

Annual Report

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The Sideling

96-3835

E.L. No 31/94

LICENSEE:

R. J. Holden
P. O. Box 139
Kings Meadows 7249

AUTHOR:

R. J. Holden

DATE:

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THE SIDLING EL 31/94 HOLDEN, R J

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Tenement Information

E. L. 31/94 covers an area of 26km² of land in the district of Dorset in the vicinity of the Sideling.

The country rock is Mathinna beds and Devonian granodiorite within the eastern edge.

Mining History

No previous mining within this area is known apart from some small quarries.

Summary of Work Completed

Not many samples have been taken over this area to date, but a lot of foot work has been done to determine the extent of the mineralised zone located with E.L. 16/93.

This mineralised zone seems to start on the contact of the granites and the Mathinna beds. Within this area quartz float up to 1.5m in diameter have been found with, one rock chip float sample taken grading 0.5g/t Au.

To the west, the mineralised zone has also believed to have been located on strike. This area was located by quartz float and red schist that is typical of the area around the adit on E.L. 16/93. The quartz float and red schist could not be found to the north and south of the area mentioned.

The fault zone then goes under a dolerite cap and corresponds to the highest point of this cap, known locally as "Knockup".

Conclusion

It is possible that the mineralised fault zone mentioned seems to correspond with a honours thesis done by Mr Bruce Taylor from North Flinders mines in connection with his theory of a double tapered thrust wedge as he suggests that "Subsidiary channelways in the western part of the wedge, which are yet to be defined, may account for the occurrence of the deposits at Lisle and Lefroy".

This seems to correspond with the 1.5m Ø quartz float on the contact and a current drilling target of Macmin's in the Lisle Valley.

From my work with Macmin in the Lisle Valley, sampling old underground workings, it could be possible for a gold-copper deposit to be located on the contact, but more work will have to be done to prove this.

Proposed Future Exploration

Approval will be sought for B & C Horizon sampling around the area of the contact and also the area up to the dolerite cap.

Depending on the results, this may be followed by trenching and some shallow drilling to determine the extent of any ore bodies present.

Exploration Philosophy

“To build a discovery to a mineable asset”.

Exploration Objective

To explore the area of 31/94 for hard rock gold deposits from the contact zone to the dolerite cap in the north-west.

Bibliography

Contentious issues in Tasmania Geology; Dr Richard Keele, Bruce Taylor and Garry Davidson. GSA Abst. 39 (1994) p 57-60
(Symp.)

Relationships between Devonian thrusting and gold mineralisation in northeast Tasmania

Richard A Keele¹, Bruce Taylor² and Garry J. Davidson¹

The northeast Tasmania terrane can be conceived of as a gently west-dipping thrust wedge, comprising early to mid-Palaeozoic strata which had experienced crustal thickening during the Mid-Devonian orogeny.

East of the Scottsdale Batholith

The Devonian strata at the front end of the wedge (at Scamander) were folded into open style kink folds typical of high crustal levels. Immediately west of this, a major E-directed thrust (subsequently intruded by the Catos Creek Dyke) juxtaposed Silurian strata against Devonian strata with an estimated 3 km uplift on the western block (Figure 1). At the back end of this thrust system, a zone of limited extension and collapse is suggested by the presence of an inferred normal fault east of Mathinna. Gold mineralisation at Golden Gate, and other deposits on the metallogenic linear known as the Main Slide, lie on strike slip faults which are inferred to intersect the W-dipping thrust at a depth of 5–7 km. The Mathinna-Alberton lineament lies within a region of back steepening within the thrust wedge which suggests that the mineralised structures may be reactivated thrust tips. Regional scale upright

folds west of Mathinna and east of the Scottsdale Batholith are floored by a granitic sub-stratum at depths of 2.5 km, or less (Roach, 1992).

West of the Scottsdale Batholith

The Cambrian to Devonian-aged strata west of the Scottsdale Batholith are folded into upright to recumbent folds (Drown, 1984; Powell & Baillie, 1992). These folds occur above a region of major back thrusting that originated from a point where the main thrust wedge ramped up through the strong middle crust (e.g. Coward, 1994). The occurrence of E-dipping reverse faults at mid to high crustal levels on either side of the Scottsdale Batholith represents a late stage within the orogenic episode, i.e. a D3 event (Keele, 1994). These faults, which post date the wrench event (D2), represent a return to the far field stress conditions of the earlier part of the orogenic event and probably coincided with the waning stages of batholith emplacement.

Cambrian sediments are inferred to lie at depth above the shallow E-dipping detachment surface in the Tamar Valley area (Leaman et al., 1973; Elliott et al., 1993); this detachment breaks surface near the Beaconsfield gold deposit. The Pipers Brook recumbent fold structure is here interpreted to be the lower side of a shallowly dipping E-directed thrust, or a 'pop up' zone, that brought Middle Cambrian ultramafics and sediments to the surface. This thrust may also be linked to the

¹ Key Centre for Ore Deposit and Exploration Studies, Geology Department, University of Tasmania, GPO Box 252C, Hobart 7001, Australia
² North Flinders Mines, 24 Greenhill Road, Wayville, SA 5034, Australia

W-directed thrust which lies on the underside of the Precambrian Badger Head Block. The region centred on the Tamar Valley marks the point of maximum crustal thickening and tectonic uplift in the wedge, since it can be shown that the Devonian strata have risen upwards by as much as 10 km when compared to strata of the same age in the front part of the wedge (Figure 1). These geometric relationships suggest an overall eastward tectonic transport in northeast Tasmania, which is consistent with the eastward vergence of structures within the Melbourne Zone of central Victoria (Fergusson et al., 1986).

Fluid Pathways

Likely pathways for the deep-seated auriferous C-O-H metamorphic fluid (Taheri & Bottrill, 1994) are suggested by the gross symmetry of the doubly tapering thrust wedge (Figure 2). The ultimate source region for the fluid is likely to be the point where the major E-dipping back thrust meets the main thrust wedge near the base of the strong middle crust at a depth of approximately 15 km. The broad fan-like distribution of thrusts (about a central point corresponding to the "granite wall") suggests that this fault array may have acted as the main control on the ascent of mineralising fluids. **Subsidiary channelways in the western part of the wedge, which are yet to be defined, may account for the occurrence of the deposits at Lisle and Lefroy.** Whilst the presence of only small deposits east of Mathinna could be accounted for by: (1) short circuiting of the fluids via steeply dipping wrench faults within the Mathinna-Alberton lineament, and (2) local derivation from granitoid sources (eg., Golden Ridge). Short circuiting would have siphoned off much of the auriferous fluid before it had a chance to reach the distal parts of the thrust wedge. Oxygen isotope data from Beaconsfield and Lefroy (Russell and van Moort 1992) do not preclude a component of mantle-derived fluid in

the hydrothermal system; if this is the case, the base of the doubly tapering wedge is the most likely point of entry for such a fluid into the crust.

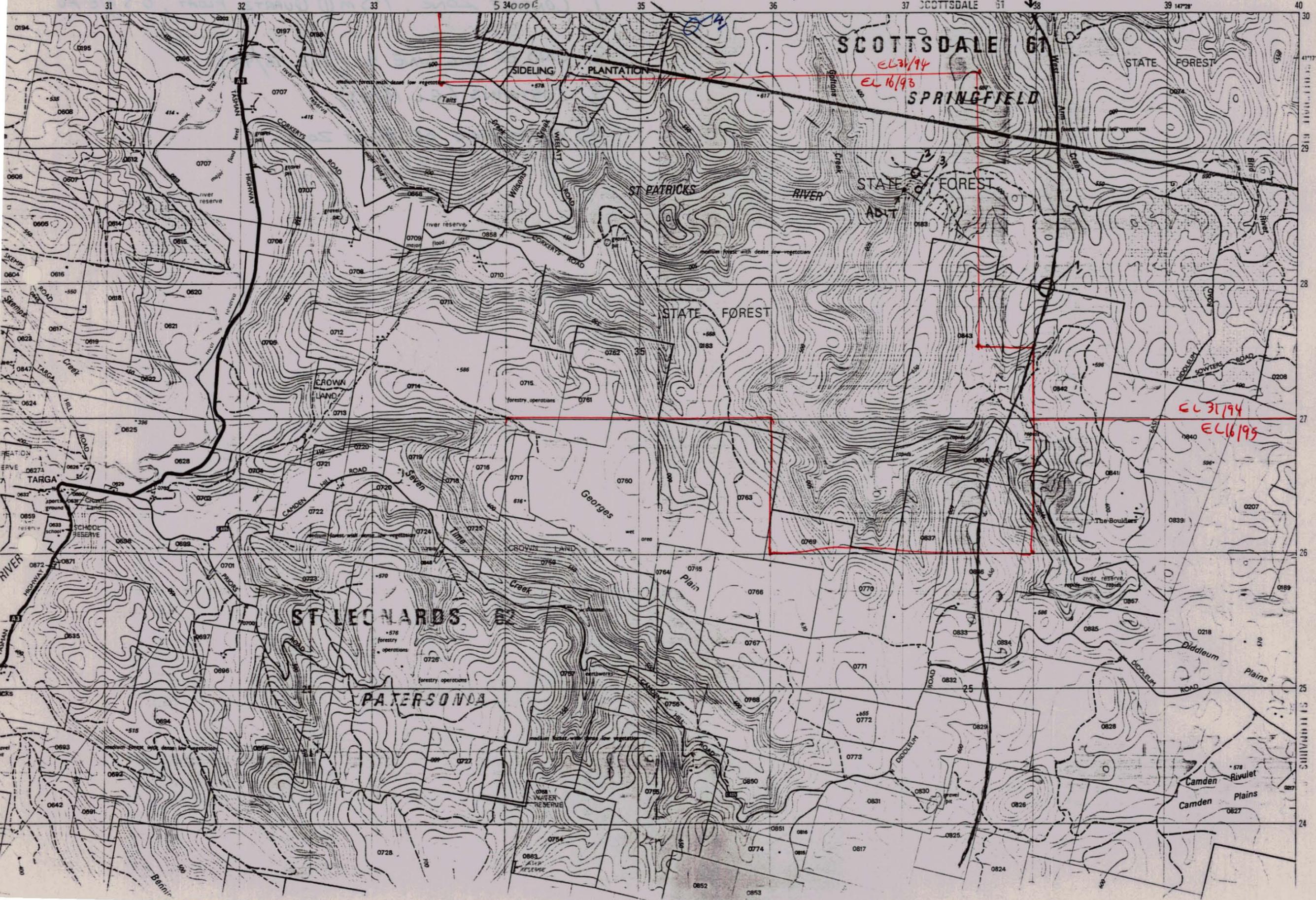
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STRIKE

MATHINNA BEDS APPROX CONTACT

GRANITES



5430000N

5 cm

327009

- 1 CONTACT ZONE, 1.5m ϕ QUARTZ FLOAT, 0.5g/c AU
- 2 END OF SOIL LINE 9 (E.L. 16/93)
- 3 COSTEANS (E.L. 16/93)
- 4 EXTENSION OF FAULT ZONE.

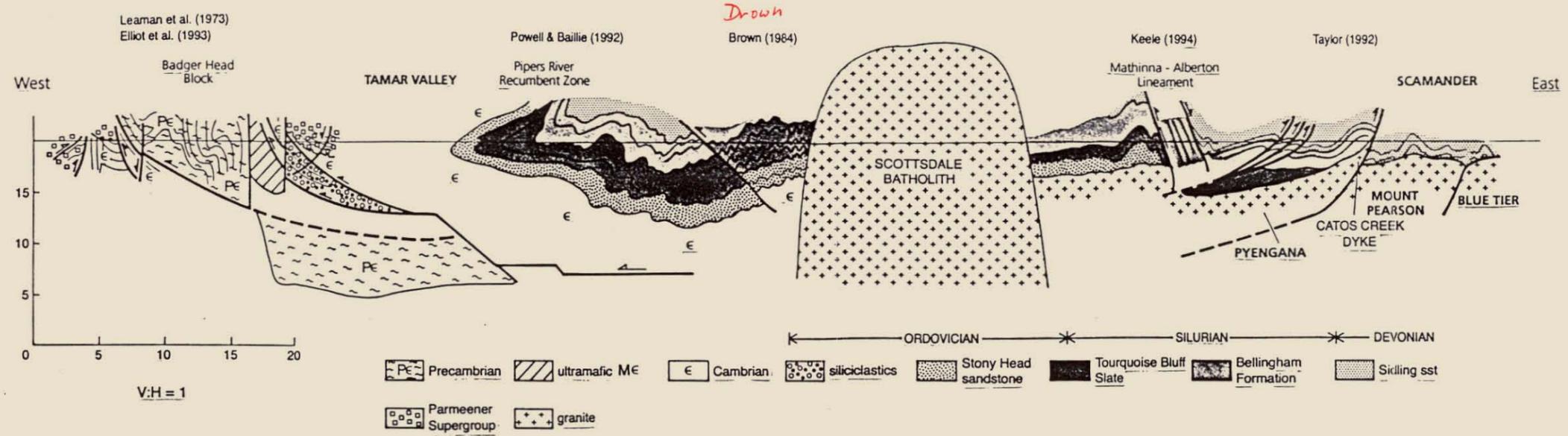


Figure 1 — Regional cross section through the northeast Tasmania terrane. The section line comprises two segments joined along the Scottsdale Batholith — a northern segment between Badger Head and Bridport and a southern segment between Mathinna and Scamander. The data was compiled from various sources and attribution is made next to the relevant area on the section. Correlation of sequences east of the Scottsdale Batholith is mainly based on lithologies and is therefore considered to be tenuous.

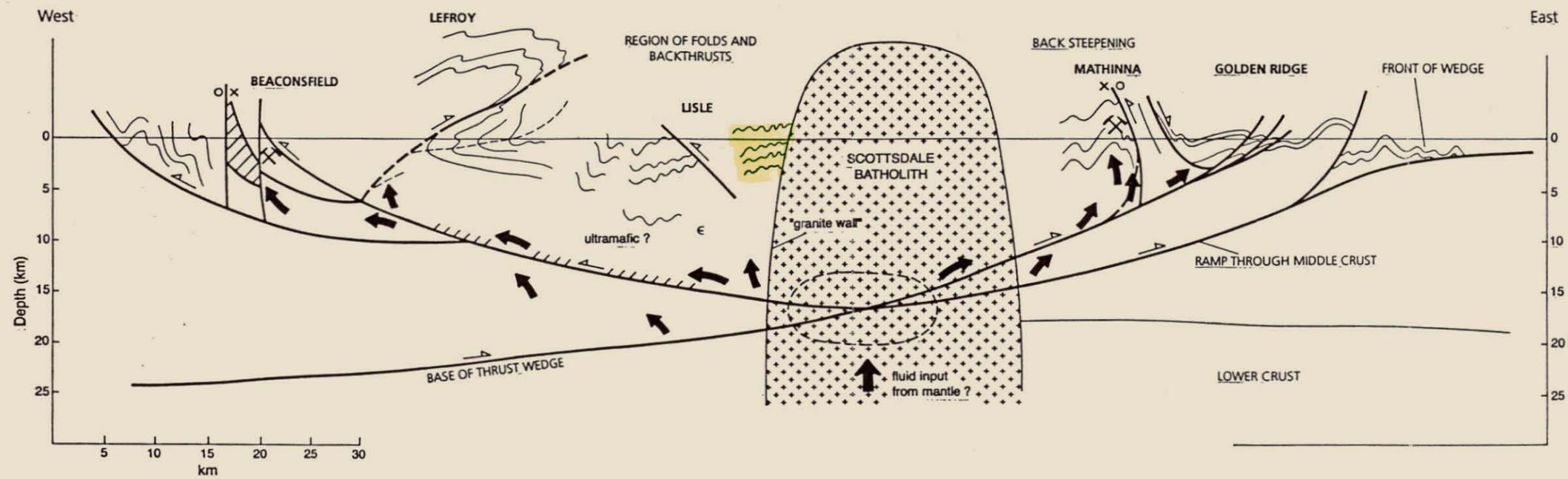


Figure 2 — Interpreted Devonian thrust wedge in the northeast Tasmania terrain based on data from previous figure. Likely pathways for the auriferous fluids are shown with solid arrows. The granite terrain has been omitted, with the exception of the Scottsdale Batholith, in order to emphasise the point that the granites are largely post-kinematic in age and therefore overprint the thrusts.

5 cm