

Proposed Cu Site Specific Exploration Plan

Global Exploration Group



NQ Cu / Mount Isa Mine 2022 Exploration Proposal

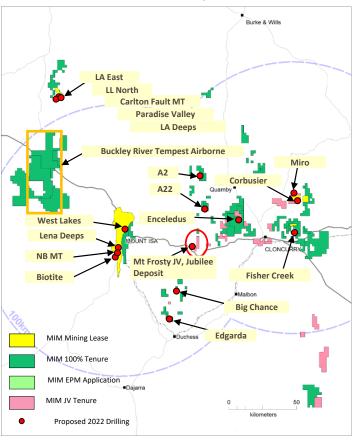
Objectives

- Drilling and pipeline development to aggressively explore NWQ in support of Queensland Metals Processing Infrastructure
- We stack the probabilities of success in our favour by having the; right ground, looking in elephant country, having the best geoscientists while maximizing drilling expenditures

Strategy: Diamond Drilling

- Five targets within the Lady Annie and Lady Loretta Mines
- Drill targets A2 and A22
- Enceladus (Zn/Pb BHT target)
- West Lake, Lena Deeps, NB MT, Glance (Cu), and Biotite targets
- Mt Frosty JV and Jubilee Deposit (Hammer Metals Managed)
- Fisher Creek, Big Chance and Edgarda

2022 NQ MIM Cu Drilling Program 16 DDH for ~ 20,000 m





MIM-GFM Accelerated H1 2022 Diamond Drilling Proposal

Global Exploration Group



Mount ISA Valley Cu-Zn Investigation

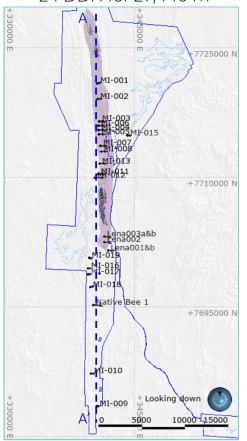
Objectives

- Discover additional major Cu-Zn ore bodies along the MIM Trend
- Provide vital data to Senior Management to establish the NWQ Business Strategy

Strategy

- Resume an aggressive exploration campaign with a robust "Drill Bit" Strategy
- Test high Priority targets identified along the highly prospective stratigraphy
- Lower priority targets to be tested as part of the 2022 Exploration Drilling Program
- Investigating area having the potential to host similar size deposit as MIM & GF
- Using a holistic exploration approach including, 3D Model, geoph, geoch, geol, etc.
- Perform and streamline a sound diamond drilling program by end of Jan. 2022
- Enlarge diamond drilling investigation area by extensively utilizing BHEM Surveys
- Multiple diamond drilling contractors to supply sufficient drill rigs (1-2 contractors)
- Hiring a total of 9 drill rigs for a period of 4 months (mid-Oct. 2021 / end Jan. 2022)
- Joint operation between NWQ Exploration Team and the Global Exploration Team

2021 MIM Cu-Zn Drilling Program 24 DDH for 27,440 m



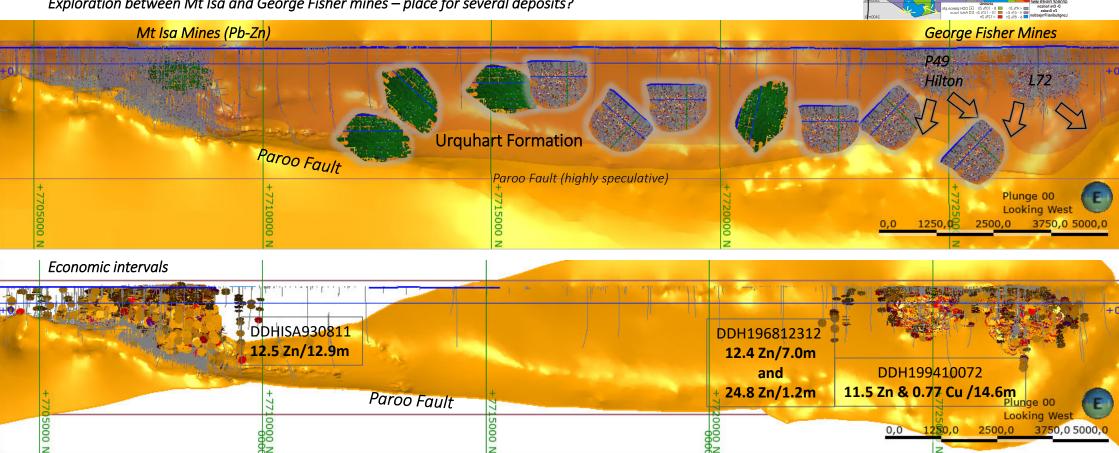


MIM – GFM Longitudinal – Target Size

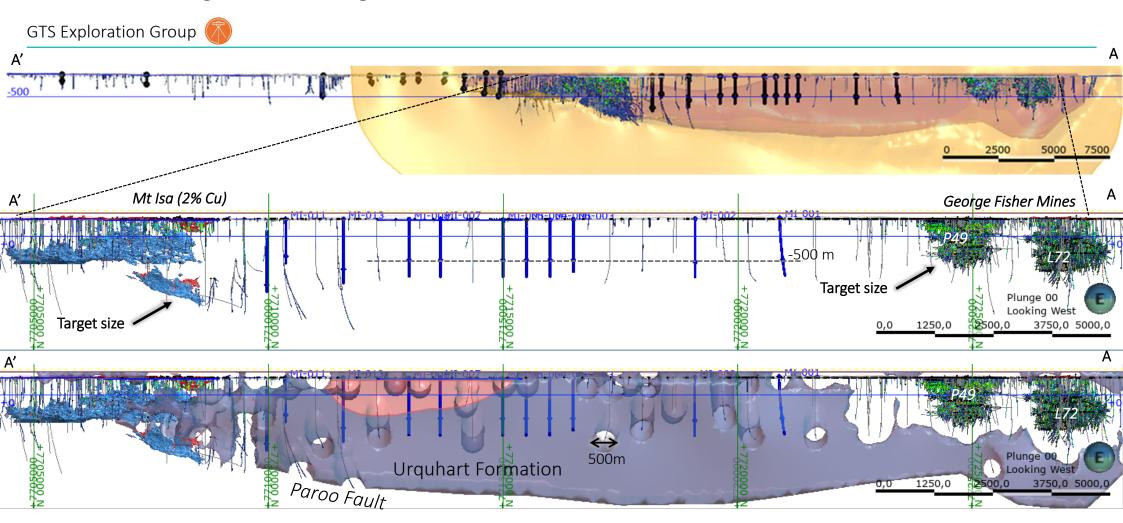
GTS Exploration Group



Exploration between Mt Isa and George Fisher mines – place for several deposits?



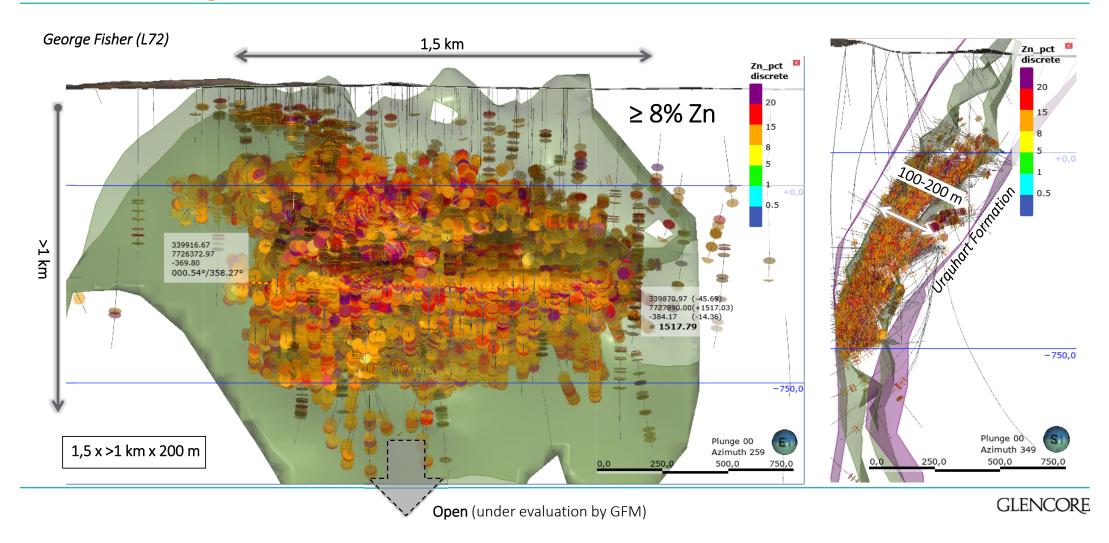
MIM - GFM Longitudinal – Target Location



GFM – MIM Regional – Longitudinal - Target Size

GTS Exploration Group

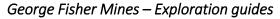


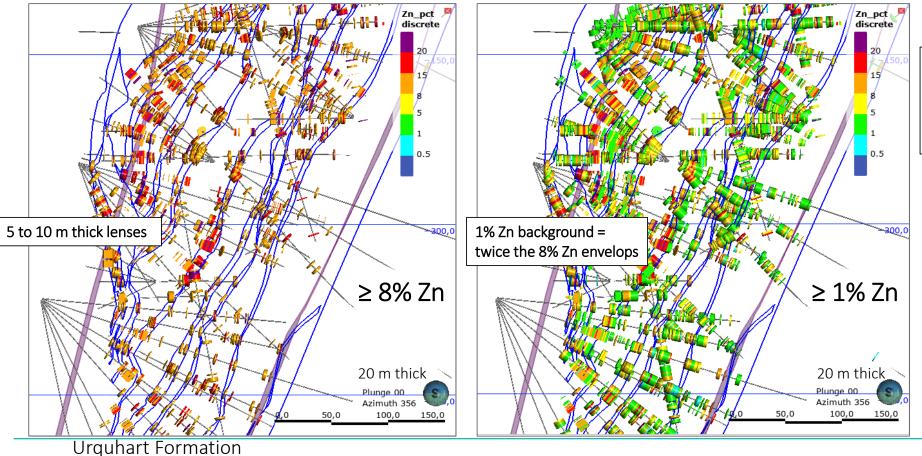


GFM – MIM Regional – Cross Section - Target Size and Halos

GTS Exploration Group







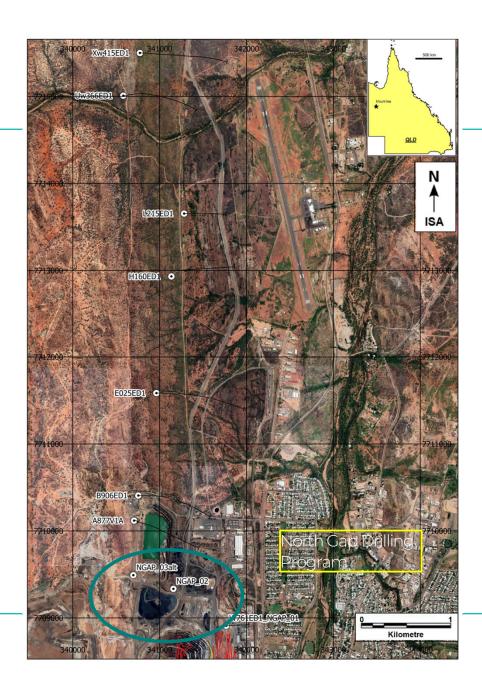
Exploration Guide (GFM)

Halos typically: \geq 1% Zn = 5 to 10m \geq 0.1% Zn = 100 to 200m

GLENCORE

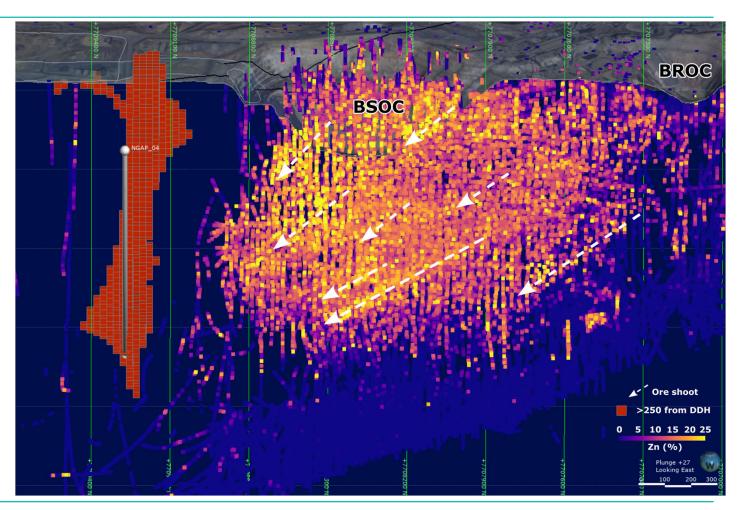
Isa Accelerated Drilling Program

Q1 2022 Update



MIM Near-mine Zinc Targets (Western Domain)

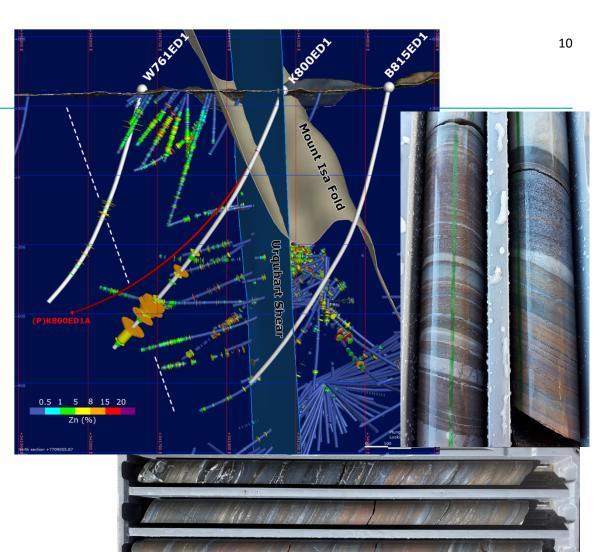
- Western domain is host to historically mined Zn/Pb ore bodies at Mount Isa
- Zn mineralisation occurs as discontinuous high grade ore shoots within tabular Zn/Pb ore bodies
- Dominant ore shoot orientation parallel to Mount Isa Fold
- Ore bodies pinch down plunge but persist with reduced thickness
- The opportunity exists for swelling of ore horizons within a 600m gap in drilling between the northern end of MIM and RW784WD1 at depth





Drilling update

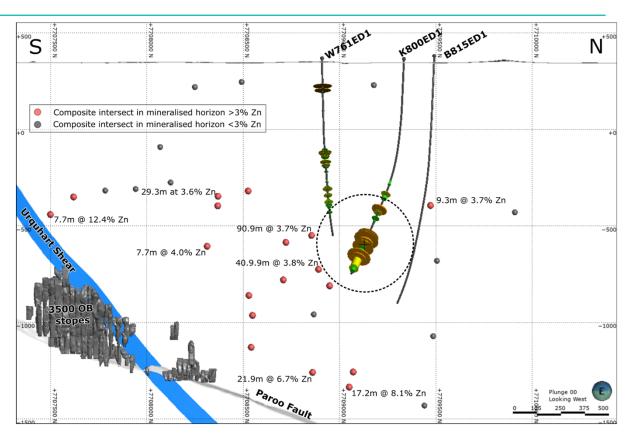
- NGap program included three holes on section to test a ~600 m gap in drilling north of BSOC
- W8761ED1 and B815ED1 (complete) intersected minor Sp±Gn mineralisation
- K800ED1 (in prog.) intersected a broad ~550 m zone of intermittent Zn±Pb mineralisation from ~800 m
- Sp±Gn mineralisation occurs in three coherent horizons:
 - 33 m @ 4% Zn and 2% Pb from 1079.2 m
 - Including 13.1 m @ ~5% Zn and ~2% Pb
 - 60.1m at 4.5% Zn and 4.5% Pb from 1128.4 m
 - Including 21.2 m at ~8% Zn and ~8% Pb
 - 109.7 at 4.5% Zn from 1203.7 m
 - Including 17.8 m at 7% Zn and 4% Pb
- K800ED1 extended to Urquhart/Native Bee contact, <u>all</u> visual estimates from summary logs.
- A <u>wedge</u> is proposed to test continuity of mineralisation ~200 m up dip



*metal grades converted from visual estimates of mineral abundance during summary logging

5.2 m at 14% Zn and 9% Pb from 1249.5 m

- Mineralised horizons in the area are laterally persistent but vary in grade and width
- The upper two horizons in K800 (1079.2 1188.5 m) are potentially correlated other broad low grade horizons (~100 m at 3-4% Zn) nearby
- The lower horizon appears to correlate with a different horizon that is not well tested by nearby drilling, note B815 ED1 does not test this mineralised horizon such that it also remains untested 400m to the North, and 250m to the South.
- Drill spacing is sparse



Inclined long section in the plane of Zn mineralised horizons intersected in K800ED1 showing pierce points with composite intersects greater than 3% Zn (dashed circle shows 250 m radius buffer around mineralised intersection in K800ED1)

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2023 NWQ Exploration Proposal

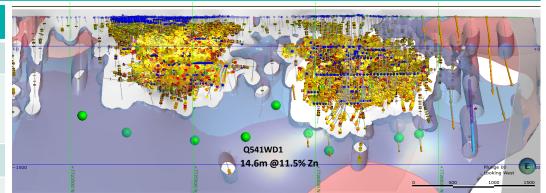
George Fisher Mine and Mount Isa Regional / 30 DDHs / 31,000 m

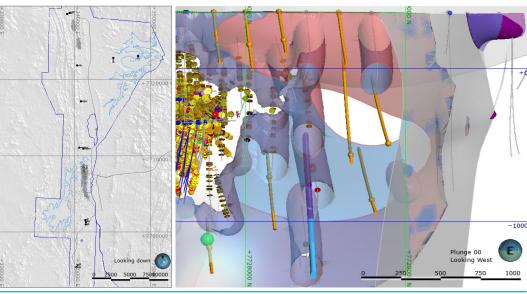
Objectives

 Discover a new major deposit or the lateral extension of the GFM and Mount ISA Operation in support of Queensland Metals Infrastructures.

Strategy

- Hilton and GFM Deeps Extension drilling, 9 DDHs for 15,000 m
- GFMN Extension, Shallow Target, 8 DDHs for 8,000 m
- Isa Valley Gravity targets, 5 DDHs for 2,000m
- PowerStation Target 1,500 m
- Bernborough Target 1,500 m
- Mt Novit Target: IP chargeability in the Native Bee Siltstone, 1,000 m
- Targets to be defined as follow-up from positive drilling results and Geophysical targets, 2,000 m

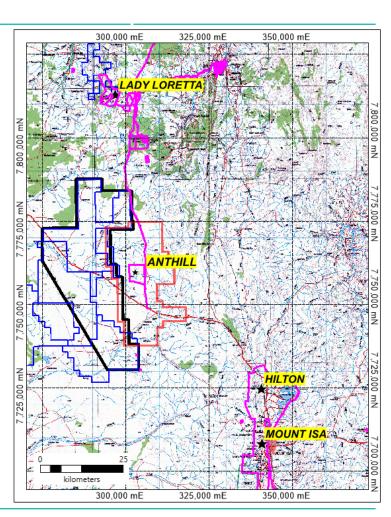






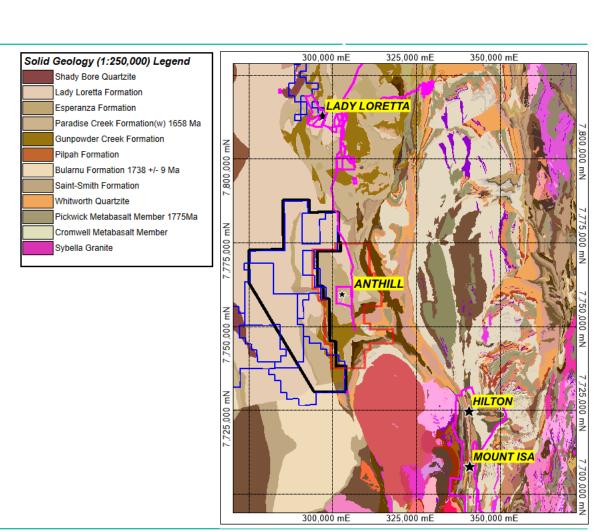
Survey Details

- In May, 2021 MIM Resources Development submitted a proposal to the Department of Resources under Round 5 of the Collaborative Exploration Initiative (CEI) for cofunding of an Tempest AEM survey.
- In July, 2021 the Department of Resources advised the application was successful and awarded a grant of \$200,000 to help co-fund the AEM survey.
- The proposed AEM survey area lies ~80 km north west of Mount Isa and ~50 km west south-west of the Lady Loretta Pb/Zn mine. The Anthill mine is ~5 km east of the AEM survey area.
- The AEM survey area is ~930 km² in size and was flown along east west flight lines at a 200 m line spacing in April, 2022 after the wet season.
- A total of 4,682 line-kms was surveyed for a total cost of \$525,000.
- The 2022 AEM survey area (shown in black) is west of and adjacent to a 2013 AEM survey (shown in red).
- The 2022 AEM survey was designed to overlap the 2013 survey and was surveyed using the same equipment and parameters (Tempest) so as to provide uniform AEM coverage over a combined area of ~1470 km2.



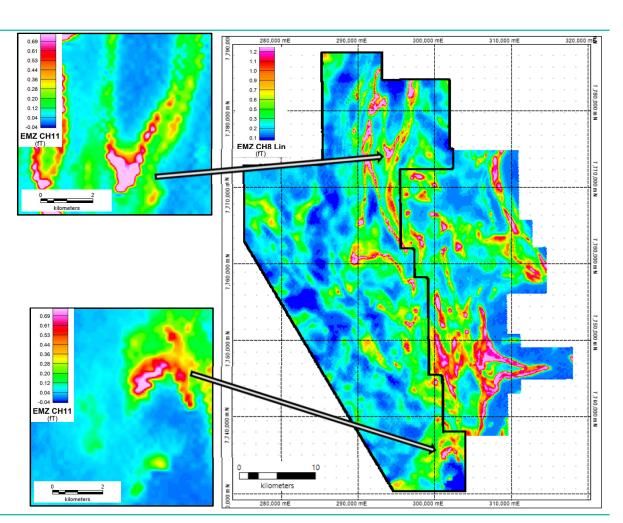
Geology of the Survey Area

- The 2022 AEM survey area is known to contain Lady Lorretta, Paradise Creek and Gunpowder formations – Proterozoic sediment prospective to Pb/Zn and or Cu deposits.
- However the survey area is largely covered/obscured by Cambrian, Tertiary and Pleistocene sediments.
- The aims of the 2022 AEM survey were
 - Help map the electromagnetically conductive portions of the Proterozoic sediments - e.g. pyritic shales that could host Pb/Zn and or Cu mineralisation.
 - Explore for concealed conductivity anomalies at the top of the Proterozoic which could be associated with **supergene mineralisation e.g. weathering of copper sulphides**.
 - Characterise the conductivity/thickness of the cover sequence in order to help plan further exploration e.g. drilling or ground based EM surveying.

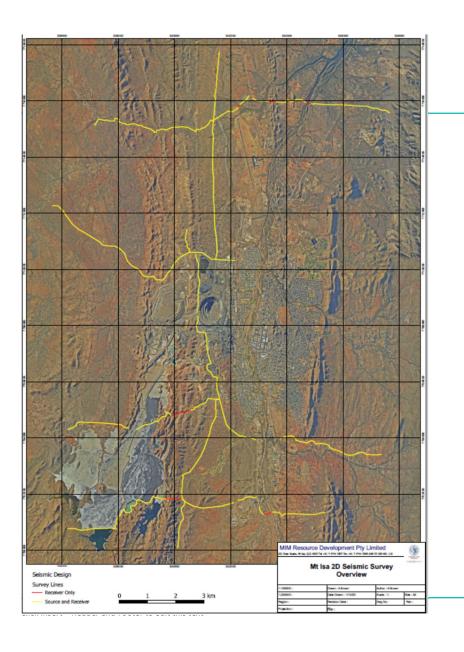


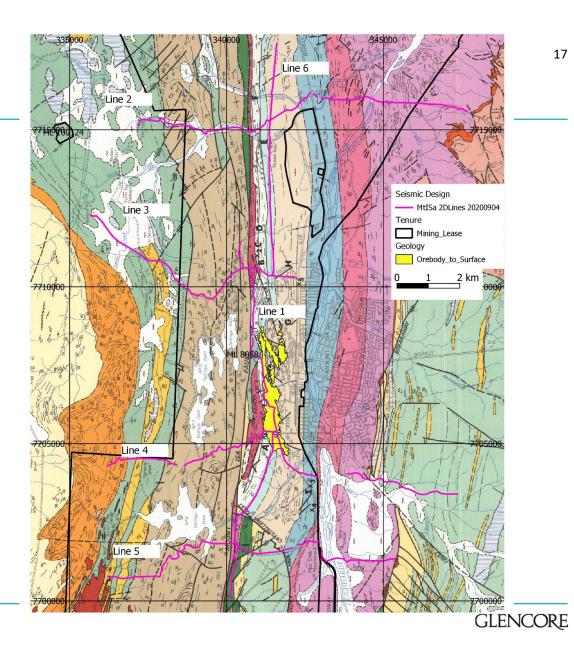
Survey Results and Future Work

- Final Data from the survey was received in July, 2022.
- Initial assessment indicates the 2022 AEM surveys has helped mapped the Proterozoic sediments, including in the western part of the survey area where the cover is known to be thicker.
- Despite relatively thick cover in the west of the survey area, the AEM has sampled the underlying Proterozoic – indicating follow up ground base EM is a viable option for further exploration in this environment.
- The data highlights some tight folding of conductive stratigraphy – in particular fold noses which are considered prospective for Lady Loretta style Pb/Zn mineralisation.
- Near term future work will focus on combining the 2022 and 2013 AEM data sets and generating a continuous model of the sub surface conductivity across the combined survey areas for further interpretation and targeting. Potential for follow-up with Airborne Falcon Gravity Gradiometry.





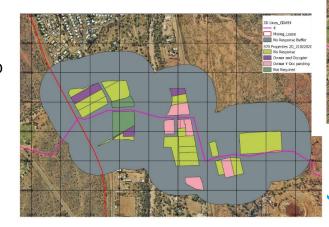


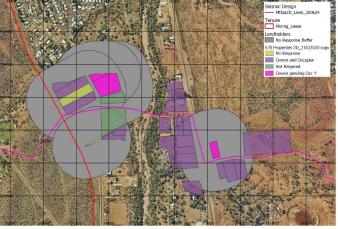


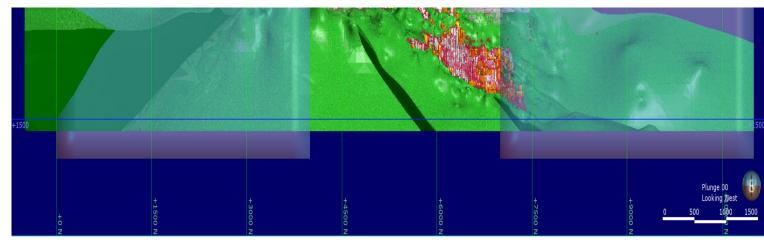
Land Access 3D Seismic – Forecasted to commence 2D survey 9 Oct 2020

3D Seismic Targeting Survey

- Early Sept; with 4 outstanding responses remaining; ~50% access. Success in a suburb of small quarter acre blocks/houses would be highly unlikely for a 3D survey. 2D survey can progress under this basis.
- Track widening earthworks completed early Oct, RA and CCA with MIWB complete; survey conducted from 9th Oct to 6th Nov; inductions for crews early Oct.









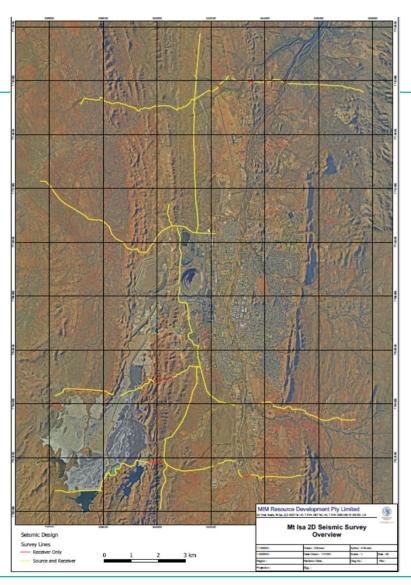
2D Seismic Survey

Acquisition 10^{th} Oct -3^{rd} Nov 2020

- Advance Party completed mark up 10-15th October
- Acquisition Team production 17th Oct-3rd Nov
 - ~63km and 12,500 stations
 - Achieved within planned timeframe 15th Oct-6th Nov
- Very professional team, did well to work in complex and dynamic environment with minimal disruptions

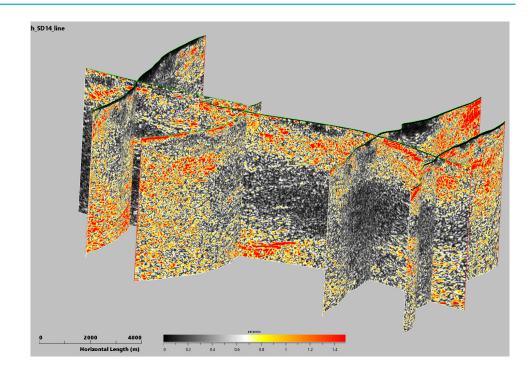




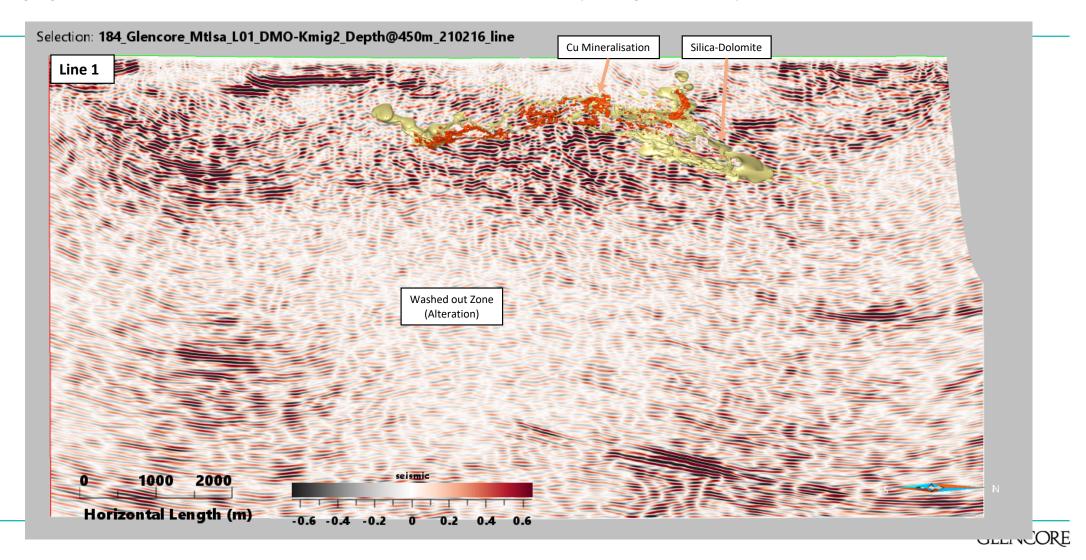


Results- HiSeis Interpretation

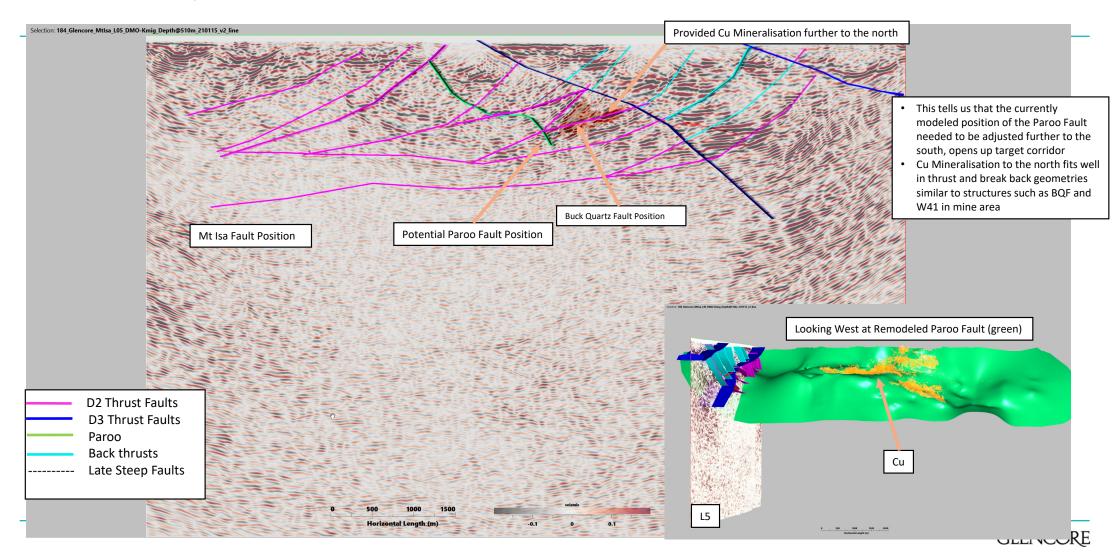
- The shape of the silica dolomite halo matches the trend of a complex reflectivity zone
- The geometry of the Paroo/Basement contact is visible through breaks and offsets, but is generally not a reflector in its own right. In general there are not many steep dipping reflectors
- There are a number of large scale shallow west to north west dipping features interpreted to be part of a west over east thrust duplex system. This is not part of the current geological model of the Mt Isa system
- A number of features consistent with known mine mapping and drilling are apparent (eg Buck Quartz fault, W41/Bernborough). These faults, while some relatively steep in the mine, appear to flatten and connect to the thrusting system
- The Lena Block of ECV's (basement) appears to have been shunted into its current position by an east dipping structure, with the Paroo and Isa Group stratigraphy blind underneath
- Two zones of increased and complex reflectivity occur within Urquhart Shale on Line 2 (north of airport) and are bracketed by shallow NW dipping structures that bracket the bulk of the Mt Isa Cu mineralisation. These zones occur at ~ 800m and 2300m depth.
- An enormous zone of poor/destroyed reflectivity exists below the Mt Isa system from depths ~2.5km. Currently thought it may represent a large hydrothermal system that drove the Cu mineralisation event



Highlights – Silica Dolomite Alteration Wireframe and Cu Mineralisation corresponding to reflectivity

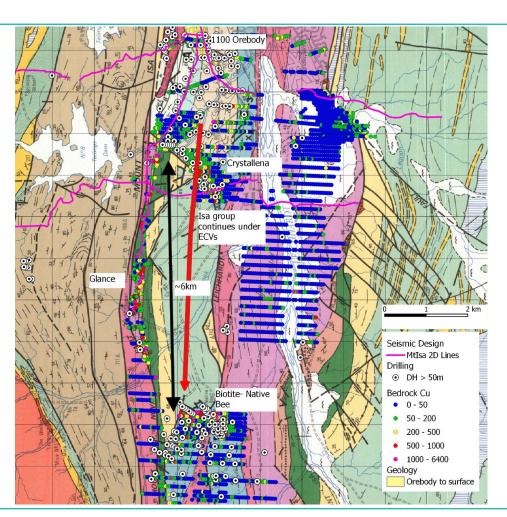


Line 5 with Hiseis interp and Cu wireframes



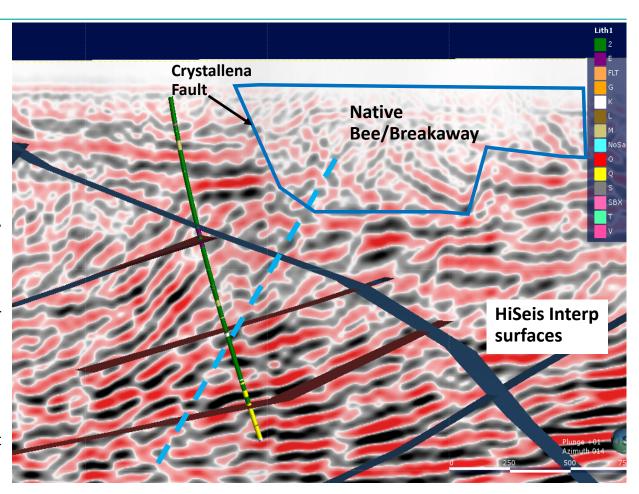
Ramifications of Line 5 Interpretation

- Seismic interpretation suggest Paroo and Isa group stratigraphy continues south, and is covered by a block of ECV's
- Prospective Stratigraphy and structure at similar depths to the 1100 orebody
- 6kms of strike (~15sqkm) blind, undrilled (known Isa system strike of ~5km)
 - Huge amount of prospective area to test
- Is the 'smoke' we see around the Crystallena block related to something hidden underneath
 - Consider SOX and Star Gully holes... 6km apart with the entire Isa system between them
- Should be tested with a hole a soon as practicable
 - Decision point for further seismic
 - Big shift in exploration strategy if correct



'Tash' Drillhole – Testing Line 5

- Test blind Isa Group Hypothesis
- Intersected large sequence of ECV basalts, with quartzite at the bottom
- Matches some reflectors, no evidence for others
 - Probable offline 3D effects?
- Top half of the hole 'fresh' basalt flows, reworked volcanics etc
- Lower half significant chlorite-biotite-talc-rutile alteration, quartz veining
- 920-934m massive buck quartz vein/breccia zone in middle of wide zone of shearing
 - Very similar to Bernborough basement structures under the 1100 orebody
 - Possible projections of structure would intersect Native Bees and Breakaway Shale near Mica Creek powerstation
 - Location of previous target from 2005 based on surface mapping of oxide copper and Crystallena Fault-leichardt Shear interactions



S995ED1 "Tash" 920m Structure



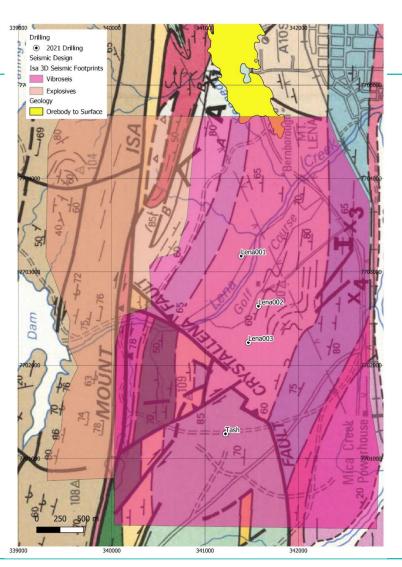






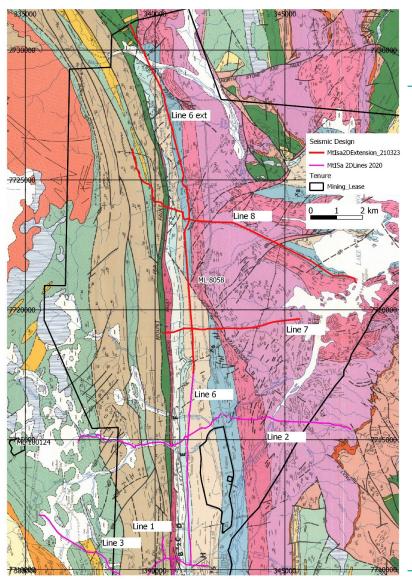
Mt Isa 3D Seismic- 2022

- ~15sqkm 3D Seismic planned to the south of 1100 Orebody
 - Covers from edge of mineralisation to the Crystallena Block
 - All exposed Isa Group south of the mine
- Hybrid Vibroseis and Explosives acquisition
 - Explosives in steep terrain due to poor access
- Use of explosives increases costs, but sources/receivers in that area critical for many of the key reflectors in 2D
- Current cost estimate \$3.4 million
 - Almost half for line preparation and explosive source areas
- 4-6 week acquisition phase mid June 2022
- VSP on 2 drillholes to better characterise rock properties for processing



Mt Isa 2D Extensions

- Plan to extend 2D seismic coverage from 2020 survey
 - ~30km
- · Extend strikeline through GFM, with additional crossline
- Crossline through Transmitter Fault
- Look to see if can track reflective horizons associated with Isa through to GFM
- Urquhart-Basement geometry in West Lakes area
- Likely cost ~\$250k, done in conjunction with 3D





Thanks Questions?