

REG No 21

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# LYELL E.Z. EXPLORATIONS

Queenstown

Report on

Ordovician of S.W. Tasmania

59-295

REPORT ON ORDOVICIAN OF  
SW TASMANIA  
LYELL EZ OPERATIONS

**MICROFILMED**

*Ordovician of S.W. Tas.*

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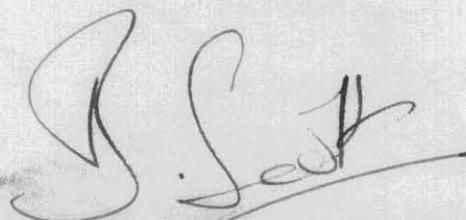
13th October,

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To: Mr. G.F. Hudspeth.

Attached is a report which R.G. Elms has prepared on the Ordovician of S.W. Tasmania for the Geological Society of Australasia, Tasmania Division.

The report excludes the areas of the Gordon, Franklin and Olga Rivers which are considered to contain Ordovician sediments but of which very little is known.



Chief Geologist, L.E.E.

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13th October,

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SUMMARY OF ORDOVICIAN SEDIMENTATION IN S.W. TASMANIA

Owen Conglomerate

General:

The Owen Conglomerate in the Thirkell Hill-Mount Osmond area occurs almost entirely in the Osmond <sup>S</sup>syncline. The western limb of this structure may be partly faulted out by the Great Lyell Fault (Lyell Shear) as at Thirkell Hill.

The Osmond Syncline is a north pitching (20°) asymmetrical syncline, the thicker (5900') eastern limb dipping at an average of 40°, while the western limb (2800') dips at 75° to the east.

Thicknesses stated are maxima, and were measured in the Hazell Hill area.

In most cases, the Owen Conglomerate is faulted into contact with other rocks, so relationships cannot be determined precisely. South of Moore's Valley, no correlate of the Jukes Conglomerate was observed.

However, in the gorge of the Wanderer River just west of Hazell Hill, undoubted Owen Conglomerate is seen to be conformable with the underlying rocks. Just how much of the micaceous quartz sandstone sequence underlying the conglomerate should be included in the Ordovician is not known.

In all cases the pebbles found in the Owen Conglomerate were of a siliceous nature - quartz, quartzite, quartz schist and chert. Generally the pebble diameters were less than 1½", though in some beds occasional pebbles did exceed 6" in diameter.

Lithology

(a) Thirkell Hill

The section of Owen Conglomerate immediately north of Thirkell Hill is approximately 2500' thick.

The basal 500' of the sequence is mainly a purple siliceous pebble conglomerate which seems intermediate between Owen and Jukes type.

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The next third of the sequence is thin bedded buff coloured siliceous pebble conglomerate.

Above this is 400' of green micaceous quartz sandstone which alternates with thin beds of grey green shale. Occasional thin beds of pebble conglomerate occur in this member.

The following 280' is lithologically similar, but the proportion of sandstone to shale is higher - 3:1, while 70' of grey green micaceous shale occurs above this.

The top 450' of the column is an alternation of thin beds of green micaceous sandstone and grey green shale.

This sequence contains approximately 25% shale, more than is observed elsewhere in the area, with the exception of Mount Ossurd.

(b) Hazell Hill

The maximum thickness (5900') of the Owen Conglomerate was observed in this area.

A thick bedded siliceous pebble conglomerate formed the bottom 900' of the sequence, followed by a similar thickness of thin bedded quartz sandstone with some minor conglomerate beds.

The next 1000' is composed of micaceous quartz sandstone and quartz sandstone with a small thickness of shale at the base and a thin pebble conglomerate bed at the top.

The middle of the sequence is made up of 250' of micaceous quartz sandstone, and 800' of thick bedded pebble conglomerate.

Overlying this is 550' of thick bedded quartz sandstone, with a few conglomerate beds.

700' of thick bedded pebble conglomerate, overlain by 500' of fine pebble conglomerate forms the top of the section.

Gordon Limestone

A small downfaulted wedge of Gordon Limestone (?) has been found in the gorge of the Wanderer River a short distance west of Hazell Hill.

The limestone is dark grey, hard, and fine grained. Often it is mottled with fine anastomosing calcite veins. To date it has proved unfossiliferous.

*Robert G. Elms.*