

Report on country along route of Craycroft Track  
from Glen Huon to Frankland Range.

(1) INTRODUCTION:

To enable prospectors and others to gain access to the south-west portion of Tasmania the route along the old Craycroft track was cut and cleared out as a foot-track from Picton River to western end of Arthur Plains at its junction with Marsden's track (Tyenna to Port Davey) in March and April of this year.

Coincident with track cutting a geological reconnaissance, together with a prospecting campaign, was sent out in areas adjacent to the main route.

On completion of the above-mentioned track, it is intended to move the track-cutting and prospecting party to the mouth of Mainwaring River by boat via Port Davey. A track is then to be opened north-easterly to the head-waters of Mainwaring River and thence south-easterly along Rookery Plain, and through Doherty Ground and Jones Pass to junction with the Port Davey track, west of Scott's Peak.

(2) LOCATION and ACCESS:

The area examined consists of a tract of land extending west from Glen Huon to the eastern foothills of Franklin Range. It is bounded on the north by Huon River and in the south, from east to west, by Sheoak Hills, Hartz Mountains, Mt. Picton and Arthur Range.

Access is gained by means of a road from Huonville for a distance of 14 miles, the last 4 miles of which is formed for most of the distance but unmetalled. From end of the road a pack-track, following Huon River Valley, crosses Arve River bridge at 4 miles and ends at Picton River (12 miles), where a crossing is made by means of a swing foot-bridge, (since washed away) not negotiable by horses.

Junctioning with this track, at a half mile east of Arve River, is a pack-track (partly along an old tram-line) to Geeveston, 10 miles to the south-east. At one mile east of Picton River, on Craycroft track, another pack-track deviates to the south and follows the east bank of that river for 10 miles approximately. This track is now partly blocked in several places by fallen timber, but can be followed with no great difficulty.

From Picton River westwards Craycroft track is now readily accessible on foot to Craycroft River, (20 miles) although in places, notably at Dawson's Steps and Baldy, the grade is very steep.

The track from Craycroft River (log crossing at normal river height) westerly across Arthur Plains to Marsden's Port Davey track (12 miles) is over button-rush hills and plains which are timberless except along creek courses. This part of the track has been graded and cuttings excavated on hill sidelings. Where cuttings are unnecessary stakes have been placed at short intervals and a faint "pad" can be followed without much difficulty.

(3) TOPOGRAPHY:

The area examined is generally of a rugged and mountainous nature. The most outstanding and highest peak is that of Mt. Picton (trig. station) in the central part of

the district (between Picton and Craycroft Rivers) which rises to a height of 4340 feet above sea level.

Arthur Range in the south-west portion of the area, is one of the most conspicuous and rugged mountain ranges in Tasmania and stretches for 20 miles to the south of and parallel to Huon River. The range is characterised by numerous high and sharp comb-like peaks of approximately equal height. At Mt. Hayes, a trig station near the western end of the range, the height is 3668 feet above sea level. On the northern side Arthur Range rises abruptly from Arthur Plains.

The whole of the drainage of the area is effected by Huon River and its numerous tributaries. Huon River takes its rise to the north-west of the district in the vicinity of Mts. Wedge and Bowes and flows southerly as far as Arthur Plains, where it turns easterly and runs in that general direction to Huonville. From the latter, estuarine conditions prevail and the river again takes a southerly course to its junction with D'Entrecasteaux Channel. Huon River is deeply entrenched in a comparatively open valley for the main part, but in places, as at Huon Gorge, the ravine is very narrow and precipitous. Where the valley is wide alluvial flats appear on the floor. Old river terraces are also much in evidence and at half a mile west of Picton River junction three distinct ledges or terraces are visible, illustrating successive uplifts in the past.

The largest tributaries of Huon River on the south side comprise Picton, Craycroft and Arve Rivers in order of size. These three rivers flow in general northerly directions to join the main channel. Picton River rises on La Perouse Range, Craycroft River commences at the south-east end of Arthur Range, and Arve River heads from Hartz Mountains. Several large button-grass and heathy plains, namely Huon, Arthur and Arve Plains, occur fringing Huon River. Huon Plain, the widest of the three, is situated in the north-west of the area in the vicinity of Scott's Peak, which it almost surrounds. This plain from east to west extends from Lake Edgar to Lake Pedder, a distance of 10 miles. From south to north the plain is continuous from south-west of Scott's Peak for approximately 6 miles along Huon River.

Arthur Plain extends for 15 miles in an east-south-east direction from the saddle between Arthur and Frankland Ranges to Craycroft River, and the southern boundary coincides with foot of Arthur Range. The plain, which has a maximum width of 3 miles, is broken to some extent by north-east and east flowing creeks.

Arve Plain, which is smaller than the other two, is situated south and adjoining Huon River. It extends westerly from Arve River for 4 miles towards Picton River and is approximately 1 mile wide.

#### (4) GEOLOGY:

The rocks which occur within the area are sub-divided as shown in the following tables:-

##### "A" SEDIMENTARY.

<u>AGE</u>	<u>LITHOLOGICAL CHARACTER.</u>
Recent - Pleistocene	Gravels, sands, clays and alluvium.
Triassic	Sandstone.
Permo-Carboniferous	Mudstones and sandstones.
Cambro-Ordovician	Quartzites, slates, dolomite limestone, conglomerates and breccia.

Upper Mesozoic

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Dolerite (diabase).

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"A" - SEDIMENTARY.

i. Cambro-Ordovician

The rocks of this system are the oldest exposed in the district and constitute the bedrock upon which the younger rocks were deposited.

The rock types consist of quartzites, dolomite, limestone, slates, conglomerates and breccia. This series occupies the whole of the western portion of the district extending from the northern slopes of Mt. Picton to an undefined point to the west of the mapped area. In the valleys it is covered to some extent by Recent to Pleistocene deposits.

The rocks are many thousands of feet in thickness and the several types appear to be conformable. The rocks generally have a north-westerly strike which varies from  $282^{\circ}$  to  $345^{\circ}$ . East of Craycroft River the dip of the rocks ranges from  $45^{\circ}$  to  $75^{\circ}$  towards the north east, but west of the same stream dips are to the south-west in most instances. Little actual folding is visible but the mapping suggests a large anticlinal fold having a north-westerly axis with possibly minor folding on the limbs. No fossils were found in these rocks and there is no direct evidence of their age in the district, but from general lithological considerations they can be referred to the Cambro-Ordovician system.

The rocks have been divided into three stages and these are described separately hereunder:-

(a) Pink Quartzite Stage.

The quartzites of this stage have a faint pink tinge when viewed from a distance but on close view this colouring is not so distinct and in numerous instances it appears quite white. This rock is very fine grained, and extremely siliceous, and in a few places shows a slight schistose structure. It is very thickly bedded and extends over a large area. The whole of Arthur Range is composed of these quartzites.

(b) Dolomite Stage.

Dolomite is exposed in the bed and banks of Huon River to the east of Blake's Opening and on the northern slopes of Mt. Picton to the south of the former. The rock is again in evidence in creeks flowing easterly to Craycroft River, over open plains, on the south side of the Razorback. The dolomite is generally fine-grained, but in places is slightly crystalline. It is massive or thickly bedded and although jointing is present it is not prominent. The rock is light grey in colour, but weathers to almost white at surface. The dolomite is traversed in places by narrow white veins of calcite and dolomite. Near Blake's Opening and on the northern slopes of Mt. Picton portion of some beds have been partly replaced by silica in the form of secondary quartz and chert. In the latter locality small areas exposed in cliff faces are seen to be wholly replaced by similar material.

The dolomite stage conformably overlies the slate, quartzite etc. stage.

An analysis of clean dolomite from Craycroft valley

revealed the following percentages of calcium and magnesium oxide:-

<u>Reg. No.</u>	<u>Constituents</u>	<u>Per Cent</u>
582	Calcium Oxide	29.40
	Magnesium Oxide	20.92

(c) Slate, Limestone, Quartzite, Conglomerate & Breccia Stage.

Normal grey-green and black coloured slates with cleavage planes parallel to bedding are well exposed in Huon River valley from west side of Blake's Opening to east side of Harrison's Opening and again where the river skirts Arthur Plains. Dull red slates occur interbedded with white to pink coloured quartzites to the east of Tyenna track,  $\frac{3}{4}$  of a mile south of Scott's Peak. At numerous points within the slate area bands of grey and pink quartzites, and to a minor extent conglomerates, are interbedded with the slates. At one and a half miles west of Blake's Opening the conglomerates consist of water-worn pebbles of quartzite, up to eight inches in size, in a dark argillaceous matrix of similar material to the adjacent slates. The matrix has a distinct cleavage and the rock may be termed a slate conglomerate. Fine grained conglomerates consisting of small water-worn quartz pebbles in a siliceous base occur interbedded with massive dark red quartzites in the bed of Huon River, along the edge of Arthur Plains.

Thin bands of quartz breccia also occur in close relation with quartzite and slate but are nowhere extensive.

Narrow beds of limestone interbedded with dull red to purple slates, black slates and grey green argillaceous quartzites are exposed in creeks running easterly from Arthur Range to Craycroft River at south end of the Razorback. The limestone is a dense fine-grained variety with a dark grey colour. Generally it appears to be thinly bedded and at one point narrow alternate bands of limestone and slate occur.

Between Harrison's Opening and Surrender Creek rocks with a distinct schistose character outcrop. They consist of argillaceous, arenaceous and quartz breccia schists which have evidently been derived from slates, quartzites and breccias. The relationship between these rocks and the slates and quartzites series to the east and west of this belt is ill-defined.

The schists may represent an older series of rocks but in the absence of further evidence they are tentatively placed in the Slates, Quartzites etc. Stage.

ii. Permo-Carboniferous.

The rocks of this system consist of white to grey coloured mudstones, coarse gritty sandstone and fine-grained micaceous sandstone. They outcrop along Huon River valley in numerous places between Glen Huon and the north eastern slope of Reevo Peak, west of Picton River. The intervening country between the outcrops is occupied by dolerite of Upper Mesozoic age. At Glen Huon, on the road towards Picton River, mudstone and sandstone outcrops for  $1\frac{1}{2}$  miles north east of the Post Office. At  $2\frac{1}{2}$  miles a small area of sandstone, exposed in a road quarry, is overlain by a sill of dolerite. At 4 miles from Glen Huon (east of Denison River mouth) mudstone and sandstone extend south easterly for  $2\frac{1}{2}$  miles. Mudstone again outcrops to the west of Frypan Creek, and is continuous to east side of Arve River, while brown micaceous sandstone occurs on the west bank of this stream. Mudstone and sandstone again occur in a larger area on either side of Picton River.

The rocks outcrop in the river banks up to four miles above its junction with Huon River. Typical Permo-Carboniferous grey fossiliferous mudstone, with minor areas of coarse-grained sandstone outcrop over a distance of 3 miles to the west of Picton River. The rocks of this locality often contain small waterworn pebbles.

### iii. Triassic.

Looking from the open button-grass hills between Dawson's Steps and Surrender Creek towards Mt. Picton a line of gently dipping rocks can be seen outcropping below Dolerite (diabase) and extending round the north-western side of the mountain for approximately  $1\frac{1}{2}$  miles. It occurs as a cliff face at a high altitude above heads of creeks running towards Harrison's Opening and dark lines in the rock are suggestive of caves. This outcrop appears to represent typical Triassic sandstone topography, and it seems probable that rocks of that age are in situ in that locality. However until the opportunity for closer observation presents itself the authenticity of this surmise will remain in doubt.

### iv. Pleistocene to Recent.

At numerous points along the valley of Huon River from Arve Plain westward thick beds of gravels, sands, and clays skirt the river. These represent old terrace deposits along previous courses of Huon River, and in places, as in the vicinity of Blake's Opening, vertical thicknesses up to 40 feet are exposed. Between the latter and Harrison's Opening some water-worn gravels appear up to 200 feet above present river level.

From its junction with Denison River to Franklin Huon River is at present distributing gravels and alluvium along its courses and wide alluvial flats have been formed on either side of the stream. Similar material is also being distributed along the lower courses of the larger tributary streams.

### "B" - IGNEOUS.

The only igneous rock exposed in this district is dolerite (diabase) of Upper Mesozoic age and occurs in the form of sills and large transgressive bodies. From Judbury bridge to the south west this rock outcrops at intervals over a distance of 21 miles in a direct line, to the western fall of Mt. Picton. The higher and some of the lower parts of Sheoak Hills, the northern foothills of Hartz Mountains, Mt. Wedge range and Mt. Picton range from Reevo Peak south to Mt. Bobs are composed of dolerite. This rock is intrusive into both Permo-Carboniferous and Cambro-Ordovician sedimentaries. The various exposures were not examined in detail but the rocks are similar in every respect to the typical dolerite (diabase) found elsewhere in Tasmania, and need no further description.

### (5) ECONOMIC GEOLOGY.

Alluvial:- Coincident with the geological reconnaissance of this area a prospecting campaign was undertaken along the courses of the various streams, and the wash tested by means of the prospecting dish. In no case were any minerals of economic importance found. The concentrates left after washing usually contained small quantities of black sand consisting of ilmenite and magnetite.

Lodes:- Veins and irregular bunches of quartz are numerous in the Cambro-Ordovician slates and quartzites of the district. None of these appear to persist for any great distance and the widest vein encountered was only 4 inches across. Much of the quartz observed appeared to be of secondary origin and metallic minerals are entirely absent.

(6) CONCLUSIONS.

The whole of the eastern portion of the area examined consists of Upper Mesozoic dolerite (diabase) and Permo-Carboniferous sedimentary rocks, which were formed subsequent to the chief period of mineralisation. From Mt. Picton to the west Cambro-Ordovician slates and quartzites etc. predominate. This series of rocks in other parts of Tasmania contain important ore bodies but here they are absent. The igneous rocks of the Devonian period (granite, porphyries, serpentine etc.), with which are genetically related our principal mineral deposits, are not present in this district, and, therefore, the possibility of obtaining valuable minerals in payable quantities is negligible.

The unproductiveness of the prospecting conducted during the general examination supports the above conclusion.

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