



Northern  
Territory  
Government



オーストラリア・ノーザンテリトリー  
広大な土地、豊富な鉱物資源、明るい未来

# Investment opportunities in the Northern Territory

Dorothy Close

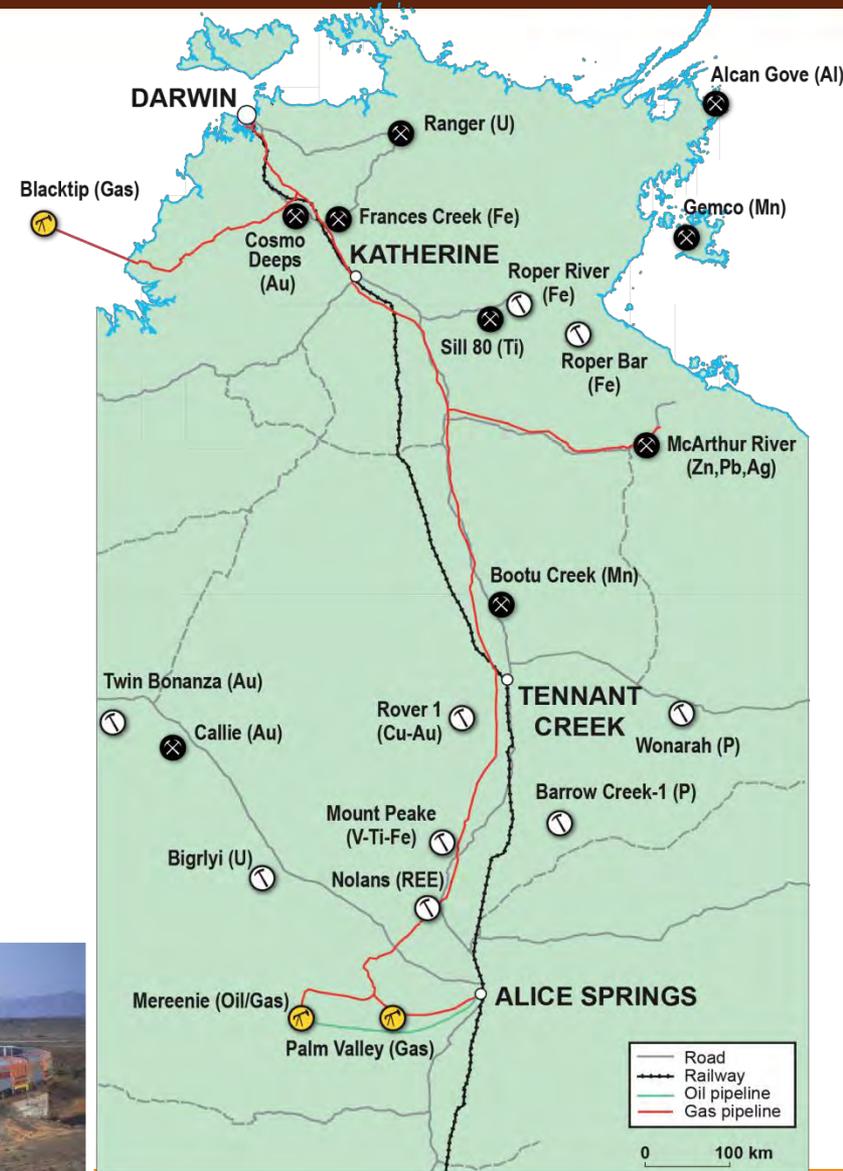
Acting Executive Director, NT Geological Survey



# Australia's Northern Territory



- Australia's fastest growing economy
- Growing resources sector - emerging shale gas industry
- North-south railway line terminating at port
- Vast, prospective underexplored area – new discoveries being made
- Pro-development government
- Certainty in regulatory and political environment

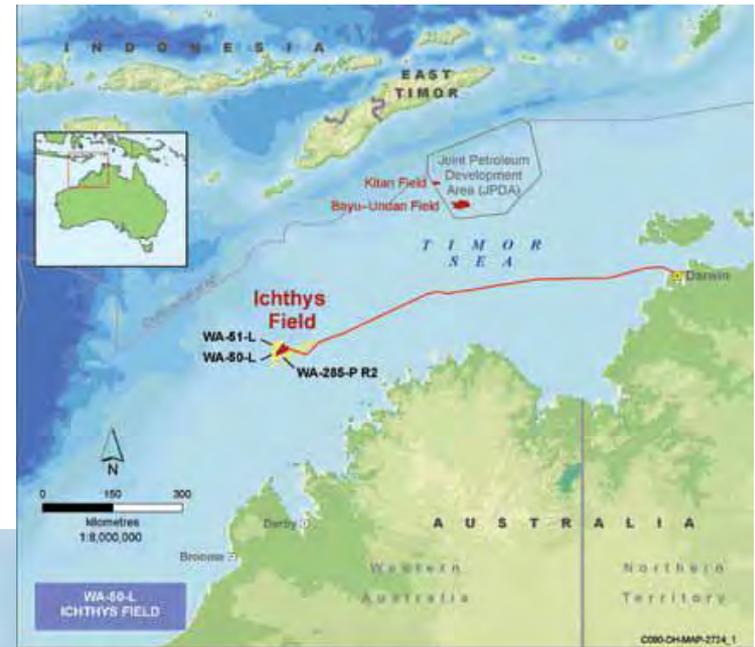


# The Northern Territory as a growing LNG hub



## The Northern Territory's links to Japan

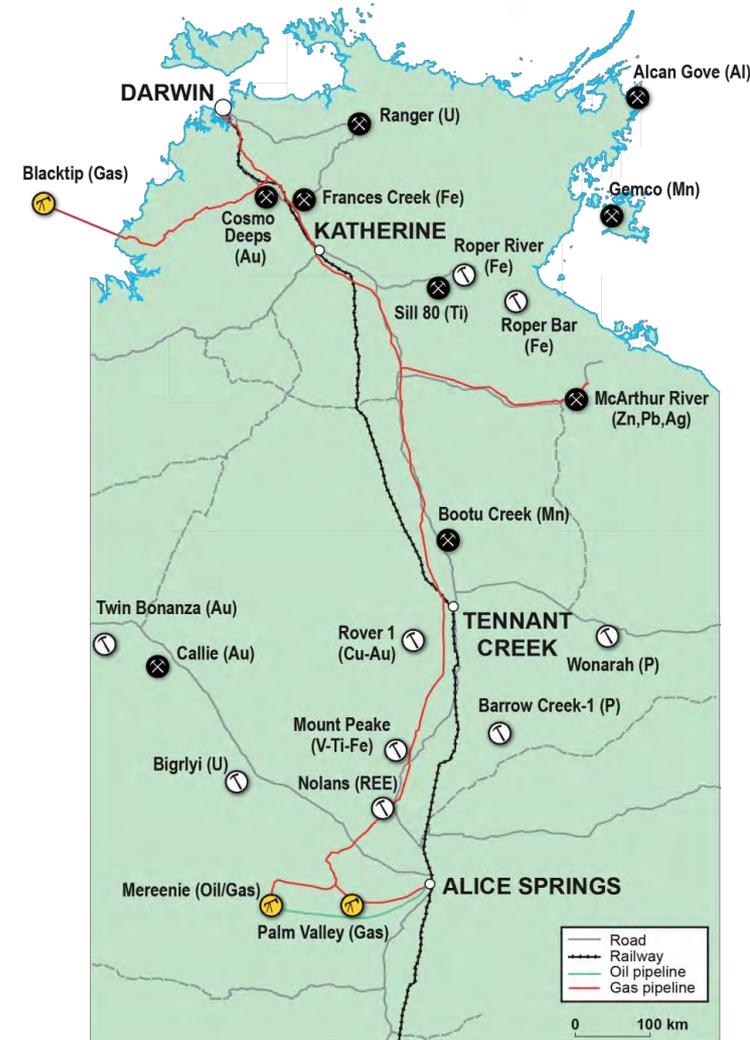
- A\$34 billion Ichthys LNG project (Inpex)
- 883 km pipeline to Darwin
- 70% of gas exported to Japan



# Operating and developing mines



- The Territory has many significant operating mines, producing manganese, bauxite, uranium, zinc-lead and gold
- Mineral production worth >A\$3.5B in 2013/14
- New mining boom in the Northern Territory: 16 mining projects currently in approvals or construction processes
- Many are long-term projects (>20 year mine life)
- Main commodities for developing projects include phosphate, iron ore, vanadium, rare earths, gold, copper and uranium



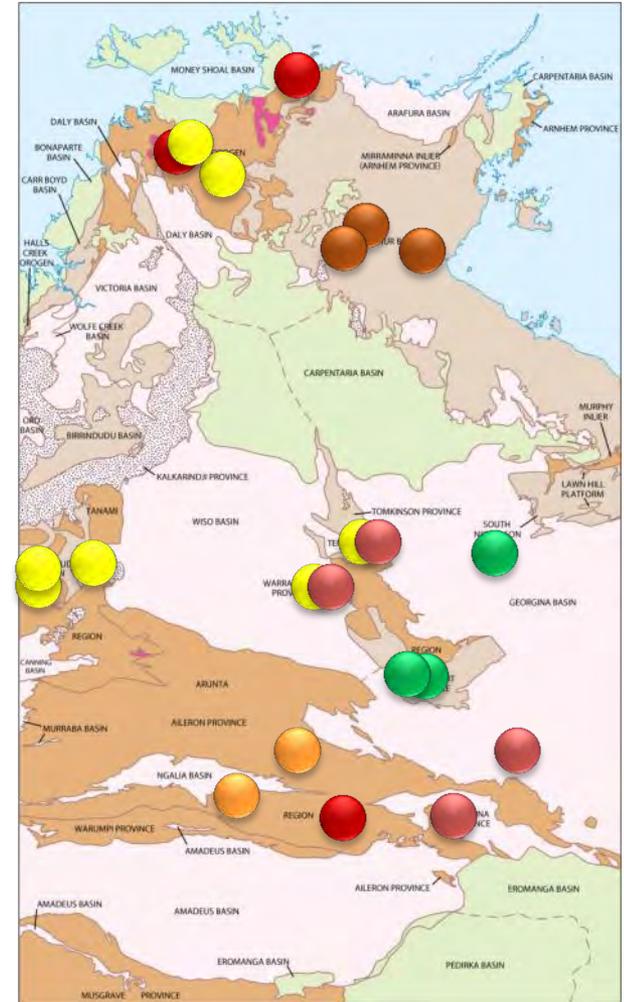
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# Rapidly increasing resource infantry



## Increase in JORC Resources since 2011

-  **Copper** - >500,000t Cu
-  **Gold** – >6 Moz Au
-  **Iron Ore** – 528 Mt of ore @ 40-45% Fe  
Including 72 Mt @ 57-60% Fe
-  **Phosphate** – 730 Mt of ore (at 10% cut-off)
-  **Uranium** – 34 Mlb  $U_3O_8$
-  **Rare earths** – 490,000t REO



# Commodity: Copper – emerging provinces



## Tennant Region

### **Emmerson Resources: Gecko mine corridor Cu-Au** **6.6 Mt @ 1.8% Cu, 0.7 g/t Au**

- 15m @ 4.19% Cu, 8.13 g/t Au
- 26m @ 4.75% Cu (incl. 8m @ 9.32% Cu)
- 15m @ 5.05% Cu
- 12m @ 16.9 g/t Au, 2.00% Cu



## Arunta Region

### **Mithril Resources Ltd : Basil Cu-Co** **26.5 Mt @ 0.57% Cu, 0.05% Co**

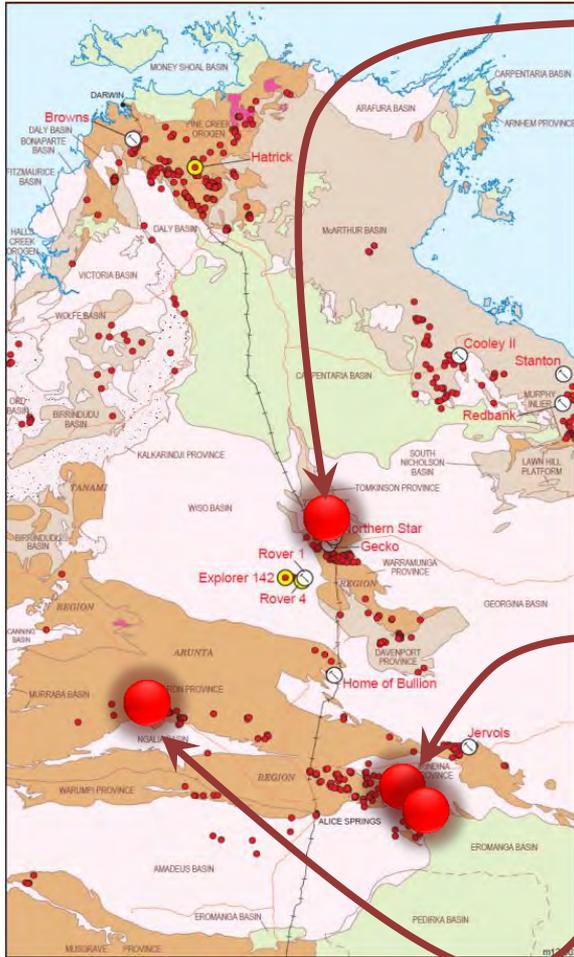
Large mineralised system – >10 km strike of massive sulfide

### **Illogwa IOCG**

New greenfields regional-scale iron-oxide Cu-Au (IOCG) system

### **TNG Ltd: Mount Hardy**

- 10.7m @ 4.1%Cu
- 13m @ 1.17% Cu, 1.82% Zn and 0.46% Pb



# Commodity: Copper – investment opportunities



## KGL Resources Ltd – Jervois Cu-Ag-Au(-Pb-Zn)

25.3 Mt @ 1.1% Cu, 22.1g/t Ag

- 280,000t contained Cu, high-grade Pb orebodies
- 12 km long mineralised zone
- Notice of Intent submitted, PFS due in November

### Recent results:

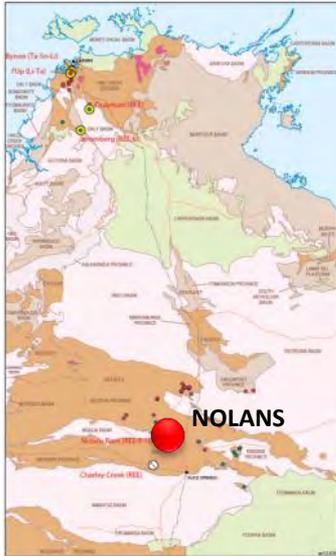
- 18m @ 16.39% Pb, 0.26% Cu, 0.95% Zn, 279.1g/t Ag
- 7m @ 8.22% Cu, 53.1g/t Ag, 0.23g/t Au
- 6m @ 8.55% Cu, 15.08% Pb, 10.95% Zn, 679.7g/t Ag, 4.87g/t Au



### Investment sought:

Offtake agreement and sale of minority interest in project

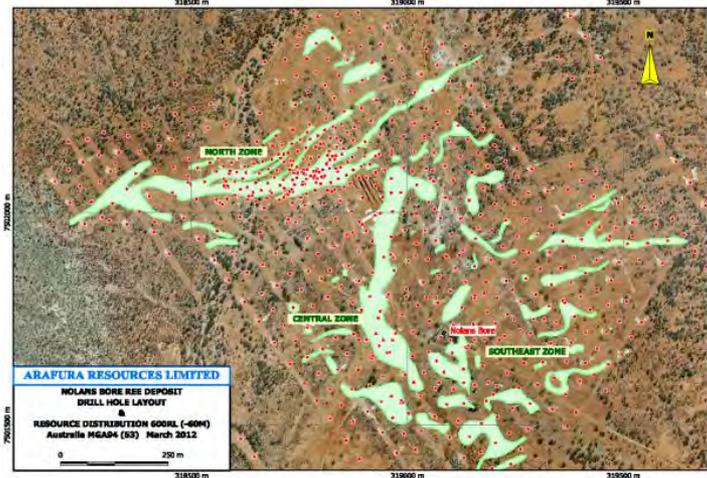
# Commodities: Rare Earth Elements



## Nolans Bore - Arafura Resources Ltd

- Apatite vein-hosted deposit
- 47 Mt @ 2.6% REO, 11% P<sub>2</sub>O<sub>5</sub>, 0.02% U<sub>3</sub>O<sub>8</sub>
- Pre-feasibility suggested robust economics (NPV ~A\$4.3B)
- Significant reductions in capex achieved
- Relocating intermediate processing to near mine site, adjacent to railway

**Investment sought:** Equity in company, project joint venture and/or offtake agreement



Arafura's separated REO products



# Commodities: Rare Earth Elements



## Spectrum Rare Earths Ltd

Discovery of high-value heavy and magnetic end-use rare earth elements at surface

Similarities to ionic-clay REE deposits

- **Stromberg** (Y-Dy rich): 4.2m @ 0.93% TREO (92% HREO/TREO)
- **Skyfall** (Dy-Tb-Nd-Pr-Gd-Sm-Eu rich)

## Charley Creek - Crossland Strategic Metals Ltd

- Monazite and xenotime sand in alluvial fans
- 235,000t contained REO
- *Indicated resource* – 387 Mt @ 295ppm REO
- *Inferred resource* – 418 Mt @ 289 ppm REO

**Investment sought:** Project equity, sale, joint venture and/or offtake

# Commodities: Vanadium-Titanium-Molybdenum- Tungsten



## TNG Ltd – Mount Peake V-Ti- Fe project 160 Mt @ 0.28% V<sub>2</sub>O<sub>5</sub> , 5.3% TiO<sub>2</sub>, 23% Fe

- Mafic-hosted vanadium magnetite
- Patented hydrometallurgical technique
- July 2012 Pre-Feasibility Study and updates: 20-year mine life (2.5 Mtpa increasing to 5 Mtpa) with life-of-mine revenue of \$13.6B
- Feasibility study underway

**Investment sought:** Project financing via joint venture partner

## Molyhil W-Mo – Thor Mining PLC

4.71Mt @ 0.28% WO<sub>3</sub>, 0.22% MoS<sub>2</sub>

- Scheelite-molybdenite
- Feasibility study complete
- Recent optimisations improve project economics
- All approvals in place



# Commodities: Phosphate-Potash-Salt



Australia's largest undeveloped phosphate deposits

## Minemakers Ltd - Wonarah

842 Mt @ 18%  $P_2O_5$  incl. 66 Mt @ 28%  $P_2O_5$

Investment sought: Project equity or offtake of SPA

## Rum Jungle Resources - Ammaroo

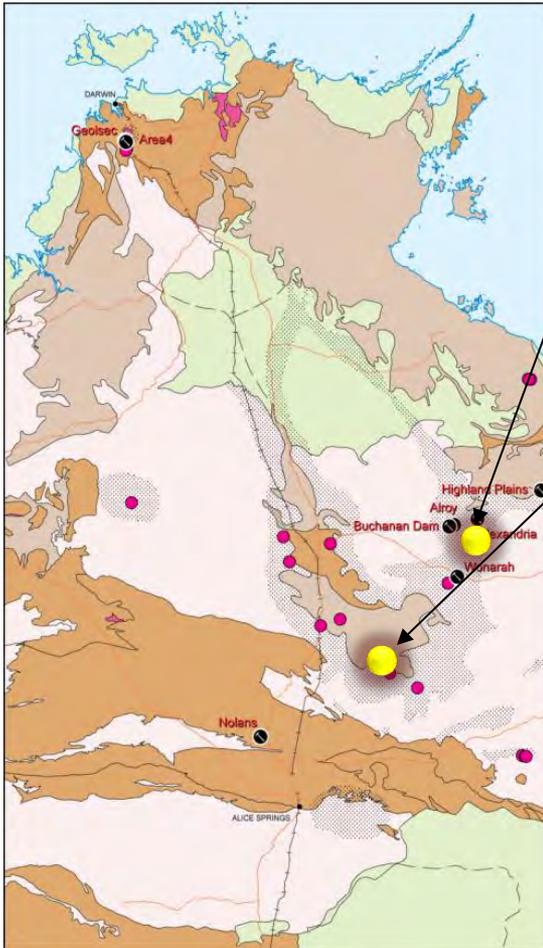
- Near-surface phosphate along 36km strike length
- 80 km from railway
- Prefeasibility study released Oct 2014

1.08 Bt @ 14%  $P_2O_5$  (at 10% cutoff) including

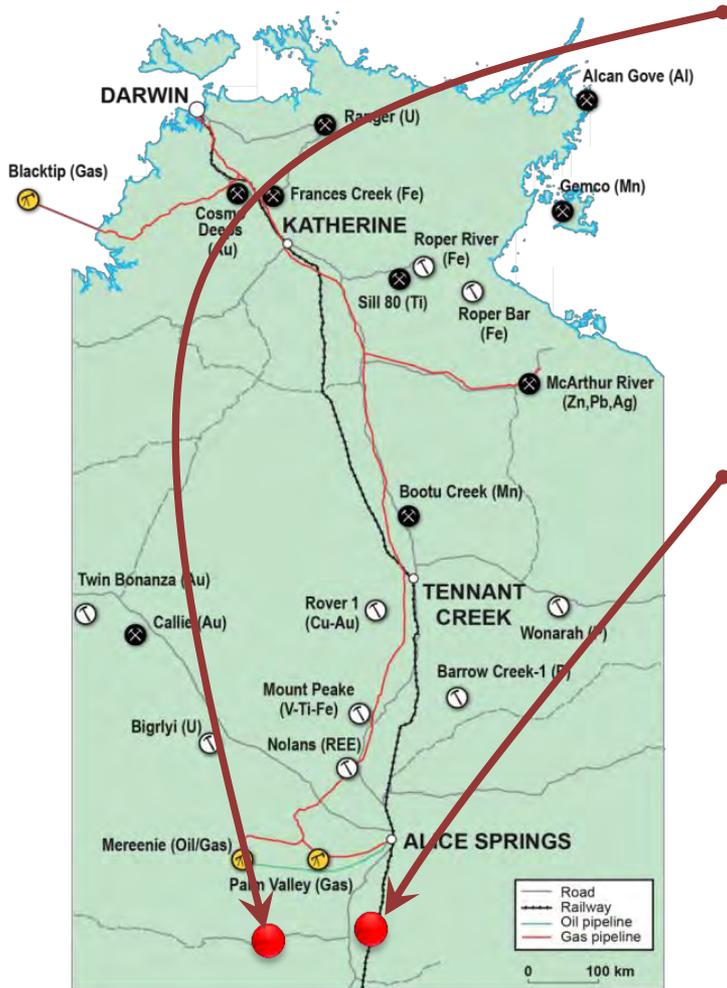
338 Mt @ 18%  $P_2O_5$  (at 15% cutoff)

## Investment sought:

Project joint venture and/or offtake



# Commodities: Potash-Salt



A13-251.ai

## Rum Jungle Resources – Karinga Lakes

Upgraded resource: 8.4 Mt  $K_2SO_4$

- Equivalent to 19 Mt of schoenite
- Resources in brines in aquifers beneath salt lakes
- China International Chemical Consulting Corp (CICCC) undertaking prefeasibility study

## Tellus Holdings – Chandler salt

- 4.5 Bt NaCl
- >200m flat lying salt unit
- Potential for underground salt mine and waste storage in voids
- Adjacent to railway



# Commodities: Uranium

NT is highly prospective and is a long-term uranium exporter

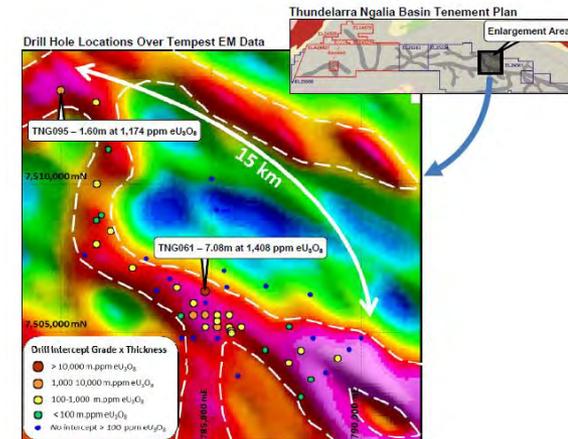


## Western Arnhem Land - Alligator Energy and Uranium Equities Ltd

- world-class unconformity style uranium field
- High quality exploration opportunities with existing high-grade mineralisation

## Ngalia - Thundelarra Exploration Ltd

- New discoveries of widespread uranium-rich palaeochannels
- Potential for large-scale uranium systems  
eg Afghan Swan:  
7 m @ 0.14%  $U_3O_8$



# Petroleum production and potential



## McArthur Basin/Beetaloo Sub-basin

Potentially world-class shale gas basin

Prospective resources ~200 TCF gas (industry estimates)

*Pangaea Resources, Santos, Armour Energy, Origin Energy, Imperial Oil and Gas*

## Georgina Basin

High shale oil and gas potential

*Statoil, Central Petroleum-Total*

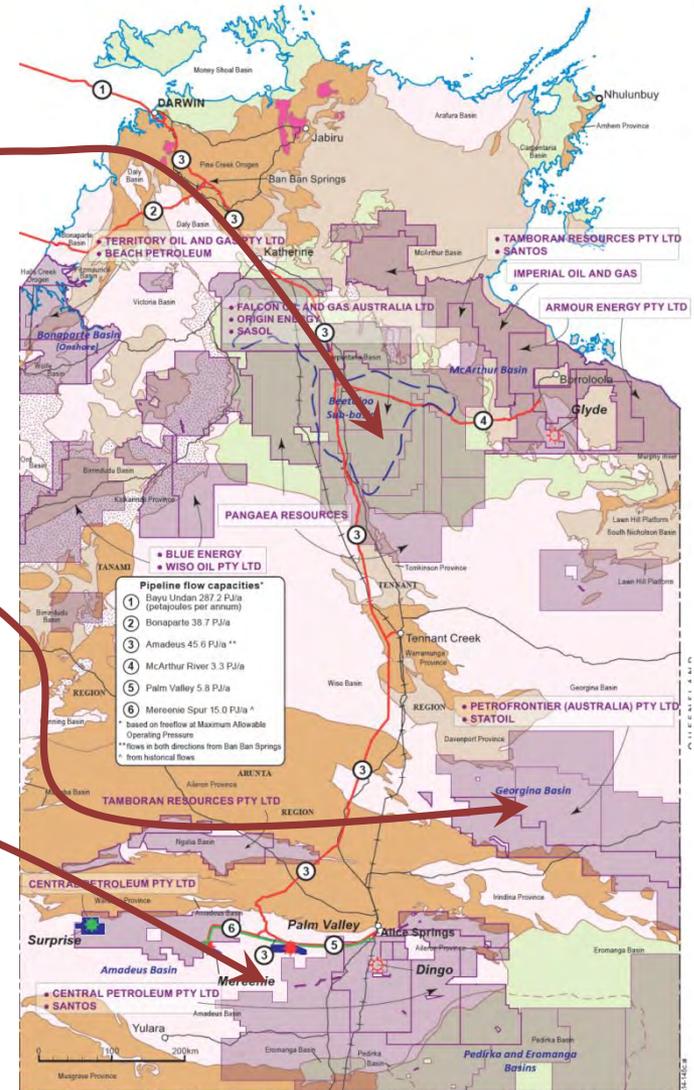
## Amadeus Basin

Producing conventional gas and oil

New conventional oil discovery in 2011

High shale gas potential

*Santos, Central Petroleum*



# Resources investment strategy in Japan



- Dedicated strategy to attract minerals investment from Japan since 2008
- Regular delegations bringing mineral explorers and developers to Japan to present their projects to Japanese companies and trading houses
- Directly contributed to new Japanese investment in iron ore, zinc and uranium projects
- Regular Ministerial visits to Japan
- Strong ongoing relationship with JOGMEC

*NT Minerals Investment Seminar, Imperial Hotel Tokyo, October 2013*





オーストラリア・ノーザンテリトリー

広大な土地、豊富な鉱物資源、明るい未来

## ノーザンテリトリー の鉱物投資機会

2013年6月

- Northern Territory has a dedicated strategy to assist Japanese companies identify investment opportunities in exploration and mining
- 30 resources projects in the Territory currently seeking Japanese investment across a range of commodities
- Range from early stage exploration to projects approaching development

## Assistance for Japanese investors



- Hosting inbound delegations from Japan, customised visit programs
- Potential investment partner matching
- Ongoing assistance during negotiations
- Regularly updated information on planned and proposed mining developments
- Commodity fact sheets and maps
- Facilitation assistance with licence process, immigration.
- Introduction to service providers





## Why invest in Australia's Northern Territory?

- Pro-development Government with regulatory certainty
- Strong existing links between the Northern Territory and Japan
- Pipeline of emerging mining projects and associated infrastructure
- World-class support from the NT Government in provision of geoscience data
- Commitment from NT Government to support Japanese investors in identifying suitable opportunities



# For further information



Japanese website: [www.nt.gov.au/d/japan](http://www.nt.gov.au/d/japan)

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The screenshot shows the Japanese version of the Northern Territory Government Department of Resources website. The header includes the Northern Territory Government logo and the text "オーストラリア・ノーザンテリトリー" (Australia Northern Territory) and "Northern Territory Government Department of Resources". Below the header are navigation links for "ホーム" (Home) and "リンク" (Important Links). The main content area features a large aerial photograph of Darwin, Northern Territory, showing the city built on a peninsula with a large body of water. Below the photo, there are sections for "New Information" and "NT Commodity Information". The "New Information" section includes links for "NT Investment Guide" and "Territory Q International Edition". The "NT Commodity Information" section includes a "商品" (Commodity) list and a "導入のページ" (Introduction Page). The "導入のページ" section contains the text: "オーストラリアの北部準州は日本からの投資を歓迎します。" (The Northern Territory of Australia welcomes investment from Japan.) and "オーストラリアの北部準州は、広大な土地、豊富な鉱物資源、そして将来への可能性に満ちた世界でも有数の魅力ある鉱物産出地域です。" (The Northern Territory of Australia is a world-class mineral production region with vast land, abundant mineral resources, and high potential for the future.) The "1. 鉱物資源投資機会の特定" (1. Identification of Mineral Resource Investment Opportunities) section states: "北部準州政府には、「北部準州地質調査(NTGS)」という、地球科学専門家チームがあり、鉱物資源投資機会を見極めるために役立つ信頼性の高い地球科学情報や助言を提供しています。" (The Northern Territory Government has a team of Earth Science experts (NTGS) who provide reliable Earth Science information and advice to help identify mineral resource investment opportunities.) The browser status bar at the bottom shows the URL "http://www.nt.gov.au/d/japan/..." and the text "Local Intranet".