

Exploration & Mining Roundup – 2021

Some Projects in the Far North, other than Presenters of the Day

The aim of this presentation is to update the audience on activities of the mining industry in FNQ external to other presentations on this date.

In 2021 there are many more not covered.

I have also taken the opportunity to include potential “Peripheral Projects” that are only weakly associated with the mining industry – but clearly NQ related.

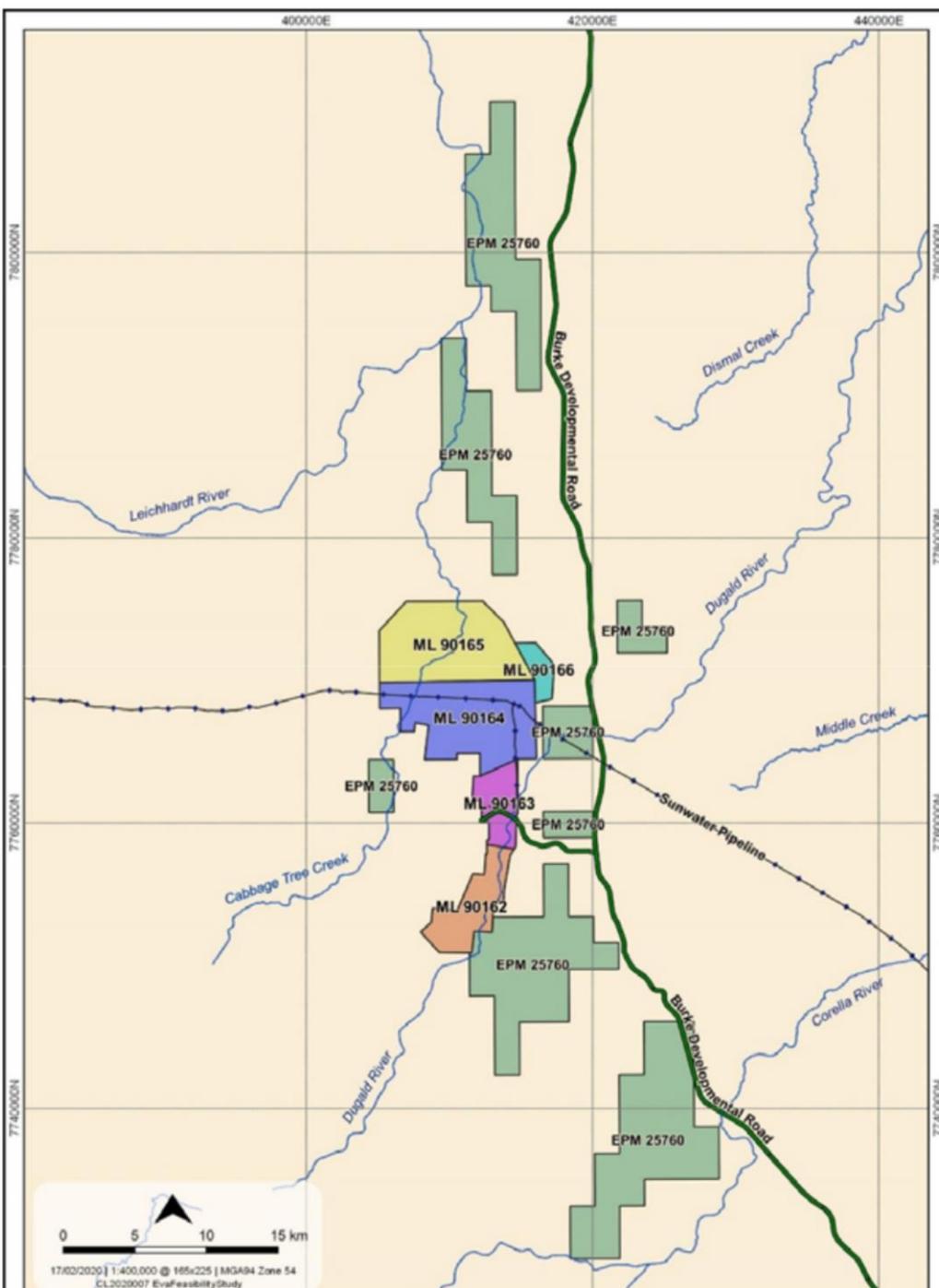
BH Duck
Bremar Minerals Pty Ltd
**AusIMM FNQ Branch
Technical Session**
Sheridan Hotel
Cairns, 27th May 2021

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Copper Mountain Mining Corporation Eva Project



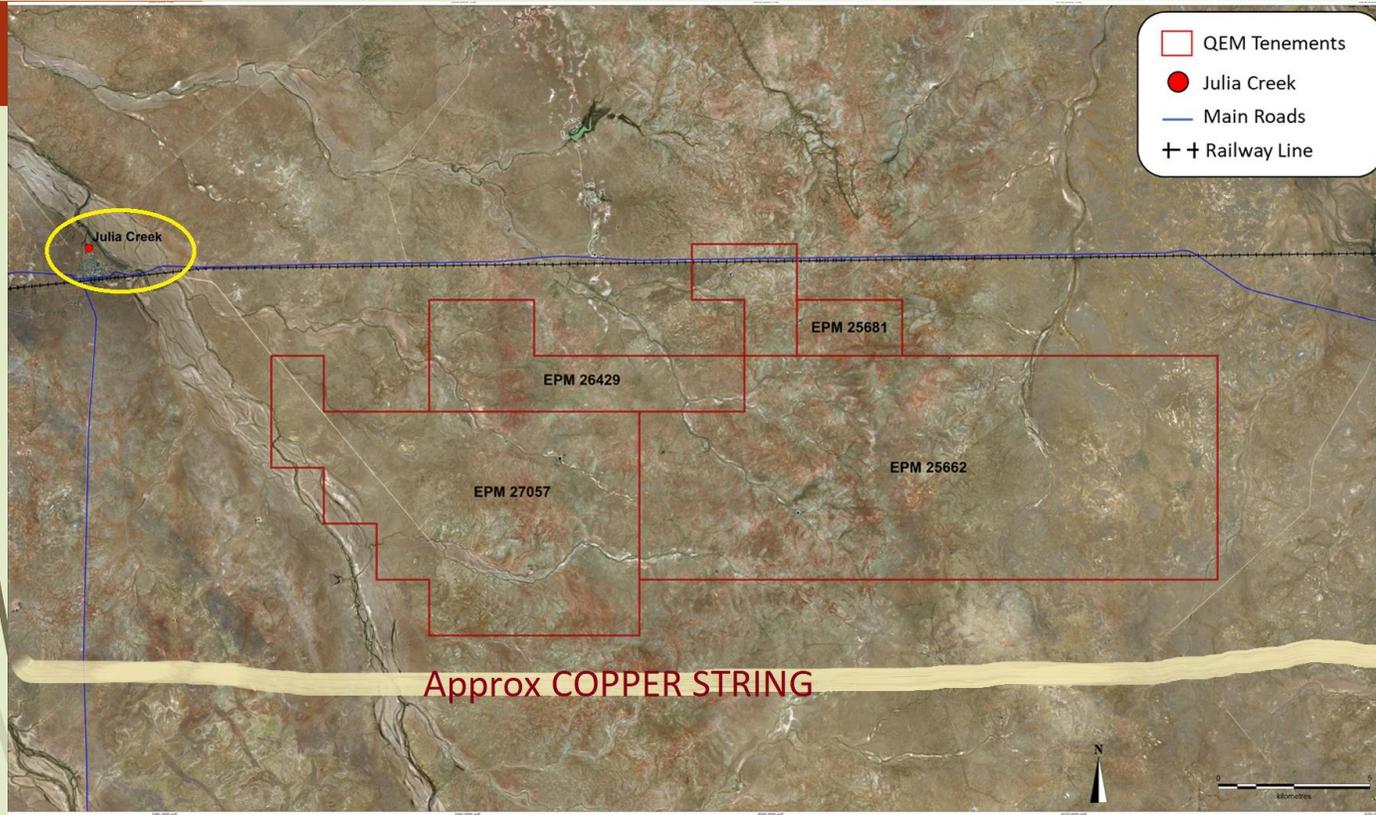
- 76 km NW of Cloncurry, 11 km N of Dugald R
- Roads of bitumen & gravel, there is a 220 kV power line to Dugald R, and connected to Copper String in Yr 4
- Mined in the early 1900's
- First major works by CRAE 1990-96
- Altona acquired part in 2001 from Dominion and Pan Aust, and earned rest in 2004 by purchasing Pasmaenco and Lake Gold tenements.
- Prospects include Little Eva, Ivy Ann, Blackard, Legend, Turkey Ck, Scanlon, Lady Clayre.
- 2012 Feasibility by Altona, updated 2014, 2017 and 2020

Copper Mountain Mining Corporation Eva Project

- 12 deposits in the Project, 7 in current mine plan
- All classified as iron oxide copper – gold (IOCG) deposits
- The mineralization is associated with regional scale hematite and albite alteration (red-rock alteration) & localized magnetite
- Cu mineralisation is mainly cpy w bornite as veins, breccias and fracture fill
- Bounded by structures but stratabound in metamorphosed calcareous metaseds over 7km.
- 10-25m thick oxide zone – waste!!
- The IOCG are Cu-Au, and there is a second style of Cu only – also stratabound within volcanics.

	Tonnes (kt)	% Cu	g/t Au	Cu lbs	oz Au (koz)
Measured + Indicated	260,659	0.42	0.04	2,419	330
Inferred	46,267	0.42	0.04	431	51
Combined Prospects includes: Little Eva, Turkey Creek, Blackard, Scanlon, Lady Clayre, Ivy Ann					
JORC and NI43-101, 31 January 2020					

QEM Ltd



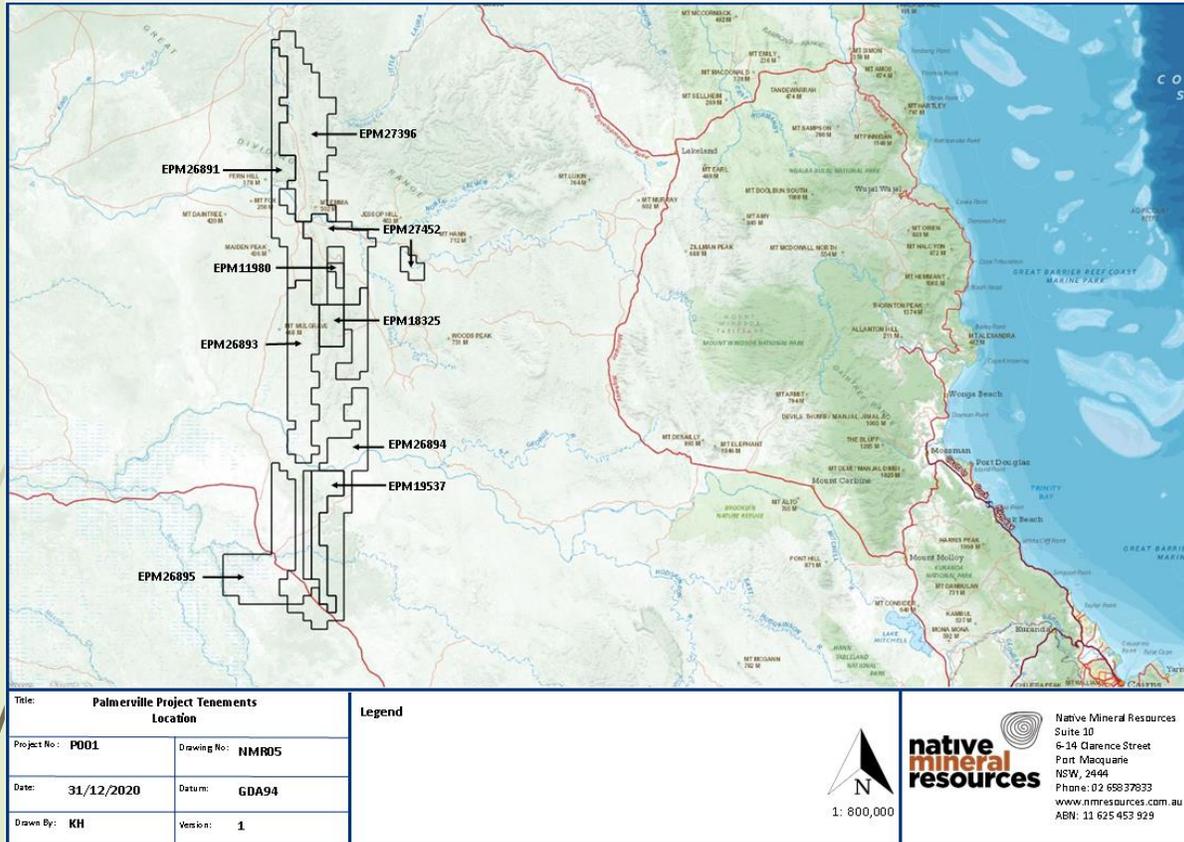
- ▶ Julia Creek vanadium/Oil shale Project
- ▶ Project covers 496 km² 560km west of Townsville
- ▶ The Toolebuc Formation is a flat lying early Cretaceous (Albian ~ 100 My) sediment - black carbonaceous, bituminous shale & minor siltstone, with limestone lenses and coquinities
- ▶ March 2018 JORC Inferred resource of 1,700mt at 0.34% V₂O₅ and 64 litre/t oil yield
- ▶ QEM admitted to the official ASX list and commences trading (2018).
- ▶ 2018: MOU signed with Petroteq Energy Inc USA.
- ▶ 2019: Positive results from preliminary testing for oil extraction.
- ▶ Plans for:
 - ▶ 3,000m of drilling
 - ▶ Metallurgical, metallurgical, environmental, geotech testing



QEM Limited

- ▶ 2019 Upgrade: JORC (2012) Mineral Resource of 2,760 Mt @ 0.30% V₂O₅
- ▶ With the added benefit of 783MMBBIs of Oil in the 3C category, contained within the same ore body.
- ▶ ASX 20 Apr 2021 EM Limited (ASX:QEM) (“QEM” or “Company”) Agreement with Brisbane based Siecap, to advance the Julia Creek vanadium and oil shale project in tandem with the Company’s green hydrogen strategy.
- ▶ Siecap will assume a project management role at QEM, which encompasses developing an execution strategy for the mining, extraction, processing, and export of vanadium pentoxide, transport fuels and green hydrogen from Julia Creek.
- ▶ Recent test results provide QEM with ability and confidence to commence development of a bench-scale pilot plant for larger scale testing ASX 24 May 21
- ▶ Bench-scale pilot plant targeted to be operational during 1H FY2

Native Mineral Resources (NMR)



- Recently listed : Nov 2020
- Targets in NQ, Mt Morgan (Q) and in WA
- N Qld: 9 EPMs, 130km of the Palmerville Fault
- Chillagoe Fm, numerous historic workings
- Similar geology to Mungana
- Qld geos Dr Simon Richards, Pixie Hughes.

Native Mineral Resources (NMR)

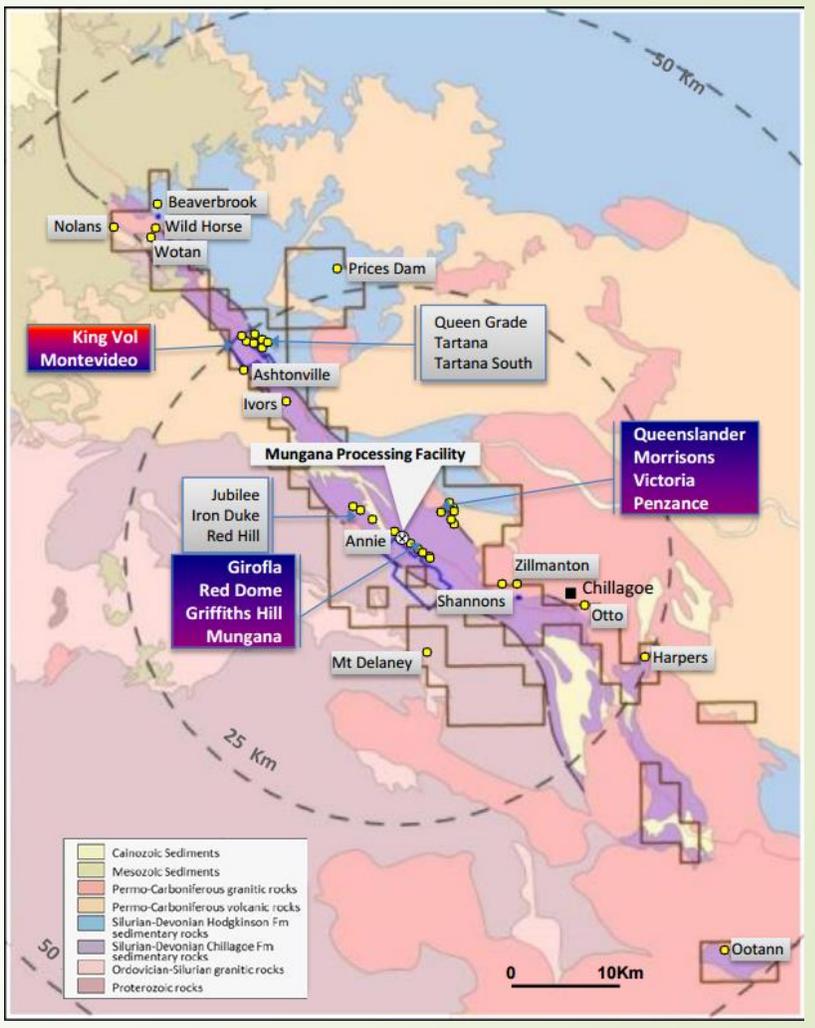
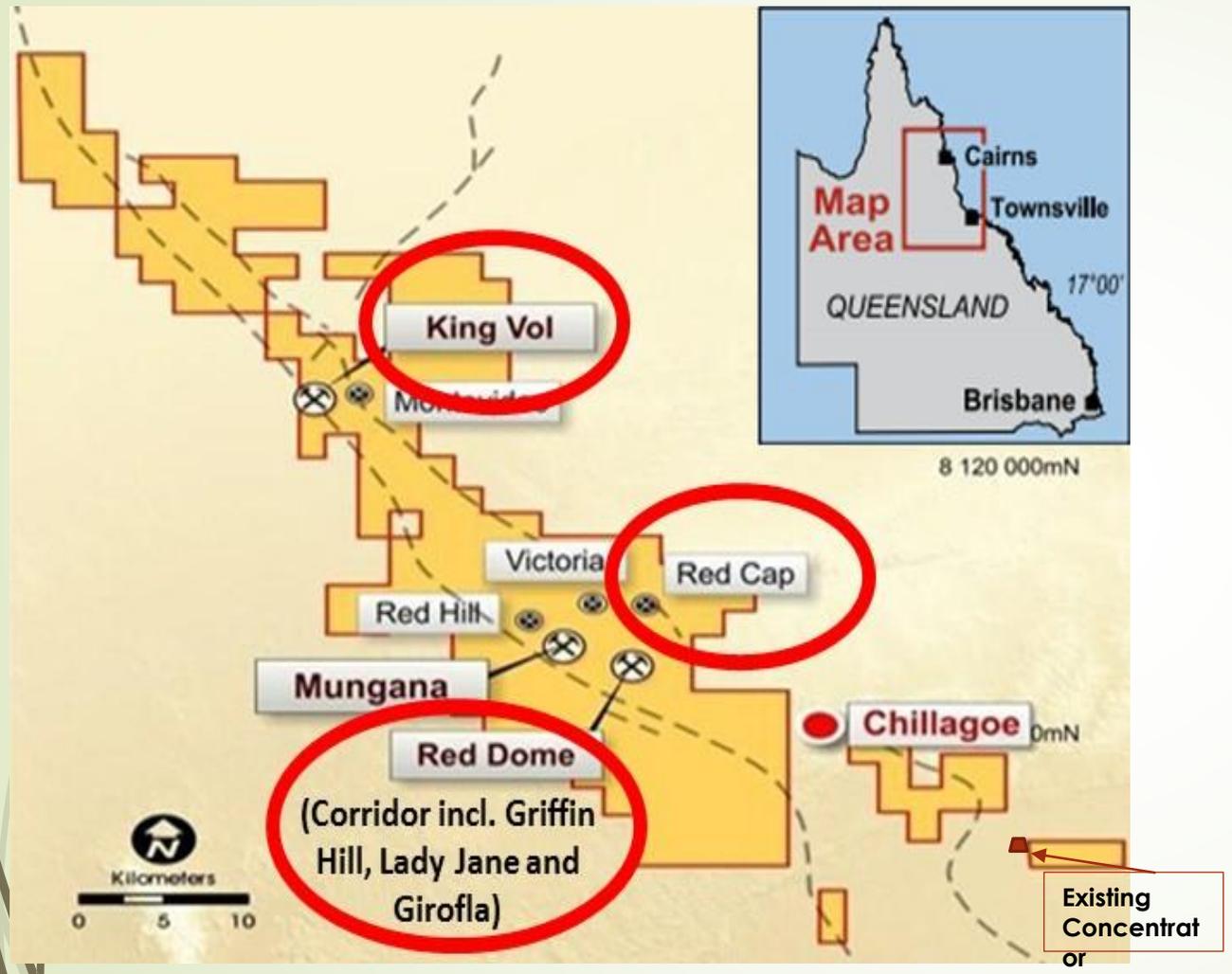


- Prospects include Glenroy, Bonanza, Leanne's, Bald Hill
- Leanne's: Porphyry Cu-Au
- Overlain by brecciated skarns
- 1km strike length
- 2020 drilling finished early due to wet season, planned 2021
- Over 60 other targets,
- District underexplored



Location of the assets

AUCTUS



10km West of Cairns



AUCTUS

An old slide

- ▶ Due primarily to market conditions the **Mungana Underground Mine** has moved into care and maintenance with Auctus undertaking studies including ore sorting trials and the new Mungana Au/Base metal resource feasibility which may lead to mining recommencing in the near future.
- ▶ **King Vol** mine continues to ramp up to full capacity with ore trucked to the Mungana processing facility.
- ▶ The **Mungana mill** has transitioned from bulk floatation to sequential flotation producing separate Zn/Pb/Cu concentrates on a 8:6 roster
- ▶ **Exploration** has resumed at the **Girofla** high-grade zinc lead deposit to expand on its JORC 2012 maiden resource (1Mt @ 9.6% Zn, 5.9% Pb, 0.4% Cu and 131g/t Ag). Girofla is located very close to the Mungana Process Plant and an initial conceptual mining study which outlined multiple options including that the deposit could be mined via the existing Mungana Underground Mine, reducing the capital investment and time to first ore.

News Updates

Diatreme

- ▶ New MOU signed with Jiangxi Kangjia New Material Technology Co (19 May 21)
- ▶ MOU for supply of 250,000 tonnes per annum (tpa) of photovoltaic grade silica product from Diatreme's Galalar Silica Project, North Queensland
- ▶ Total Mineral Resource for Diatreme's Galalar Silica Sand Project, North Qld, increases by 30% to 61.9mt **(17Mar21)**
- ▶ In-situ SiO₂ grade average 99.24%
 - ▶ Draft EIS underway,
 - ▶ Aiming to lodge ML submissions by end 2021, targeting mine production in 2022.

New Energy Minerals Ltd

- ▶ Acquiring the Hurricane Project, north of the Palmer R (24 May 2021)
- ▶ Three EPMS with targets of high Sb and gold in quartz breccia veins

Consolidated Tin

- ▶ CSD delisted as of 22 March 2021
- ▶ ASX's policy is that it is appropriate to automatically remove from the Official List any entity whose securities have been suspended from trading for an unacceptably long period.
- ▶ (14 May 2021) The Company wishes to announce that the parties to the amended Deed of Company Arrangement dated 19 February 2021 (DOCA) intend to complete the Auctus Acquisition on or before 25 May 2021

New Private Company in Qld

- ▶ Sold 25 year operations in SA,
- ▶ Moving to Qld
- ▶ Qld regarded as better working environment
- ▶ Thank you Qld Mines Dept

Peripheral Projects

Consider:

Underground Hospital Cairns

Advantages

- Opposite airport, central location
- Aust one of best mining countries in the world
- Saves \$40m purchase price of land
- Recovered material helps defray costs, reduces impact of quarries
- Barron R Metamorphics, stable & useful engineering materials
- Cyclone & tsunami shelter for population, bomb proof
- Car parks and food courts common ug in cities – cant tell when below ground

The Challenges

- Bureaucratic inertia
- Emotional perception of being underground
 - Underground hospital in Mt Isa 1942
 - Compare underground car parks, food courts in cities
- Lack of lateral thinking and imagination in our society
- Effect of explosives in built up area
 - Use of non explosive methods eg Cardox style
 - Tunnelling machines

Peripheral Projects - Underground Hospital Cairns



- Under Mt Whitfield, 4km x 2km x >300m high
- Opposite airport, central location
- Aust one of best mining countries in the world
- Barron R Metamorphics, useful engineering materials
- Cyclone & tsunami shelter for population, bomb proof
- Lighting tubes from surface
- Natural ventilation
- Previous hospital ug at Mt Isa – 1942
- Car parks and food courts common ug in cities – cant tell when below ground
- Saves \$40m purchase price of land
- Recovered material helps defray costs

Peripheral Projects

The northern boundaries sculpture trail

Northern – the north eastern part of Queensland, but extendable across the Territory and WA

Boundaries – because it crosses the boundaries of city, reef, island, rainforest, the divide, savannah,

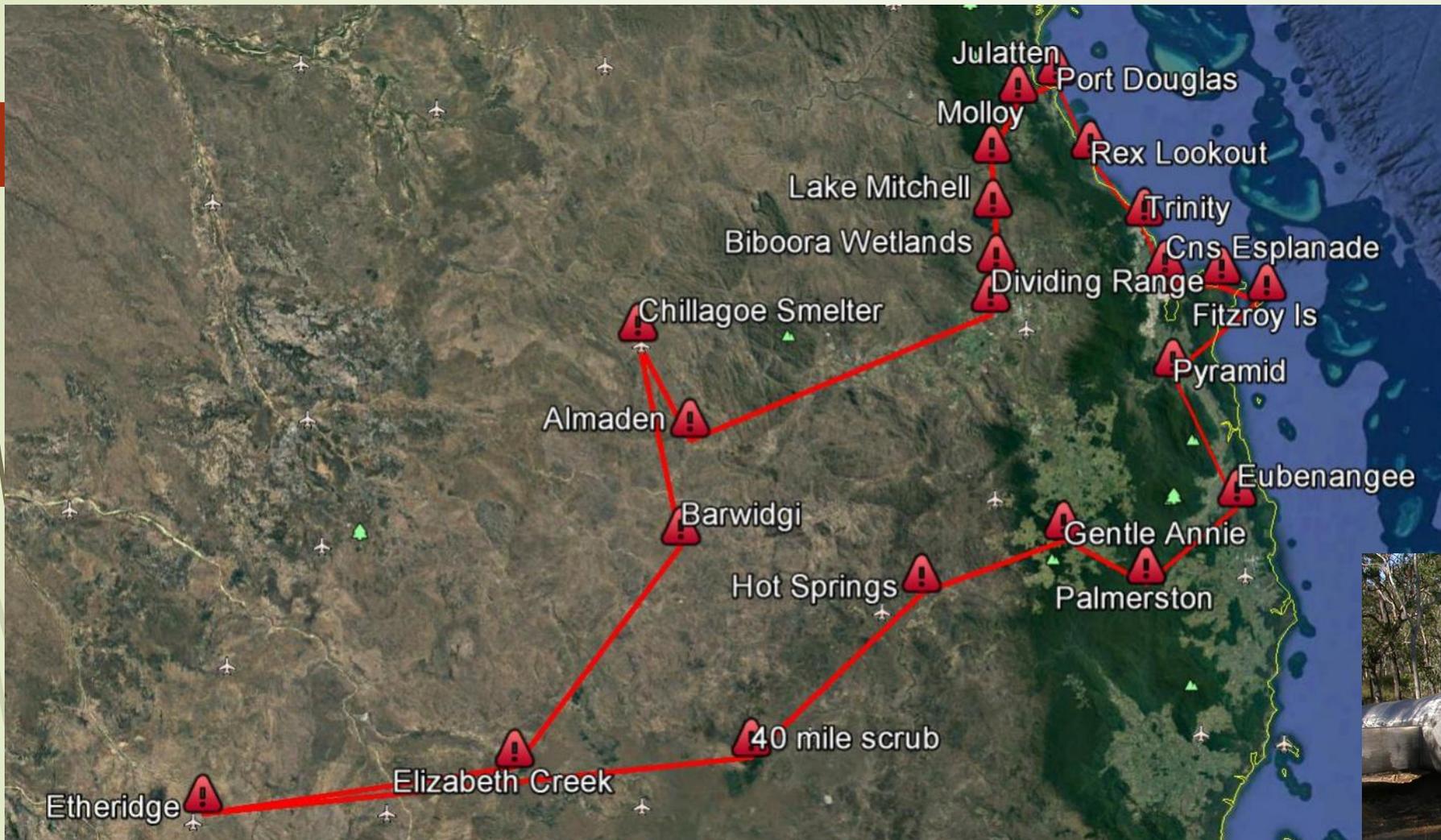
It integrates history, culture, mining and the environment



Essential aims



- ▶ Introduce followers to the interaction between city, reef, island, rainforest and Savannah
 - ▶ Encourage travellers to “Follow the Trail”
- ▶ Illustrate the integrated history (tourism, agriculture, mining), culture (multicultural – old and new) and natural environment
- ▶ Represent the natural beauty of Tropical North Queensland
- ▶ Showcase local materials of the north (coral, timber, marble, sandstone, granite, aluminium)
- ▶ Develop the artistic skills of Queenslander sculptors
- ▶ Develop a sculptor school using local materials?
- ▶ Ultimate aim - extend westwards through Mt Isa to the Territory to coastal WA
 - ▶ To be expanded, with more detail to each point



Preliminary locations

22 Locations over some 800km of trail



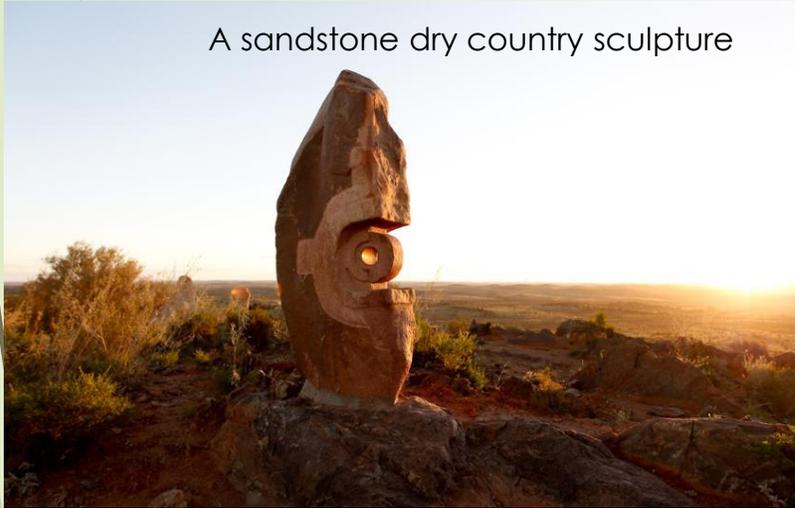
And, don't forget Dave the Elasmosaur at Chillagoe

Link them all – from Cairns back to Cairns, 800km

12m Gecko at Biboorra Wetlands

concepts

A sandstone dry country sculpture



An historic wraith protecting his country



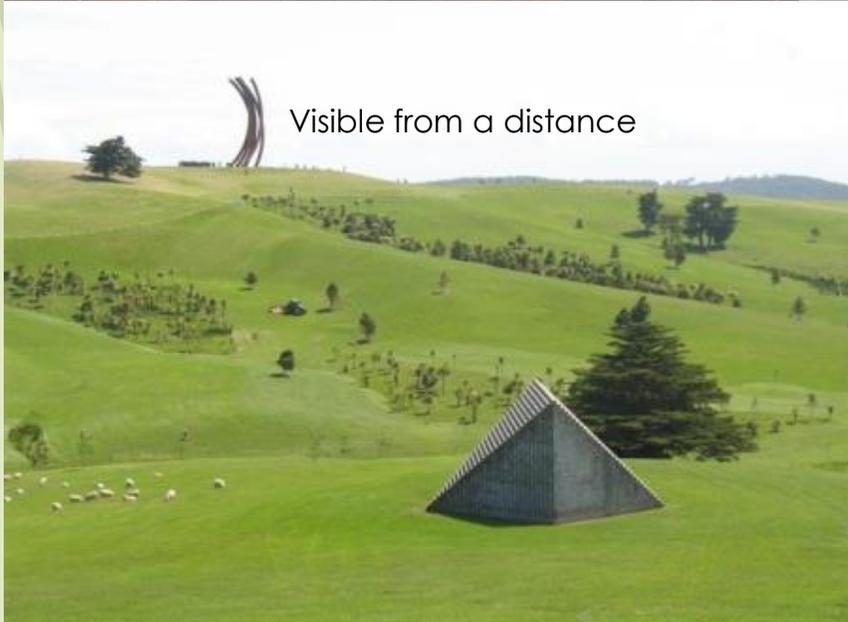
Local marble



Concept overlooking REX Lookout
10-15m high



Visible from a distance



WAY TO GO



Dragon boating is for fitness for all ages