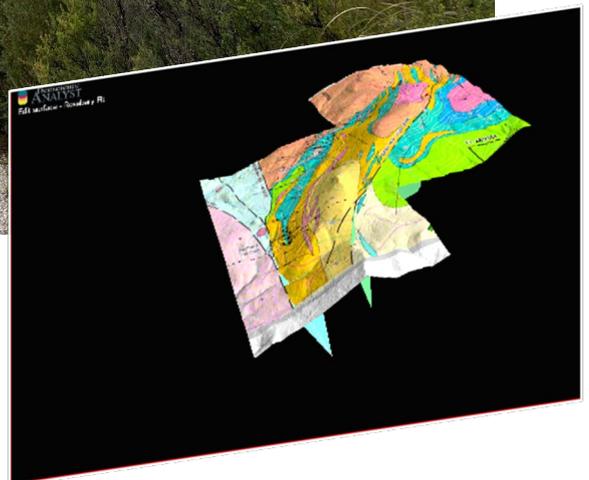
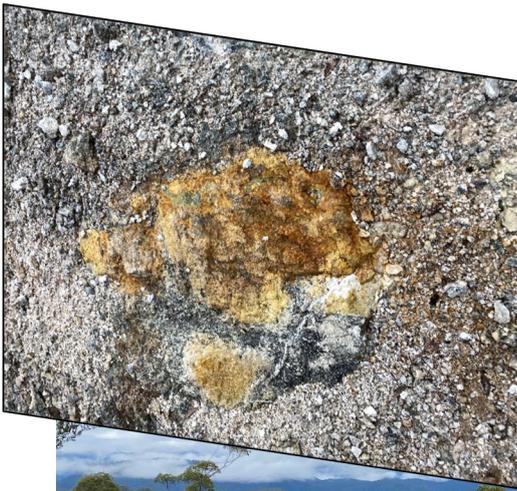


Gold potential of the Burns Peak Shear Zone and associated rocks



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Introduction

The Burns Peak area is located at the north-west extremity of the Mount Read Volcanics in Western Tasmania. The area has been explored extensively for Rosebery and Hellyer-style base metal deposits. A small VHMS system hosts dismembered massive sulphide mineralisation at Browns Tunnel and a small gold and base metal deposit was mined at Southern Trenches. This area is well-explored and the subject of many reports and studies. Conversely, the area south-west of Burns Peak has not had the same exploration interest and is the subject of this report. The locality of the study area is shown in figure 1.

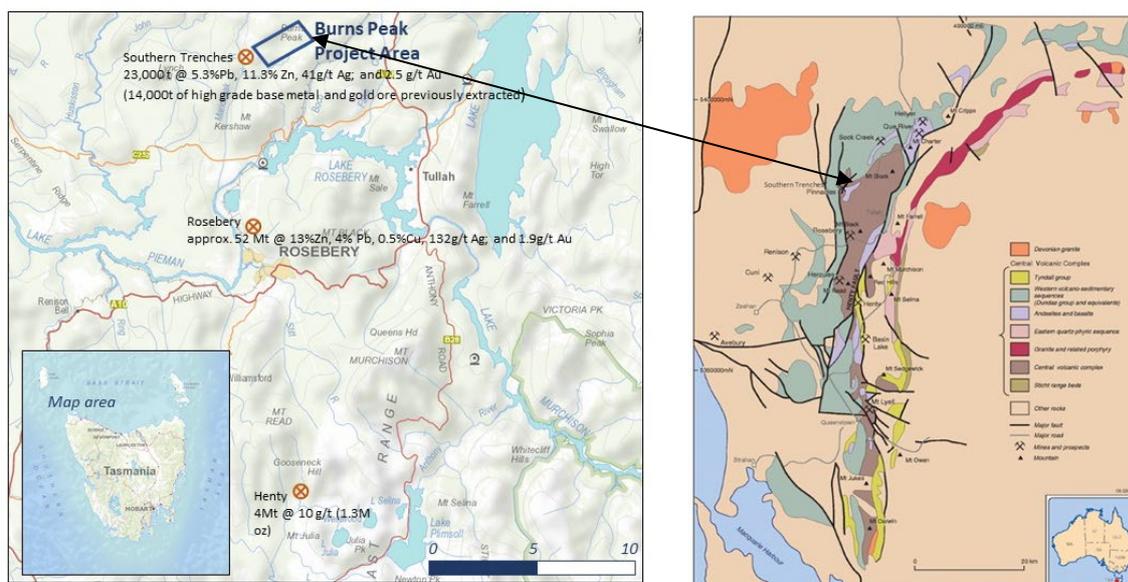


Figure 1. Location of the project area on the left, with global production for nearby mines. Geology of the Mt Read Volcanics on the right (Gifkins et al 2005).

Review of historic data from an area east of the focus of historic exploration (Lorrigan, 1990) revealed that two rock chip samples collected in 1990 contain anomalous amounts of gold (1.4 and 0.2 g/t Au respectively). Further investigations showed that these samples were both taken from localities on, or adjacent to, the Burns Peak Shear. This structure was identified in two drill holes in 1993 (Poltock et al, 1993). It strikes in a north-east direction, away from the north-south-trending Rosebery Fault, and appears to displace the folded, Cambrian volcano-sedimentary sequence in the area south of Burns Peak. Considerable strain and alteration can be observed in the rocks adjacent to the Shear in the wedge of stratigraphy between the Rosebery Fault and the Burns Peak Shear.

The occurrence of anomalous gold in altered and deformed units of the Mount Read Volcanics, adjacent to major structures, raises the possibility that the area is prospective for Henty-style gold mineralisation.

The Henty Gold Mine is hosted by a deformed, VHMS-related alteration zone, adjacent to the north-south-striking Henty Fault, in a wedge of volcano-sedimentary rocks between the Henty Fault and the rigid, siliceous Mt Julia Rhyolite. North-west-trending splays of the Great Lyell Fault impact on this rock package within the deposit .

The VHMS-system at Henty does not carry economic base metals but deformation of the altered rocks associated with the system has resulted in a significant high-grade gold deposit (1.3mt at 10 g/t Au). The source of the gold is not entirely clear, though the small VHMS system is a strong possibility. Paragenetic studies indicate that the gold mineralisation overprints everything except for quartz veining arising from Devonian deformation.

The gold occurs primarily in brittle fractures within siliceous “lozenges”, which occur within a larger zone of ductile deformation. Much of this zone contains extensive pyrite with only weakly anomalous base metals and gold. There are also some small, high-grade base metal zones. It is likely that the gold was emplaced during the latest stages of Cambrian deformation and favoured emplacement into openings in the more brittle lithologies.

The package of Cambrian rocks at Henty contains Andesites. It is unclear whether these play a part in the mineralisation, but bi-modal volcanism is thought to be associated with the base metal deposits at Hellyer and Rosebery (though at Rosebery the only evidence for this is andesitic and mafic clasts in the sediments that overlie the deposit).

The exploration model for a Henty-style deposit contains the following elements

1. VHMS-style alteration with anomalous Au-Ag-Cu-Pb-Zn
2. Intersection of major structures
3. High strain zones within VHMS-altered rocks
4. Strain-partitioning around the edges of rigid bodies of rock
5. Andesites

One of the features of the Henty mineralisation is that the high grade lodes are small in volume (of the order of 200m long X 40m high X 6m wide) and are often marked by peripheral, low grade gold occurrences of the type noted in the Burns Peak Shear area.

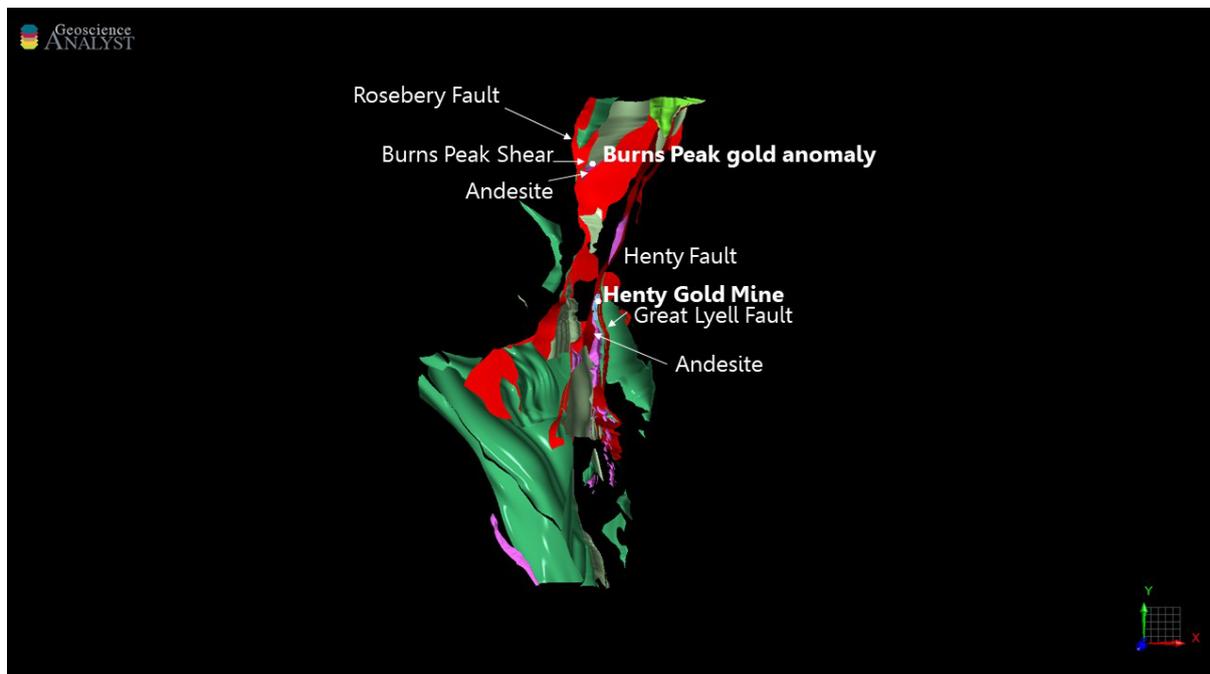


Figure 2. Snapshot of the Tasmanian 3D model, looking north, showing the geological setting of the Henty Gold Mine and the Burns Peak Gold Prospect.

Work completed

The sites from which the historic rock chip samples were taken were located on modern maps. One site was visited, the other was blocked by extremely thick re-growth on the old access track.

The site visited was the one from which the 1.4 g/t sample was taken in 1990. The area was re-sampled, with samples taken from sheared, silica-sericite-pyrite altered volcaniclastics.

The location of these samples is shown in table 1 and in figure 3.

A 3D model of the geology of the area was compiled in Geoscience Analyst. Topographic surfaces were created from the 2m LiDAR data available for the area and the geology map of Corbett (2005) was draped over these. Assay and lithology data from drill holes that intersected the shear and rocks adjacent to the shear was also added to the model.

During the sampling field trip, very deformed rocks with some quartz veining and faulting were observed near the main Boco Rd at Leo's Find. These rocks were also sampled.

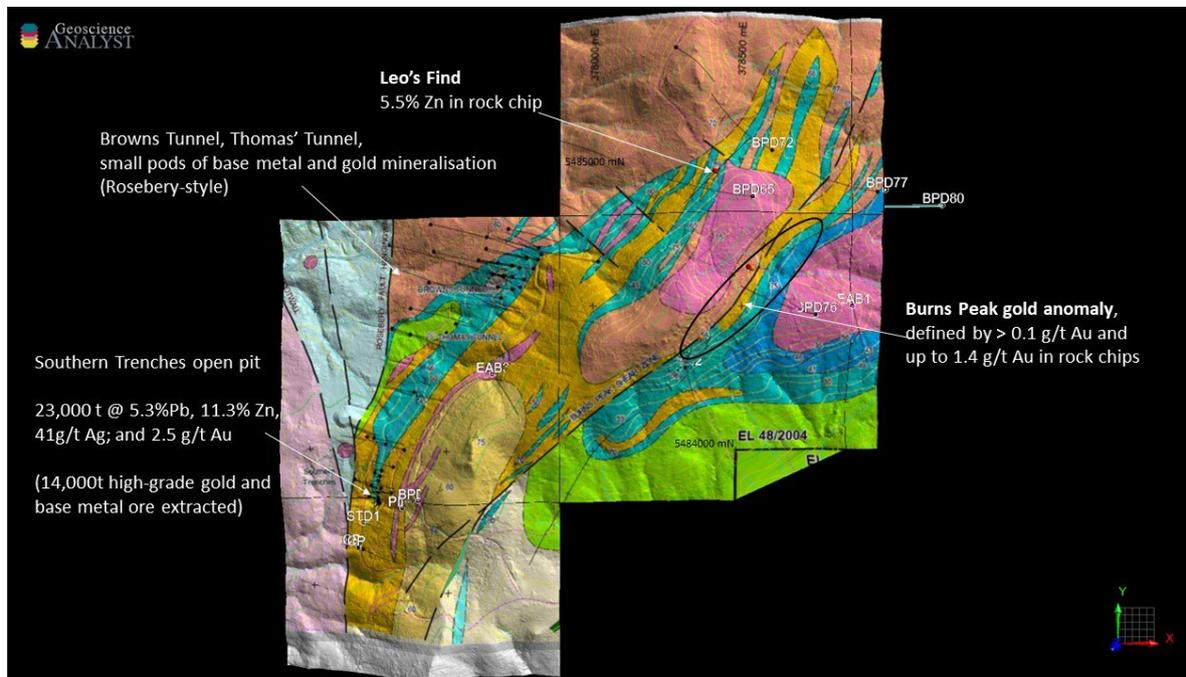


Figure 3. Geological map (Corbett, 2005) with the location of prospects and rock chip samples (spheres). Legend is in figure 8. Map grid has been transformed from the original into GDA94.

Results of field work and sampling

Burns Peak Shear

Table 1 contains results from rock chips from the area (recent and historic in the Burns Peak Shear area and recent at Leo's Find). All these samples are selective samples of prospective-looking rocks.

The sampling confirmed the original gold anomaly adjacent to the Burns Peak Shear. The rocks in the area are strongly deformed, sericite-silica-pyrite altered, with siliceous alteration occurring in "nodules" surrounded by more ductile rock.

An anastomosing cleavage strikes north-east and dips at between 65 and 75° to the south-east and refracts around siliceous zones. This is illustrated in figure 3, above. Bedding strikes north-east and dips to the north-west, consistent with a location on the south-east limb of a north-east-striking syncline.

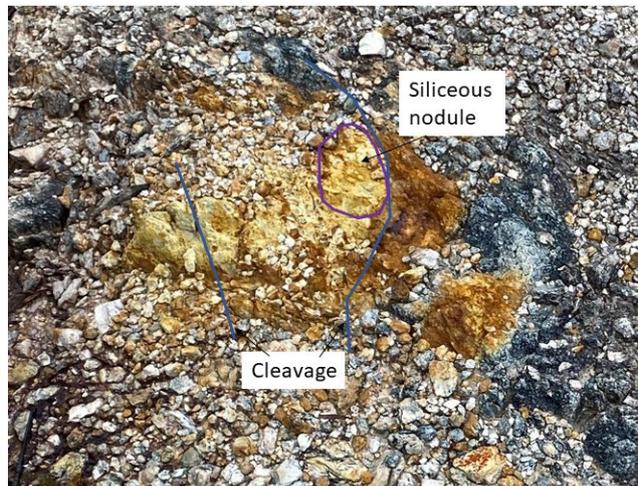


Figure 4. Cleavage wrapping around siliceous "nodule".



Figure 5. Photo of the outcrop from which sample 210604 was taken.

No	MGA94E	MGA94N	RL	Au	Cu	Pb	Zn	Ag	Mn	Description	Date
82401	378635	5384814	595	1.40	25	5	20	1	65	Siliceous, pyritic, deformed volcaniclastics with "cherty" appearance	1990
82410	378474	5384576	600	0.21	80	155	1600	10	390	Siliceous, pyritic, deformed volcaniclastics	1990
210601	378790	5384698	560	0.01	2	29	7	1.5		Siliceous shale	2021
210602	378676	5384794	585	0.02	7	40	83	2.4		Pyritic and deformed volcaniclastics	2021
210603	378658	5384801	588	0.06	12	44	358	1.5		Pyritic, siliceous and deformed volcaniclastics	2021
210604	378648	5384809	591	0.55	9	52	43	0.9		Highly siliceous rocks adjacent to a late but deformed quartz vein	2021
210605	378648	5384809	591	0.15	16	207	111	3.7		Highly sulphidic (py), deformed volcaniclastics	2021
210606	378645	5384810	591	0.22	30	182	351	1		Float, Sil-ser-py altered volcaniclastics	2021
210607	378585	5384790	602	0.11	62	444	53	7.2		Strongly deformed, py-altered volcaniclastics	2021
210608	378525	5385108	582	0.04	44	213	1675	1.6		Adjacent to small fault, ser-py-sil altered volcaniclastics	2021
210609	378526	5385141	575	0.15	169	3420	2030	2.7		Highly siliceous volcaniclastics adjacent to small fault.	2021
210610	378526	5385141	575	0.39	1030	9840	50630	14.1		Shear zone, carries quartz as well as highly deformed volcaniclastics.	2021
274591	378734	5384498	514	0.00	5660			0.4		Rhyolitic breccia	2001
271593	378781	5384408	475	0.00	13400			0.1		Ash volcaniclastic	2001
274595	378729	5384509	520	0.00	7940			1.1		Black shale	2001
337021	378697	5384808	575	0.29	228			2.3		Msv sil-py altered felsic volc.	2001
337022	378552	5384698	614	0.21	32			3.4		Msv sil-py altered felsic volc.	2001
337023	378457	5384513	578	0.04	26			2.3		Clvd. ser-sil alt volc; tr sp	2001

Table 1. Rock chip sample results (Lorrigan 1990, McNeill, 2001)

Although the sampling repeated the anomalous gold results of earlier decades, a concerted effort to locate the Burns Peak Shear on the ground was not successful. The outcropping rocks are strongly deformed but a single structure was not located, probably because it doesn't outcrop. The evidence for the shear remains the intersections in BPD76 and BPD77 and the off-set of the stratigraphy within the area.

The highest gold assay in the area (0.1m @ 6.6 g/t Au in BPD77) appears to be unrelated to the shear and is in a massive sulphide clast within sediments of the Burns Peak Subgroup which are very elevated in zinc and lead and slightly elevated in gold (although complete gold assays for the hole could not be found).

Leo's Find

During the field work, a deformed zone, comprised of small faults, sub-parallel to cleavage, with rotated siliceous zones was sampled at Leo's Find (outside the main target area for the study). The assays from one of the small fault zones sampled returned > 5% Zinc and anomalous gold (sample 210610). Sample 210609, taken adjacent to the fault, returned slightly anomalous gold.

The mineralised faults dip 65° to the south-west and strike north-east. The sample site is pictured below.



Figure 6. Photo and sketch map of sampled site at Leo's Find (for scale - notebook blue lines are 5m apart)

3D model

To gain a sense of the geological setting and possible controls on mineralisation, a 3D model of the area was constructed in Geoscience Analyst. The geology map of Keith Corbett (2005) was used as a base for this and draped on the 2m LiDAR data for the area. Drill holes in the area were added and the geology transposed from the Corbett map, with some additional information from the older drill logs. Assays were added where available in the MRT database or where they were found in old logs.

The Burns Peak Shear and Rosebery Faults were included in the model, as was the smaller fault at Leo's Find. In addition, the outlines of rigid, siliceous Quartz Feldspar Porphyries and Rhyolite lavas were included.

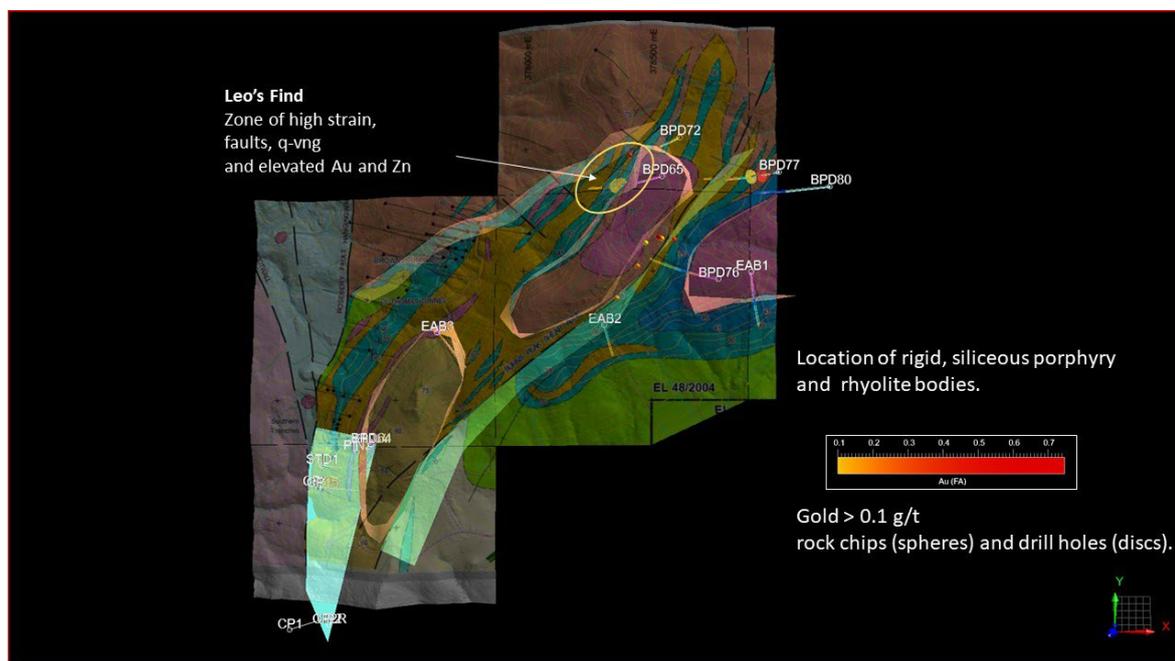
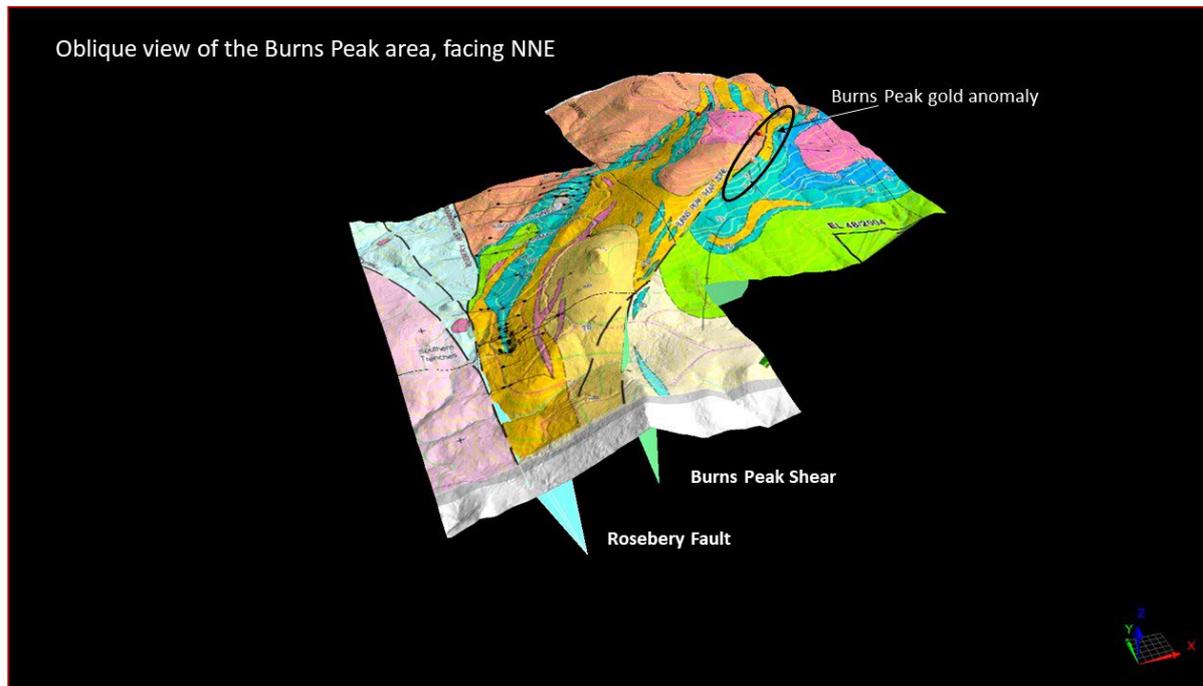


Figure 7. Snapshots of the Burns Peak model.

In taking the latter step, of adding the “rigid rock types”, a picture emerged of high strain zones in volcanoclastic rocks, bounded by the faults and the rigid porphyries and rhyolites. This is most clearly seen in cross section (figure 8).

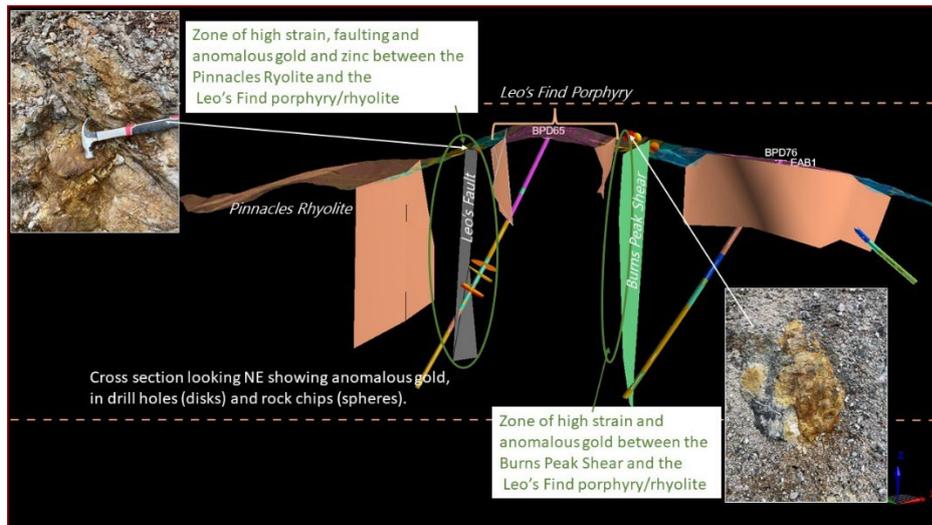


Figure 8. Cross section through the Burns Peak model, facing north. Rhyolite/porphyry bodies in tan, Burns Peak Shear in green, Leo's Find Fault in grey. Gold in rock chips (spheres) and drill holes (discs) > 0.1 g/t (legend in figure 7).

There appear to be two main zones. The first zone hosts the Browns Tunnel, Thomas' Tunnel and Southern Trenches mineralisation and explains why this mineralisation is so dismembered.

The second zone hosts the Burns Peak gold anomaly and the area at Leo's Find. The gold and base metals in these locations appear to have been remobilised from the deformed sediments and volcanoclastics of the Burns Peak Subgroup and re-deposited in veins, faults and within areas of siliceous alteration. The best gold assay from the Burns Peak gold anomaly is from a zone of intense silicification. The zinc returned in the sample from Leo's Find was fault infill. Sulphide veins with elevated gold have been noted in two holes from the Leo's Find area, BPD65 and BPD72, and are within this zone.

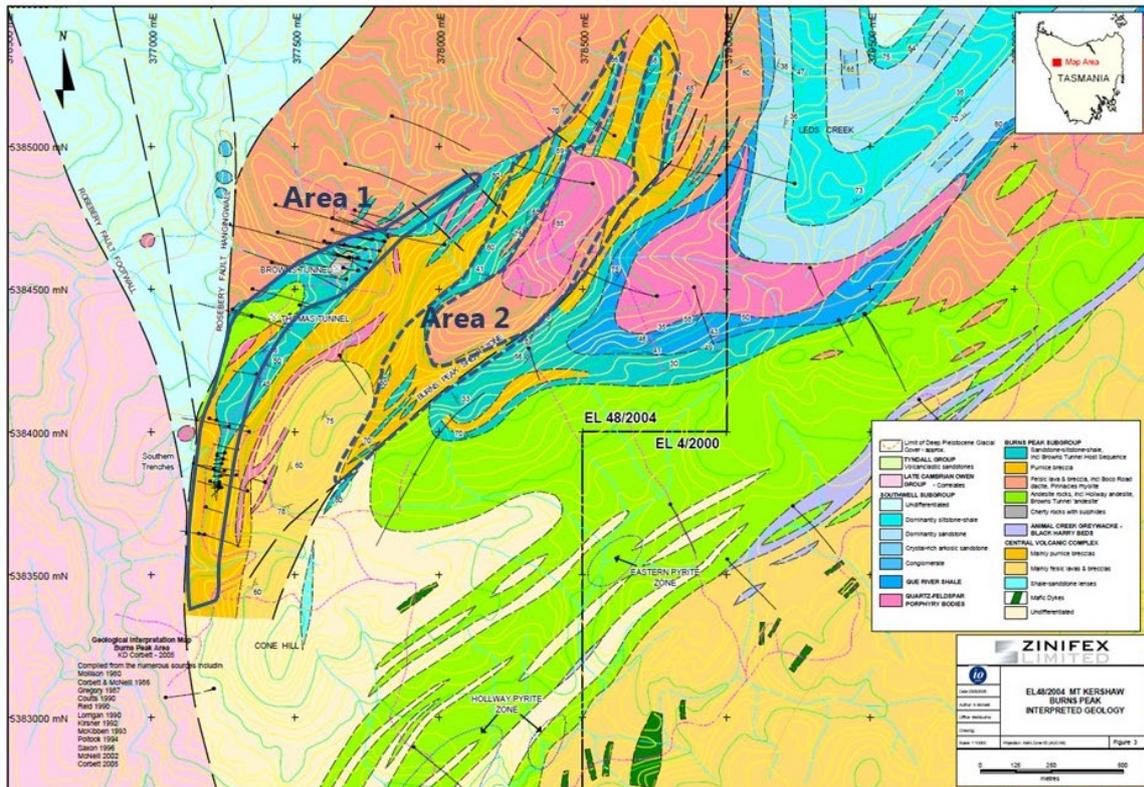


Figure 9. Geology (Corbett 2005) showing high-strain zones in the Burns Peak Subgroup. Area 1 is well-explored, Area 2 is under-explored and is a target for Henty-style gold.

Discussion

Past exploration in this area has largely focussed on stratigraphically-controlled, Rosebery-style deposits. This work has outlined the fertile Burns Peak Subgroup but has failed to discover a significant deposit. The amount of exploration completed over more than 50 years in the area from Brown's Tunnel to Southern Trenches indicates that a major discovery in this area is unlikely.

The Burns Peak Subgroup in the area covered by this report is not as well-explored, though several stratigraphically-sited holes have failed to find significant base metal mineralisation. This area has not, however, had sufficient drilling to discount the possibility of discovery of high grade, Henty-style mineralisation, remobilised into small lenses. This type of mineralisation, if it is in plunging shoots, may not manifest at surface, other than as the type of anomalism reported here.

Conclusions

The existence of a zone of gold anomalism adjacent to the Burns Peak Shear was confirmed and appears to be related to deformation of volcano-sedimentary rocks of the Burns Peak Subgroup.

Additional mineralisation related to deformation was found in a fault at Leos Find.

An under-explored zone of deformed Burns Peak Subgroup stratigraphy has been outlined as a target for Henty-style, remobilised gold mineralisation.

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