

TR 10-42-48

8. STAR OF PEACE AREA, WELDBOROUGH

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ABSTRACT

Mapping and sampling of the granite in the vicinity of the Star of Peace Mine has shown that there is no extensive area of tin mineralization present in the granite. The tin mineralization is confined to greisen veins except at the Star of Peace Mine, where greisen veins are numerous but some greisenization and mineralization of the surrounding granite also occurs.

INTRODUCTION

The Star of Peace Mine is situated on high ground about 5 miles SW of the township of Weldborough. The track to the mine branches from the Weldborough-Mt Paris Dam road approximately $\frac{3}{4}$ of a mile before the dam; beyond there the track is very steep and stony and a four wheel drive vehicle is necessary. Alternative access is from the old Star of Peace track. This approaches from the township of Ringarooma to the SW of the mine, and leaves the Ringarooma-Bells Plains road approximately $\frac{1}{2}$ a mile after crossing the Dorset River. This track is less steep but a four wheel drive vehicle is necessary to negotiate the steep pinches and soft patches in wet weather.

Three leases are currently held in the area mapped, of which two are near the old Star of Peace Mine and one near the hut on the headwaters of Gorge Creek. The leases in the old mine area are 45M/64, 5 acres, held by L. M. Barnett and 11394 M, 2 acres, held by J. H. Dobson. The lease on Gorge Creek 41M/61, 20 acres, is held by H. K. Singline. None of the leases were being worked at the time the area was visited.

GEOLOGY

Devonian granite outcrops over most of the area mapped, varying from fine grained near the margin to coarse grained farther away. This variation in grain size represents the different rate of cooling and microscopic examination of thin sections has shown no mineralogical differences between granite samples of varying grain size. In the S and E of the area mapped the granite is seen intruding members of the Mathinna Beds. The remnants of the sediments now consist of a comparatively thin layer of sandstone and shaly mudstone overlying the granite. Within a few feet of the granite contact low grade metamorphism of the sediments occurs, the quartzose members are recrystallized and the mudstone altered to sericite with interstitial areas of cryptocrystalline material. Pyrite, arsenopyrite, chalcopyrite and topaz were introduced into the sediments.

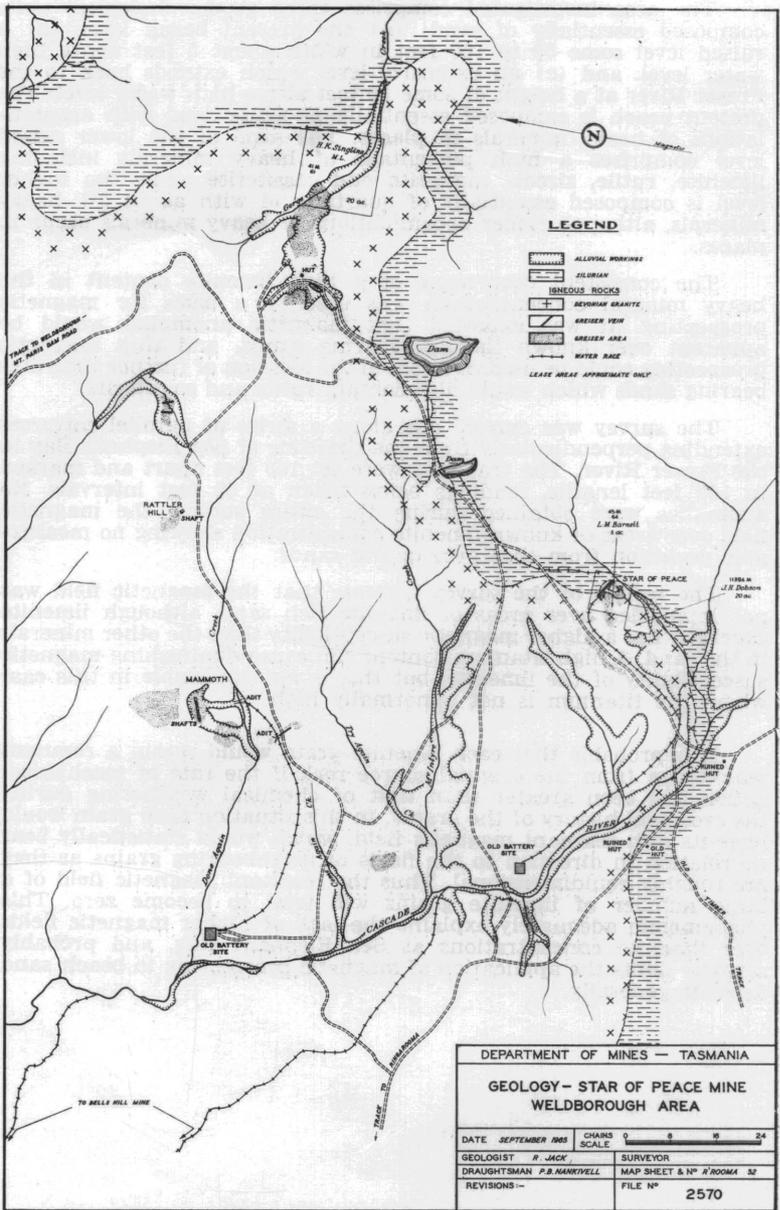


FIGURE 10.

5 cm

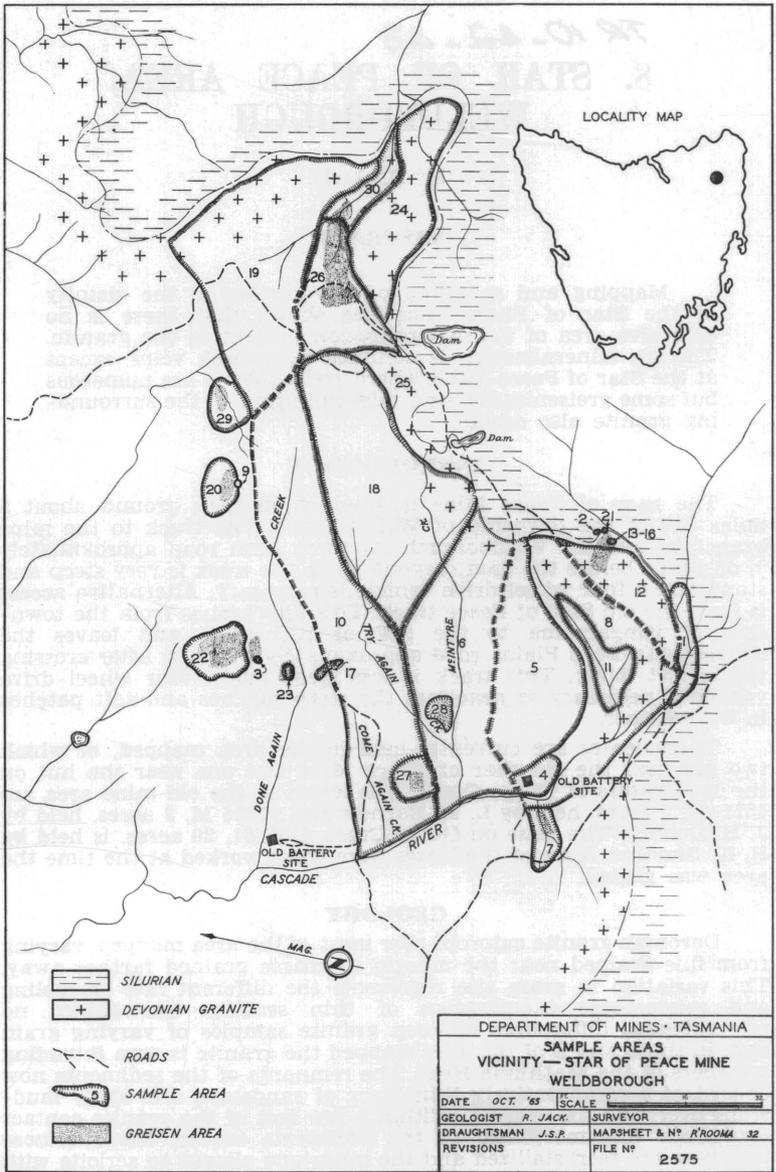


FIGURE 11.

5 cm

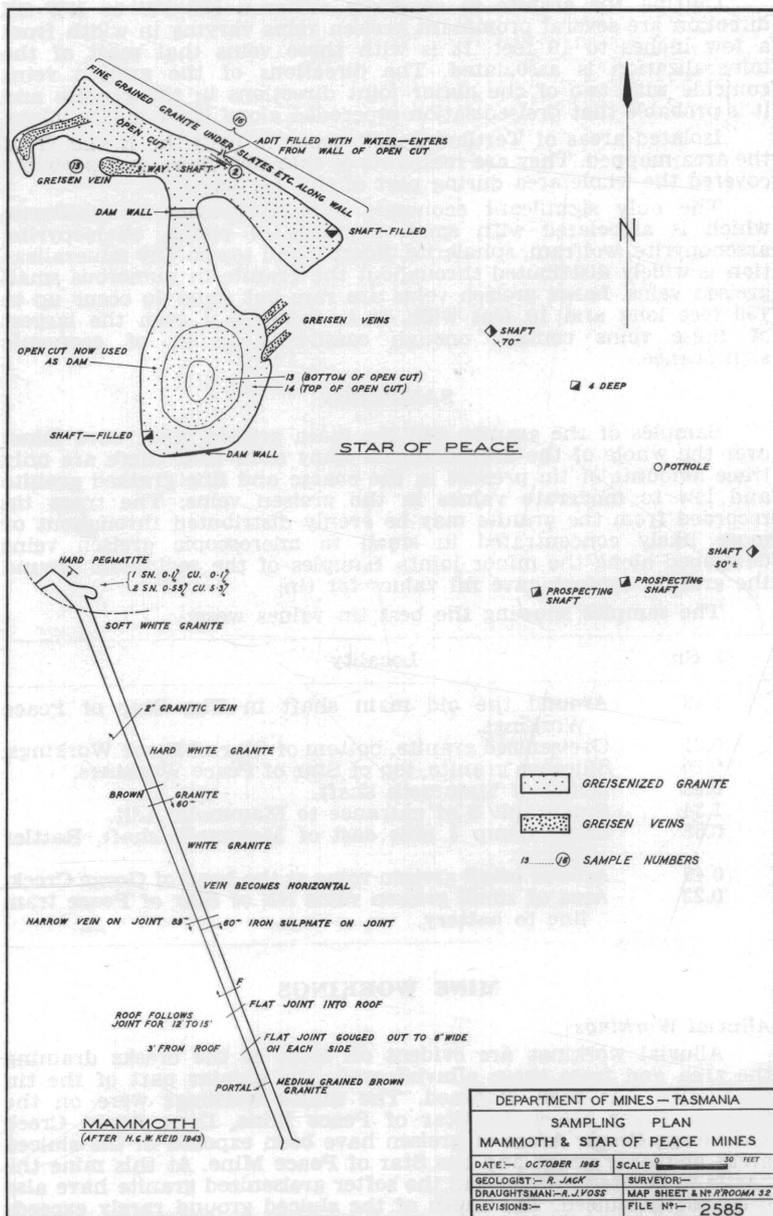


FIGURE 12.

5 cm

Cutting the granite in generally either a NE-SW or NW-SE direction are several prominent greisen veins varying in width from a few inches to 10 feet. It is with these veins that most of the mineralization is associated. The directions of the greisen veins coincide with two of the major joint directions in the granite and it is probable that greisenization proceeded along these major joints.

Isolated areas of Tertiary basalt occur to both the E and W of the area mapped. They are remnants of extensive flows that probably covered the whole area during part of the Tertiary.

The only significant economic mineral present is cassiterite which is associated with small amounts of pyrite, chalcopyrite, arsenopyrite, wolfram, sphalerite, fluorite and topaz. The mineralization is widely distributed throughout the granite in numerous small greisen veins. Large greisen veins are rare but some do occur up to 150 feet long and 10 feet wide. It is doubtful if even the largest of these veins contain enough cassiterite to be of economic significance.

SAMPLING

Samples of the granite and the main greisen veins were taken over the whole of the area mapped. They show that there are only trace amounts of tin present in the coarse and fine grained granite and low to moderate values in the greisen veins. The trace tin recorded from the granite may be evenly distributed throughout or more likely concentrated in small to microscopic greisen veins developed along the minor joints. Samples of the sediments around the granite contact gave nil values for tin.

The samples showing the best tin values were:

% Sn	Locality
1.13	Around the old main shaft in The Star of Peace Workings.
0.61	Greisenized granite, bottom of Star of Peace Workings.
0.10	Siliceous granite, top of Star of Peace Workings.
0.28	Dump of Mammoth shaft.
1.34	Small adit S of entrance to Mammoth Adit.
0.58	Shaft dump $\frac{1}{2}$ mile east of Mammoth shaft, Rattler Hill.
0.49	Area of small greisen veins at the head of Gorge Creek.
0.22	Area of small greisen veins NE of Star of Peace tram line to battery.

MINE WORKINGS

Alluvial Workings

Alluvial workings are evident on most of the creeks draining the area and from these alluvial areas the greater part of the tin production has been obtained. The major workings were on the Cascade River below the Star of Peace Mine, Done Again Creek and Gorge Creek. Areas of greisen have been exposed in the sluiced areas at Gorge Creek and the Star of Peace Mine. At this mine the partly weathered greisen and the softer greisenized granite have also been partly sluiced. The depth of the sluiced ground rarely exceeds 4 feet and in most places was only 1 to 2 feet deep. The alluvial

ground is virtually worked out and only very small patches of shallow alluvium remain to be worked in the Star of Peace Mine and Gorge Creek areas.

Star of Peace

The Star of Peace workings are at the head of the Cascade River and consist of several prospecting shafts, a main shaft and adit, and two fairly large open cuts. The more northerly open cut is approximately 220 feet long on a bearing of 130° . An old three compartment main shaft has been sunk in the open cut and an adit driven NE from the shaft. This adit is only a few feet beneath the contact of the granite and the overlying Mathinna Beds. Both the shaft and the adit are full of water. A small shaft in the SE corner of the open cut is full of rubble. Two small greisen veins can be seen in cuts at an angle to the main cut. They strike at 255° and 235° and are up to 8 feet in width. The open cut has been used as a dam for sluicing operations and a thick layer of silt obscures any detail present in the floor but greisen is still visible at both ends of the cut. Running off this cut to the N (350°) is a narrow cut which terminates in a roughly circular excavation which is approximately 80 feet in diameter, up to 25 feet deep and shows a top layer 10-15 feet thick of siliceous granite overlying 10 feet of soft greisenized granite. Several greisen veins striking at 50° to 60° and dipping at 80° to the NW are seen in the NE side of the cut. A shaft has been sunk in the SW corner but is now full of silt. This open cut has also been used as a dam and had some 5-6 feet of water in the bottom when it was visited. Sampling shows high tin values around the old main shaft and in the softer greisenized granite of the southern open cut. The soft greisenized granite appears flat lying and may extend beyond the limits of the present workings.

Mammoth Mine

Two shafts approximately 100 feet apart have been sunk on a greisen vein striking at 250° . One of these shafts is open to about 40 feet, the other is completely filled. It is thought that from the size of the dump at the collar of the open shaft it may have gone as deep as 100 feet. Samples from the dump of this shaft show values of 0.28% Sn and contain appreciable amounts of sphalerite and chalcopyrite.

Keid (1944) mapped the adit driven from Done Again Creek and designed to cut the formation on which the shaft is sunk at approximately 150 feet below the top of the hill. Keid's description of the adit is as follows:—

"From the level of Done Again Creek an adit has been driven on a bearing of 339° a distance of 365 feet from the portal to cut the formation.

The first 30 feet of the adit has been driven through a fine-grained granite, brown in colour. From that point the granite is the normal white variety which persists throughout the length of the adit except for a distance of 10 feet (210 feet to 220 feet) where a brown aplite dyke is cut. Only minor veins are exposed in the adit.

At 285 feet from the portal the walls of the adit show minor copper stainings which persist till the main pegmatite vein is cut at 355 feet from the portal.

At 365 feet from the portal short levels have been driven along the formation. On a bearing of 309° a level

has been driven for a distance of 25 feet. From that point a crosscut 10 feet to the south-west has terminated in granite. From the point 365 feet from the portal a level has been driven for eight feet on a bearing of 115°.

Over the greater part of the levels copper staining is prominent and the ore contains an appreciable amount of copper pyrite. In the centre of the pegmatite vein a comparatively soft band occurs.

Sampling of the face showed the following grade of ore:—

- (1) Soft band 6 inches wide—Sn 0.1%:Cu 0.1%
- (2) Remainder of face—Sn 0.55%:Cu 5.3%

whilst a grab sample of the ore lying on the spoil dump at the portal of the adit yielded Sn 0.15%:Cu 1.3%."

Across Done Again Creek from the portal of the Mammoth adit is another short adit driven on a prominent quartz vein. Along the margin of the quartz vein mica greisen is developed and a sample over the whole width of greisen and quartz gave 1.34% Sn. Further S a small shaft now filled was sunk on this same quartz vein. Further S again the vein dies out and no trace of it can be seen on the hill between Done Again and Try Again Creek.

Rattler Hill Workings

Two shafts have been sunk on greisen veins near the top of Rattler Hill, approximately $\frac{1}{2}$ mile east of the Mammoth shafts. The area around the collars of the shafts has collapsed but it is estimated that one shaft was about 60 feet deep. A sample of the shaft dumps assayed 0.58% Sn. A small greisen vein 18 inches wide and striking at 342° is seen in the top of the shaft. Beside the shaft a small cut 20 feet long by 6 feet wide and 6 feet deep shows some copper staining. Pyrite and chalcopyrite are present in the dumps of these workings.

CONCLUSIONS

The production from this area has been largely from alluvial workings and previous attempts to work the greisen veins have failed as these veins are too small to support a mining operation. The best prospect is in the vicinity of the Star of Peace workings where several greisen veins are exposed over a small area and some greisenization of the surrounding granite is evident. To test this area short vertical drill holes are recommended to prove any extensions of the greisenized granite seen in the open cut.

Reference

KEID, H. G. W., 1944—The Weldborough tin field *Rep. Dep. Min. Tas.* (Unpublished).