Resources industry trends in the NT

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NT mineral production value 2017/18
Area reflects value of production

- 12.9 Mt bauxite
- 2090t $U_3O_8$
- 17.0t Au
- 530 kt Zn-Pb concentrate
- 6.4 Mt Mn

Record mineral production of $4.49B
The Territory’s pipeline of mining projects

- Grants Li
- Molyhil W-Mo
- Spring Hill Au
- Mount Porter Au
- Bigrlyi U
- Central Tanami Au
- Oberon Au
- BP33 Li
- Karinga potash
- Jervois Cu-Ag
- Tellus salt
- Mount Peake V-Ti-Fe
- Nolans REE-P
- Ammaroo P
- TNG TIVAN plant
- Wonarrah P
- Yarram Fe
- Roper Valley Fe
- Woolwonga Au
- Roper Bar Fe
- Union Reefs Au
- Teena Zn
- Angularli U
- Other Finniss Li
- Maud Creek Au
- Mount Bundey Au
- Mount Todd Au
- Roper Bar Fe
- TNG TIVAN plant
- Other Finniss Li
- Maud Creek Au
- JORC resources
- Notice of intent / feasibility
- Final approvals / finance
NT mineral exploration expenditure 2000-2018
Annual expenditure calculated quarterly

2003 - $41.5M
2011 - $228.4M
2016 - $78.1M
2018 - $123.2M
Greenfields exploration in the NT has doubled since 2014.

Brownfields exploration has rebounded since mid-2017.

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- Greenfields v brownfields expenditure 2004-2018
- Greenfields
- Brownfields
- $ million
- Jul-2004 to Jul-2018
Mineral exploration expenditure by commodity reported to DPIR in 2018

- 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, salt, tungsten, magnesium
- Many projects seeking partners for joint ventures, equity investment, project finance, construction and/or offtake

Tangible on-ground expenditure only (excludes overheads, desktop and feasibility studies)
Producers with strong cash flow investing in the NT as a growth area
The NT’s future as a supplier of critical minerals

Core Lithium – *Finniss project*
8.85 Mt @ 1.3% Li₂O

- Four resources defined
- Discovery and resource growth ongoing
- Grants project passing through development approvals – investment decision planned for 2019

TNG Ltd: *Mount Peake V-Ti-Fe project* – processing plant to be located in Darwin

Arafura Resources: *Nolans rare earths* - final REO product to be produced at mine site

Other projects for *cobalt*, *tungsten*, *titanium*
Gold (Pine Creek)

Kirkland Lake Gold - *Cosmo*
- Underground development and exploration at *Lantern*
- High grade gold intersected at depth at *Union Reefs*

Bacchus Resources – *Woolwonga*
Substantial drilling during 2018

Primary Gold – *Mount Bundey*
Acquisition by Hanking Australia Pty Ltd, planning redevelopment of Toms Gully underground mine

Vista Gold – *Mount Todd*
DFS well advanced, NT EPA environmental assessment process complete

PNX Metals – *Fountain Head*
High grade gold discovered at Banner prospect
Gold (Tennant Creek) Au Cu

- Emmerson-Evolution JV restructured in early 2018
- Strategic alliance between Emmerson and Territory Resources:
  - JV and farm-in over ERM’s Southern Leases, plus Nobles Nob and Juno
  - Central Processing Facility at Warrego
- Territory Resources purchased Edna Beryl mine to recommence mining
- High grade gold-copper results from Emmerson at Mauretania and The Susan prospects
- Potential for multiple new small mines

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Gold (Tanami)

Newmont Tanami Operations:
- Pre-mining endowment now over 14 million ounces and growing
- 439 km gas pipeline from Amadeus pipeline to Dead Bullock Soak completed

Northern Star Resources:
- Substantial footprint in the Tanami
- Aircore and RC drilling at numerous prospects in CTP and 100% owned tenure in 2018

Newcrest Mining: Major new entrant into Tanami in 2018, through Euro JV with Prodigy Gold and 100% tenure

Prodigy Gold:
- Aggressive greenfields exploration at Capstan and Galaxy
- Upgraded resource for Suplejack

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Base metals (copper, zinc, lead)

The NT has outstanding potential, but only one operating zinc mine

Teena zinc project (Teck Australia)
- Largest zinc discovery in Australia this century

Jervois copper-silver project (KGL Resources)
- Investment decision planned for 2019
New frontiers for exploration

Western Aileron Province
- Effectively unexplored, largely under sand cover
- Major greenfields exploration by Independence Group targeting nickel, copper, gold
- 9600m drilling program underway testing 63 undrilled targets
- New high-grade zinc-copper discovery by Todd River Resources at Hendrix new Yuendemu

Barkly region
- Effectively unexplored under black soil and limestone cover
- New geoscience suggests potential for copper and gold east of Tennant Creek and zinc and petroleum towards Qld border
- Major gold producer Newcrest Mining has taken out licence applications east of tennant Creek
Streamlining regulation

- Simplified mining management plans (MMPs) for exploration activities now in place
- Simplified MMPs for mining and extractives activity in development
- Focus on risk-based assessment and more field-based auditing

Minerals industry development plan

- To be developed by DPIR and DTBI in close consultation with industry (MCA and AMEC)
- Completion by end of 2019
Onshore oil and gas

Implementation of recommendations from HFI being progressed across Government

Building Trust through Transparency

- Strengthening Regulation
- Ensuring Accountable Industry Practice
- Safeguarding Water and the Environment
- Respecting Community and Culture
- Maximising Regional Benefits and Local Opportunities
- Planning for Industry

Exploration to recommence in Beetaloo Sub-basin this dry-season

New gas pipeline infrastructure opening new markets for gas
Onshore oil and gas: 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 to restart this dry season
Onshore oil and gas: Other basins

greater McArthur Basin
- Additional gas bearing shales (older than Beetaloo) in basin, especially in Gulf region

South Nicholson Basin
- Unexplored potential correlative of the Beetaloo in the eastern Barkly region

Amadeus Basin
- Dukkas well currently being drilled to >3000m depth by Santos testing large sub-salt play
Resourcing the Territory initiative

4 year (2018-2022), $26 million NT Government initiative to grow the exploration sector

Supporting industry innovation through grants for greenfields exploration

Upgrading the Territory’s coverage of geophysical data

Unlocking the resource potential of the Barkly and Gulf regions

Stimulating greenfields exploration in central Australia

Promoting the Territory’s resource potential and investment opportunities; and

Making exploration and geoscience data more accessible
Theme 1: Supporting industry innovation through grants for greenfields exploration

NT Government co-funding of greenfields exploration since 2008

48 Drilling projects completed
130 holes: >47,000 m drilled

37 Geophysics projects completed
~55,000 ground gravity stations
~122,000 line km of airborne magnetic and radiometric surveys
~30,000 line km of airborne EM surveys
plus MT, seismic, SAM, 3D IP and passive seismic surveys

Changes to program under Resourcing the Territory
• More funding available, expanded eligibility
• Additional funding for utilising local service and supply
Theme 2: Upgrading the Territory’s coverage of geophysical data

2018 Tanami Region Magnetic and Radiometric Survey

- Seamless coverage of highly prospective, non-outcropping gold province
- \(~ 270,000\) line km @ 100-200 m line spacing
- Total area \(>42,000\) km\(^2\)
- Funded by NTGS with infill funded by industry
- Release imminent
Major Commonwealth-NT focus on new geoscience in the Barkly region

South Nicholson seismic survey
More information: resourcingtheterritory.nt.gov.au

Annual Geoscience Exploration Seminar (AGES)

AGES 2020
Alice Springs
March 24-25, 2020

www.ages.nt.gov.au
Thank you