Lewis River, Copper Creek, Waterloo Ck Area (2 COPIES)

L.B.G. 28/4/58

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REPORT ON LEWIS RIVER, COPPER CREEK, WATERLOO CREEK AREA

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REPORT ON LEWIS RIVER COPPER CREEK WATERLOO CREEK AREA

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COPY FOR DR. SCOTT

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28th April, 8

To: Mr. G.F. Hudspeth.

REPORT ON LEWIS RIVER, COPPER CREEK,

WATERLOO CREEK AREA

Date of Examination: 28th January to 6th February, 1958.

Party Leader: I.M. Paltridge.

Personnel Employed: D.H. Watson.

Man Days in the Field: 18

Base Camp: Copper Creek.

Transport and Supply: Djinn Helicopter.

General Topography of the Area

The coastline, which is parallel to the regional strike of the bedding or schistosity, is irregular and rugged. Inland the area is one of gently rolling relief with major streams deeply incised near the coast. At Copper Creek a cut marine bench lies at about 70 feet and another at about 200 feet. This latter bench is of very wide extent.

General Geology

The rocks exposed on the coast north of the Lewis River show a marked decrease in metamorphic grade from south to north. At the mouth of the Lewis River are exposed quartz-mica-schists (LE 1212) with haematite or limonite stains. Northward along the coast, the metamorphic grade shows a general decrease, but there are localities, e.g. at the mouth of Copper Creek where shearing has locally raised the grade of metamorphic rock. North of Sandy Point the metamorphic grade is low and rocks are phyllites, spotted

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slates and probably chlorite I schists.

East of Sassafras Creek, the exposed rocks are quartz schists with meta-quartzites overlain by quartz gravels. Most of the schists are highly quartzose and may originally have been welded ash flows or ignimbrites. Linears on the air photos are generally parallel to schistosity.

The metamorphic rock suite found in this area is one which could be caused by a combination of dynamic metamorphism associated with shearing (possibly of Tyennan age) and thermal metamorphism associated with the granite exposed in the gorge of the Lewis River.

Age of the Rocks

The rock suite under discussion is correlated with the Dundas Group. No evidence was found which might confirm the opinion expressed by Mr. J. Gilfillan that Precambrian rocks are exposed on the coast.

Faulting

Apart from localised shearing, no faults were recognised in the field, although certain linear elements may be major faults.

Folding

A major syncline mapped by Mr. Gilfillan was confirmed and mapped from the Mainwaring River to Sandy Point. It is most probable that this fold axis extends southward off the coast to the Lewis River.

Minor Rock Structures

The most prominent of these are drag folds associated with shears and folds which have not been recorded in detail. They were, however, used to determine the attitude of the major fold mentioned above and also to determine the direction of movement on shear planes.

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Some lineations were seen and slip folding is prominent at Sassafras Creek. There is a scattered development of minor corrugations developed in the ac plane of the major structure. These corrugations could be used to help elucidate the structure.

I Michael Baltrieje