

**RECONNAISSANCE OF SIGNAL CONCESSION
SPL 333 & 334**

28 APRIL 1958

Electrolytic Zinc Company of Australasia LTD

02-4683

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AMG REFERENCE POINTS ADDED

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ELECTROLYTIC ZINC COMPANY OF AUSTRALASIA LTD.
West Coast Department.

MEMORANDUM TO

SUPERINTENDENT

Herewith please find a report on the reconnaissance of our Fingal area by Dr. B. Scott and Mr. I. M. Paltridge.

The area under investigation is embraced by Special Prospecting Licences Nos. 333 and 334 held by E. A. Henderson and V. M. Cottle respectively. The area held is 740 square miles (see plate ZO.1001).

The purpose of the reconnaissance was to gain a knowledge of the geography and geology of the area to facilitate photo-interpretation and the preparation of the photo-geological maps. These are being prepared on a scale of approximately 1" = 30 chains.

The next stage of the investigation involves airborne geophysics by the Canso method and the future field work will be directed towards the investigation of any anomalies revealed by this work.

A copy has been made for the Managing Director.



V. M. COTTLE.
CHIEF GEOLOGIST

ROSEBERY. 30th May. 1958.

REPORT ON RECONNAISSANCE OF FINGAL CONCESSION
28th April 1958

Dates of Examination - Thursday 27th March to Saturday 29th March. The route followed is shown on plate Z01001.

Personnel - Dr. B. Scott, I. M. Paltridge.

General Topography - The area consists of flat alluvial-filled valleys surrounded by steep sided timbered ridges rising to a height of some 2,000 to 3,000 feet with occasional mountains rising to over 4,000 feet. The forest is open eucalypt with very thin or non-existent undergrowth which should be relatively easy to negotiate on foot or by Landrover.

General Geology - The rocks exposed in this concession consist of sediments ranging in age from Lower Palaeozoic to Quaternary. Besides these there are various groups of igneous rocks.

Generalised Stratigraphic Column

Quaternary		Dune sands and alluvials
Tertiary	Diana Basin Sands and Gravels	
	Unconformity	
Permian		Assorted sandstone conglomerates and mudstones.
	Unconformity	
Silurian	Mathinna Group including Scamander Slates and Quartzites	Geosynclinal sediments quartzites shales and siltstones, no igneous rocks. (lavas or tuffs)

Igneous Rocks

Tertiary	Basalt on Mathinna Plains
Jurassic	Dolerite at Mt. Barrow, Ben Lomond etc.
Palaeozoic	St. Marys Porphyry Quartz marzonite

Mathinna Group

The Mathinna Group, which includes the Scamander Slates and Quartzites of Walker (1957), is believed to be of Silurian age and is probably a correlative of the Eldon Group.

The sediments of the succession are interbedded shales, siltstones quartzites and greywackes. Some 5 miles east of Avoca the Mathinna Group is exposed in road cuttings. The sediments here are interbedded shales and quartzites with, possibly, some greywacke. Just east of Ormly, however, the shales become much less abundant and occur in beds not more than 3" thick. This association is repeated west of Mangana on Pepper Hill.

In the exposures in which the interbedded sediments are found, there is a very pronounced folding about north south axes which plunge slightly to the south. The folds are asymmetrical with the east limbs of anticlines steep or overturned and the axial planes dipping west at some 70°. The north-south folding seems due to an easterly directed thrust movement which took place prior to the emplacement of the St. Marys Porphyry (Walker 1957).

Faulting present is generally along north-south trends and the rocks are well jointed. Six miles east of Ormly there seems to be a definite fault zone in an exposure on the roadside. The fault planes are vertical.

The sediments of the Mathinna Group show prominent current bedding in many exposures and there is very often evidence of flow casting and load casting. These sedimentary structures, together with the association of types of sediment suggest that the Mathinna Group was deposited under geosynclinal conditions.

Permian Sediments

Unconformably overlying the Mathinna Group are virtually horizontal sediments of Permian age. This unconformity is well shown in the vicinity of Elephant Pass between St. Marys and Saltwater inlet. The Mathinna Group at this locality consists of argillaceous siltstones dipping steeply to the west. The basal Permian beds consist of a pebble band overlain by coarse pink sands and a thick cobble conglomerate. Above these beds is a succession of thick sandstones, shales and pebble beds. Pebbles in these sediments have been derived from the Mathinna Group.

A few miles east of St. Marys the Permian is exposed in the river valley. Here it is a coarse quartz sandstone highly indurated and folded about east west axes plunging west at about 20°. Similar quartzose sandstones immediately underly the Jurassic dolerite on Mt. Barrow.

Tertiary Sediments

Tertiary sands and gravels occur in thin coastal strip between St. Helens and Falmouth.

Igneous Rocks

1. Quartz monzonite which is described in considerable detail by Walker (1957) occurs in the coastal strip a short distance inland between Saltwater Inlet and St. Helens. Frequently the rock has been extensively altered either by weathering or deuteritic activity. This has resulted in a yellow brown clay through which is distributed coarse quartz grains and unaltered rounded remnants of the quartz monzonite.

In hand specimen the rock is coarsely crystalline, light grey in colour and consists of potassic and calcic feldspars biotite and quartz. It is a discordant intrusion in the Mathinna Group sediments.

2. St. Marys Porphyry is described by Walker (1957) who believed that it is an intrusion which followed the deformation of the Mathinna Group. He made no comment upon possible petrogenetic relationships with the quartz monzonite nor does there seem to be any such relationships from examination of thin sections of both rock types.

3. The Jurassic dolerite which is so widespread in Tasmania is exposed on the tops of most of the higher peaks in the area. On Mt. Barrow it immediately overlies the coarse quartz sandstone mentioned above.

4. Tertiary basalts are exposed on the north side of the Mathinna Plains just outside the Fingal Concession. This basalt is dense, dark grey, finegrained rock with extremely prominent olivine nodules.

5. Granite, probably of Devonian age, is exposed in the vicinity of Storeys Creek and Rossarden, where it is thought to be the source of tin/tungsten mineralisation of the Mathinna Group.

Mineralisation

The only mineralised localities examined were the Pyramid and Orieco prospects near Upper Scamander. Both these prospects are in sediments of the Mathinna Group. The Scamander Slates and Quartzites of Walker (1957) which are markedly haematitic.

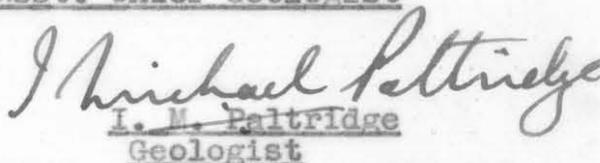
The Pyramid prospect consists of several shafts and an adit which were not entered. No mineralised material was found on the adjoining dumps.

The Orieco working consist of an adit and two shafts. In this case some samples of mineralised quartz with pyrite and haematite were found near the workings. Sparse sulphide mineralisation was found in the country rock.

The Storey's Creek and Rossarden wolfram/tin mines were visited.



B. B. Scott
Asst. Chief Geologist



I. M. Patridge
Geologist

REFERENCE

Walker, K. R. 1957. The geology of the St. Helens - Scamander area, Tasmania.

Pap. Proc. Roy. Soc. Tas. 91: 23-39

5 cm

FINGAL PROJECT

SCALE :
8 miles to 1 inch



AMG REFERENCE POINTS ADDED

