

MT. OSMUND AREA

LYELL E.Z. EXPLORATIONS

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MICROFILMED

11th March,

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Report on Examination of the Mt. Osmund Area

Dates of Examination: 4th March to 9th March, 1957.

Party Leader: B. Scott

Personnel Employed: J. White (bushman)

Man Days in the Field: 12

Location of Base Camp: East side of Mt. Osmund, on the west bank of Waterloo Creek.

Means of Transport: Helicopter to camp, foot traversing at camp.

General Topography:

Mt. Osmund is a north-south ridge which marks a decided change in the topography of the area. To the west there is an extensive area of heavy timber whilst to the east the timber cover is missing. On the eastern side the country consists of a gently undulating button grass plain with scattered patches of gum trees. The river valleys are usually deeply incised (20-30 feet) in the plain and contain thick vegetation but these conditions rarely persist for more than a few hundred feet. The country is ideal for foot traversing, distances of 20 miles can be covered daily.

Mt. Osmund may be regarded as the strategic point of the area. From the Osmund ridge most of the concession can be seen; from Macquarie Harbour (and Mt. Owen) to the north, to Cape St. Vincent to the south and the Prince of Wales-Wilmot-Arthur Ranges in the east.

Geological Investigation and Findings:

The general geology of the area can best be appreciated from the accompanying map which is a preliminary interpretation. Junction Range forms a prominent north-south trending ridge. The ridge consists of conglomerate which has a general strike of north-south with a persistent dip to the west of 45 to 60 degrees. The conglomerate (which has been correlated with the conglomerate of the D'Aguillar Range) is a typical quartz-pebble conglomerate with an extremely variable grain size from a micaceous orthoquartzite to a rock containing pebbles up to 6 inches in length. Although in detail there is this extremely variable grain size a traverse through a vertical section of approximately 700 feet, provides some basis for assuming an overall increase in pebble size from the bottom to the top of the ridge. In a direct contrast the plain in front of the Range consists of a coarse-grained (3 inches) pebble conglomerate.

Looking north from Mt. Osmund the ridge "plunges" northwards and eventually the topographic high disappears amongst timbered stream valleys. The conglomerate outcrops can be seen to continue northwards towards the Hazell Hill and Thirkell Hill, both known areas of Owen Conglomerate.

Wart Hill, to the south, consists of a highly sheared Pre-Cambrian siliceous series. The shear direction trends 100-120°, it was not possible to distinguish the original bedding orientation. The rock is heavily iron stained, the iron coming from a network of thin ($\frac{1}{8}$ ") quartz/hematite veinlets. Consequently, it appears that the Owen Conglomerate is either faulted or folded out of the area, between Wart Hill and Junction Range.

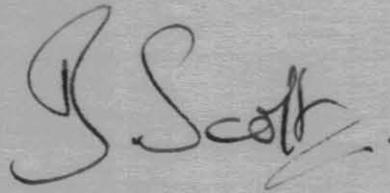
Westwards from Mt. Osmund the conglomerate dips beneath sediments which are similar to the Tertiary sediments of the Birch Inlet. Further to the west, and south of the Mainwaring River the Dundas sediments appear,

generally coincident with the beginning of the heavy timber cover.

Eastwards, east of Waterloo Creek, sheared Pre-Cambrian rocks similar to those at Wart Hill occur, although the heavy iron staining is absent here. The general direction of shearing and bedding is north-south with a dip of 40-60° to the west. A noticeable feature of this area is the extensive silicification: quartz veining is very common and knolls (up to 200 feet by 30 feet) of quartz form prominent features across the plain.

General Conclusions:

The Junction Range area will be an area of interest for investigation next year. It is a complex area with Ordovician (Owen), Cambrian (Dundas) and Pre-Cambrian sedimentation with folding, faulting and rock alteration to further complicate the geological picture. It is an area of decided interest for airborne geophysics.



B. Scott.

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JUNCTION RANGE - SKETCH MAP

