

Bergvesenet

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Rapportarkivet

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Kommer fra ..arkiv Sulitjelma Bergverk A/S	Ekstern rapport nr "522121001"	Oversendt fra	Fortrolig pga	Fortrolig fra dato:
Tittel Detailed outcropmapping of the areas around NySulitjelma, Fjeld gruve Lapphelleren. Geologi. Kartlegging.				
Forfatter HEATON T H.		Dato 1974	Bedrift Sulitjelma Gruber A/S	
Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Fagområde	Dokument type	Forekomster		
Råstofftype	Emneord			
Sammendrag Blotningskartlegging i området Fjeld gruve NySulitjelma ,M = 1:10000. Kort skildring av bergartene Furulundskiferen, Sulitjelmaamfibolitt og tektonisk~ breksje. Dessuten linsjer av amfibolitt i Furulundskiferen. Kort omtale av malmsoner og strukturgeologi. Kritiske kommentarer til GEOMAP - systemet. Kart mangler. Geologi. Kartlegging.				

A/S Sulitjelma Gruber
Prospektering 1973
Prosjekt 7.301/E
Feltrapport

TSH/TH/KH
5/11-1974

Detailed outcrop mapping of the areas around
Ny-Sulitjelma, Fjeld Grube - Lapphelleren.
(EH 213) (EJ 213).

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*Margaret Hart
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1. INTRODUCTION

During July and the first week of August 1973 outcrop mapping was carried out in the Ny-Sulitjelma and Fjeld Grube areas by T.H.E.Heaton (B.Sc.) with the assistance of Birger Romenstad (encl.1). Mapping was essentially continued to the ore horizons. A "geomap" was filed for each outcrop locality.

Mapping was done on maps nos.50972, 50971 (EH 213, EJ 213), scale 1:10.000 (encl.2). Location was determined by compass. Outcrop localities were also marked on aerial photographs.

2. STRATIGRAPHY

Three distinct units occur within the area: The Furulund Schist, The Sulitjelma Amphibolite, The Lapphelleren Schist (encl.3). Since all the rocks dip in virtually the same direction, there are no apparent tectonic discontinuities, and there are no large anomalies produced by topography, a highly diagrammatic sketch map may serve as a geological column (encl.4).

2.1 The Furulund Schist

A fine grained schist of quartz and muscovite, ± biotite ± garnet ± hornblende. Banding, assumed to be bedding, is distinct. No definite sedimentary structures were observed. Degree of schistosity is variable, but generally well developed. Boudinaged quartz bands are locally common.

2.2 The Sulitjelma Amphibolite

A fine to medium grained amphibolite with a variable schistosity. The rock is essentially quartz + amphibole with variable amounts of mica. Bands of quartzite, porphyritic felspar amphibolite and conglomerate were also observed.

2.3 "Tectonic" Breccia

Along its upper contact with the Lapphelleren schists and along part of its lower contact with the Furulund schists, the amphibolite contains up to 50% large lenses and irregular blocks of coarse felsic rock. Many of the blocks have the appearance of boudins, and some brecciation has undoubtedly occurred. There is nothing to suggest, however, that this rock is entirely tectonic, it may be a sedimentary slide breccia, in general it has the appearance of a mélange. The source of the blocks is unknown.

2.4 The Amphibolite lenses within the Furulund Schists

Two amphibolite bodies occur near the top of the Furulund Schists. They are distinct from one another, the smaller one west of Ny-Sulitjelma being massive and coarse grained, they are not part of the Sulitjelma Amphibolite.

An interpretation of their origin is difficult. It is possible that they represent local accumulations of basic material within the schist sequence. They are lense shaped (the apparent size of the larger body at Ny-Sulitjelma is exaggerated by topography, it is probably less than 200 metres thick and over 800 metres long). The dips of the rocks at the ends of these bodies deviate from the regional dip in a manner analogous to boudins. The lenses probably acted as rigid blocks during the metamorphic compression, the schists being folded around the ends of the blocks.

3. ORE ZONES

The main stratigraphic level for the ore is within the Furulund Schist close to the Sulitjelma Amphibolite. The ore is not continuous, there are possible two horizons. In places it runs in contact with the two amphibolite lenses, but it is not restricted to them. The ore occurs in bands parallel to the bedding in chlorite schists and quartzites.

The ore of the Fjeld Grube and Lapphelleren areas occurs at the top of the Sulitjelma Amphibolite, at the base of the breccia. The relationship between the breccia and the ore zone is interesting, in places, both at Fjeld Grube and Lapphelleren, the breccia seems to cut across the ore (encl.5).

4. STRUCTURE

Dip remains fairly constant over the whole area, except at the end of amphibolite lenses, as mentioned above. No definite faults were observed. According to mine geology, a fault runs along the hollow 500 metres east of Ny-Sulitjelma, there is a definite localised increase in dip here (locality 85). Otherwise no surface indication. A possible fault hollow with vertical beds runs N.W. above the lake 1400 metres east of Ny-Sulitjelma. A shatter zone with a small amount of mineralisation occurs in the waterfall 800 m N.E. of Fjeld Grube.

5. COMMENTS

The Geomap definitely slows down mapping. It has definite limitations and is not as concise as a description in a field notebook. I think it may cause geologists to look at localities only from a geomap point of view; i.e. to fill in only that information which the geomap requires, and to discourage him from thinking about the significance of each locality in the regional framework and putting down random thoughts about the geology.

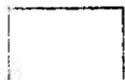
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LEGEND



LAPPHELLREN SCHIST



SULITSELMA AMPHIBOLITE



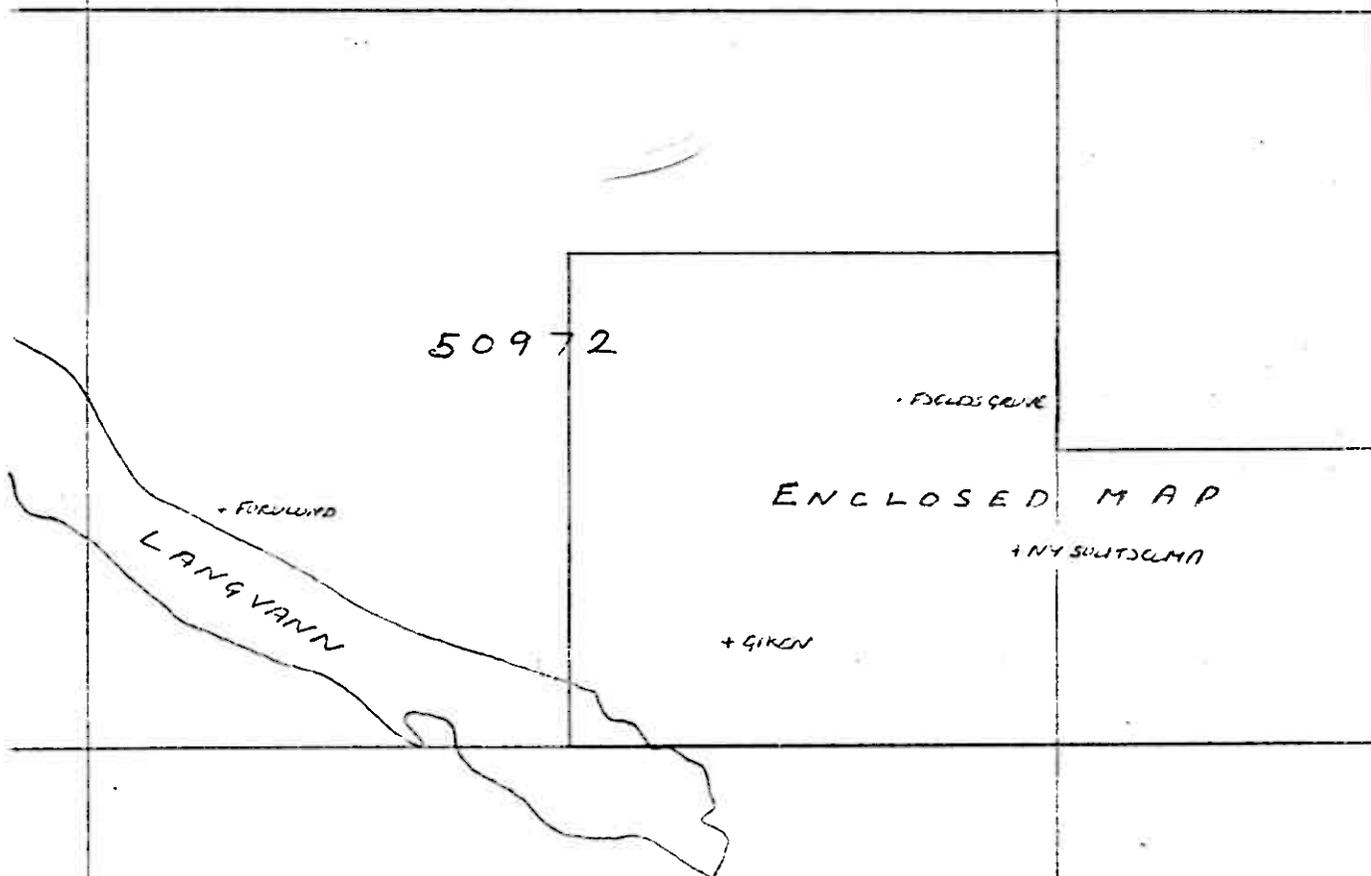
AMPHIBOLITE WITHIN FORULUND
SCHIST



GRE ZONE

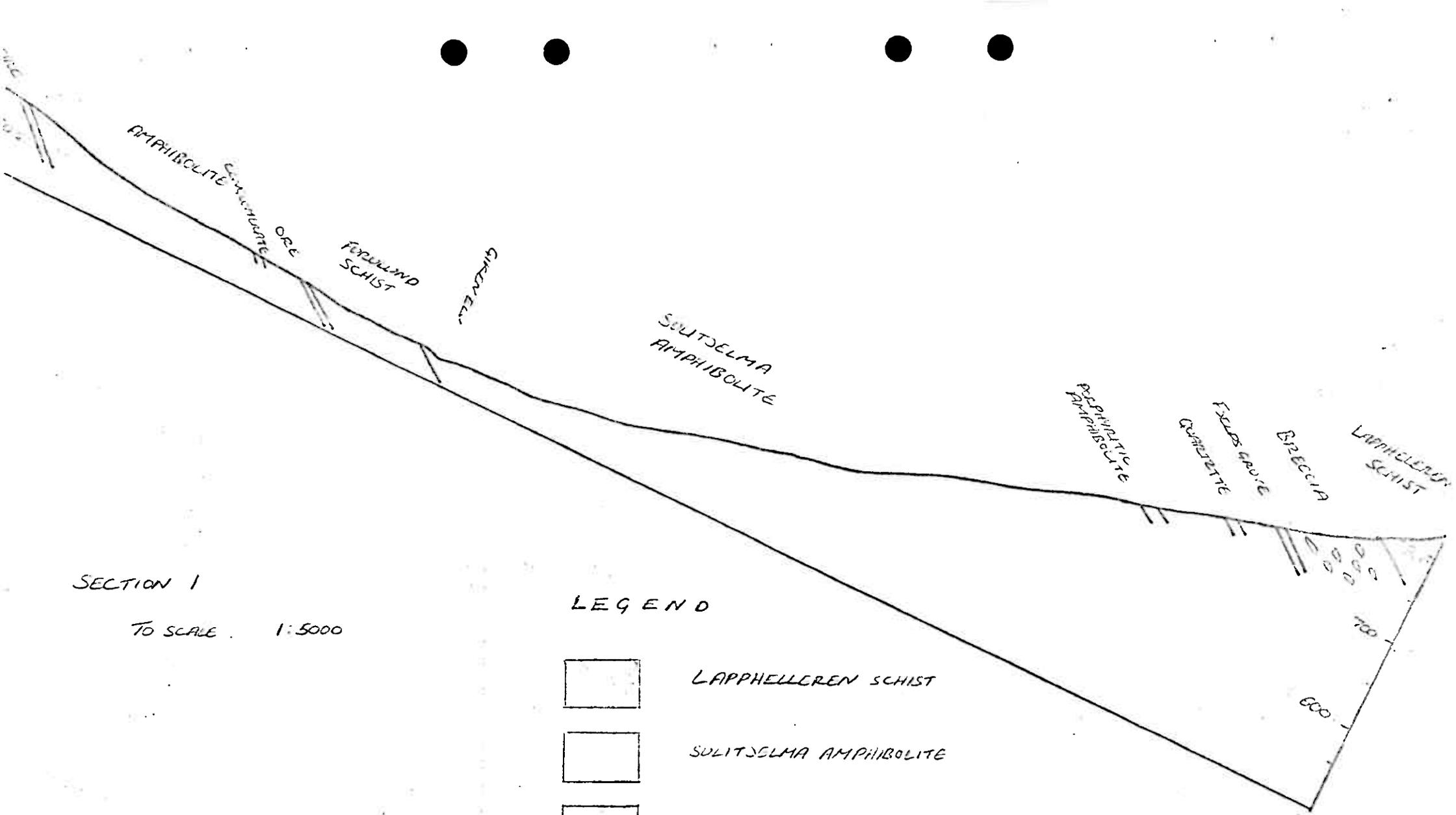


FORULUND SCHIST



MAP LOCATION :

ENCLOSURE 1
FIGUR 4



SECTION 1

TO SCALE 1:5000

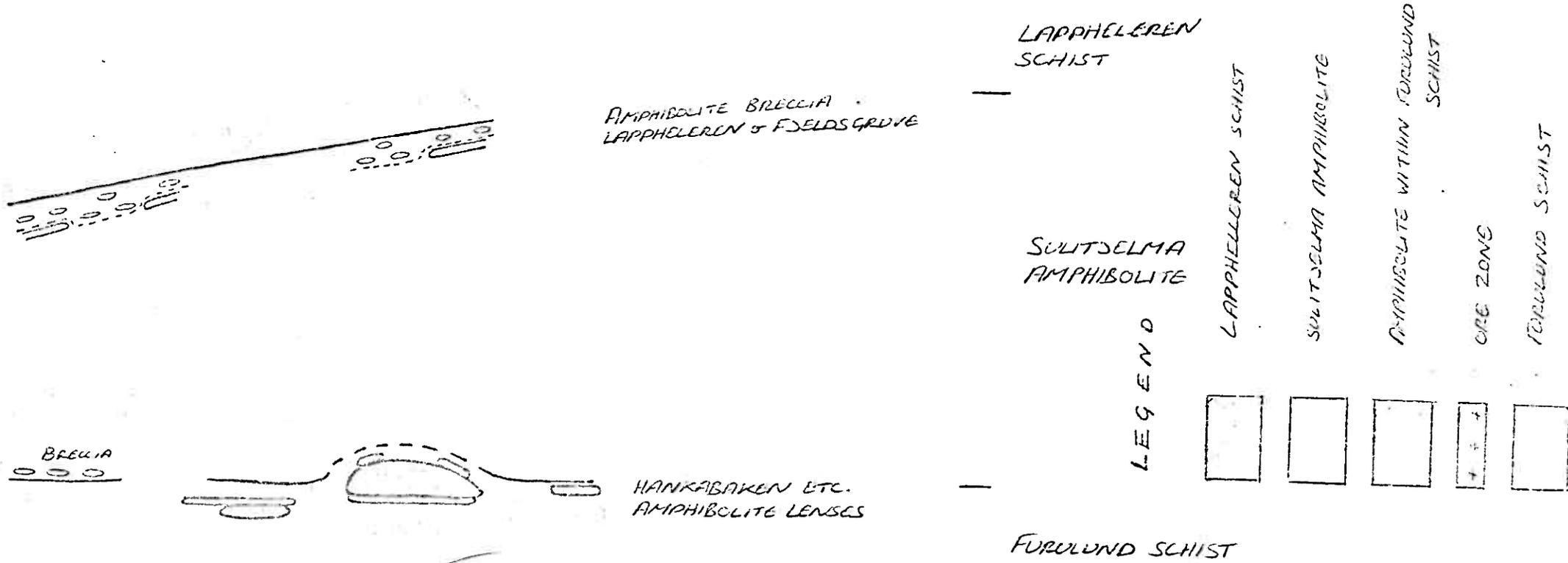
LEGEND

- LAPPHELLEREN SCHIST
- SULITSELMA AMPHIBOLITE
- AMPHIBOLITE WITHIN FURULUND SCHIST
- ORE ZONE
- FURULUND SCHIST

Final

FIG 1

DIAGRAMMATIC STRATIGRAPHIC COLUMN
OF THE NY SULITSELMA - FELDSGRÖVE AREA



Encl. 4.

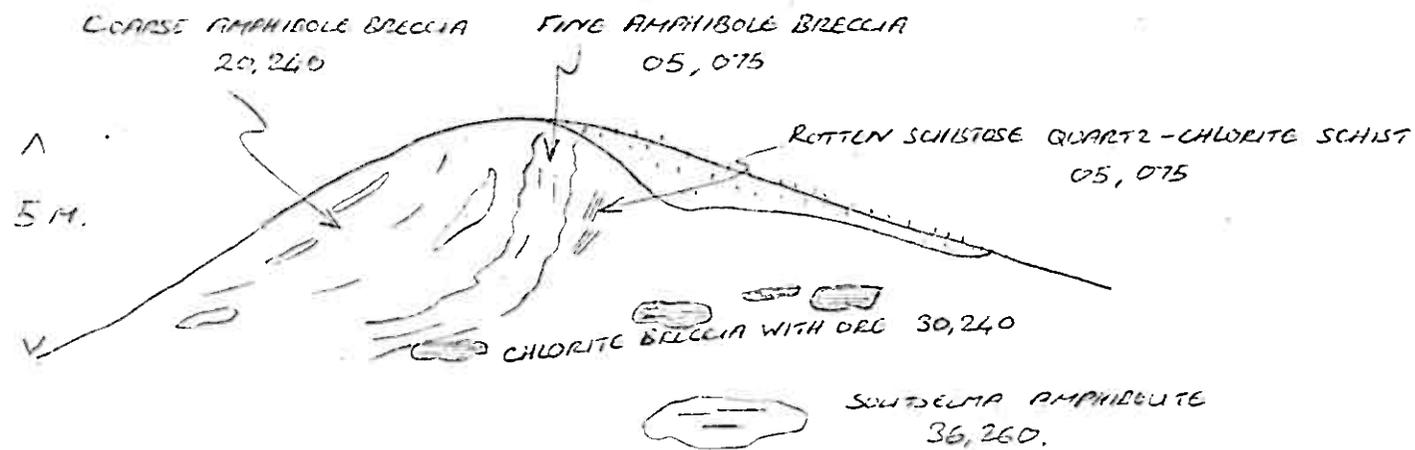


FIG 2

STREAM BANK EXPOSURE AT LOCALITY 192
SHOWING POSSIBLE CUT OFF OF ORE BY
TECTONIC BRECCIA



FOLD ABOVE HANKABAKKEN, LOCALITY
41. AXIS DIPPING 25, 310

A/S Sulitjelma Gruber
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*Mangler kart
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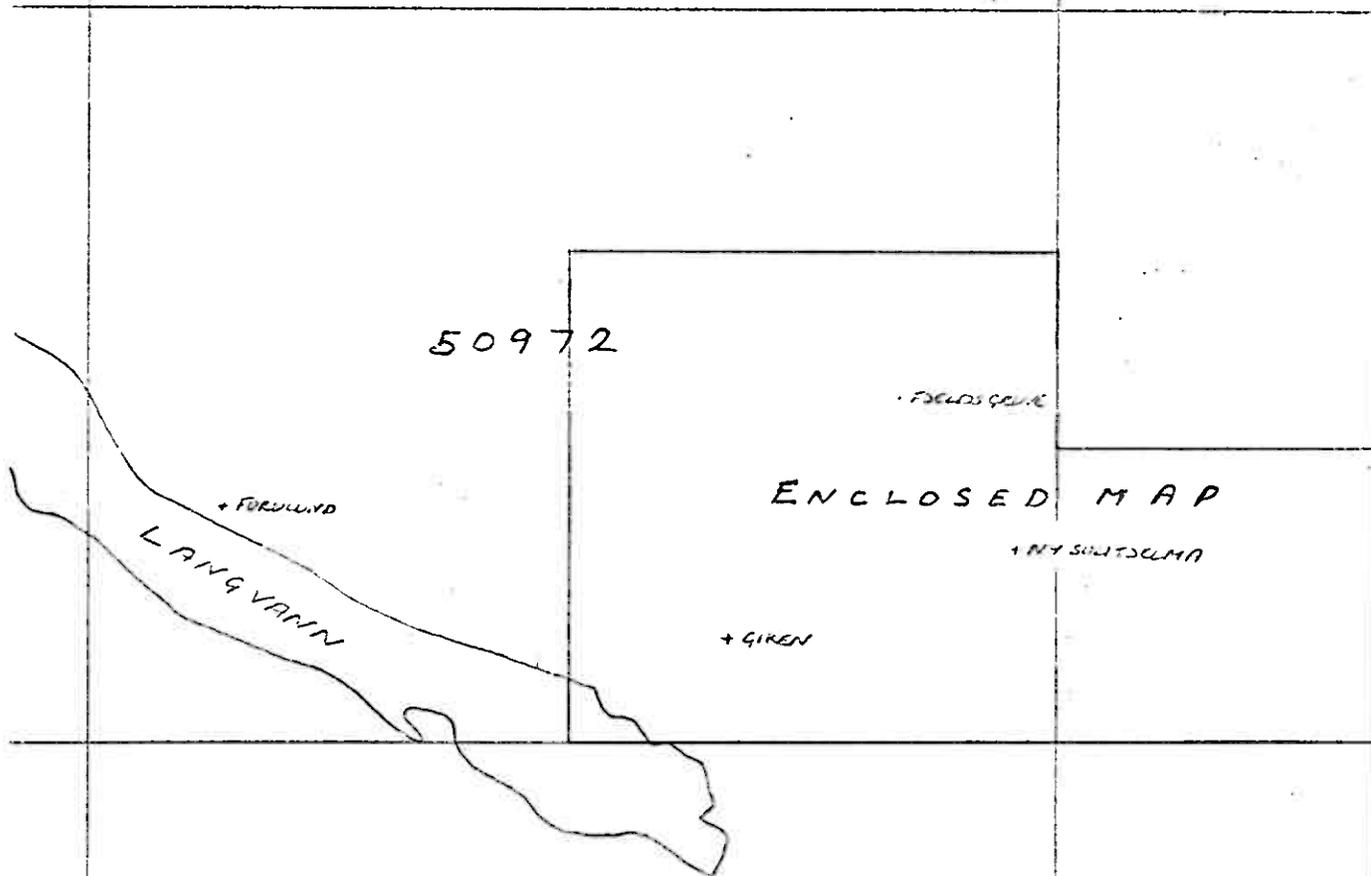
AMPHIBOLITE WITHIN FORULUND
SCHIST



ORE ZONE

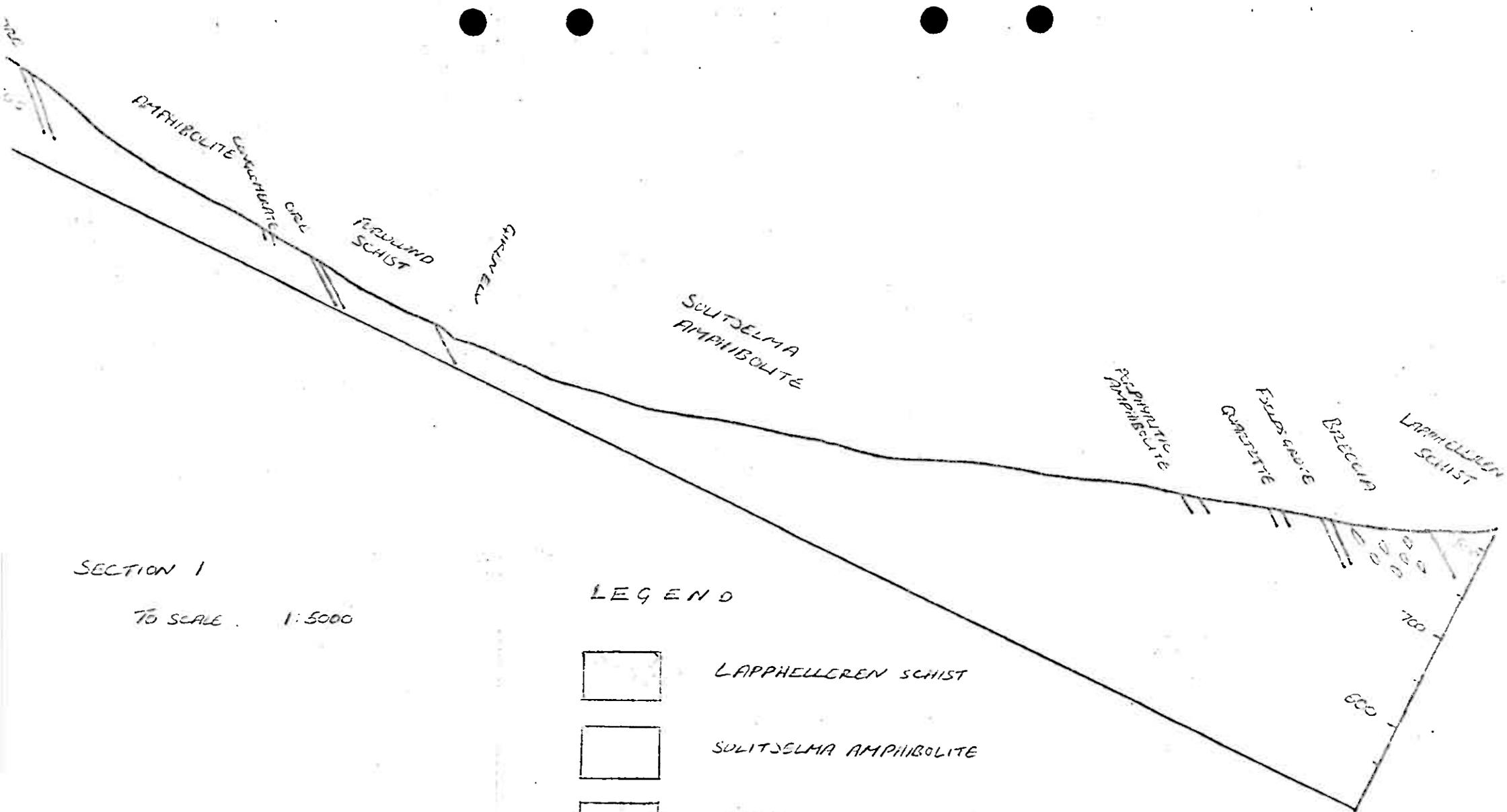


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TO SCALE 1:5000

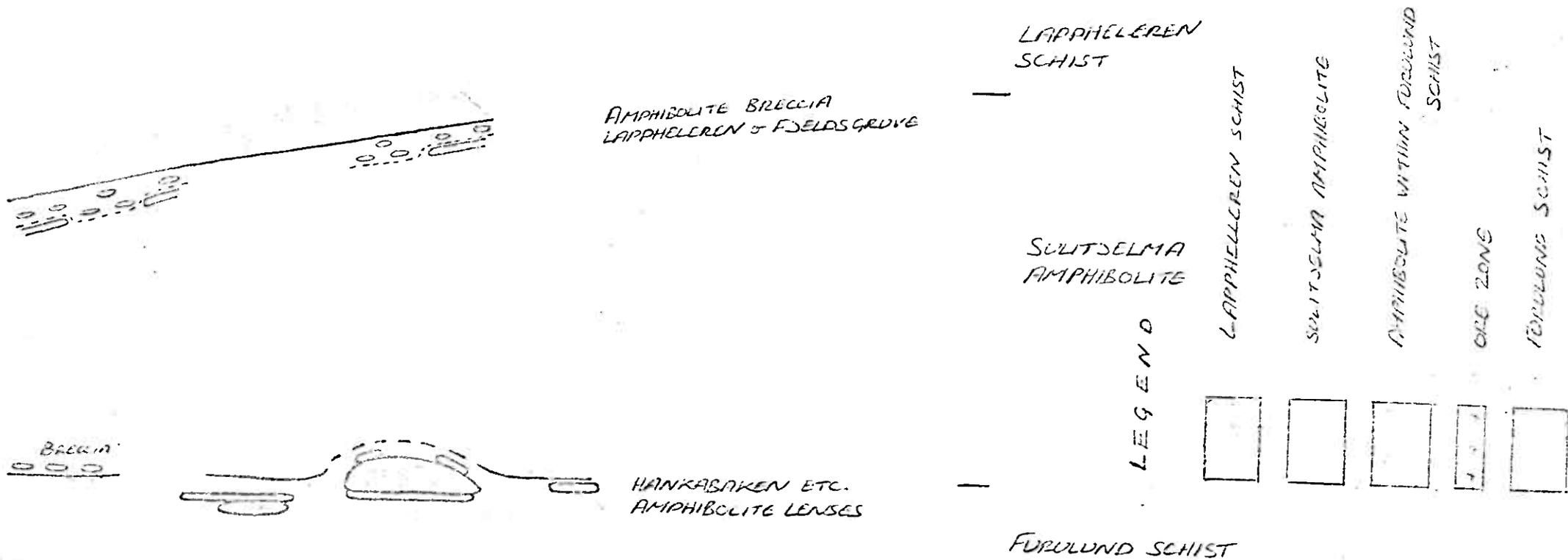
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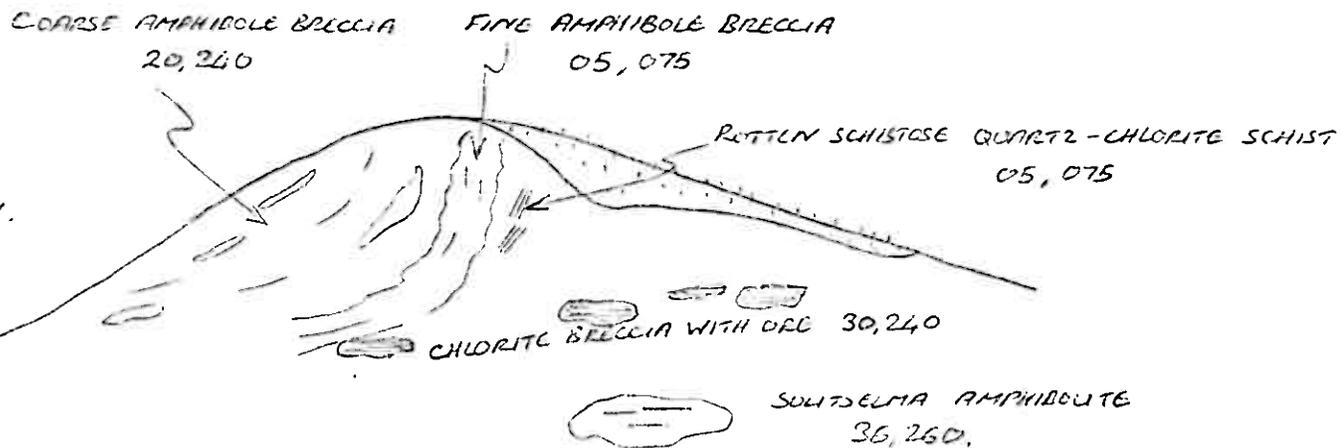
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FOLD ABOVE HANKAETARKUN, LOCALITY
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Encl. 5.