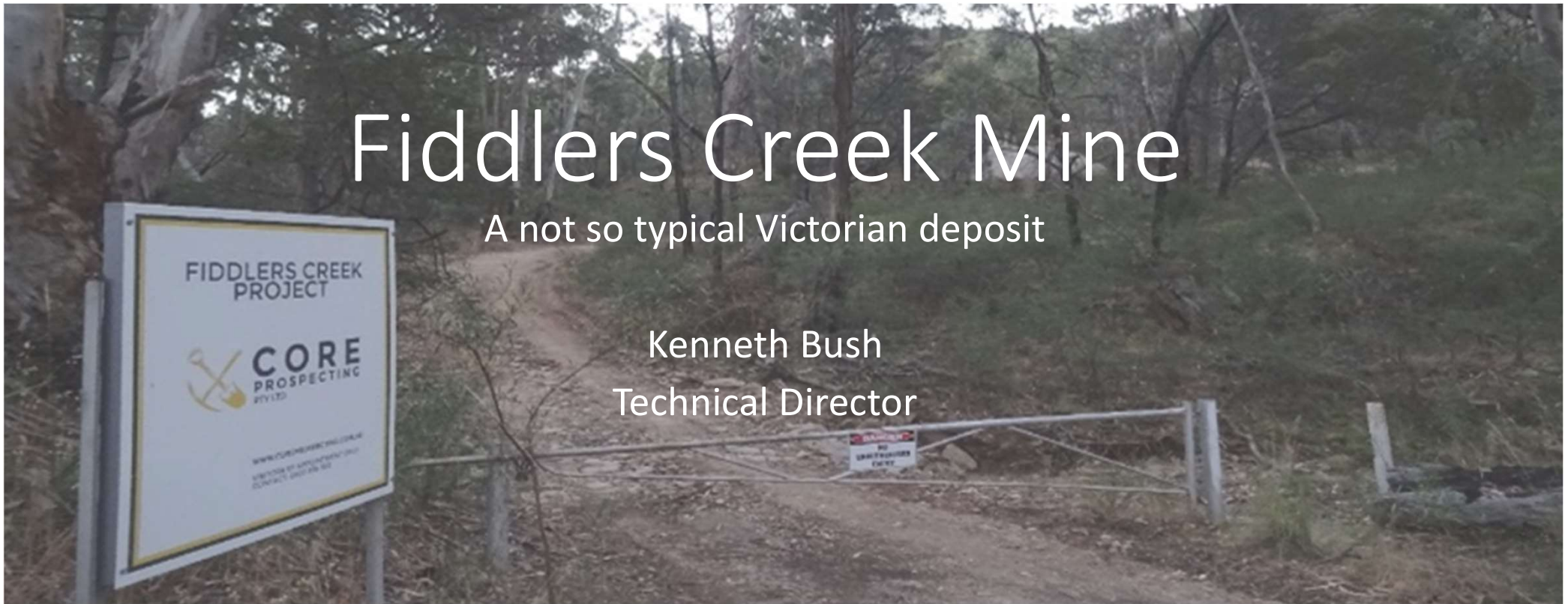


Fiddlers Creek Mine

A not so typical Victorian deposit

Kenneth Bush
Technical Director



Intro / project location

Fiddlers Creek Mine

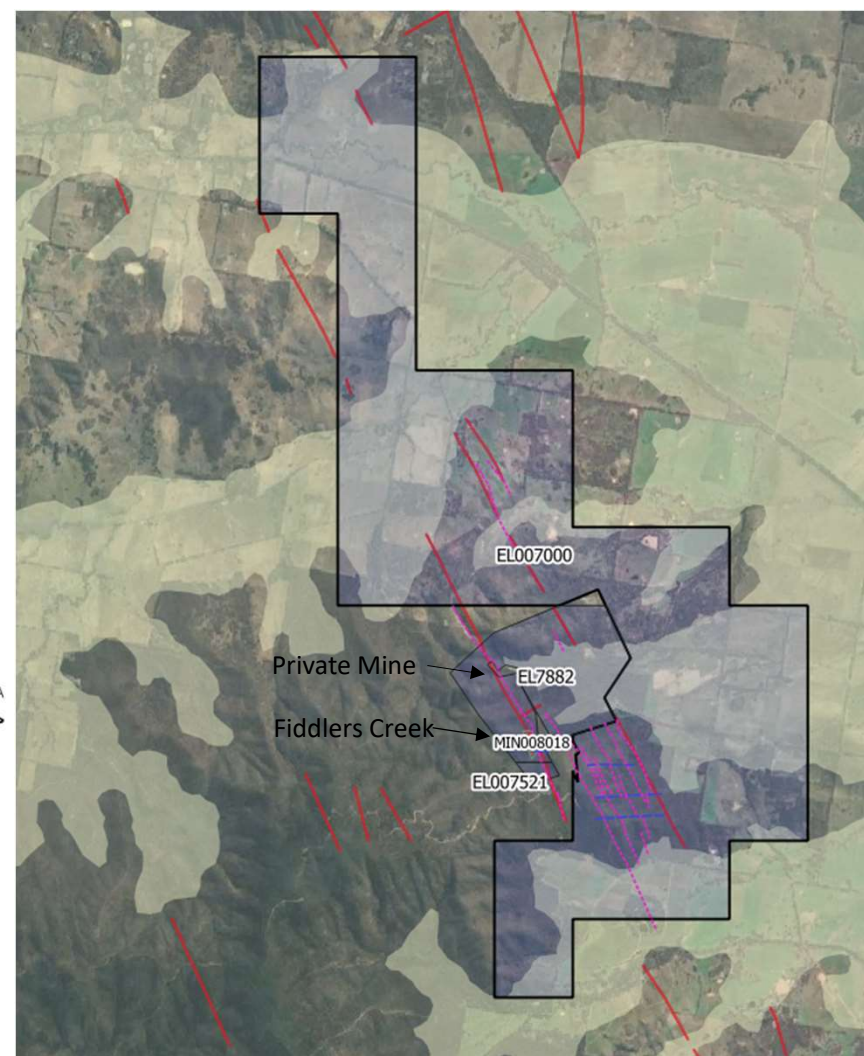
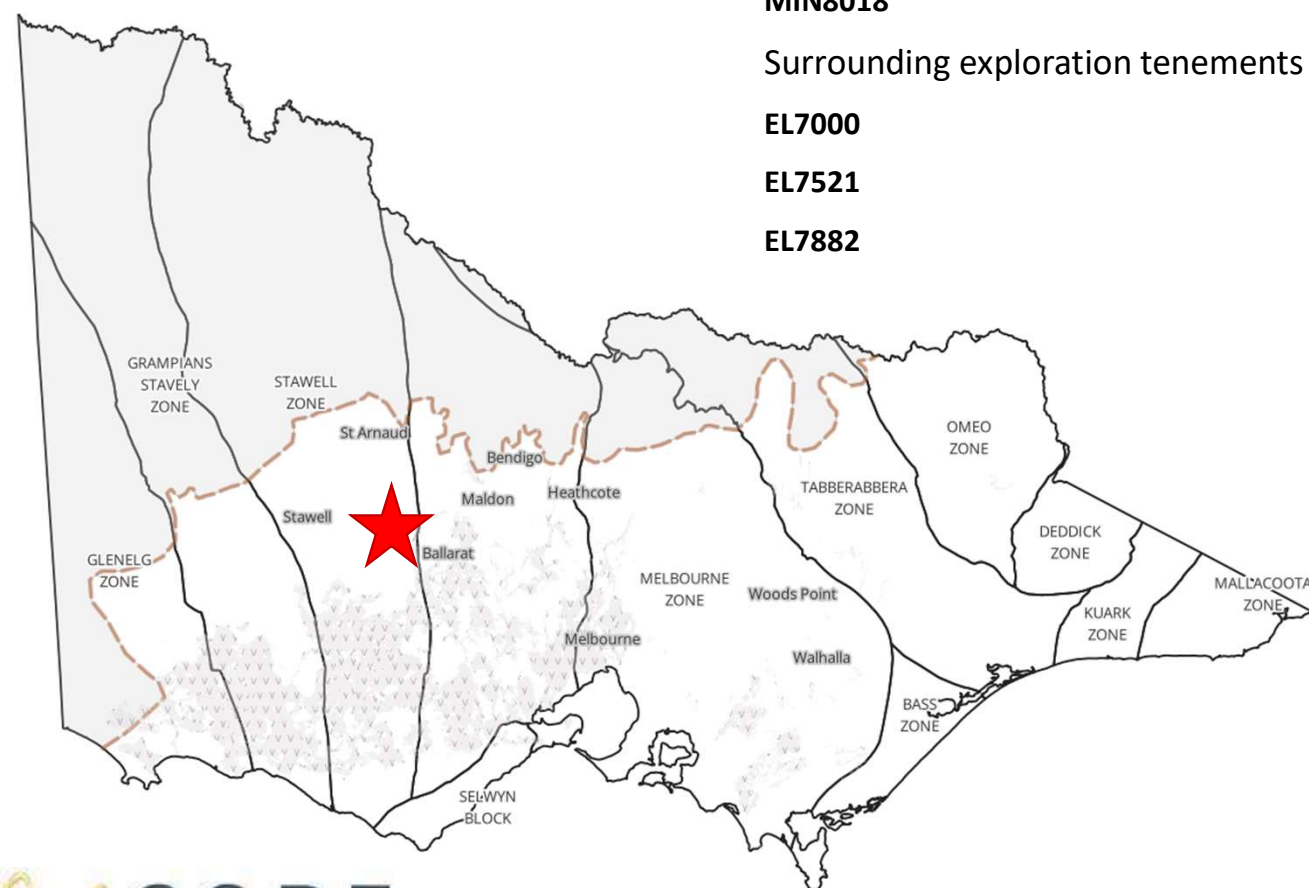
MIN8018

Surrounding exploration tenements

EL7000

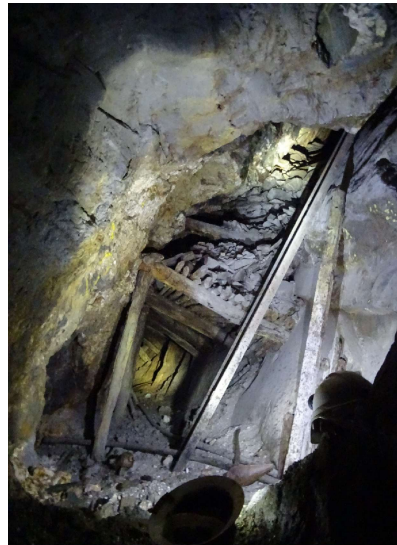
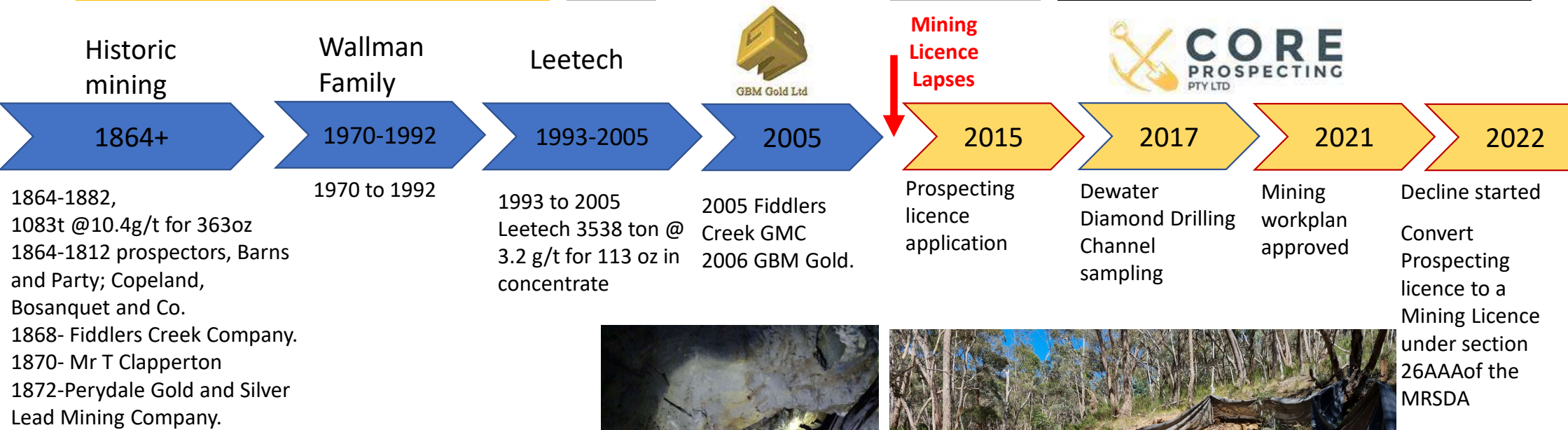
EL7521

EL7882



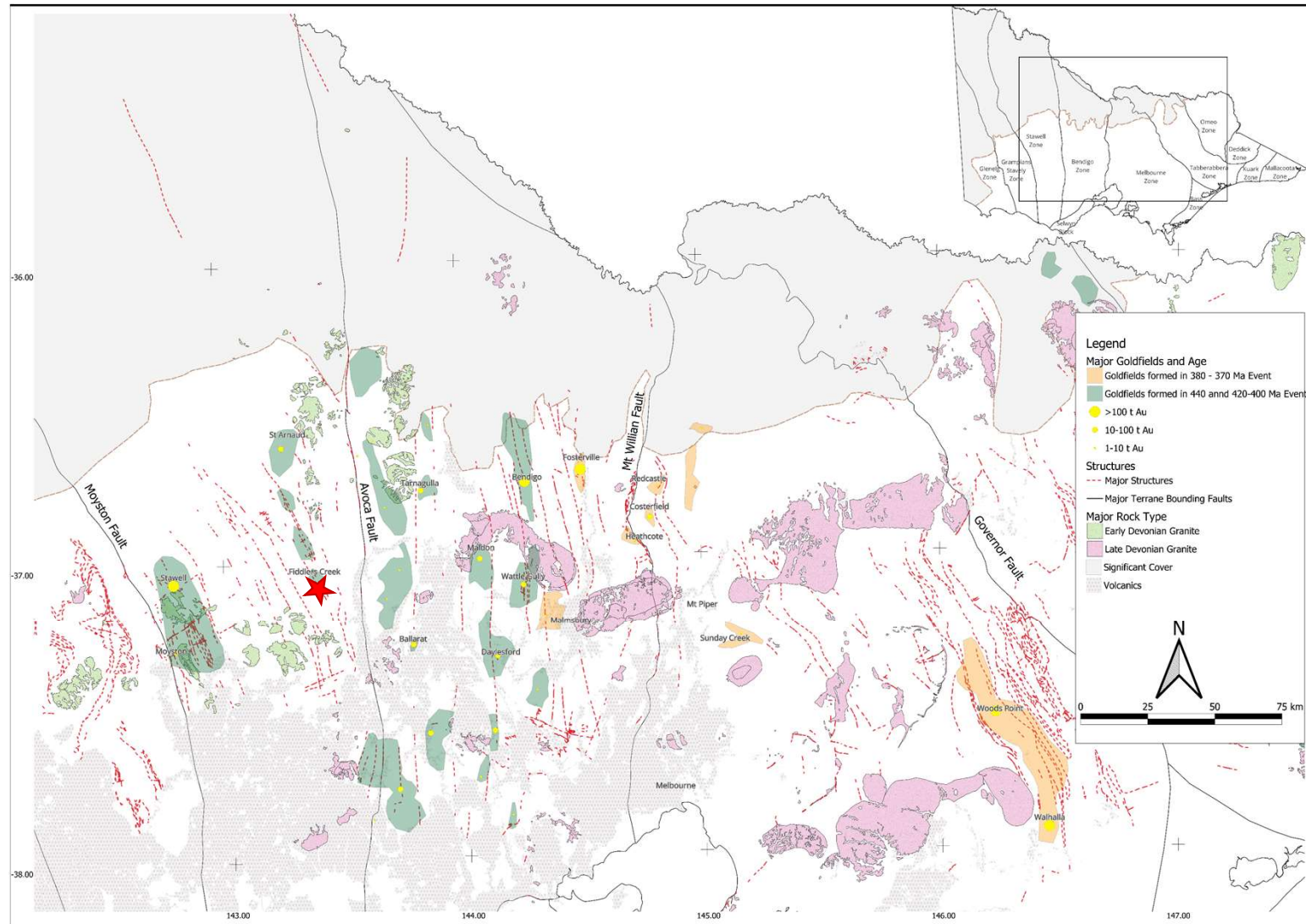
Red = GSV fault lines, purple = mapped reefs to date, tan = cover

Timeline / Historic Mining and Ownership



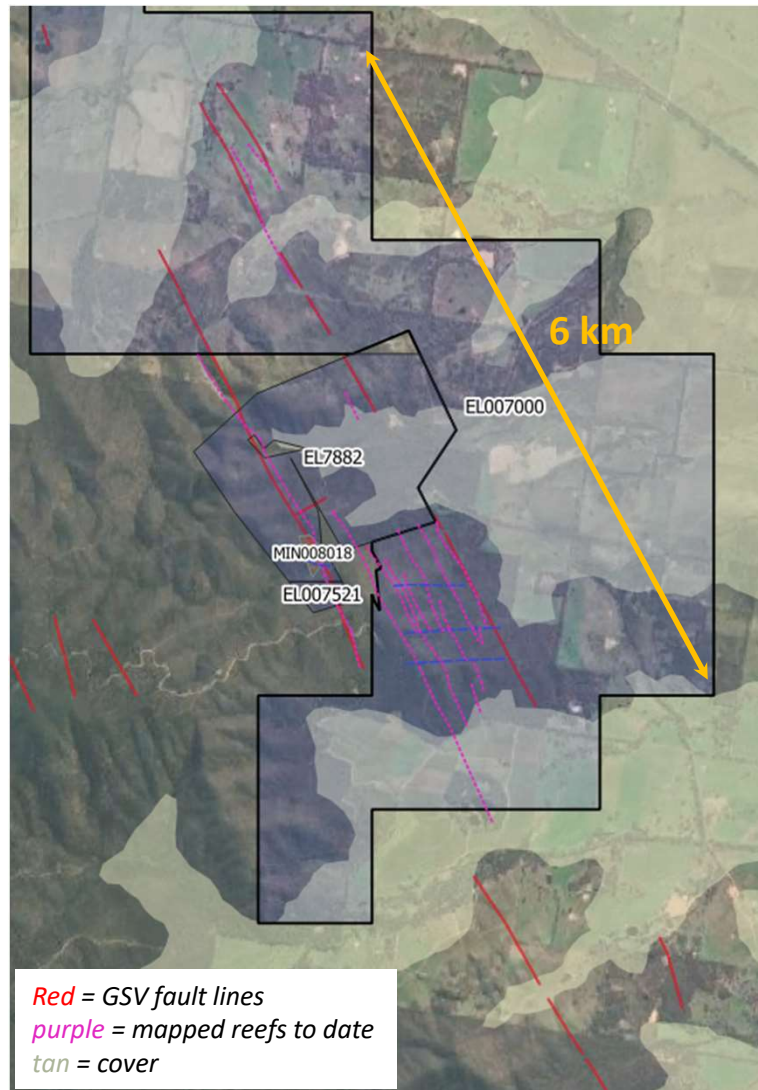
Regional Geology

- The Fiddlers Creek area is within the Stawell zone on the eastern margin
- 1-kilometre-wide and 65-kilometre-long lineament extending from Amphitheatre to St Arnaud



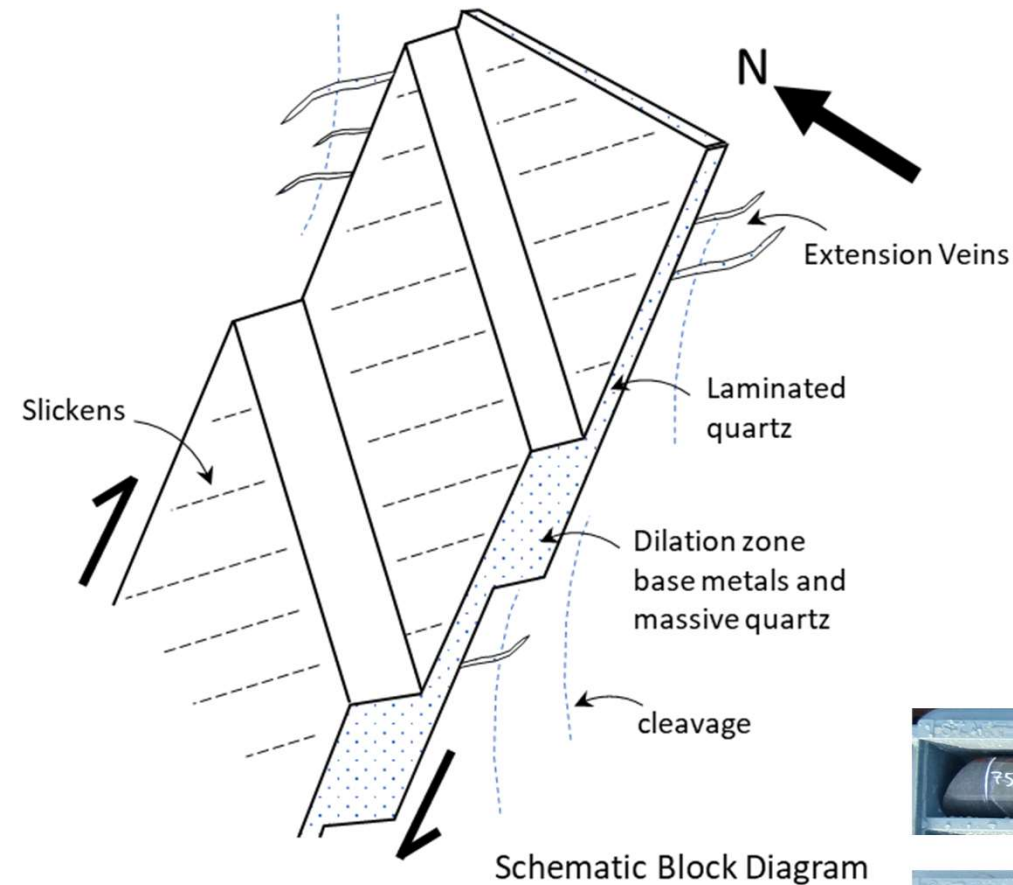
Regional Geology

- The Fiddlers Creek area is within the Stawell zone on the eastern margin
- 1-kilometre-wide and 65-kilometre-long lineament extending from Amphitheatre to St Arnaud



- 6 main mineralised trends present on the project currently identified
- >600 historical workings identified from LIDAR and mapping
- >6km of structure identified on several line with continuity through cover – cover has never been drill-tested below

Local Geology



- Reverse fault, related quartz / gold emplacement within the west dipping shale, siltstone and sandstone sequences typical of Central Victorian gold mineralization.
- Sheared out antiforms and synforms are interpreted to be present, as younging is readily apparent and reversals are often observed across the project area with no change to bedding orientation
- Highly strained zone – very strong secondary cleavage
- Prolific carbonate porphyroblasts
- Flat intrusive sills – porphyritic intermediates in character
- Regular cross cutting faults of northwest - southeast orientations with an apparent sinistral offset that have compartmentalised and offset mineralised structures



Geochron / Petrography / Research

- Previous age dating has constrained the youngest age possible by the interaction with a porphyritic andesite dyke cutting across mineralisation
- Masters project looking at the geochemistry and alteration of the carbonate porphyroblasts and sulphides
 - Determine the source of gold and base metals
 - Establish the ore forming processes
 - Date the carbonate alteration that predates the reverse faulting and quartz reef development

Gold undercover report 6 - Geochron pg 20.

Sample ID	Location (goldfield/deposit)	Material dated	Dating Method	Age (Ma $\pm$ 2SD)	References
FR-01	Fiddlers Reef	slate from within laminated reef	40Ar/39Ar	413 $\pm$ 3	Bierlein <i>et al.</i> (1999a, 2001a)
FRD-1/62.1m	Fiddlers Reef	slate adjacent to small vein in hanging wall of main reef	40Ar/39Ar	412 $\pm$ 3	Bierlein <i>et al.</i> (1999a, 2001a)
FR-H09	Fiddlers Reef	hanging wall psammopelite	40Ar/39Ar	430 to 440	Bierlein <i>et al.</i> (1999a, 2001a)
FC96-03	Fiddlers Reef	porphyritic dyke	40Ar/39Ar	397 $\pm$ 3	Bierlein <i>et al.</i> (1999a, 2001a)
FC96-04	Fiddlers Reef	porphyritic dyke	40Ar/39Ar	407 $\pm$ 3	Bierlein <i>et al.</i> (1999a, 2001a)
FC96-05	Fiddlers Reef	porphyritic dyke	40Ar/39Ar	400 $\pm$ 4	Bierlein <i>et al.</i> (1999a, 2001a)

BIERLEIN, F.P., ARNE, D.C., REYNOLDS, P. & McNAUGHTON, N.J., 1999a. AMIRA P478: Victorian Gold – Timing Relationships and Emplacement. *Final Report on Geochronology (Confidential)*, 1–126.

BIERLEIN, F.P., ARNE, D.C., FOSTER, D.A. & REYNOLDS, P., 2001a. A geochronological framework for orogenic gold mineralisation in central Victoria, Australia. *Mineralium Deposita* 36, 741–767.



1 level looking North West

Mineralisation Style

- Percydale gold occurrences are atypical within Central Victoria due to the higher content of sulfides.
- High percentages of galena, sphalerite, chalcopyrite and abundant pyrite occur within silver and gold hosting reefs of the area.
- Secondary minerals are common in Fiddlers Creek
- Sphalerite is often replaced with Smithsonite
- Small botryoidal Azurite and Malachite clumps are seen replacing chalcopyrite in voids on the margins of the quartz veins.

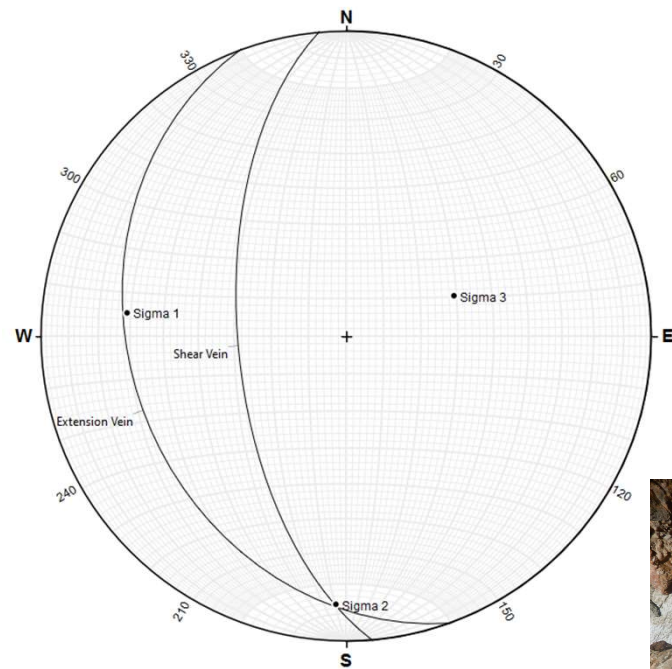


Above: 2 level; Fiddlers Reef
gold, galena, sphalerite & pyrite in quartz

Left: Galena (silver), smithsonite (black),
Pyrite, Chalcopyrite

The importance of field mapping

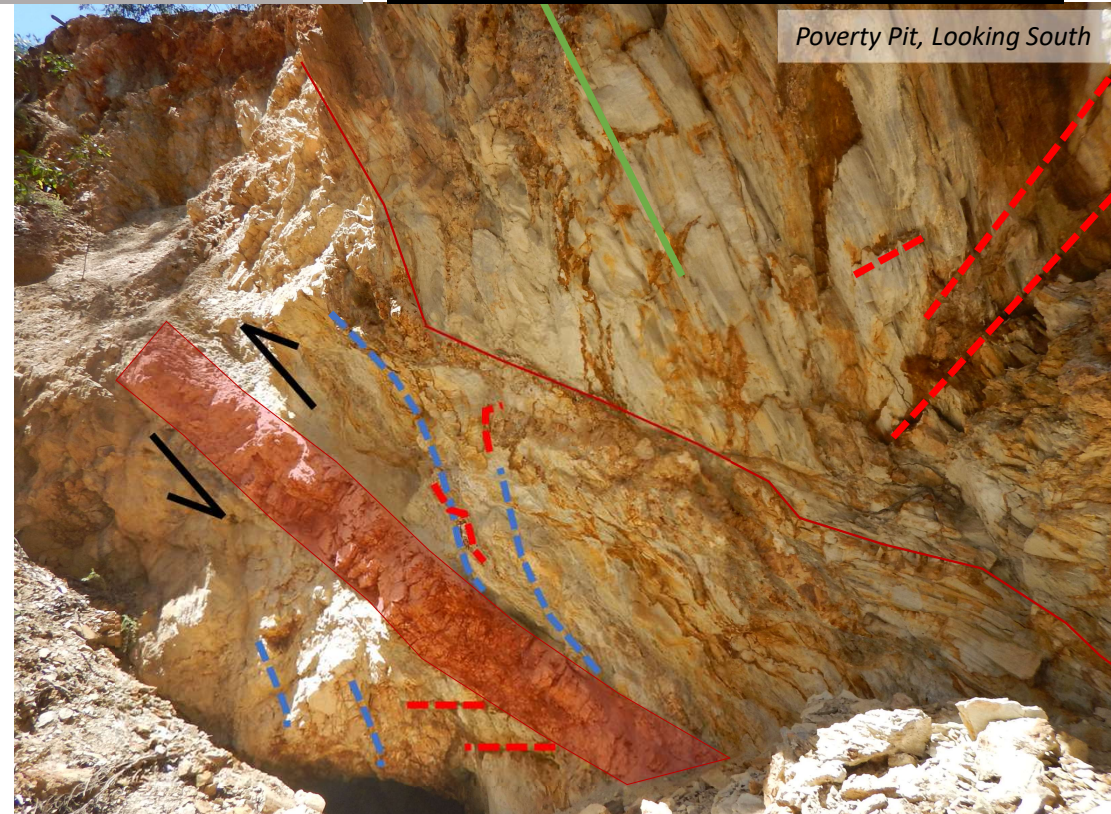
Intersection of the shear vein and extension vein (when not completely rotated) gives a systematic ~15-22 plunge to the south
consistent with the boudinage direction in mineralised veins across the project



Average EVN and Shear vein orientations



Visible Au found in historic workings along strike of the Bannister/Poverty historic open pit & workings



Chip samples at Historic Bannister/Poverty Open Pit

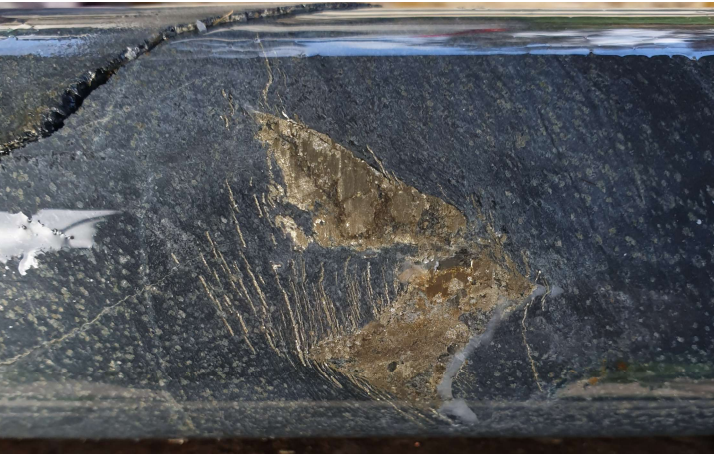
Extension veins
perpendicular to S2
cleavage with strong
alteration selvage

SampleID	Au ppm	Width (m)
CP0182	5.25	1.2
CP0183	1.72	0.5
CP0184	2.02	1.2
CP0185	19.4	0.4
CP0186	59.6	0.05

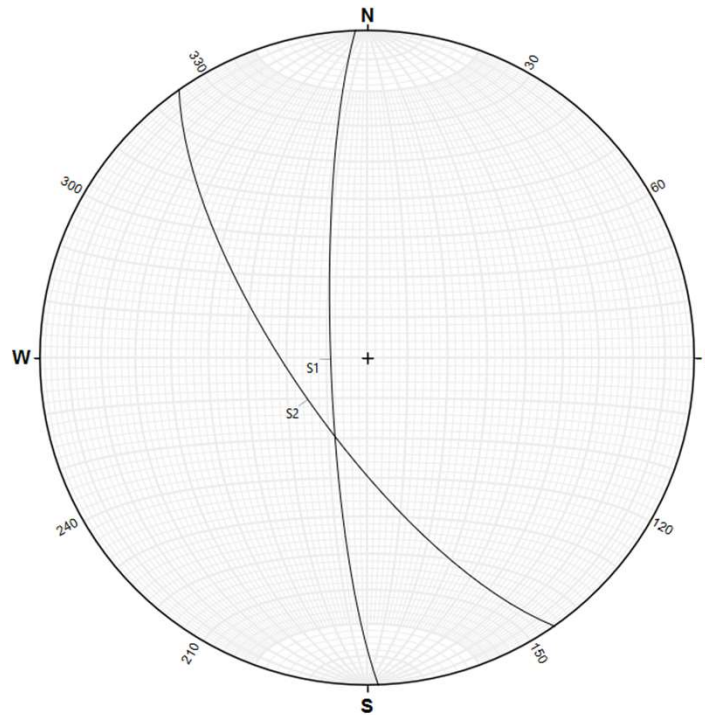
Structural Controls



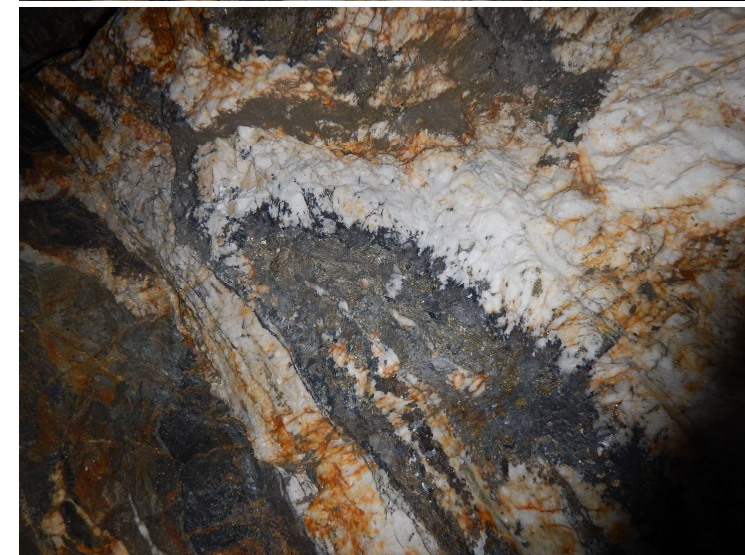
Highly complex strain environ, strong cleavage S1+ overprinted by S2+ creating a strong crenulation cleavage



Average S1 and S2 orientations



Some internal geometries of the base metals are folded creating a steep internal plunge to the already shallowly plunging quartz echelon shape of the shear vein that coincides with the intersection of the S1 and S2 cleavage

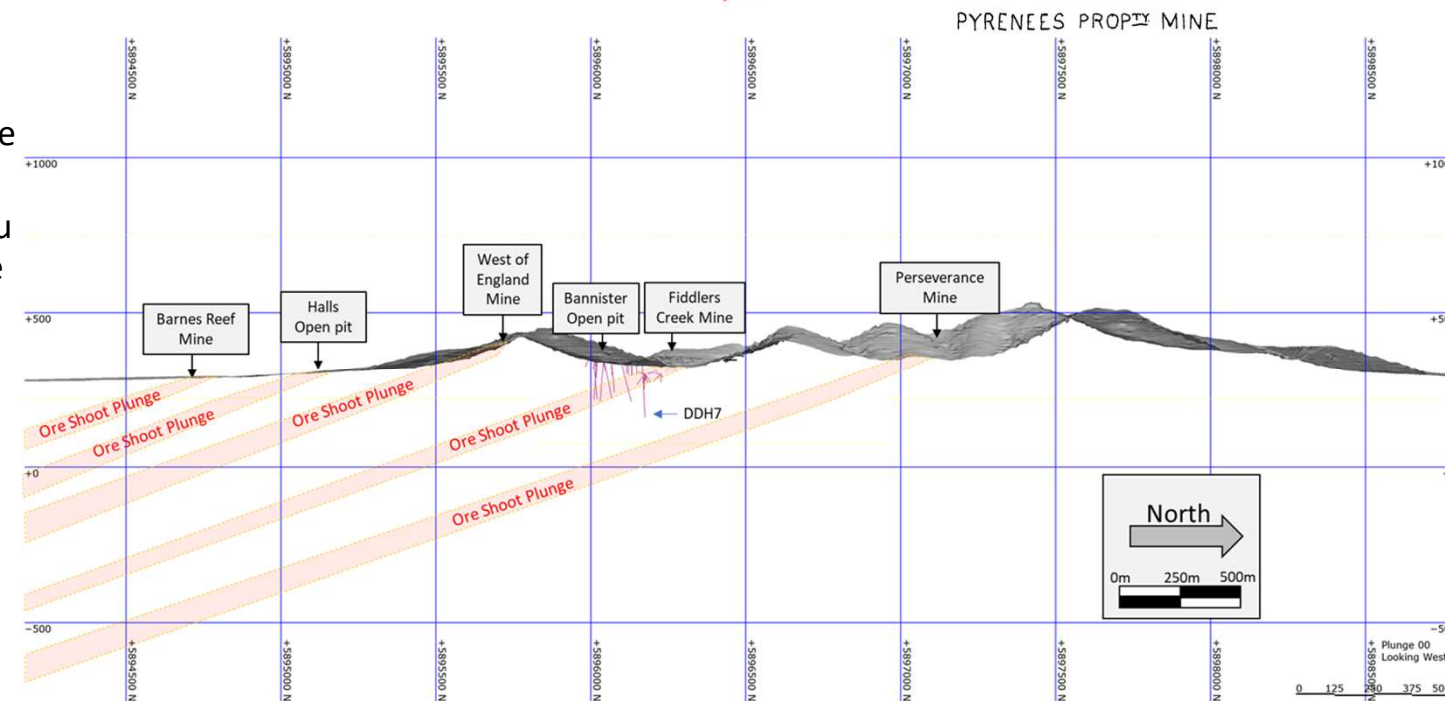
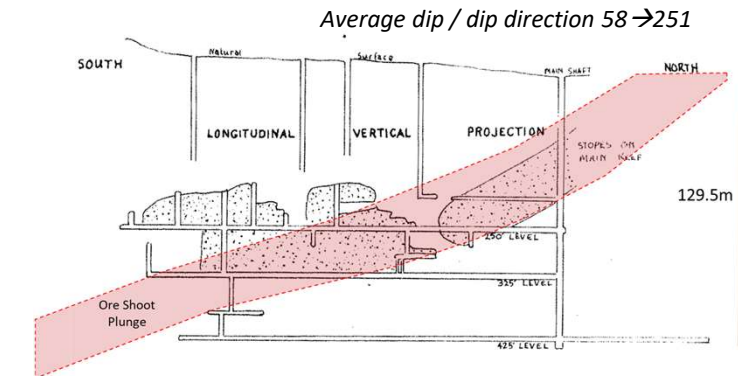


Exploration Potential

- The Fiddlers Creek reef is currently open at depth and along strike
- Deepest hole on tenement DDH7 at 179.8m deep
- Ore plunges were poorly understood in historic days
- Numerous old workings and private operations exist in the area and along strike.

High grade mines:

- Pyrenees Mine, Redbank: produced 1586 oz Au from 1683.59 tonnes of ore (Average grade = 29.3 g/t Au)
- Tormeys: produced 520 oz Au from 409.46 tonnes of ore (Average grade = 39.5 g/t Au)
- Barnes Reef: produced 1330.4 oz Au from 1405.5 tonnes of ore (Average grade = 29.4 g/t Au)

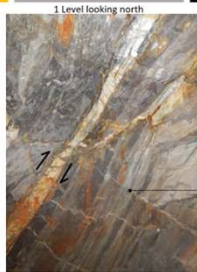


Longsection displaying major historic mines and ore shoot geometries based on structural and kinematic mapping. Historic drilling is displayed in purple.

Vein Textures

1 Stylolitic shear vein

Start of dilation
Laminated quartz veins showing volume loss has occurred across stylolites
Pyrite dominant



Extension veins flat and showing kinematics clearly

2 Multi-texture shear vein

Increasing dilation
multiple generations of different intensity
Pyrite dominant with occasional sphalerite, galena and chalcocopyrite



3 Composite shear vein



- Width increasing
- Higher vein complexity
- Introduction of more sulphides and brecciation

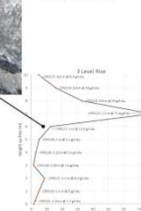
4 Composite shear vein: peak dilation



1 Level rise - Looking North
1.9m @ 12.2 g/t Au, 65.9g/t Ag, 2.6% Pb & 3.1% Zn



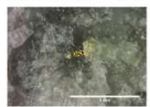
- Peak dilation
- Very high sulphide content
- Multi-generational textures and internal folding of sulphides



5 Visible gold, and overprints



Visible gold in diamond hole FKH008 0.950m @ 40.5 g/t Au including 0.06m @ 786.1 g/t Au



Visible gold is observed throughout the various stages, often associated with galena and sphalerite, it is present around vein margins even in later 'bucky' quartz

1

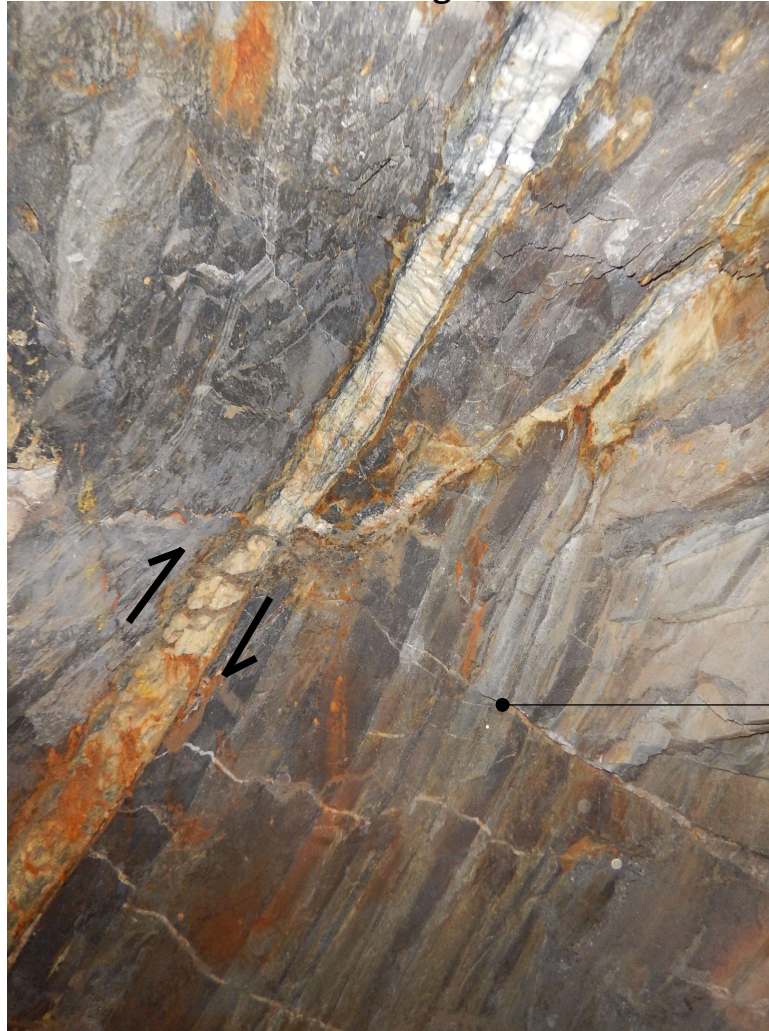
Stylolitic shear vein

Start of dilation

Laminated quartz veins showing volume loss has occurred across stylolites

Pyrite dominant

1 Level looking north

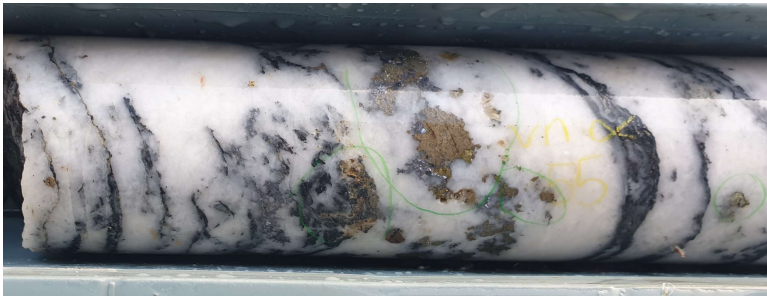


Extension veins flat and showing kinematics clearly

2

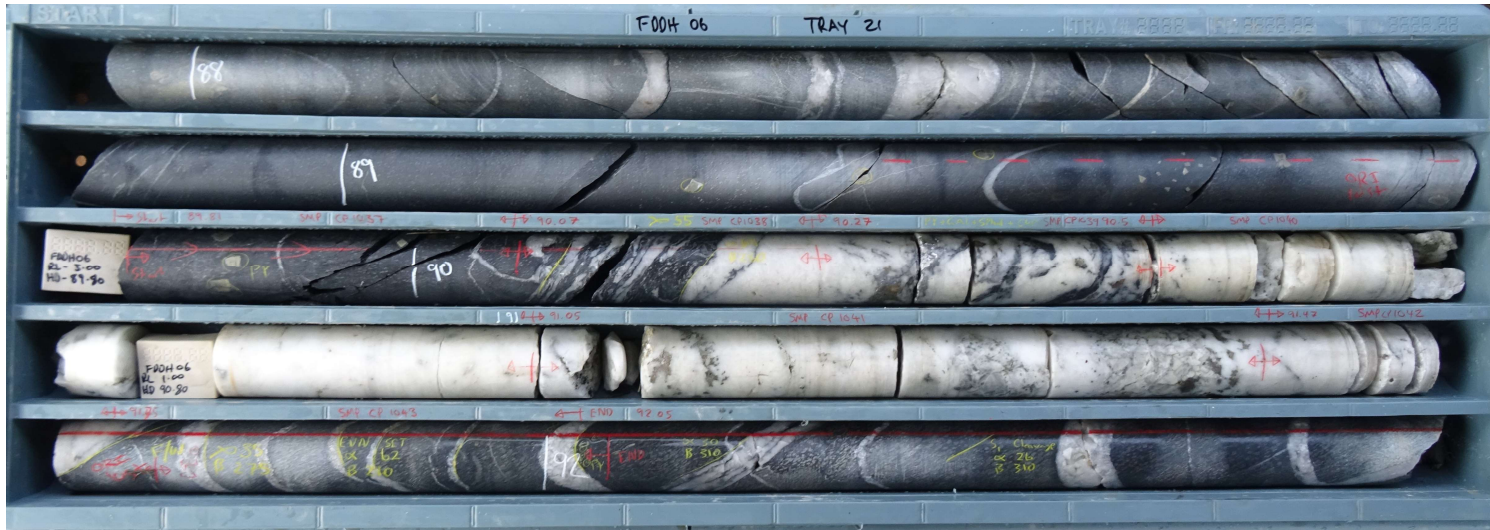
Multi-texture shear vein

Increasing dilation
multiple generations of different
intensity
Pyrite dominant with occasional
sphalerite, galena and chalcopyrite



3

Composite shear vein



- Width increasing
- Higher vein complexity
- Introduction of more sulphides and brecciation

FDDH006: 1.38 m ETW @ 6.4 g/t Au incl. 0.23m @ 23.1 g/t Au



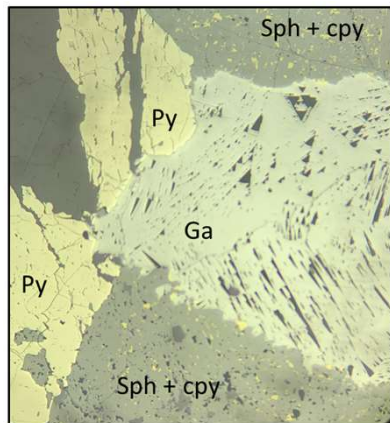
4

Composite shear vein: peak dilation

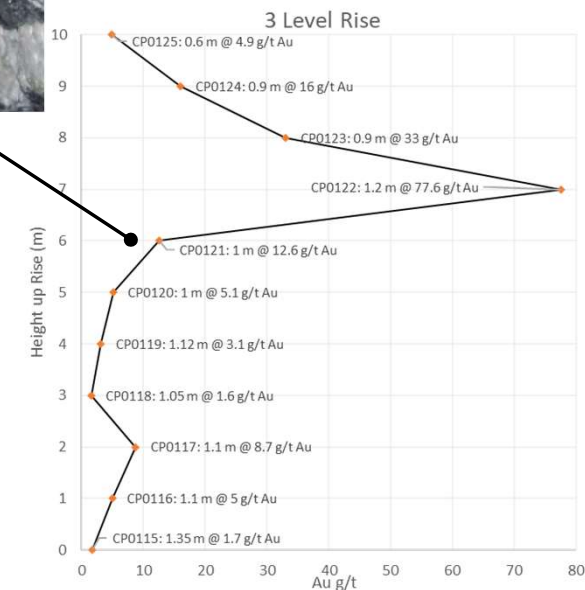
- Peak dilation
- Very high sulphide content
- Multi-generational textures and internal folding of sulphides



1 Level rise – Looking North
1.9m @ 12.2 g/t Au, 65.9g/t Ag, 2.6% Pb & 3.1% Zn



3 Level rise – Looking up and East



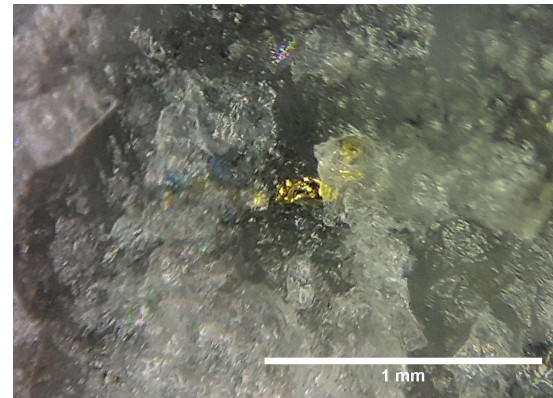
Visible gold, and overprints



Late waning stages pulses of mostly barren quartz may overprint the sulphide rich domains



Visible gold in diamond hole FKH008 0.950m @ 40.5 g/t Au including 0.06m @ 786.1 g/t Au



Visible gold is observed throughout the various stages, often associated with galena and sphalerite, it is present around vein margins even in later 'bucky' quartz

Size of the prize

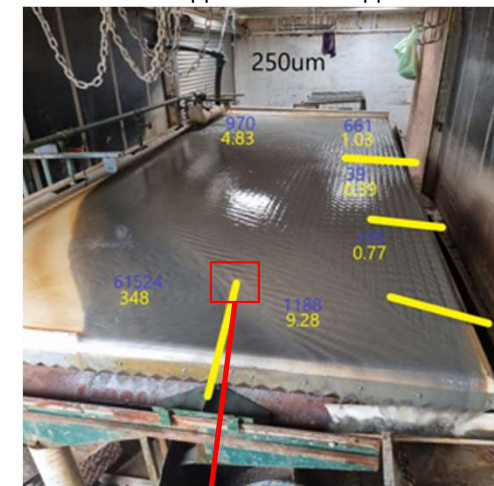


- Each dilatant zone is expected to be ~5000-10,000 ounces Au in size,
- Historic mines often stopped at the water table due to high sulphide content and associated poor recoveries by mercury
- Our Goal
 - To replace LOM every year & add significant mineable resources to inventory.
 - Short term goal (1-3.5 years) is to have 50,000 ounces Au in inventory, with long term goal (3-10 years) to expand this to 100,000 ounces Au.

Mass	Element concentration					Tonnes				
Tonnes	Au	Ag	Cu	Pb	Zn	Au	Ag	Cu	Pb	Zn
t	ppm	ppm	ppm	pct	pct	t. oz	t. oz	t	t	t
19,065	7.6	5.1	474	0.7	0.6	4,675	3,130	9.0	137.6	122.1

Cut-off: Au $\geq$ 3.5 ppm, Differences may occur in totals due to rounding.

250 grind size:
overall tail 0.6ppm Au and 369ppm Pb



Blue = Pb ppm

Yellow = Au ppm



Where to next?

- Full Mining License approval
 - In application currently
- Finalise Toll milling approvals of our Processing facility in Wedderburn
 - EPA and ERR endorsements received, council planning application pending
- Mine it!
 - Mining workplan already approved and carrying over from prospecting licence
- Find another, or two!
 - Fully permitted to explore on exploration tenure surrounding

Key Takeaways

Tenement admin / processes

- Make sure you tick all the boxes
- Being too technical and exact can be a downfall – sometimes generalisations will lead to quicker and better outcomes with less back and forth
- Assume the department does not know a single mining or exploration term, glossary of definitions will save time!
- Asking questions and organise meetings to talk through options is a key
- Plenty of people that know their way through the approvals process – use them!

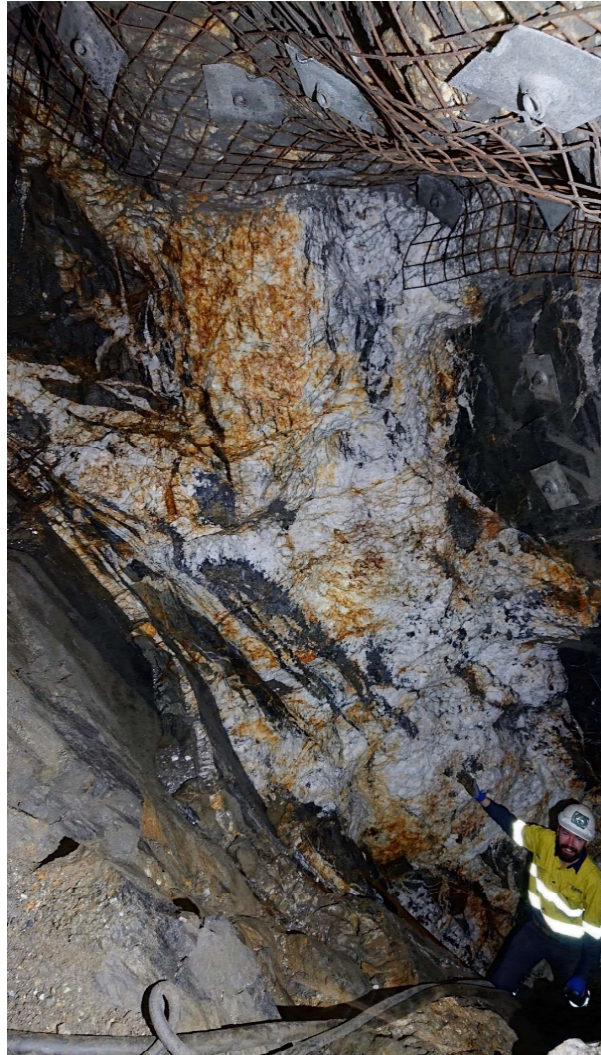
Geology

- Boots on the ground can save a lot of \$\$\$
- Agile exploration strategy. Rapidly assess projects and have multiple options if a re-assessment is required.
- Knowledge – geology skills of structural geology and geochemistry with experience in some of Victoria's highest-grade deposits.
- Multilayered approach, not just 1 signature to define anomalism, best to have a minimum 2-3 variables suggesting economic levels of mineralization are present.
- Not over-committing resources and missing important signals to economic viability. – I.e. too many drill rigs just to meet budget or metres. Plan for time to evaluate and interpret.

Acknowledgements

Thanks

- Toby Houldsworth
- Chris Toifl
- Dave Rhys –
Structural
consultation, photos
and guidance
- James Long, Prof
Reid Keays, Barrie
Bolton –
Photomicrographs,
isotope work and
research work



1 Level Rise – facing south, Kenny for scale

Questions?

Kenneth.h.bush@gmail.com

Fiddlers Creek Mine diamond drilling 3 Level x-cut: facing west



References

References

- James. Long Master thesis 2023 unpublished Melbourne University
- Fu, B., Fairmaid, A.M. & Phillips, D., 2007. Geochronology of gold deposits in the western Lachlan Fold Belt, Victoria: A review. GeoScience Victoria Gold Undercover Report 6. Department of Primary Industries.