

Sunday Creek Project

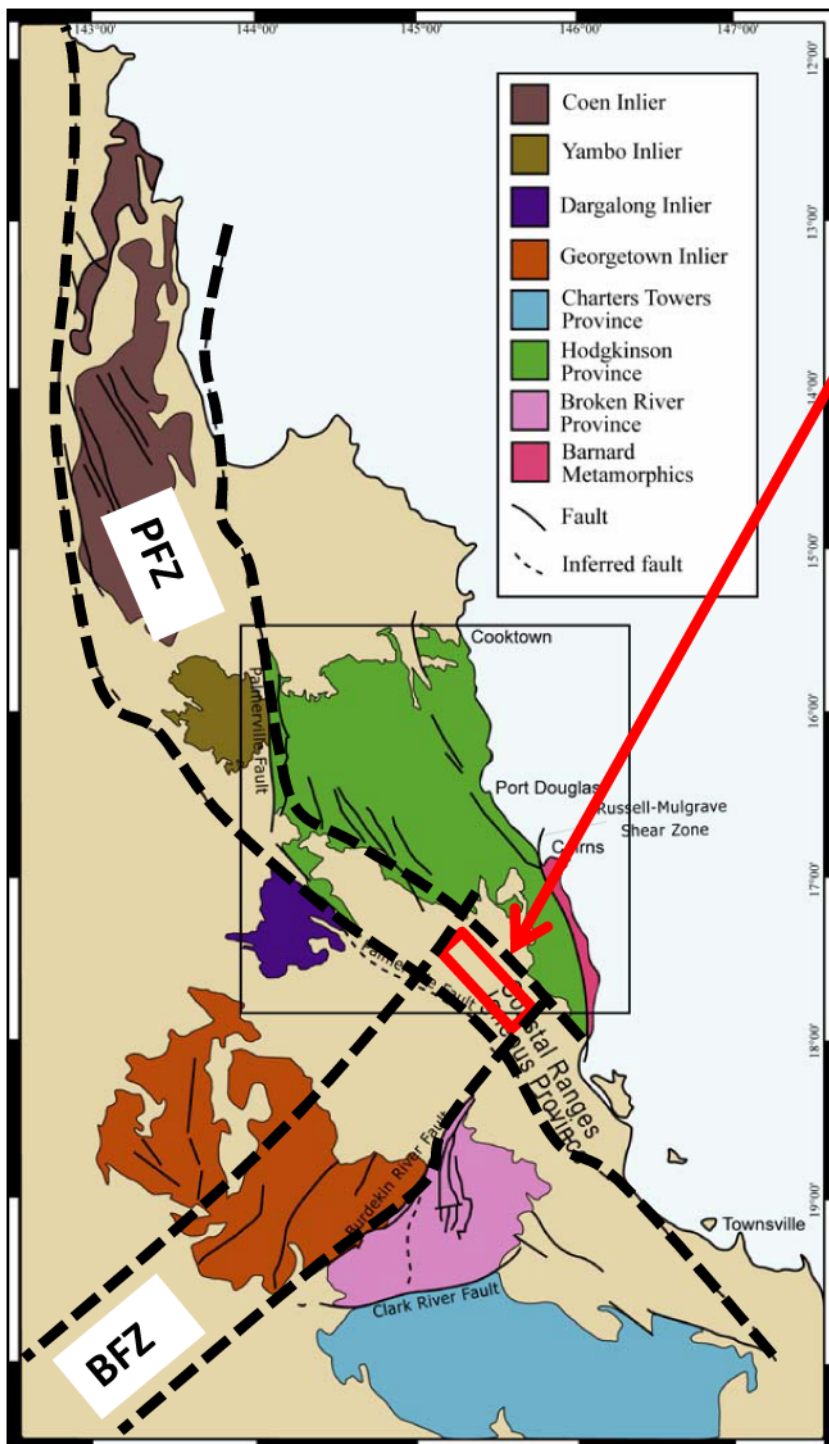
Geological Overview and Mineralisation Characteristics



Regional Geology

- **Coastal Ranges Igneous Province**
(highly fractionated granites which are very important in determining the degree and type of mineralisation)
- **Major structural controls**
(major structural zones that act as conduits and trap structures for mineralising fluids)





**Sunday Creek Project Area
within the Coastal Ranges
Igneous Province**

**Intersection of Palmerville Fault
Zone (PFZ) and the Burdekin
Fault Zone (BFZ) – major
structural control – known
conduits for mineralising fluids
and dilational zone for trapping
mineralising fluids**

**Sub-vertical “stack of cards”
structure**



Local Geology

- **Intersection of Palmerville Fault Zone (PFZ) and Burdekin Fault Zone (BFZ)** – major structural corridors for mineralising fluids and dilational structure to act as a trap for fluids
- **High level porphyries stoping through major zone of crustal weakness (e.g. Boeing Hill)** – heat engine responsible for generating the numerous distal skarn deposits



Local Geology

- **Hydrothermal breccia complexes**
- **Carbonate, ironstone and other reactive units**
- **Reactivation of existing structures** – multiple mineralising events & associated trap formation
- **Low to medium grade metamorphism** – (greenschist to amphibolite facies)
- **Areas of intense alteration** – sericite-quartz-pyrite & biotite-magnetite-K-feldspar



Mineralisation Styles

- **Iron Ore Copper Gold (IOCG) deposits**
Tennant Creek Style Cu-Au-Ag-Bi-Mo-Co
Olympic Dam Style Cu-Au-U-Bi-REO
Prominent Hill Style Cu-Au-Ag-Ce-La
- **Porphyry Molybdenum (Mo) deposits**
- **Poly-metallic skarn deposits**
- **Massive magnetite skarn deposits**



Mineralisation Styles Comparison

- **Tennant Creek Style**

Cu-Au-Ag-Bi-Mo-Co mineralisation

6th largest gold province in Australia

Ironstone lodes (footwall) – high Au grades

- **Olympic Dam Style**

Cu-Au-U-Bi-REO mineralisation

Largest Cu-Au-U deposit of its kind in the world

>9 Billion tonne resource

In-ground asset value of US\$863 B



Mineralisation Styles Comparison

- **Prominent Hill Style**

Cu-Au-Ag-Ce-La mineralisation

3.4 Mt copper (Cu) & 9.8 Moz gold (Au)

- **Massive magnetite skarns**

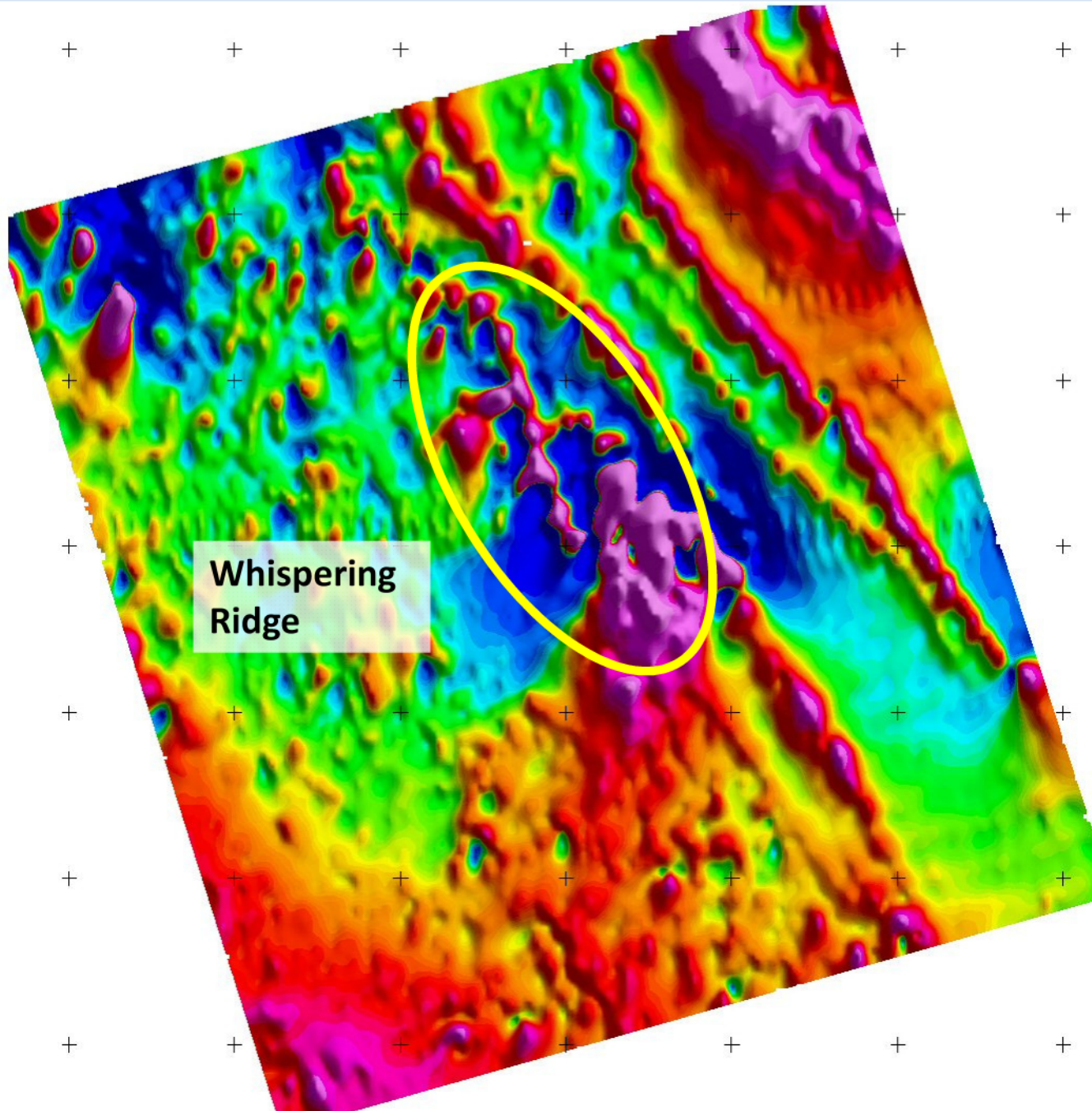
Strong to intense magnetic signals (TMI)

Elongate lenses with untested depth (sub-vertical)

Potential for >800 million tonnes (cited)

Footwall zones almost entirely untested





Whispering Ridge
Total Magnetic
Intensity, Reduced
to Magnetic Pole
output as part of
Sub Audio
Magnetic (SAM)
survey





3-D Isometric view looking NNE Whispering Ridge Magnetite Deposit

PROJECT:	Whispering Ridge
DATE:	2007/06/10
TIME:	19:10:53
SCALE:	X = 1mm : 750mm
ISOMETRIC VIEW	Isometric looking North East_North 220.00



LODE

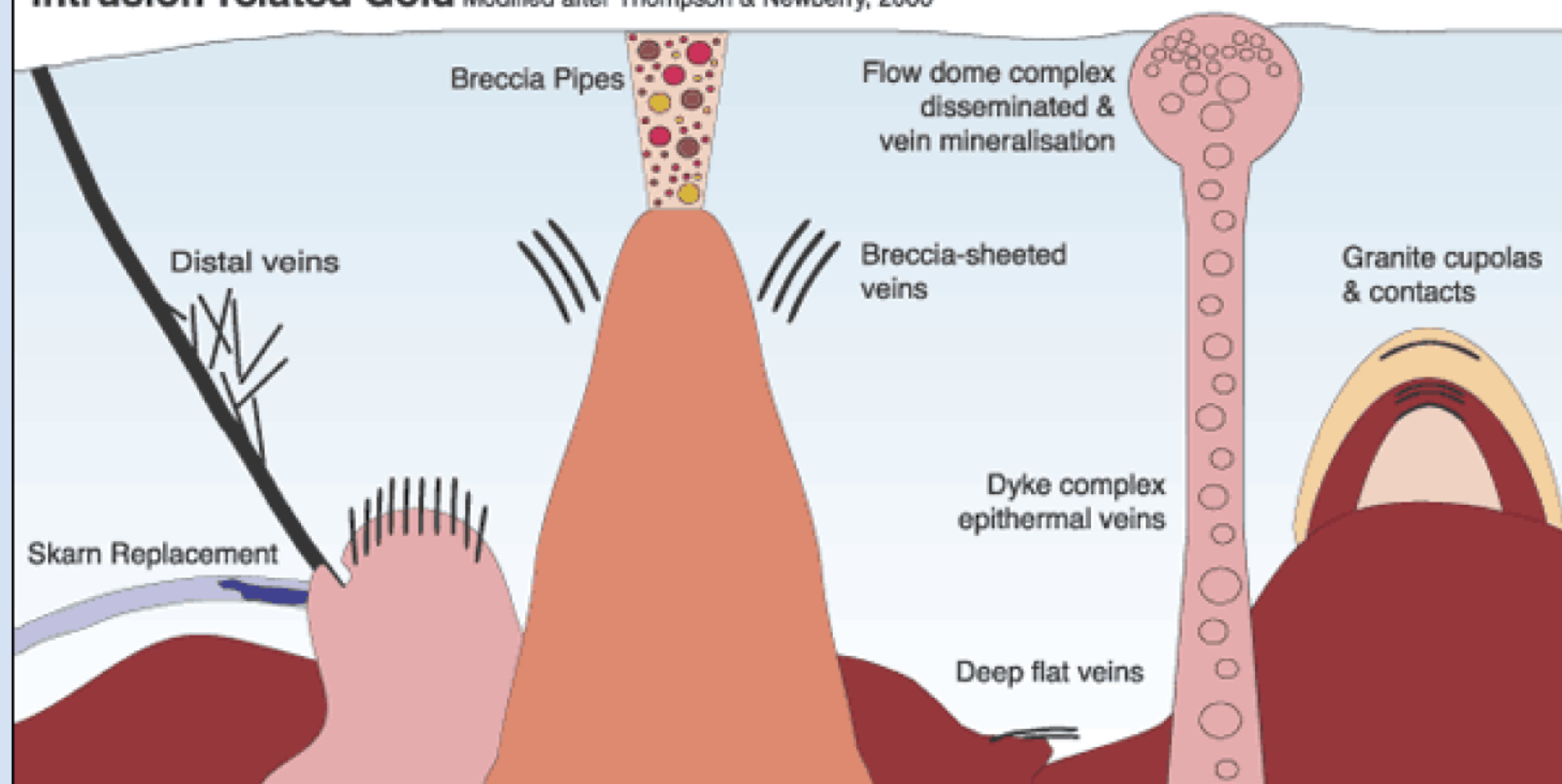
■	n/a
■	MAG
■	HMT
■	FLT

Intrusion Related Gold Systems (IRGS)

- **IRGS host some extremely large Au deposits (numerous multi-million ounce deposits)**
 - Fort Knox >8 Moz
 - Kidston 4 Moz
 - Donlin Creek >38 Moz
 - Muruntau 175 Moz
- **Northern Queensland considered to be a highly prospective but under-explored region**
- **Distinct from porphyry Cu-Au systems**

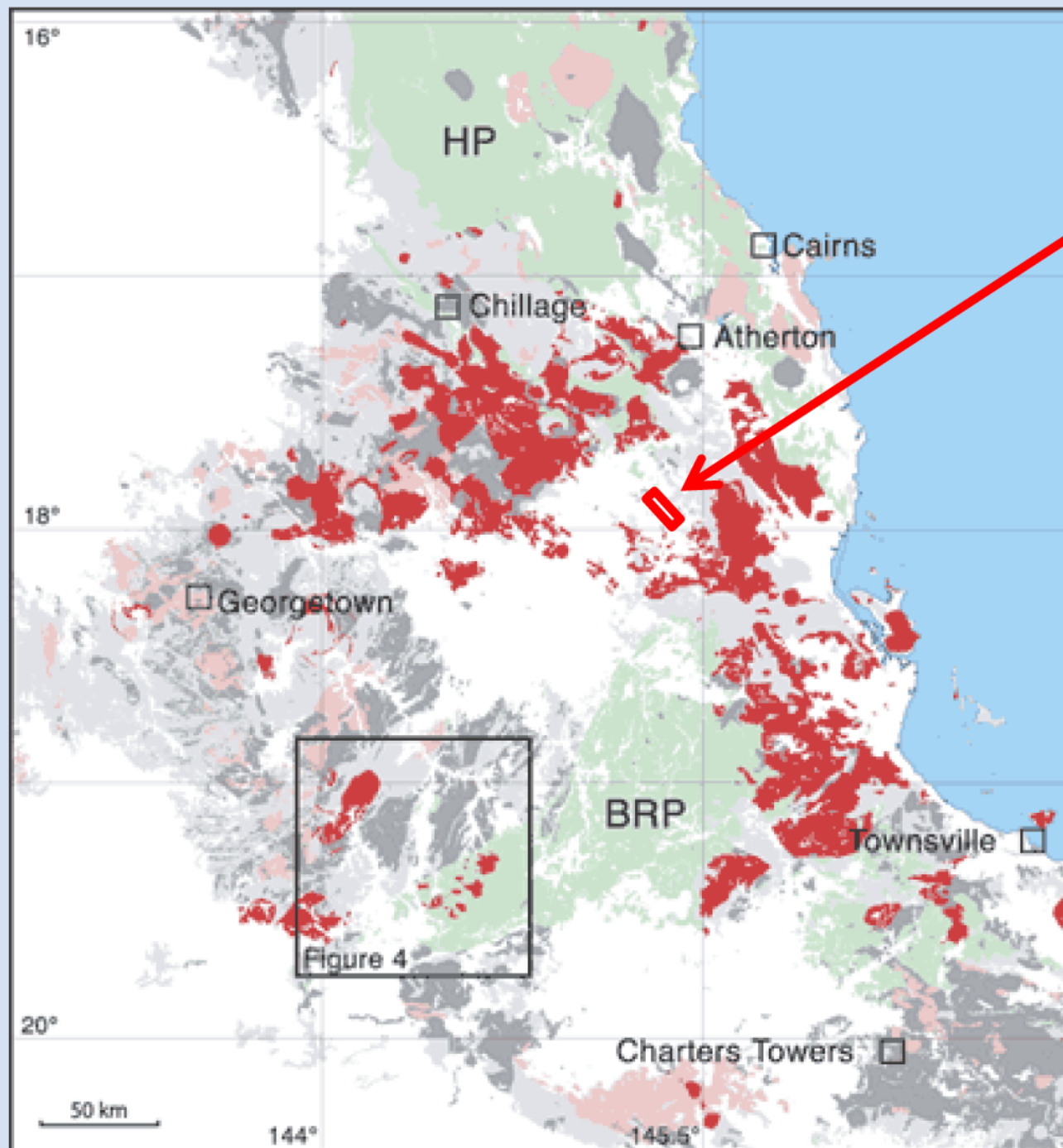


Intrusion-related Gold Modified after Thompson & Newberry, 2000



Intrusion Related Gold Systems (IRGS)

Favourable Indicators	Sunday Creek
Presence of buried granites (aeromagnetics)	Yes
I-type granites (Carboniferous to Permian)	Yes
Weakly to mildly oxidised	Yes
Presence of major faults	Yes
Bismuth and molybdenum occurrences	Yes
Broad mineral zoning (U-Mo-W-Bi/Sn-Au-Sb)	Yes
Presence of carbonate / reactive horizons	Yes



**Sunday Creek
tenement sits in a
most highly
prospective zone
for IRGD located
under shallow
cover sequences
(alluvials and
laterites)**



