TR2-22-25

CRANE'S TIN PROSPECT, UPPER NATONE

by F. BLAKE

Location and Access

Cranes Tin prospect is situated in the north-western part of the Mt. Housetop tinfield, at a distance of 14 miles south of Burnie, in the vicinity of Upper Natone.

The area is located on the north side of Upper Natone—Hampshire road, three and a half miles south-west of Upper Natone Post Office.

Previous Literature

Previous Mines Department reports dealing with tin in the Mt. Housetop district are as follows:—

MONTGOMERY, A., 1895—Mineral Fields of the Gawler River, Penguin, Dial Range, Mt. Housetop, Table Cape, Cam River and portion of the Arthur River Districts. (Secretary for Mines Report, 1895-96.)
BLAKE, F., 1937—Tin Lodes at Upper Natone (unpublished).

History

Prior to 1891, stream tin had been worked to the north-west of Mt. Housetop in tributaries of Emu River, principally about the head waters of Trial and Falls Creeks. Some prospecting had been undertaken on sub-basaltic gravels and several tin bearing lodes had been found. At least one lode, known as the Kaolin Lode, was worked to a limited extent about 1892.

In 1899 mineral leases were acquired by Sydney Thoresby covering portion of the land now held by A. Crane. These were subsequently transferred to Whyte Thomas and during the following few years several small streams flowing westerly to Falls Creek were worked for alluvial tin. About this period also a tin bearing lode was located immediately north-west of where Crane's Timber Mill now stands and a small amount of development was carried out on this occurrence.

Between the years 1935 and 1938 L. J. Clark attempted to prove the value of several tin bearing lodes by prospecting works in the vicinity of the Kaolin Lode, within an area one and a half miles to the east of Crane's Prospect. Assays of a series of samples disclosed an erratic tin distribution and a low average content in the four lodes tested. Several small creeks in this vicinity were also sluiced for alluvial tin.

Prospecting by A. Crane extends back to about 1953 and has consisted principally of work on tin bearing sub-basaltic gravels which are exposed to a limited extent around the denuded edge of basalt flows.

General Geology

The basement rocks of the district consist of medium to coarse grained granite of Devonian age. Variations of the normal granite occur, principally in the form of fine grained aplitic types consisting of pink felspars and quartz blebs with subordinate amounts of dark mica. Tin bearing greisen veins traverse the aplites.

Remnants of Tertiary basalt flows, which filled pre-existing valleys, cover the granites in places.

In some localities Lower Tertiary alluvial deposits, formed along the course of former streams, underlie the basalt.

The accompanying geological map of the area illustrates the surface distribution of the rocks and the probable course of a deep lead.

The Tin Prospect

This is located within 153 acres of freehold land in the name of A. Crane and is covered by mineral lease 496P/M, of which the owner is the lessee.

In the north-western part of the lease, on the steep eastern slope to Falls Creek, a small prospecting cut has been excavated.

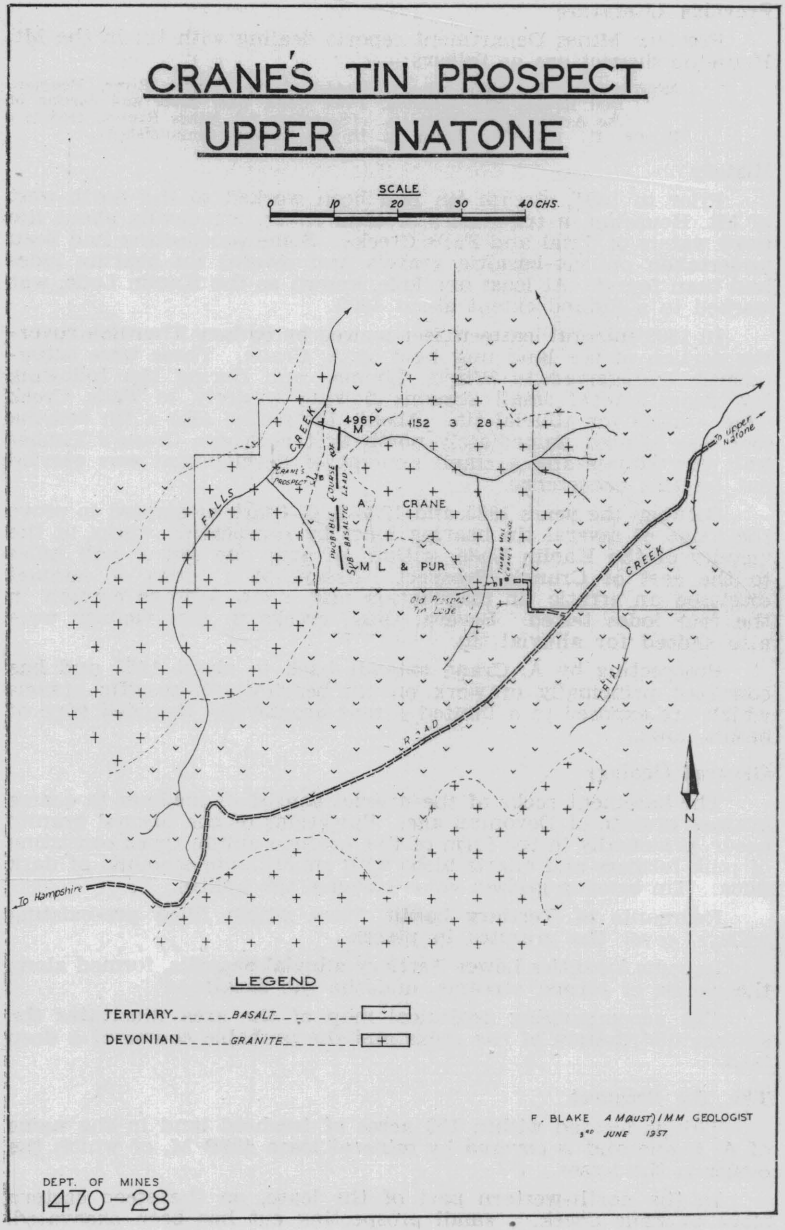

CRANE'S TIN PROSPECT
UPPER NATONE
SCALE
0 10 20 30 40 CHS.
CRANE
M L & PUR
FALLS CREEK
TRIAL CREEK
ROAD
To Hampshire
To Upper Natone
N
LEGEND
TERTIARY BASALT
DEVONIAN GRANITE
F. BLAKE A.M.(AUST.) I.M.M. GEOLOGIST
3RD JUNE 1957
DEPT. OF MINES
1470-28

Plate 7

5 cm

SAVAGE RIVER IRON DEPOSITS

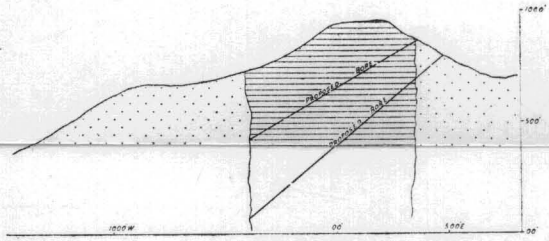
SCALE
0 400 800 1200 1600 FT

5 cm

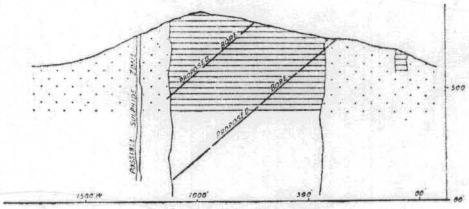
LEGEND

RECENT ALLUVIUM
TERTIARY BASALT & ALLUVIUM
CAMBRIAN? AMPHIBOLITE
AMPHIBOLITE SCHISTOSE VARIATION
PRE-CAMBRIAN QUARTZ-SERICITE SCHISTS
IRON OXIDE

GEOLOGICAL BOUNDARIES
GEOPHYSICAL TRAVERSES
TRACKS
ADITS
SHAFTS
COSTEANS
STRIKE & DIP OF CLEAVAGE
HELIPORTS



SECTION LINE E



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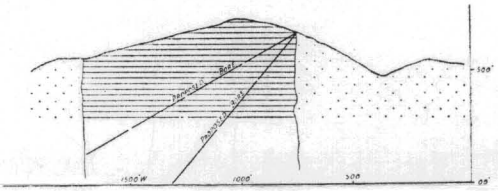

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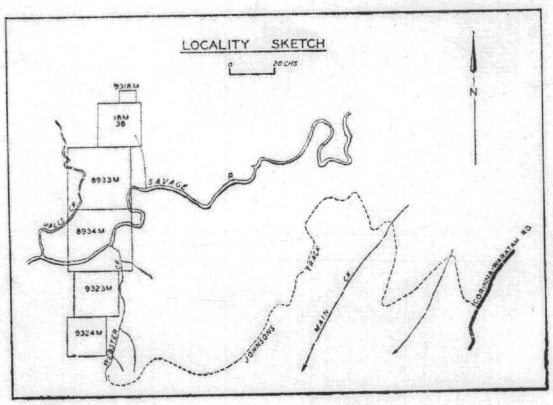

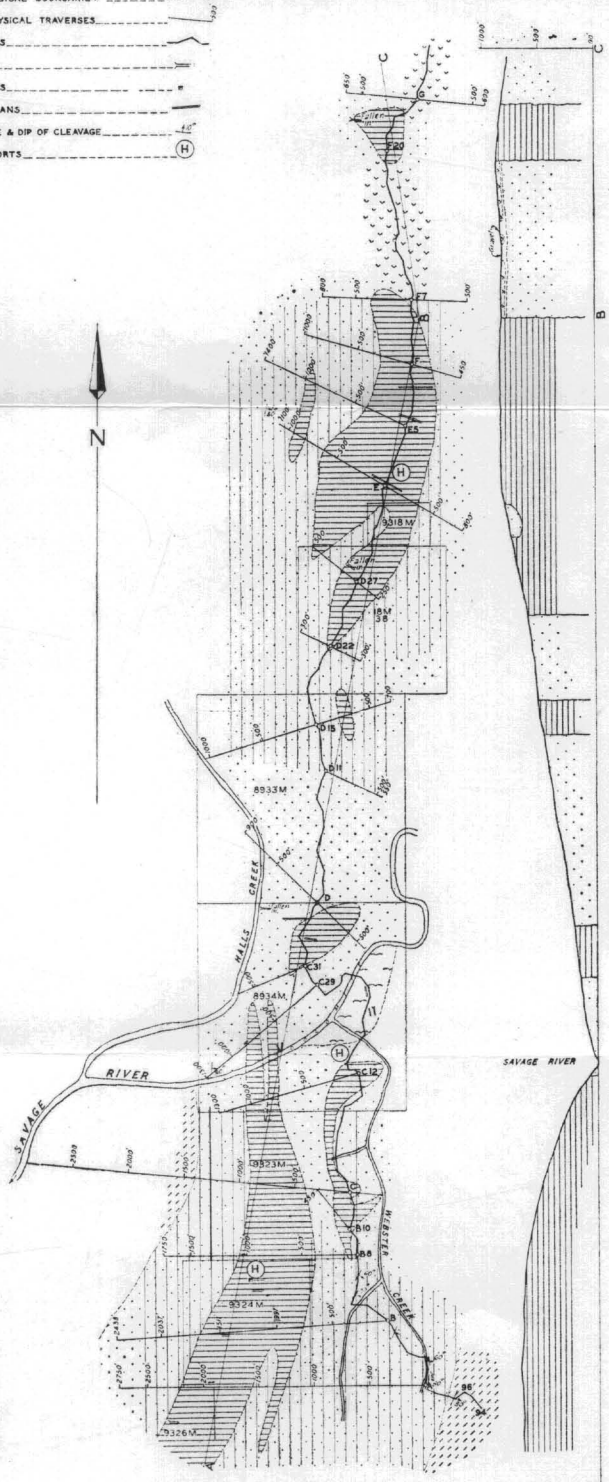

James D. Hughes.
SENIOR GEOLOGIST
JUNE 1957

Plate 12

TR2-25-33

The section exposed by the cut consists of an uneven granite bottom overlain by two to four feet of clays, grits and quartz gravel containing a small amount of medium to fine grained cassiterite (tin oxide). This material is covered by partly decomposed basalt and basaltic clay. The alluvial deposit together with the basalt dip to the east at a low angle.

The alluvial gravel is only slightly waterworn, indicating that the original source is not far distant. Specimens of crystalline cassiterite are freely showing in some of the quartz.

Immediately west of the cut towards Falls Creek, a small patch of gravel which was exposed by the denudation of the basalt was treated in a sluice box by the lessee in 1956 for a recovery of ·091 tons of tin oxide concentrate containing ·047 tons of metallic tin.

About twenty feet south-east of the prospect cut a shaft was sunk to a depth of eighteen feet in weathered basalt without penetrating the underlying wash.

At several other points. over a distance of ten chains further up the valley of Falls Creek from the cut, shallow alluvial wash containing a little tin oxide has been disclosed below the basalt cover in small prospect holes.

Conclusions

The tin bearing gravels as disclosed by the prospecting represent the western edge of a sub-basaltic deep lead. This is a portion of the alluvial material laid down by a former stream in an old valley which was later filled by basalt. Erosion by the present stream system has denuded large areas of the basalt and has now disclosed the granite bedrock on both sides of the old valley.

It is anticipated that the main gutter of the lead would occur about five chains to the east of the prospect cut, below the northerly trending tongue of basalt indicated on the map, and it is along this gutter that the richer tin bearing deposits would be expected to occur.

To test the deposit the first essential is a boring campaign to locate the gutter and prove the size, depth and value of the lead. This would also give required information on the thickness and hardness of the basalt overburden.