

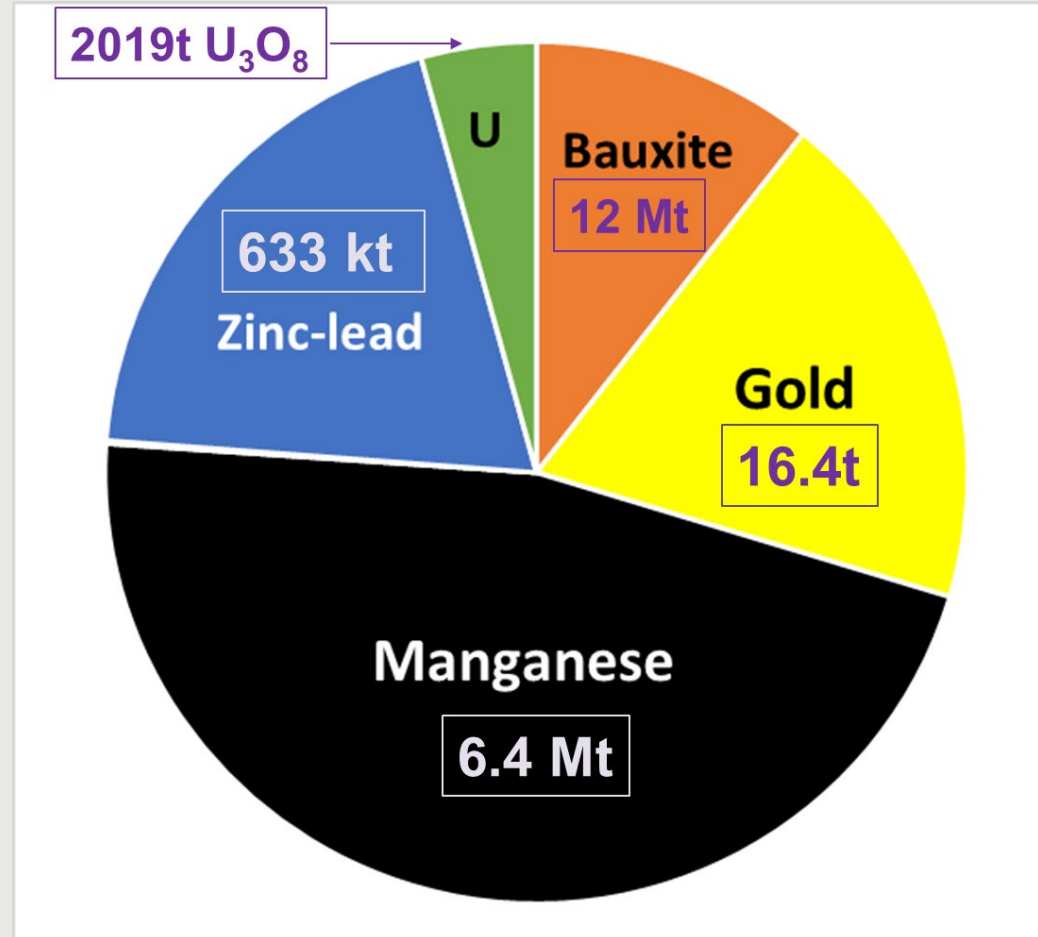
Minerals investment opportunities in the Northern Territory

24/10/19 Ian Scrimgeour

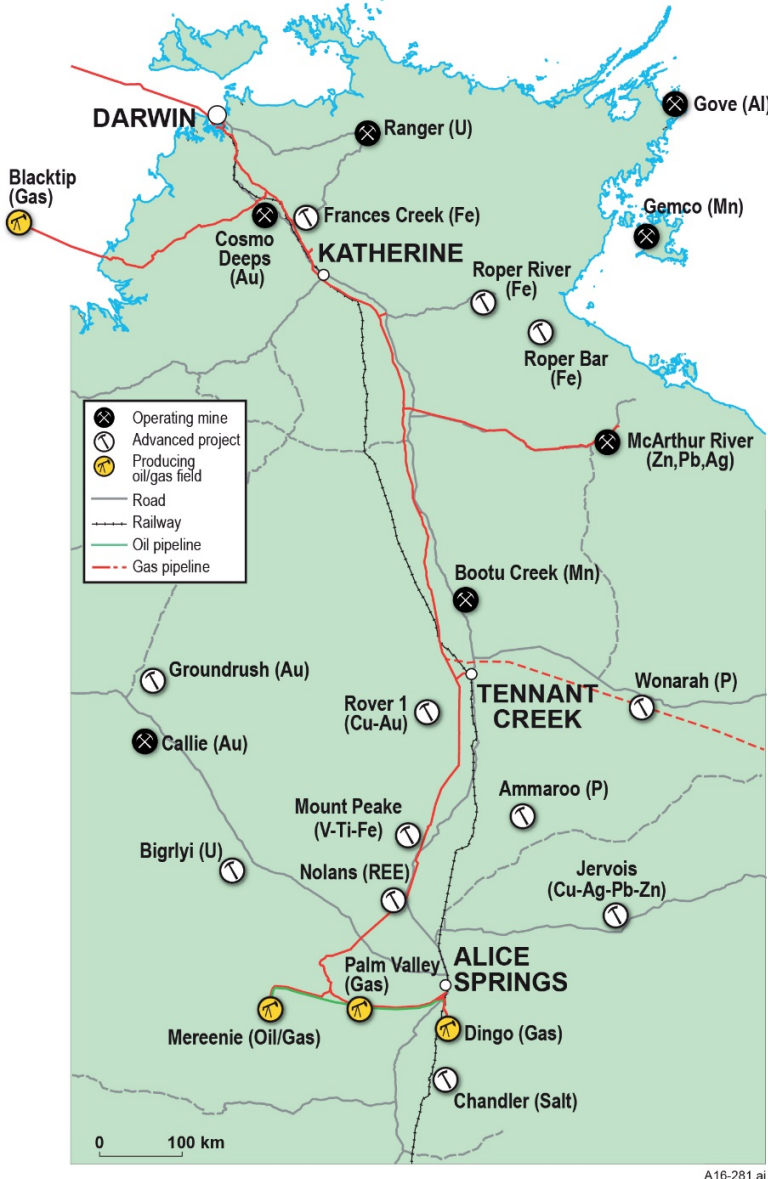


The Territory's mining industry

Value of mineral production 2018/19



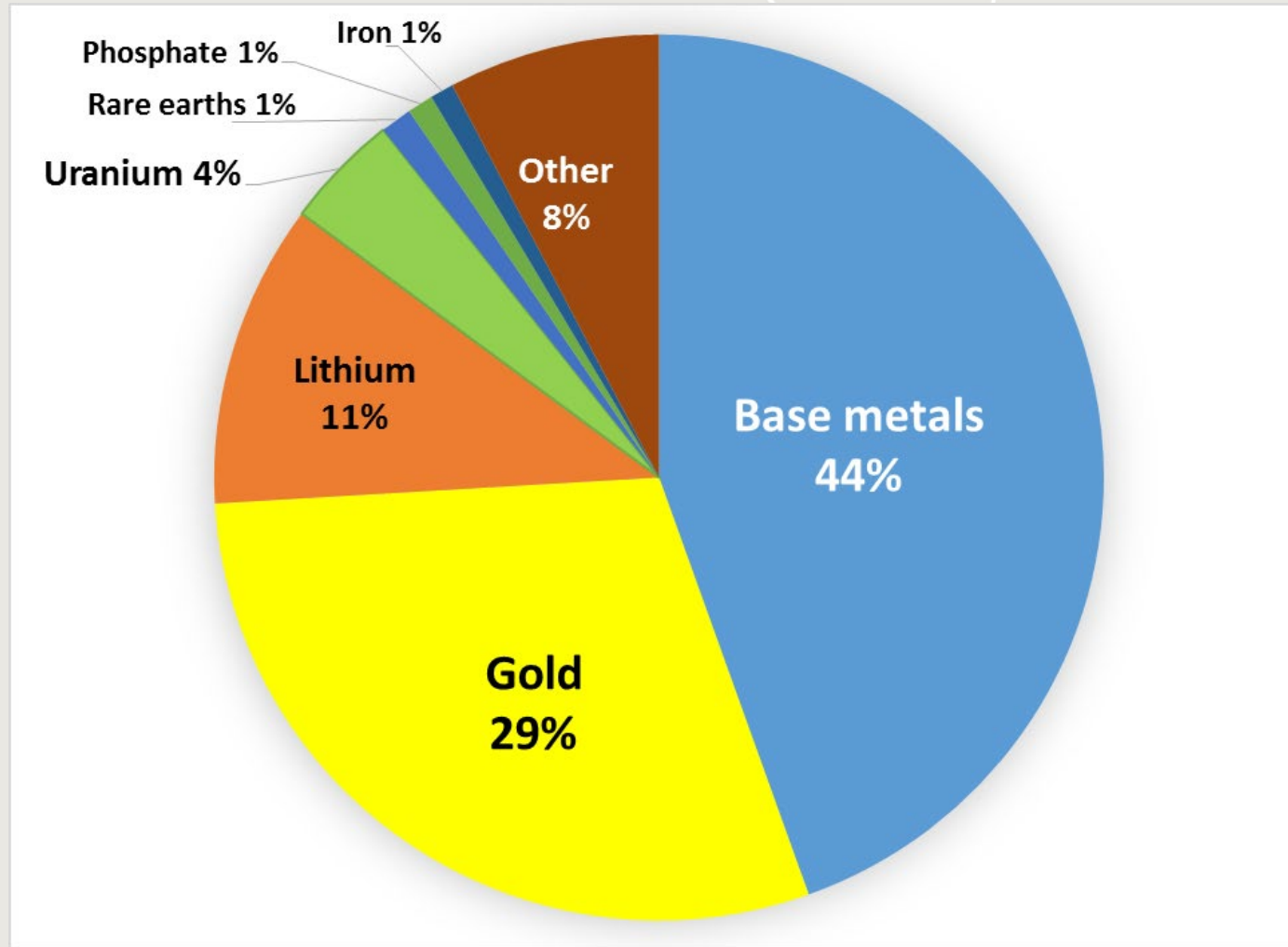
- Total mineral production of **A\$4.92 billion (23.2 billion RMB)** in 2018/19



The Territory's commodities

- Key commodities are **copper, zinc, gold, uranium and lithium**
- Large areas very underexplored
- Other main commodities for exploration and developing projects:
 - **cobalt, potash, phosphate, vanadium, rare earths, tungsten, magnesium**
- Major emerging **onshore gas** sector
- Many projects seeking partners for joint ventures, equity investment, project finance, construction and/or offtake

Exploration expenditure by commodity 2017-18



Projects seeking investment

The NT Government has compiled information on minerals and energy projects seeking investment from Chinese companies

- uranium
- rare earths
- copper
- gold
- phosphate
- zinc-lead
- magnesium
- gas, helium
- vanadium
- titanium
- tungsten
- molybdenum



澳大利亚北部省 矿产与能源投资者须知

达尔文市






本U盘内容：
 - 寻求投资伙伴的项目详情
 - 地质科学与资源信息

Visit: www.core.nt.gov.au

Many Chinese companies have invested into the Territory's minerals and energy sectors

Since 2006, 64 deals valued at more than \$1 billion (RMB 4.8 billion) in Chinese investment have been announced for Northern Territory minerals and onshore gas projects.



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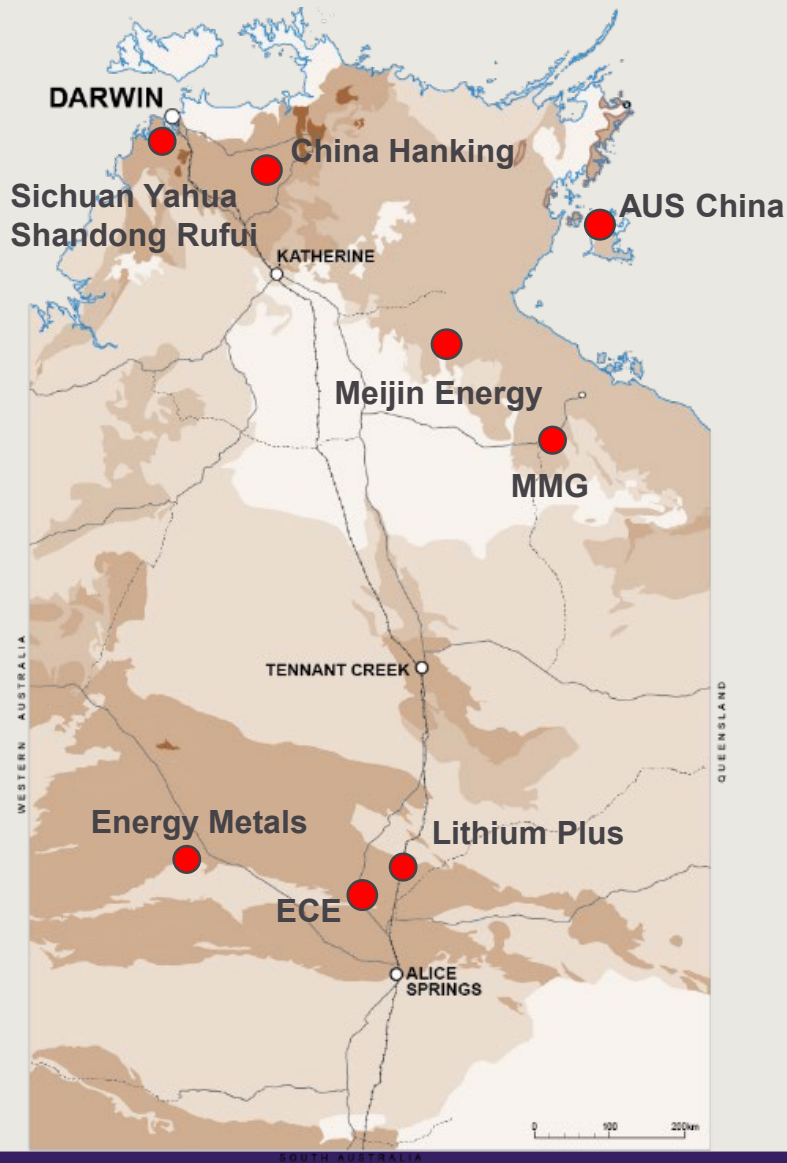
Mo

Mining partnership between indigenous Australians, Chinese company expected to be "game-changer"

Source: Xinhua | 2019-06-20 13:42:26 | Editor: Yang Yi



CANBERRA, June 20 (Xinhua) -- Indigenous Australians have joined forces with a Chinese company on a new mining venture off the coast of the Northern Territory (NT).



Highlights include:

Sichuan Yahua – Equity pre-payment and offtake for lithium project

Shandong Ruifu - Pre-payment and lithium offtake agreement

AUS China International Mining – manganese exploration

China Hanking – large gold resource near Darwin

Meijin Energy – ilmenite mine

MMG (Minmetals) – zinc exploration

Lithium Plus – purchased NT lithium tenements

CGNPC – large uranium projects in central Australia

East China Exploration – equity in rare earths company

2019 Chief Minister's NT Export Industry Award

Australian Ilmenite Resources (AIR) is a subsidiary of Shanxi-based Meijin Energy. AIR specialises in exploration, mining and supply of ilmenite sand in the NT.

In 2016 Meijin acquired AIR and restarted production in 2017. They plan to increase output to 100,000t in 2019-2020

In September 2019, Australian Ilmenite Resources won the prestigious 'Northern Territory Exporter of the Year' award and the Territory's Minerals, Energy and Related Services award.



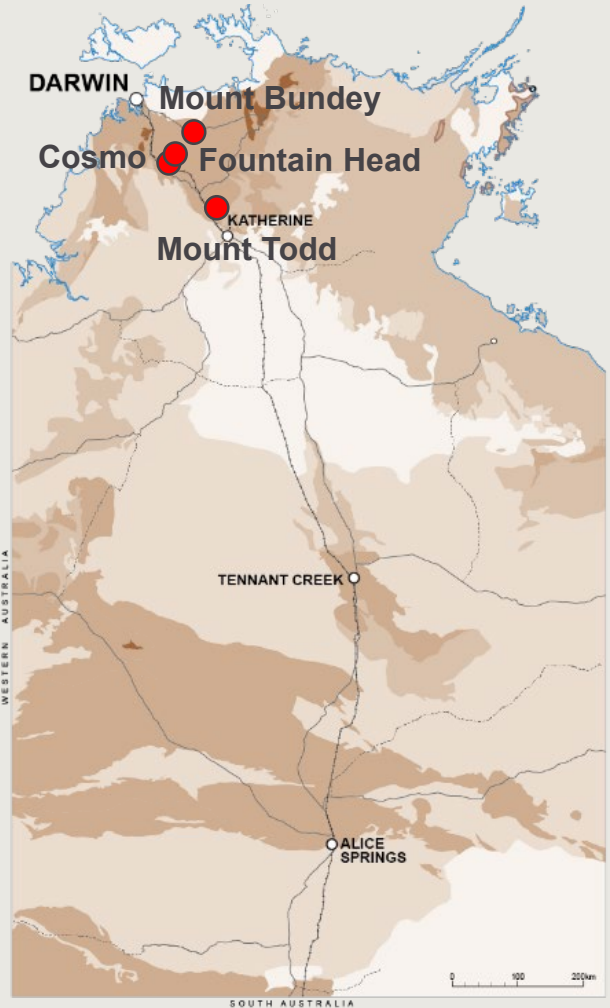
Lithium and other battery commodities in the NT

- Australia's only known lithium resources outside Western Australia
- Located close to Darwin port
- Production scheduled to commence by late-2020
- Other lithium-bearing pegmatite fields remain undrilled
- Also potential for cobalt and vanadium in the NT

Core Lithium and TNG Ltd will present today on lithium and vanadium opportunities in the NT



Gold - Pine Creek region



Long history of gold mining since Chinese gold rush in 1880s

Hanking Australia – *Toms Gully*

Planning to recommence underground mining

Potential opportunities to invest in gold exploration and development

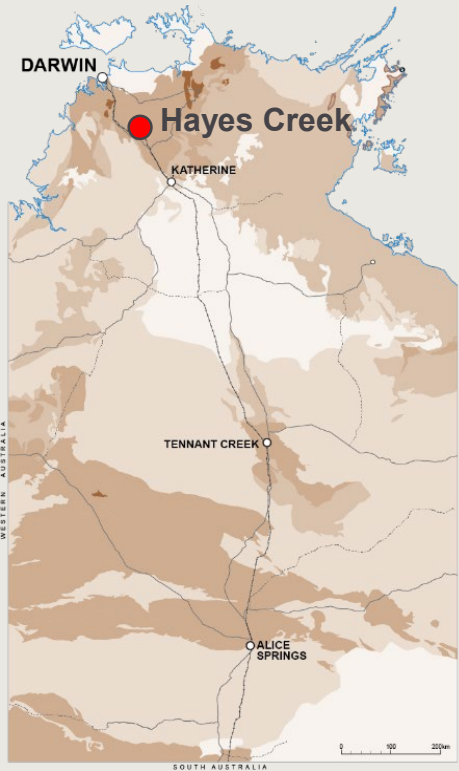
- *Bacchus Resources Pty Ltd* – Woolwonga
- *PNX Metals Ltd* – Fountain Head
- *Vista Gold Corp* – Mount Todd



Au

Gold-zinc-silver

Au Zn Ag



PNX Metals Ltd – Hayes Creek

- High grade zinc-gold-silver massive sulfide deposits located immediately adjacent to railway
- **4.1 Mt @ 4.35% Zn, 1.81% g/t Au, 124g/t Ag, 0.91% Pb and 0.25% Cu**
- Definitive feasibility study underway
- PNX Metals also has gold and lithium projects



Gold - Tanami and Tennant Creek regions

Au



TANAMI REGION

Newmont Goldcorp - mining world class deposit at Callie



TENNANT CREEK

Emmerson Resources – *Mauretania*

20m @ 38.5 g/t Au incl. 4m @ 158 g/t Au

Planning to develop multiple small, high-grade gold mines

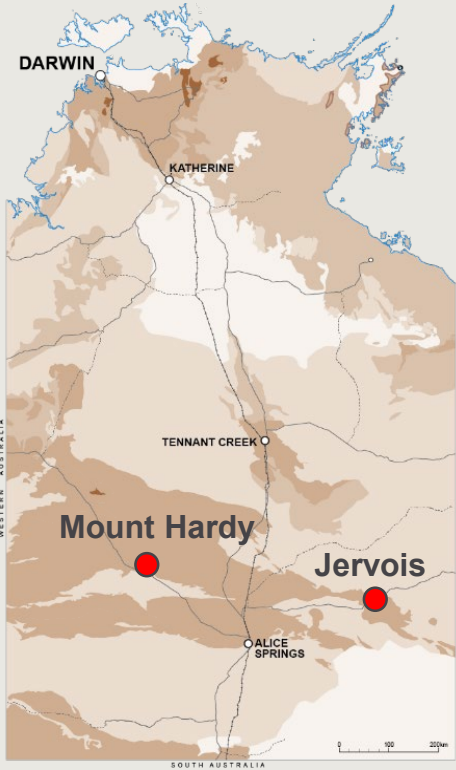
Castile Resources – *Rover 1*

6.91 Mt @ 1.7 g/t Au, 1.2% Cu, 0.1% Bi, 0.1% Co

New company with undeveloped Cu-Au and base metals deposits

Copper-zinc-lead-silver

Cu Zn Pb Ag



Todd River Resources – *Mount Hardy*

New high-grade zinc-lead-copper discovery

Maiden resource:

2.6 Mt @ 6.7% Zn, 0.9% Cu, 1.5% Pb, 35 g/t Ag (10.5% ZnEq)

Further drilling underway on extensional and regional targets



KGL Resources – *Jervois Cu-Ag*

25.8 Mt @ 1.49% Cu, 27.1 g/t Ag

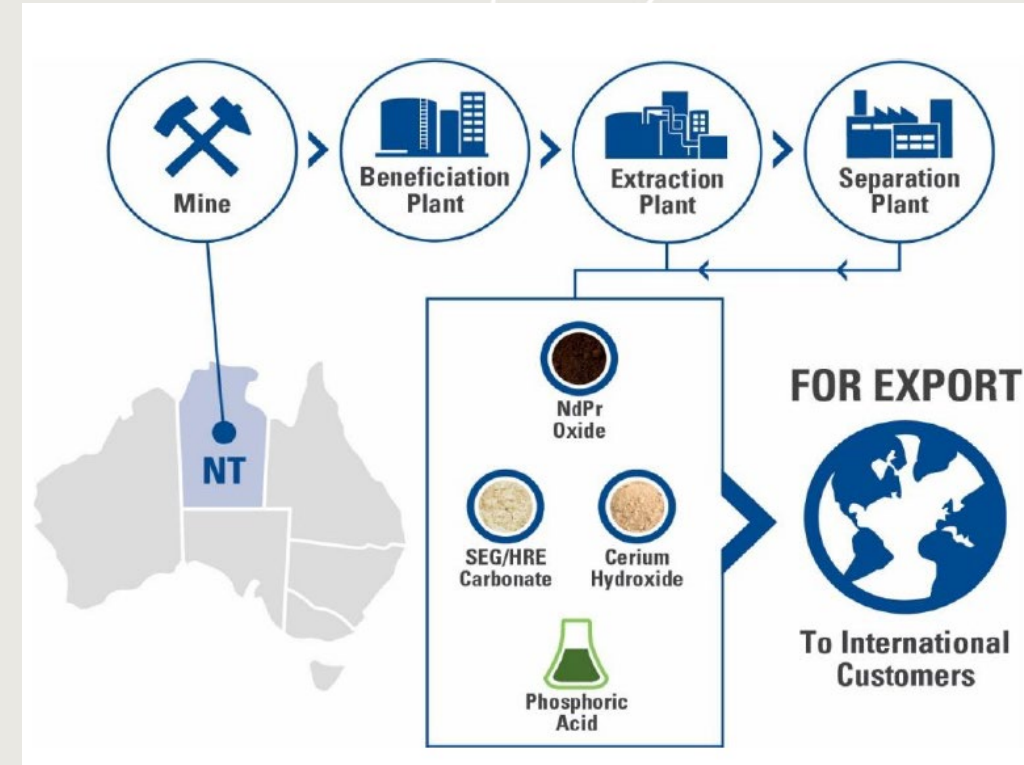
- Aiming to be the Northern Territory's next copper mine
- Final investment decision in next 6-12 months
- Orebodies remain open at depth

Rare earth elements and phosphate

Nd Pr P

Arafura Resources Ltd - Nolans

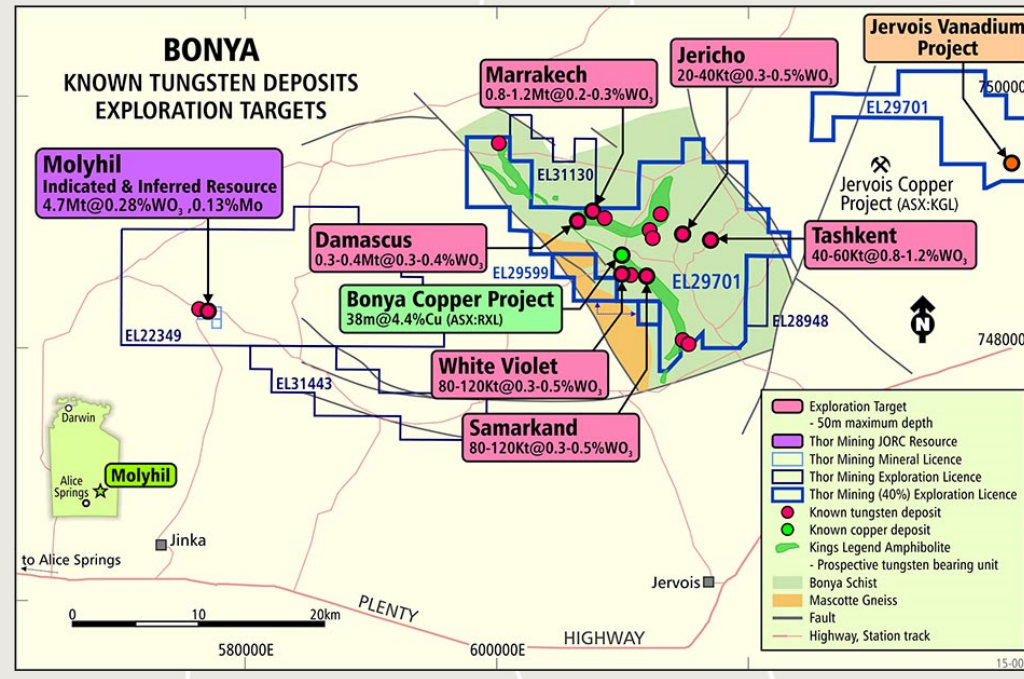
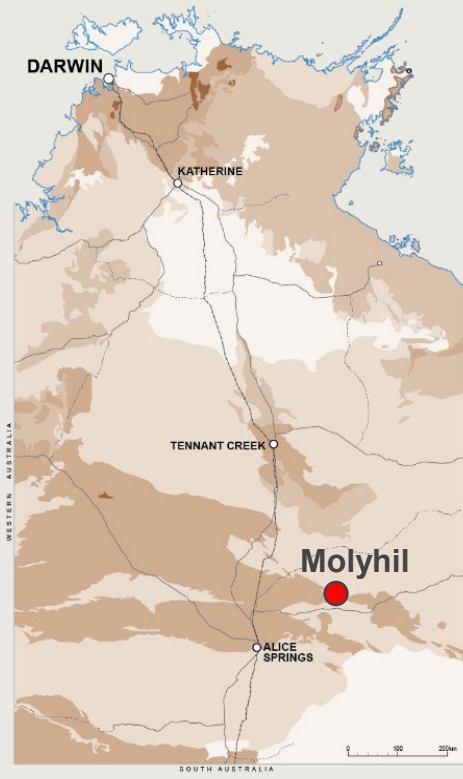
- Apatite vein-hosted deposit
- **56 Mt @ 2.6% REO, 11% P₂O₅,**
- Rich in high-value Nd and Pr
- Definitive feasibility study Feb 2019
- Environmental assessment process complete
- Existing Chinese investor
- Planned annual production:
 - **4357t NdPr oxide**
 - **73,336 tpa phosphoric acid**
 - **HRE carbonate and Ce hydroxide products**



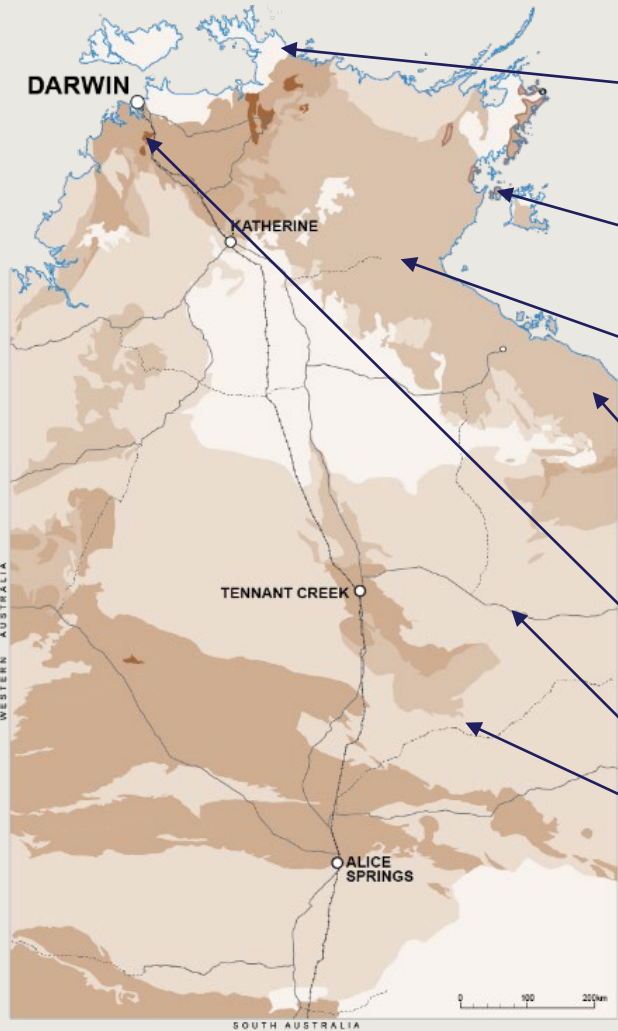
Tungsten-molybdenum-copper

Thor Mining PLC - Molyhil

- Scheelite and molybdenite
- Resource upgrade – October 2019
- 4.71 Mt @ 0.28% WO₃, 0.14% Mo, 0.05% Cu, 18% Fe**
- Most approvals in place
- Updated feasibility study in 2018
- Potential resource growth from tungsten and copper deposits in Bonya area



Other commodities



Uranium – Scoping study completed on potential development of high-grade uranium mine in western Arnhem Land (Vimy Resources Ltd)

Manganese – new exploration licence granted on Winchelsea Island

Iron ore – potential to restart iron ore mining in Roper field (Nathan River Resources and NT Iron Ore)

Cobalt – small cobalt-copper resources defined in northeastern NT (Northern Cobalt Ltd)

Magnesium – undeveloped magnesite deposits near Darwin (Thessaly Resources)

Phosphate – Australia's largest undeveloped phosphate deposits. Verdant Mineral and Avenira Ltd investigating development options

Darwin is Australia's closest LNG hub to China

- US\$37 billion Ichthys LNG Project: initial capacity of 8.4 Mtpa LNG – exports commenced late 2018
- Gas sourced from offshore Browse Basin
- **Total LNG export capacity from Darwin is 12 Mtpa**



Onshore gas and oil – Beetaloo Sub-basin

- Vast, geologically continuous shale gas basin
- Similar in scale and geology to US shale plays
- >500 Tcf of gas in place within B-shale of Velkerri Formation
- First horizontal hydraulically fractured well in 2016 successfully flowed gas
- Multiple dry gas and liquids-rich plays
- Drilling currently underway to test liquids-rich gas play

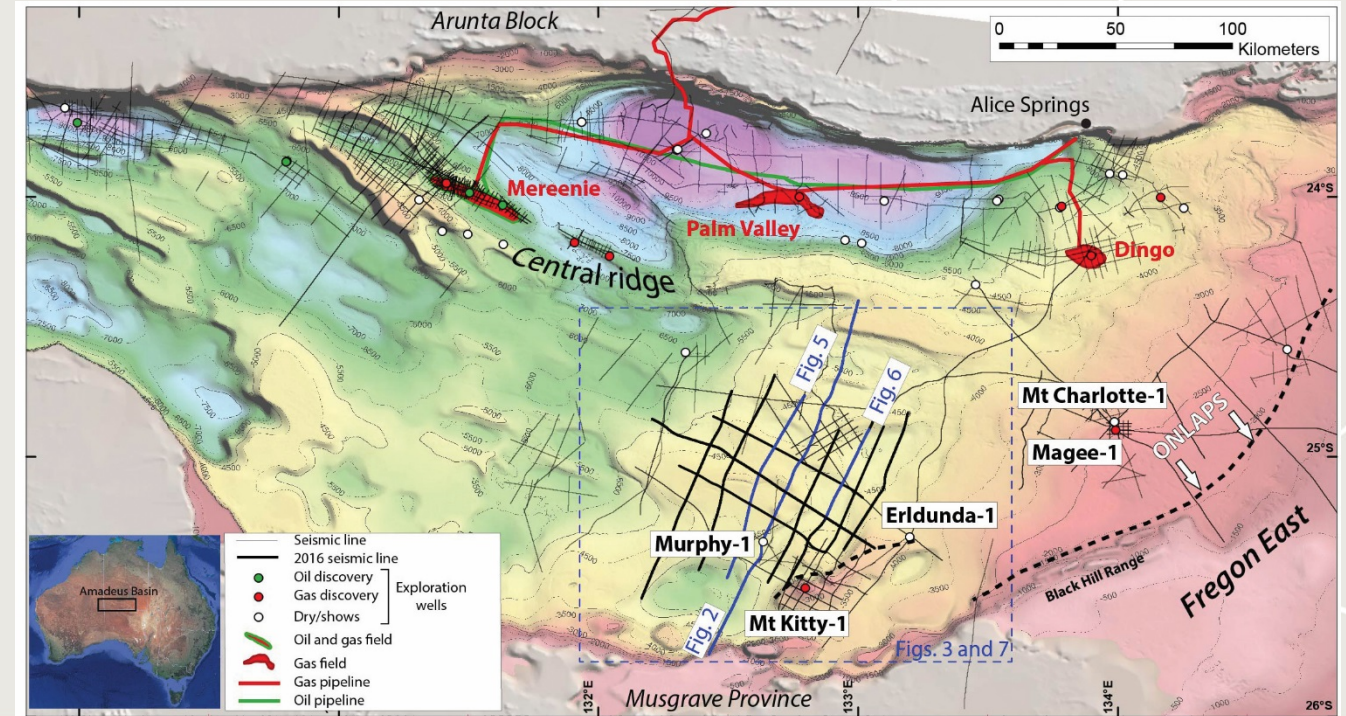
Companies: **Origin Energy/Falcon Oil and Gas; Santos, Sweetpea Petroleum, Imperial Oil and Gas**



Onshore gas and oil – Amadeus Basin

- Continuous gas and oil production since 1980
- Gas production increasing with new markets – pipelines to Darwin and Australia's east coast
- Large sub-salt gas-helium plays remain undeveloped

Companies: Central Petroleum, Mosman Oil and Gas, Santos



Information for investors

The Northern Territory Government supports Chinese investment in our resources sector

Investment Territory and the Northern Territory Geological Survey work together to assist Chinese investors find projects in the NT

We can host inbound delegations from China, and prepare customised visit programs

Facilitation assistance with regulatory processes

High quality, free of charge geoscience information and data



Australia's Northern Territory



- Pro-development , pro-investment Government
- Underexplored with high potential for non-ferrous metals and rare metals
- Pipeline of emerging mining projects and associated infrastructure
- World-class, free-of-charge, publicly available geoscience data
- Commitment from NT Government to support Chinese investors in identifying suitable opportunities