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RELINQUISHMENT REPORT ON
EXPLORATION LICENCE 5/84

MT MEREDITH

BY

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JUNE 1985

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RELINQUISHMENT REPORT ON EXPLORATION LICENCE 5/84 - MT MEREDITHINTRODUCTION

The area was taken up to cover the possibility of gneissen breccia pipe tin deposits in the western margin of the Meredith Granite. The ground was not considered an especially good prospect but it was intended to explore the adjoining area (Exploration Licence 4/61) and it would be necessary to sample the streams entering from the Meredith Granite in this program. Also, there is a tantalizing early reference to tin ore in the foothills of Mt Meredith, which could be the source of the cassiterite bearing gravel at Browns Plain.

PREVIOUS WORK

A literature search revealed the extensive geochemical prospecting work carried out by Comstaff (1971-1973) and by Aberfoyle (1978-1979). Work by both organisations is reported in Mines Department open file reference 79-1370. The work covers most of the EL with gaps in the north and west of the area in which IMI work was concentrated, although the catchment of Paradox Creek has not been covered. The IMI work relevant to the area has been previously reported in Field Season reports for E.L. 4/61.

By the time the licence was granted, scope for useful application of the geochemical reconnaissance envisaged had virtually disappeared. One intriguing anomaly had turned up in a sample just off the SW corner of the E.L. area and several more samples were taken in an attempt to track down the anomaly. Ultimately, it was found that the original high values did not repeat.

LOCATION AND ACCESS

The area is centred 6km SSE of Savage River and comprises rocky mountainous granite country with no road access. Approaches to the boundary can be made via Betts Track, Mt Stewart Track and Hazlewood Track from the North; and the former service road to the town water supply near Savage River, giving access to the Whyte-Hazlewood junction; an IMI cut line giving a direct approach to Mt Meredith; and the Whyte guaging station track all give access to the west. Extensions past the guaging station give vehicle access to open country.

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Most of the area is sufficiently open for helicopter access, and it is these areas which have been more thoroughly explored. Since the March 1982(?) bushfire some of the overgrown heaths have become accessible to helicopter and the non-forested terrain has generally good walking access. The fringe of eucalyptus forest around the rainforest areas has become hard to cope with owing to fallen timber.

GEOMORPHOLOGY

The rugged appearance of the area is due to bouldery granite outcrop which is the predominant surface feature. Strong joint control is evident in the smaller creeks; the larger ones showing larger meanders suggesting superposition from some former alluvial cover.

Areas of summit accordance are prominent at around 800-840m and 640-680m with hints of others at lower levels eg 560-600m to the east of the EL and about 400m in the west. The Brown Plains to the west of the area at about 260m is a very prominent erosion surface, present in sedimentary form in the valleys of the Rocky River and Post Office Creek.

The rocks adjoining the granite are hardened and tend to produce a ridge - best exemplified by "Supergrunt Hill" at 520900. Creeks tend to bunch together so as to minimize the number of crossing points of this barrier e.g. Rocky River and Post Office Creek.

VEGETATION

Predominantly low heath with patches of Eucalyptus and ti tree, and scattered banksias. The gully vegetation is more often rainforest with horizontal thicket - "various detestable scrubs" - in the words of one early explorer. Rainforest areas are ringed with eucalyptus.

GEOLOGY

Virtually all the area is Meredith Granite except for a small area of Oonah Formation (Whyte Schist facies) in the NW and a token patch of serpentinite in the NE.

The only area examined on the ground was the SW corner where the low relief area was thought to be a response to general alteration of the granite. Two main types are present:

- (a) porphyritic granite with very coarse groundmass.
- (b) porphyritic granite with medium to coarse groundmass.

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The distribution and size of the large potash feldspar phenocrysts was the same in each case so it is possible that (b) is developed from (a) and could be considered a form of aplite.

gneiss?

green?

Gneisses were common but typically in bodies no more than 10m x 1m. Quartz tourmaline rock was the most common with some grey green (chlorite?) gossan? also formed in outcrop and a missourite? ^{missourite?} gneiss found in boulders only. The quartz tourmaline rock is not usually a vein material but a wall rock alteration adjacent to hairline veins with tourmaline fill.

A circular vegetation anomaly at 522887 was examined with hopes for a breccia pipe, but outcrop within it, though minimal, is enough to show ordinary granite is present.

tourmaline?

The metamorphics adjacent to the granites are often riddled with twin veins and wall rock replacement bodies of tourmaline. It is suspected that the batholith is a composite of several plutons.

MINERALIZATION

It is considered that the tin-tungsten mineralization of the area, such as it is, is related to the numerous small gneiss bodies. It is a style with little hope for a commercial deposit.

STREAM SEDIMENT SAMPLING

The IMI sampling program produced two samples from each collecting locality, extracted from a standard 37 litre prospectors' dish loads of gravel from a trap site situation:

- (a) a sludge sample obtained by washing out the fines and leaving them to settle out in a plastic bag, then discarding the water and drying out the retained sludge to provide a -80 mesh silt sample.
- (b) a pan concentrate. Several of these were put through T.B.F. separation and their heavy mineral content described by a consultant. The remainder were merely examined in office or field conditions.

This style of sampling tends to eliminate the coarser element of -80 mesh samples obtainable in a sieved sample such as used by Comstaff and Aberfoyle geologists. Heavy minerals in this size fraction are largely retained in the heavy mineral concentrate.

RESULTS

Based on the sludge samples, the area examined has only one reasonable anomaly (HM112). However, subsequent work failed to repeat the anomaly or locate its source area.

CONCLUSION

Tin and tungsten deposits in the Meredith Granite are likely to be very small and of low grade, thus not attractive targets.

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T A B L E S

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TABLE 1
 STREAM SEDIMENTS - MINUS 80 MESH SLUDGE SAMPLES
 ASSAY RESULTS

SAMPLE NUMBER	ELEMENTS - values in parts per million											
	Cu	Pb	Zn	Mn	Ag,Co	As	Su	W	Au	Ni	Ba	Mo
HM35	15	10	15	-	x, -	5	7	x	x	-	75	-
HM36	20	15	20	-	x, -	5	9	x	-	-	80	-
HM65	15	5	25	-	-, -	5	x	x	x	10	85	x
HM66	15	5	35	-	-, -	2	x	x	-	20	-	x
HM97	15	15	15	-	-, x	9	19	15	-	10	35	x
HM112	245	55	410	-	-, 10	730	222	222	-	10	30	6
HM137	25	10	35	-	-, 10	15	4	x	x	30	120	2
HM138	35	x	50	-	-, 15	9	x	x	x	35	75	x
HM143	10	15	30	-	-, 10	23	3	11	x	15	85	x
HM153	20	x	25	-	-, 5	10	9	x	x	20	65	2
HM154	10	x	20	-	-, 5	20	11	18	x	15	50	2
HM155	35	x	30	-	-, 5	14	-	x	x	20	100	2
HM203	10	x	10	-	-, 10	5	x	x	-	15	214	-
HM204	10	x	10	-	-, 10	11	x	x	-	15	240	-
HM205	10	x	10	-	-, 10	3	x	x	-	15	244	-
HM206	10	x	20	-	-, 10	3	x	x	-	15	287	-
HM235	10	x	30	-	-, 10	4	x	x	-	25	41	-
HM236	10	x	30	-	-, 10	3	x	x	-	15	75	-
HM237	15	x	35	-	-, 5	7	x	18	-	20	62	-
HM238	20	x	30	-	-, 10	12	4	x	-	15	45	-
HM239	10	5	25	-	-, 5	4	x	x	-	15	99	-
HM263	10	35	20	-	-, x	3	x	x	-	10	52	-
HM264	x	15	5	-	-, x	3	x	x	-	5	60	-
HM265	x	x	15	-	-, x	5	35	x	-	10	37	-
HM266	5	10	10	-	-, 5	4	x	x	-	10	41	-
HM267	15	60	100	-	-, 5	4	x	x	-	15	56	-
HM268	15	60	95	-	-, 5	8	x	x	-	20	63	-
HM309	10	25	25	75	-, -	22	5	3	x	-	-	-
HM332	5	20	20	70	-, -	23	8	21	0.012	-	-	-
HM333	x	20	10	30	-, -	17	5	2	0.006	-	-	-
HM335	x	20	10	230	0.1, -	22	10	30	0.003	-	-	-

NOTES: x denotes below limit of detection
 - denotes no assay

TABLE 2

MINERALOGY OF SELECTED HEAVY MINERAL CONCENTRATIONS

HM65	Major	:	tourmaline
	Moderate	:	topaz
	trace	:	cassiterite, zircon, monazite
HM66	major	:	ilmenite
	minor	:	rutile
	trace	:	cassiterite
HM138*	major	:	tourmaline, topaz, chromite * denotes contaminated sample
	minor	:	ilmenite, spinel, monazite, pyrite
	accessory	:	garnet
	trace	:	zircon, biotite, amphibole, cassiterite, scheelite, florencite, xenotime
HM35	major	:	pyrite
	trace	:	pyrrhotite (detected with magnet)
HM36	major	:	monazite
	minor	:	cassiterite
	trace	:	rutile, ilmenite
HM68	major	:	tourmaline, topaz
	minor	:	monazite
	trace to	:	
	minor	:	cassiterite
	trace	:	zircon, ilmenite
HM97	major	:	topaz, cassiterite
	minor	:	monazite
	accessory	:	tourmaline, zircon, anatase, andalusite, sillimanite
	trace	:	corundum
HM143	major	:	chromite, ilmenite, haematite, zircon
	minor	:	monazite
	trace	:	xenotime, amphibole, rutile, topaz, pyrite, tourmaline, scheelite
HM112	major	:	monazite, tourmaline
	minor	:	topaz
	accessory	:	cassiterite, xenotime, spinel, rutile, andalusite, anatase, garnet, zircon, wolframite
HM309	major	:	topaz, monazite

TABLE 2 (Cont.)

Sample HM332 Non Magnetics

About 50% less than 0.2mm

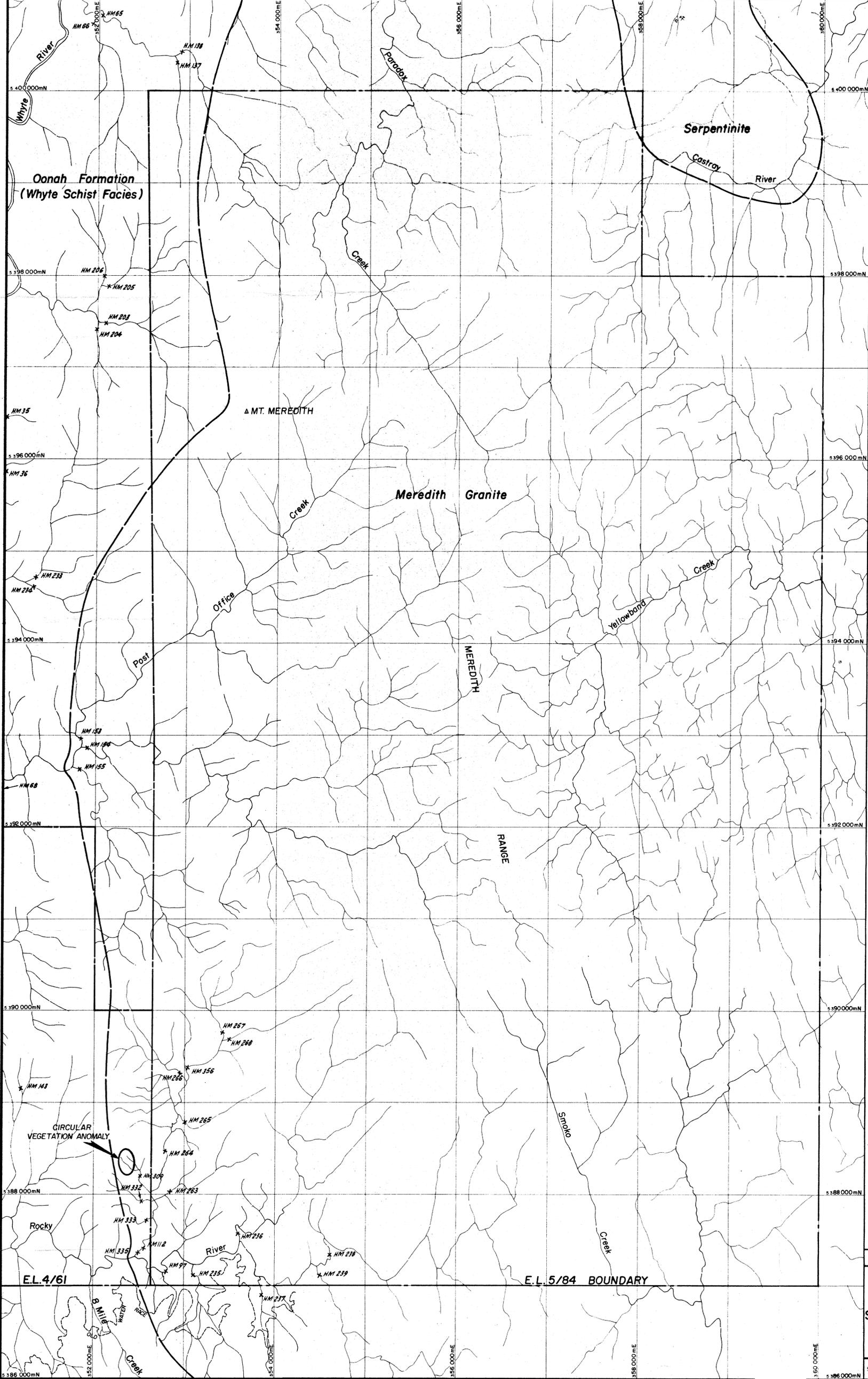
+0.2mm

Major	Monazite Topaz	yellow, subrounded clear, angular
Minor	Tourmaline Opagues	subrounded Wolfram tabular Chromite octahed Pyrite cluster
Accesory	Cassiterite Xenotime Amphibole	Equant, sub angular semi-opaque

Wolfram and cassiterite confirmed by SEM.

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NOTE: Roads, Rivers and Creeks reduced from 1:15,000 contour plans and AMG grid superimposed using main streams and roads from 1:50,000 base sheets.

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INDUSTRIAL AND MINING INVESTIGATIONS PTY LIMITED

E.L. 5/84 - MT. MEREDITH

STREAM SAMPLE LOCATIONS AND GEOLOGY PLAN

85-2410

SCALE 1:20,000

SCALE 0 200 400 600 METRES

DRAWN BY H.S.	DRAFTSMAN T.G.D.S.
DATE JUNE '85	REVISIONS
FILE NO.	FIG.