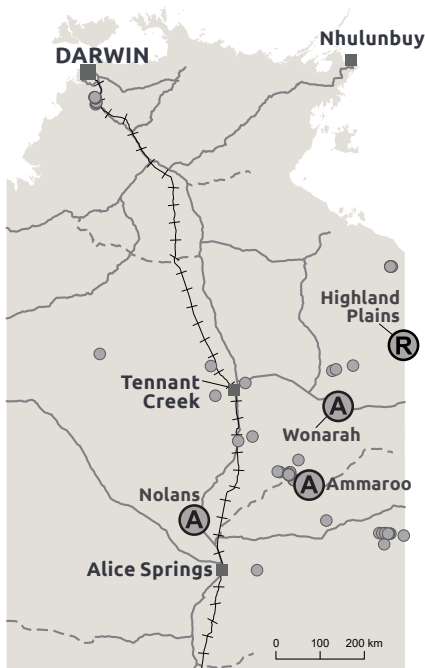


Jobs 200



CAPEX
A\$298M





—+—+ railway — road - - - minor road

■ locality ● phosphate occurrence

Ⓐ in approvals process

Ⓡ JORC resource

The demand for phosphate for fertilisers will continue as global food production needs to increase. Rapid growth of lithium-iron-phosphate (LFP) batteries for the electric vehicle and energy storage industries provides an additional market for phosphate products.

The Territory has Australia's largest undeveloped rock phosphate deposits in the Georgina Basin, including Verdant Minerals Ltd's Ammaroo deposit and Avenira Ltd's Wonarah deposit. These deposits comprise high-tonnage, near-surface sedimentary phosphorite. The resources have potential for near-term production of rock phosphate as direct shipping ore, with potential for value added products including yellow phosphorus, phosphoric acid, ammonium fertilisers and LFP cathode material. Potential exists for further phosphate discoveries in the vast Georgina and Wiso basins.

Arafura Rare Earths Ltd's rare earth deposit, Nolans, also contains a sizable phosphate resource, with planned production of 144,000 tpa of fertilizer-grade (54%) phosphoric acid from the proposed rare earth extraction plant.

Phosphate mineral resources

Name	Total JORC mineral resource	Contained P_2O_5 (Mt)	Company
Ammaroo	1,141 Mt @ 14% P_2O_5	159.7	Verdant Minerals Ltd
Nolans	56 Mt @ 2.6% REO, 11% P_2O_5	6.2	Arafura Rare Earths Ltd
Wonarah	842 Mt @ 18.1% P_2O_5 (including DSO 66 Mt @ 30% P_2O_5)	149.1	Avenira Ltd
Highland Plains	53 Mt @ 16% P_2O_5	8.5	Gibb River Diamonds Ltd
Total		323.5	

Case study: Wonarah

Avenira Ltd | ASX:AEV

www.avenira.com

Avenira Ltd is progressing development of the Wonarah phosphate project, located 245 km east of Tennant Creek near the Barkly Highway. Avenira is proposing that feedstock from Wonarah will enable three product streams:

- direct shipping ore (DSO) phosphate to supply fertiliser markets,
- thermal grade phosphoric acid, and
- lithium-iron-phosphate (LFP) cathode active material.

The DSO operation, with an initial 14 months mine plan, will focus on export of high-grade (>30% P_2O_5) phosphate ore through Darwin Port. A Scoping Study has been completed on production of LFP including a yellow phosphorus plant at the mine site and a thermal phosphoric acid plant and LFP plant at the Middle Arm Sustainable Development Precinct near Darwin. A Memorandum of Understanding exists between Taiwanese battery manufacturer Aleees, Avenira and the Northern Territory Government on a potential LFP battery cathode manufacturing plant in Darwin.



In approvals process



JORC resources
DSO: 66 Mt @ 30% P_2O_5



Proposed production
one-train 10,000 tpa, or
three-train 30,000 tpa



Proposing
downstream
opportunities



Downstream plans for phosphate in the Territory:

- Australia's largest undeveloped phosphate deposits.
- Plans for downstream processing to products including phosphoric acid, yellow phosphorus, ammonium fertilisers and LFP.



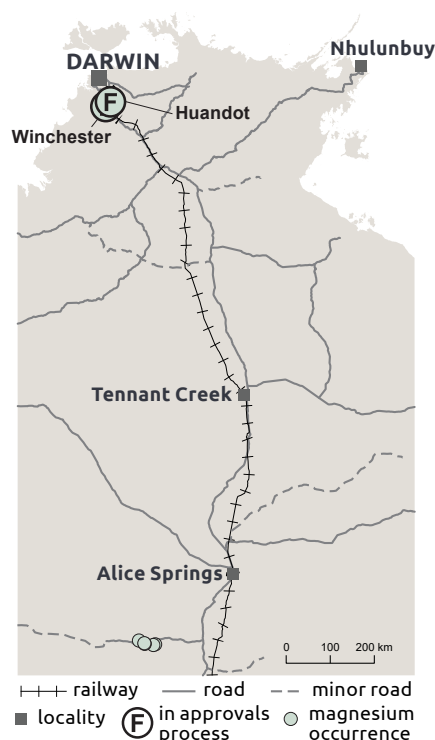
Magnesium



METAL ALLOYS



ELECTRONICS



Magnesium metal is used as an alloying element to increase aluminium's rigidity and strength in aerospace and automotive applications, and is used in a range of electronics including mobile phones.

The Territory has significant magnesite deposits located near Batchelor in the Pine Creek Orogen, 75 km south of Darwin. Korab Resources Ltd's Winchester and Thessally Resources Pty Ltd's Huandot deposits occur as stratabound bodies within the Celia and Coomalie Dolostones, and are located close to infrastructure and the Darwin Port. Both projects are undergoing scoping or feasibility studies including investigation of downstream processing options to produce caustic calcined magnesia and/or magnesium metal.

Magnesium mineral resources

Deposit	Total JORC mineral resource	Contained Magnesite (Mt)	Company
Huandot	9.1 Mt @ 44.3% MgO	9.1	Thessally Resources Pty Ltd
Winchester	16.6 Mt @ 43.2% MgO	16.6	Korab Resources Ltd
Total		25.7	

Case study: Huandot

Thessally Resources Pty Ltd (private company)

www.thessally.com.au

Thessally Resources' high-grade Huandot magnesite deposit is just 80 km south of Darwin Port, proximal to road, rail, solar power and gas infrastructure. Huandot's magnesite resources are amenable to low-cost mining and simple processing. Recent drilling has demonstrated mineralisation is open along strike and to depths of more than four times the limits of the existing resource model, providing confidence for the potential for significant expansion of the current Mineral Resource estimate. The project is permitted for bulk sampling, with baseline studies underway for mine permitting. Thessally Resources is progressing studies for a low-impact, staged development path (direct shipping magnesite ore, calcined magnesia and ultimately magnesium metal). The project presents a significant development opportunity close to Darwin with potential to supply magnesia markets at scale.



Under feasibility



CAPEX
Stage 1 DSO:
A\$4.5M
Stage 2 CCM:
A\$40M



JORC resources
9.3 Mt @ 43.2%
MgO



Low strip
ratio, open
cut mine,
simple
processing



Seeking
investment/
offtake

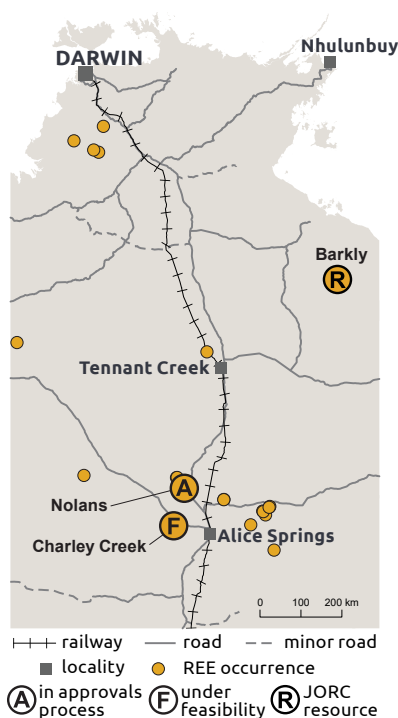


Multiple
downstream
processing
options



Magnesium in the Territory:

- Significant near-surface magnesite resources located close to infrastructure.
- Potential for near-term mining with downstream processing opportunities.



There is growing global demand for permanent NdFeB magnets used in wind turbines, audio and electronics, electric vehicles and emerging fusion energy technology.

The Territory's most significant rare earth deposit, Arafura Rare Earths Ltd's Nolars project, is located in the Aileron Province north of Alice Springs, and promises to be Australia's first integrated mining and rare earth separation project. The deposit is hosted within fluorapatite veins containing allanite and monazite, and is rich in the magnet-feed rare earths neodymium and praseodymium (NdPr).

The Territory has high exploration potential for a range of rare earth mineralisation styles. This includes rare earth elements within xenotime and monazite in heavy mineral sands in central Australia and the Tiwi Islands, carbonatite-related rare earth elements in Central Australia, discoveries of clay-hosted rare earth elements in the northern half of the Territory and vein-hosted xenotime (heavy rare earth elements) in the Tanami Region. In 2023, Transition Minerals Ltd announced a maiden resource of regolith-hosted rare earths at their Barkly REE-V project, with high NdPr grades and initial testwork showing excellent recoverability of NdPr.

Rare earth oxide (REO) mineral resources

Name	Total JORC mineral resource	Contained REO (kt)	Company
Nolars	56 Mt @ 2.6% REO, 11% P ₂ O ₅	1456.0	Arafura Rare Earths Ltd
Barkly	40 Mt @ 0.21% TREO (incl. 640ppm NdPr)	84	Transition Minerals Ltd
Charley Creek	805 Mt @ 0.029% TREO including 0.04% Monazite, 0.01% Xenotime 0.05% Zr	233.45	Enova Mining Ltd
Total		1,773.5	

Case study: Nolars

Arafura Rare Earths Ltd | ASX:ARU

www.arultd.com

Arafura Rare Earths Ltd's Nolars project is globally significant with the potential to meet around 4% of the world's global supply of NdPr.

The company has all approvals in place for mining through to onsite separation of rare earths to produce 4,440 tpa of NdPr oxide and 470 tpa of a mixed middle-heavy rare earth (SEG/HRE) oxide (REO). They also plan to produce 144,000 tpa of fertilizer-grade phosphoric acid (54% P₂O₅). Enabling construction works were completed in 2023. Binding offtake agreements in place with Hyundai, Kia and Siemens Gamesa for up to 2,020 tpa NdPr oxide. Debt financing package of A\$811 million from Export Finance Australia and Northern Australia Infrastructure Fund secured in March 2024.



Mining approvals in place



CAPEX A\$1.06B
OPEX A\$200M



JORC Ore Reserves
29.5 Mt @ 2.9%
REO, 13% P₂O₅



39+ year
mine life



Onsite
downstream
production



Binding
offtake
agreements



Proposed rare earth production in the Territory:

- First rare earth production in the Territory is scheduled for 2026-27.
- Australia's first integrated mining and rare earth separation operation planned at Nolars.

²³V Vanadium

³¹Ga Gallium



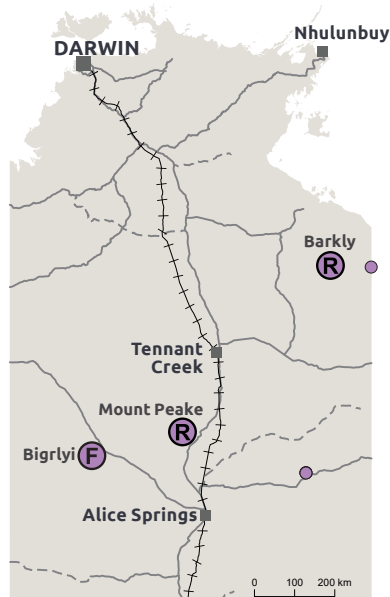
METAL ALLOYS



BATTERIES



AEROSPACE



+++ railway — road --- minor road
 ■ locality ● vanadium occurrence
 (F) under feasibility (R) JORC resource

The demand for vanadium is expected to rise as the technology for long lifespan and durable vanadium redox flow batteries improves.

Tivan Ltd's Mount Peake deposit in the northern Aileron Province near Barrow Creek contains the Territory's largest high grade vanadium resource, associated with vanadium-rich magnetite in near-surface mafic intrusion. Exploration potential exists throughout the Aileron Province for further mafic-hosted vanadium magnetite occurrences.

Vanadium also occurs in sandstone-hosted uranium deposits in Central Australia. Energy Metal Ltd's Bigrlyi deposit is a shallow sandstone-hosted uranium-vanadium deposit that occurs on the edge of the Ngalia Basin. Laterite-hosted vanadium mineralisation has been recorded in the Carpentaria Basin. The Territory's vanadium resources increased by 50% in 2023, with Transition Minerals Ltd announcing a maiden Inferred Mineral Resource at the Barkly REE-V project, where vanadium is hosted within the regolith profile.

Transition Minerals Ltd also defined an Inferred Mineral Resource of 200 Mt at 30 ppm Ga (for 6,300 t contained gallium) associated the Barkly REE-V deposit. Testwork is underway to understand the recoverability of gallium in the deposit. Kingsland Minerals Ltd have also announced the presence of elevated gallium as a potential by-product at the Leliyn graphite discovery near Pine Creek. Gallium may also occur associated with zinc deposits in the McArthur Basin.

Vanadium and Gallium mineral resources

Name	Total JORC mineral resource	Contained V ₂ O ₅ (kt)	Contained Ga (kt)	Company
Mount Peake	160.4 Mt @ 0.28% V ₂ O ₅ , 5.3% TiO ₂ , 23% Fe	449.1		Tivan Ltd
Barkly	200 Mt @ 0.12% V ₂ O ₅ , 30 ppm Ga	240	6	Transition Minerals Ltd
Bigrlyi	7.5 Mt @ 0.13% U ₃ O ₈ , 0.12% V ₂ O ₅	9.0		Energy Metals Ltd
Total		698.1		

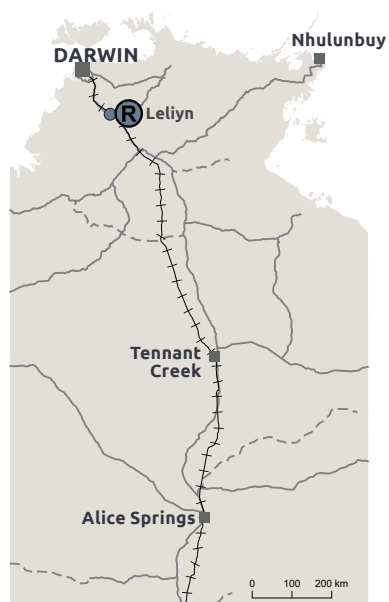
⁶C Graphite



BATTERIES



TECH INDUSTRIES



+++ railway — road --- minor road
 ■ locality ● graphite occurrence
 (R) JORC resource

Graphite is an essential mineral for battery anode material, with the graphite market forecast to move into deficit driven by EV battery demand and new export restrictions by key producers.

The Northern Territory has numerous graphitic units, especially in the Pine Creek Orogen, Tanami Region and Aileron Province, but has seen limited graphite exploration. In 2023, Kingsland Minerals Ltd discovered the Territory's first graphite resource at the Leliyn project near Pine Creek, 200 km south of Darwin. Graphite at Leliyn occurs in a 20 km-long graphitic schist unit with a true width in excess of 100 m. Resource drilling was undertaken in 2023, with Australia's largest graphite resource announced in March 2024. The graphite has an average flake size of 50–80 microns, with testwork underway to test graphite flotation and extraction and the suitability of the product for anode material.

Graphite mineral resources

Name	Total JORC mineral resource	Contained Graphite (kt)	Company
Leliyn	194.6 Mt @ 7.3% total graphitic carbon	14,200	Kingsland Minerals Ltd



Tungsten



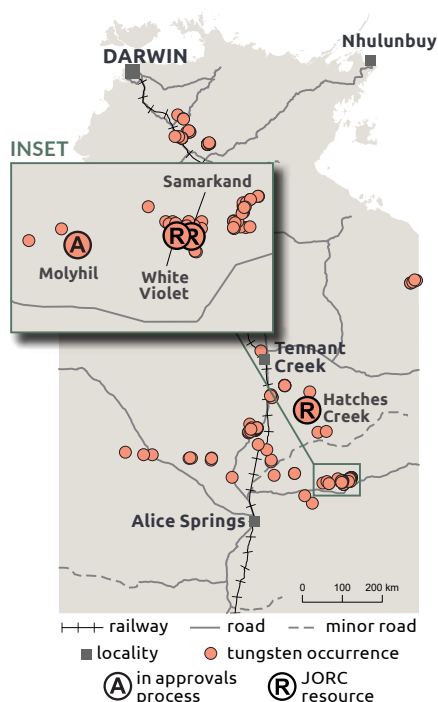
Molybdenum



WIND TURBINES



METAL ALLOYS



Tungsten and molybdenum are both primarily alloying metals used in aerospace, steel hardening, cutting and drilling.

The Territory's most significant tungsten and molybdenum resource is at the Molyhil tungsten and molybdenum deposit hosted in the Aileron Province northeast of Alice Springs. Further tungsten occurrences are present in the Hatches Creek and Wauchope tungsten fields in the Davenport Province that produced most historic production of wolframite and scheelite. Historic occurrences across the Aileron province and Pine Creek Orogen highlight further exploration opportunities.

Tungsten and molybdenum mineral resources

Name	Total JORC mineral resource	Contained WO ₃ (kt)	Contained Mo (kt)	Company
Molyhil	4.39 Mt @ 0.27% WO ₃ , 0.10% Mo	11.8	4.4	Investigator Resources Ltd
Samarkand	0.245 Mt @ 0.19% WO ₃	0.47		Investigator Resources Ltd
White Violet	0.495 Mt @ 0.22% WO ₃	1.1		Investigator Resources Ltd
Hatches Creek (stockpiles)	0.225 Mt @ 0.58% WO ₃	1.3		Tungsten Mining NL
Total		14.7	4.4	

Case study: Molyhil

Investigator Resources Ltd | ASX:IVR
www.investres.com.au

The Molyhil deposit is hosted in a scheelite-molybdenite-magnetite skarn located 220 km northeast of Alice Springs near the Plenty Highway, with estimated resources containing 11,800 t of tungsten and 4,000 t of molybdenum. Investigator Resources Ltd has an option to earn up to an 80% interest in Thor Energy PLC's project with work underway to revalidate the mineral resource estimate as part of Stage 1 of the earn-in commitment.

A Feasibility Study in 2018 was based on a 7-year open pit mine, followed by potential underground mining of deeper extensions of the deposit. In 2023, Investigator Resources Ltd commenced further exploration activities and development studies to progress the project. Additional tungsten resources at the nearby Samarkand and White Violet prospects may also extend the current mine life.



In approvals process



CAPEX A\$69M



JORC Ore Reserves 3.5 Mt @ 0.29% WO₃, 0.12% Mo



7+ year mine life



Production rate WO₃ concentrate 1,850 tpa, Mo concentrate 850 tpa

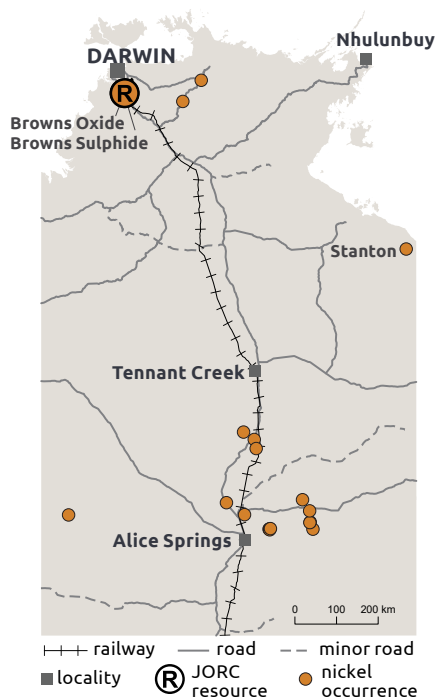


Offtake available



Tungsten and molybdenum in the Territory:

- The largest known tungsten and molybdenum resources occur in skarns in the Aileron Province.
- Tungsten-rich veins and greisens occur in the Davenport Province and Pine Creek Orogen, associated with tin, copper and/or molybdenum.



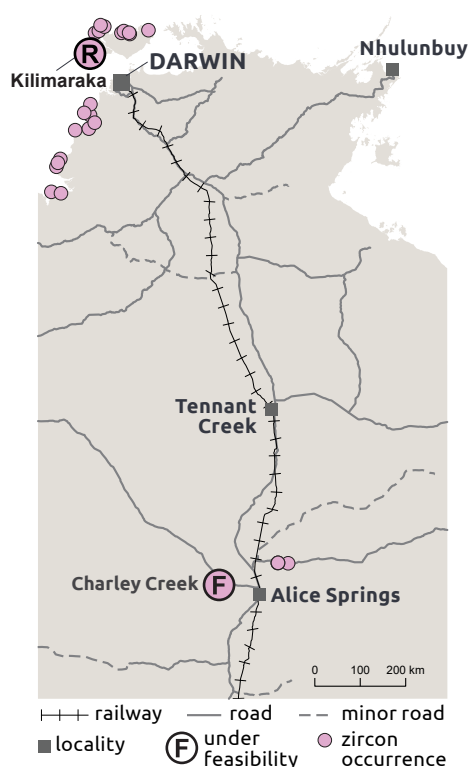
Growth in electric vehicles and renewable energy is fueling demand for nickel and other battery metals.

The Territory is prospective but underexplored for nickel. The only defined resources are in the polymetallic Browns resource in the Pine Creek Orogen, and a small resource at the Stanton Co-Cu-Ni deposit.

There is considerable potential for nickel sulphide deposits in the Aileron and Irindina provinces. While the region remains effectively unexplored for nickel, a number of prospects have been identified with numerous generations of mafic and ultramafic intrusions considered fertile for nickel mineralisation. Feeders to the widespread flood basalts of the Kalkarindji Province are also a prospective exploration target.

Nickel mineral resources

Name	Total JORC mineral resource	Contained Ni (kt)	Company
Browns Oxide	9.4 Mt @ 0.82% Cu, 0.14% Co, 0.14% Ni	13.2	Northern Territories Resources Pty Ltd
Browns Sulphide	45.1 Mt @ 0.35% Cu, 3.74% Pb, 0.73% Zn, 0.09% Co, 0.07% Ni	31.6	Northern Territories Resources Pty Ltd
Stanton	0.94 Mt @ 0.13% Co, 0.12% Cu, 0.061% Ni	0.6	NT Minerals Ltd
Total		45.4	



Zircon is a refractory material and a principal component of metallic zirconium used for nuclear, space, aeronautic and medical applications. There is also growing demand for the zircon chemicals, particularly in catalytic converters for automotive and industrial exhaust systems to reduce emissions.

The Territory is a past producer of zircon from mineral sands deposits on the Tiwi Islands where mining took place between 2006 and 2013.

Enova Mining Ltd's Charley Creek deposit in Central Australia is a large alluvial resource containing monazite, xenotime and an estimated 403 kt of contained zircon. Further resources of mineral sands including more than 92 kt of contained zircon have been defined in the southwest of Bathurst Island on the Tiwi Islands.

Zirconium mineral resources

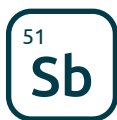
Name	Total JORC mineral resource	Contained Zircon (kt)	Company
Charley Creek	805 Mt @ 0.029% REO and 0.05% Zircon	403	Enova Mining Ltd
Kilimiraka	56.2 Mt @ 1.6% Heavy mineral sands (made up of 11.2% Zircon)	>92	Tiwi Resources Pty Ltd
Total		495	

Emerging critical minerals in the Territory

The Territory has substantial potential to grow its critical minerals inventory. In addition to the Territory's current list of 17 critical minerals, there are 12 additional critical minerals listed in the following pages for which the Territory has known occurrences and demonstrated geological potential. The Territory has seen limited exploration to date for many of these commodities. It is expected that in the coming decade, mineral resources will be defined for some of these commodities, at which time they will move into the Territory's critical minerals list.



Emerging critical minerals in the Territory



Antimony

Antimony occurs as a potential by-product in a number of gold deposits in the Northern Territory. The University of Queensland and NTGS have identified elevated antimony in tailings from historic gold mining in the Pine Creek region.



Bismuth

The Tennant Creek mineral field contains significant gold-bismuth-copper mineralisation with bismuth occurring within a number of projects under feasibility including Castile Resources Ltd's Rover 1 copper-gold deposit, southwest of Tennant Creek. Recent high grade bismuth (and gold) discoveries include Emmerson Resources Ltd's historic Golden Forty deposit.



Fluorine

The Oorabra reefs in the northeastern Aileron Province comprise fluorite-bearing quartz veins up to 13 km long and up to 7 m wide. A historic resource of 85,000 t of fluorite was defined at three reefs in the 1970s.



Germanium

Germanium is known to occur as a by-product in zinc deposits, with potential to occur associated with zinc in the McArthur Basin.



High Purity Alumina

Enova Mining Ltd are investigating the production of high purity alumina from saprolite and clays as a by-product of processing at the Charley Creek rare earths project.



Niobium

Lithium-bearing pegmatites in the Northern Territory locally also have high values of niobium, with the potential for economically significant deposits to occur.

High grade niobium (with rare earths) has been discovered in mineralised carbonatites in the Aileron Province in adjacent regions of Western Australia, with high potential extending into western regions of the NT.

There are no current known resources or exploration for arsenic, beryllium, chromium, hafnium, indium, rhenium or selenium in the Northern Territory, but the Territory remains largely unexplored for these commodities.



Platinum Group Elements (PGE)

The Coronation Hill deposit (now inaccessible) contains 5.7 t palladium and 1.7 t platinum. Other PGE-gold occurrences occur in the Pine Creek area. PGEs have also been intersected in drilling of mafic intrusions in the Aileron Province in Central Australia.



Scandium

Enova Mining Ltd have announced that they are scoping production of scandium oxide from saprolite and clays as part of the Charley Creek rare earths project. No scandium resource has been announced to date.



Silicon

Territory Sands Pty Ltd are actively exploring for high-purity silica sand in the Sturt Plateau region, adjacent to the railway between Katherine and Tennant Creek. There is also untested potential for high-purity silica in quartz blows and veins in metamorphic terranes in the NT, including the Pine Creek Orogen and Aileron Province.



Tantalum

The Territory has a history of tantalum (and tin) mining throughout the outcropping pegmatite fields of the Pine Creek Orogen and northern Aileron Province. Significant exploration potential exist in these regions and undercover, while production is possible in association with lithium from pegmatite fields in the Bynoe region.



Tellurium

Elevated levels of tellurium (100–1000 times average crustal abundance) has been identified in tailings and other waste from historical mining in the Pine Creek region.



Tin

The Territory has a history of tin mining in the Pine Creek Orogen and northern Aileron Province. The Mount Wells project in the Pine Creek Orogen includes an historic Inferred mineral resource of 3,000 t of contained tin, with further exploration potential.

For more information,
go to resourcingtheterritory.nt.gov.au

Department of Industry, Tourism and Trade
T: 08 8999 2006



AUSTRALIA'S
NORTHERN
TERRITORY

THE
TERRITORY
BOUNDLESS POSSIBLE