

RECONNAISSANCE FIELD TRIP

VESTLANDET

(Bemlo, Tysnesøy, Varaldsøy)

Nov. 19th to Nov. 23rd, 1984

prepared by:

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INTRODUCTION

Known gold and sulphide mineralizations hosted by low-grade caledonian rocks of the Vestlandet (Bømlo, Tysnesøy, Varaldsøy) were sampled during a brief reconnaissance field trip in November 1984. The program basically followed the recommendations given by KRAUSE (1983): Generative project, Exploration potential for gold and mass. sulphides within Western Norway.

Most of the investigated occurrences are very limited, they certainly have no economic importance. There are only the Lykling gold-qtz field (claimed by Orkla Industrier A/S) and the arsenopyrite-gold mineralization on Verneøy (claimed by A/S Sulfidmalm) what are supposed to be of somewhat interest.

1. BØMLØ

1.1 Gold-occurrences within the Lykling area

Quartz-carbonate veining occurs within a thick unit of more or less unstratified greenstone which in places is considerably leached. The most northern parts of the greenstone series seem to be closely underlain by a plagiogranite (trondhjemite), which builds the northern termination of the volcanic sequence. Plugs, veins and sheets of plagiogranite tend to be more frequent here than in the central and southern parts.

The qtz-carbonate veining is widely scattered over an area of about 5 km². The veins are often NNE-SSW oriented and dip 30° to 80° towards E. Their thicknesses vary between 5 cm and nearly 1 m. Quartz and ankerite are the main constituents. Light amphibole, fuchsite, talk and serpentine occur with subordinate amounts. The latter mineral phases certainly represent extraneous material being incorporated in the veins. Pyrite is the only ore what has been observed. The Au-qtz veins normally have sharp borders. Wall-rock alteration as being carbonation, serpentinization, talcification and pyritization is commonly present but has affected only a very narrow seam of host-rock.

samples: VL - 1 - 84 84900 26250 Bømlø 1114 II

plagioclase amphibolite

green, medium grained, massive, doleritic texture,
very low-grade dissemination of pyrite

VL - 2 - 84 84900 26250 Bømlø 1114 II

Hewlettsgang, Risvika

wall-rock to quartz-carbonate stockwork, supp.
Tonalite (phyllosilicate bear. qtz-fspar rock)
greenishgrey, medium to coarse grained, massive,
grainy appearance (coarse ss texture), close
interfingering of bluish qtz, disseminated
pyrite 2 % by volume of the rock

VL - 3 - 84 84900 26250 Bømlø 1114 II
Hewlettsgangen, Risvika
same as VL-2-84, here more qtz-carbonate and
some qtz-fspar veining, in places accumulates
of milky qtz of cm size

VL - 4 - 84 84900 26250 Bømlø 1114 II
Hewlettsgangen, Risvika
sample contains altered wall-rock and lode from
a 10 cm thick qtz-carbonate vein, which is ad-
joined Hewlettsgangen
talc-serpentine-amphibole schist
grey, massive, irregular qtz-carbonate veining,
lenses of ankerite, no visible sulphides
qtz-carbonate rock
grey, in places reddishbrown and dusty (product
of weathering of ankerite and sulphide(?)), very
heterogeneous, no visible sulphides

1.1.1 Store Hisken

Veins of milky quartz which supposedly parallel the
Lykling gold-qtz veins are spread over the southern
parts of Hiskjø (Store Hisken) and over the central
and eastern parts of little Hiskjø. The veins are not
as frequent here as they are in the Lykling area.
They in general extend only for short distances
(max. 10 m) and vary considerably in thickness (10 cm
to 1 m). The vein filling consists exclusively of
quartz. There is no sign of any mineralization within
the outcrops. The veins might represent a somewhat
higher, not gold bearing stockwork of a gold-qtz
veining. But they might be too relatives of a qtz-
monzonite/trondhjemite veinsystem what is cogenetic
(slightly younger) with the gabbro intrusion. A
latter system would bear no potential for gold.
The veins have not been tested by mining.

1.2 Urdastølen serpentinite

Serpentinite occurrence within thrustfault in the
nearea of Lykling. Strongly reworked zone constitute
a breccia mylonite. Circular to lensoid fragments
of massive serpentinite are coated by magnesite.

In places slightly rusty, but no visuable sulphides.

sample: VL - 5 - 84 84900 24850 Bømlø 1114 II
serpentinite
green, fine grained, massive, coatings of
magnesite

1.3 Steinvågtjern

Spotty sulphide occurrence within amphibolite

sample: VL - 6 - 84 87725 27675 Bømlø 1114 II
amphibole schist
green, fine grained, homogeneous, interfingered
by mm qtz veins, low-grade dissemination of
pyrite, in places bigger accumulates often
accompanied by milky qtz

1.4 Hille, Vipemyr

One shaft and one pit on a NE-SW trending fault zone within a volcanic sequence dominated by greenschists. Sulphide mineralization (pyrite, pyrrhotite, chalcopyrite) occurs within a 10 cm thick band of strongly foliated slightly talcose chlorite schist interlayered by a cm-thick band of pure quartz (hydrothermal quartz?). Most of the sulphides are bound to the qtz-layer. A low-grade dissemination of pyrite is found in the rocks next to the qtz-layer. The sulphide concentration varies strongly. An average content of 2% by volume is more than likely.

The mineralization has been tested over a length of 25 m. A good soil coverage next to the diggings makes it impossible to say something about the mode of the mineralization in the adjoining areas.

samples: VL - 7 - 84 88900 27225 Bømlø 1114 II
Chipsample from the dump containing pieces
of sulphide-qtz (70%), slightly talcose
chlorite schist, greywacke and amphibolite.
The pieces of sulphide-qtz sporadically contain
up to 30% by volume pyrite, the other rock
types carry only a low-grade dissemination
of pyrite.

VL - 8 - 84 88900 27225 Bømlø 1114 II
Sulphide-qtz from the dump
pyrite estimates to about 3% by volume

VL - 9 - 84 88900 27225 Bømlø 1114 II
chip sample from outcrop (pit). Sample
covers 25 cm of mineralized and nonmineralized
rock (sulphide-qtz, slightly talcose chlorite
schist). Pyrite mainly as low-grade dissemi-
nation, average 1 to 2% by volume of the rocks

1.5 Kuleseidkanalen

Spotty sulphide occurrence within amphibolite/green-
schist

sample: VL - 10 - 84 88225 28650 Bømlø 1114 II
sheared greenschist with low-grade dissemi-
nation of pyrite

1.6 Sakseidbeiteler

Pyrrhotite mineralization within amygdaloid basalt.
Adit on massive pyrrhotite ore, which contains rare
spots of pyrite and chalcopyrite

samples: VL - 11 - 84 89600 29300 Bømlø 1114 II
amphibolite with high-grade po-mineralization.
Some rare spots of py and cp.

VL - 12 - 84 89600 29300 Bømlø 1114 II
massive pyrrhotite ore

1.7 Brotaneset

Rustzone within fine grained charnockitic (?) gneiss
which shows locally high alteration (carbonation a.
sericitization)

sample: VL - 13 - 84 89350 35050 Bømlø 1114 II
chip sample from roadcut containing sericitic
biotite-qtz-fspar rock and some pieces of
altered rock: carbonaceous biotite bear.
sericite-qtz-fspar rock
grey, medium grained, slightly schistose, homo-
geneous, low-grade dissemination of pyrite,
sometimes nerve-like pyrite mineralization

1.8 Alsvåg

Sulphide mineralization (chalcopyrite, pyrrhotite, pentlandite (?)) bound to a NNW-SSE trending shearzone within a layered gabbro dominated by mafic cumulates. Eight shafts are established on a strike length of 250 m. The mineralization can be traced discontinuously over the whole length. It is mainly of a low-grade dissemination, the mineralized zone being lesser than 50 cm thick. Lenses and plugs of high-grade ore do occur locally, but they in general are not larger than 2 m² in outcrop.

samples: VL - 14 - 84 84600 32150 Fitjar 1114 I
chip sample from the dump containing melagabbro and modally layered cumulates composed of alternate anorthosite and melagabbro layers. The rocks are strongly foliated. They sometimes constitute mylonite textures. The sulphides mostly form stringers and flasers, but consist too of a low-grade dissemination. They average 3 Vol.-%.

VL - 15 - 84 84600 32150 Fitjar 1114 I
chip sample from outcrop containing strongly foliated gabbros, which show a low-grade dissemination of sulphides

1.8.1 Langeneset

Low-grade sulphide mineralization within a 20 cm thick shearzone in layered gabbro. The zone is believed to be the southern continuation of the Alsvåg mineralization.

sample: VL - 16 - 84 84900 31425 Fitjar 1114 I
chip sample from outcrop containing strongly foliated gabbros (amphibolites) carrying 2% finely laminated and disseminated cp, po and py

2. TYSNESØY

2.1 Arsenopyrite-gold mineralization on Verney

The mineralization is found within a roadcut of the trans-Verney road about 500 m south of Enes. Blocks from the mineralization have been used as road metal in the nearea of Enes. The mineralization occurs within caldeo-

nian volcanics featuring a well stratified series dominated by felsic (rhyolitic) flows or tuffs which sporadically shows single beds of mafic (greenstone) and ultramafic (talcose schist) flows. The zone is interfingered by a stockwork-like qtz-carbonate veining, the single veins being widely spaced. The series tectonically borders a granite body (western border), it is flanked in the east by a thick, mainly uniform layer of metasediments (chlorite-sericite schists). The mineralized zone is about 15 m thick, the mineralization being of low-grade (1 - 5 Vol.-%) comprising arsenopyrite, pyrite and chalcopyrite. Arsenopyrite is the most prominent ore. It occurs with idiomorphic outlines, the crystals being max. 1 cm in size. Arsenopyrite tends to accumulate in bigger lenses and spots, it only sporadically forms a fine grained dissemination. Pyrite and chalcopyrite are less abundant occurring as dissemination or as vein fillings.

samples: VL - 18 - 84 01475 65450 Austevoll 1115 II
chip sample containing qtz-keratophyr, talc chlorite schist, greenstone and qtz-fspar rock (granite).
Mineralization of arsenopyrite with less abundant pyrite and chalcopyrite. Sulphides amount to 2 Vol.-%

VL - 19 - 84 01475 65450 Austevoll 1115 II
sample from outcrop
talcose qtz-fspar-sericite schist (supp. volcanic),
talc greenschist
sample covered by a reddishbrown soft clayey mass.
Contains a low-grade pyrite dissemination

VL - 20 - 84 01475 65450 Austevoll 1115 II
chip sample from road metal containing qtz-keratophyr
talcose qtz-fspar-sericite schist and sericite schist. Some pieces contain qtz-carbonate veining
Mineralization of arsenopyrite, pyrite and chalcopyrite. Sulphides amount to ca. 3 Vol.-%.

2.2 Shearzone Espevika

Thrustfault with serpentinite filling within rhyolitic flow on Espenes peninsula, Tysnesøy. The fault zone contains

littel or no sulphides. Thin of slightly rust colour occur within rhyolithe very close to the thrustplane.

sample: VL - 17 - 84 12525 47200 Husnes 1214 IV
chip sample from thrustfault and adjoining rhyolithe
flow containing rhyolithe and chlorite-serpentine
schist
low-grade mineralization of pyrite and pyrrhite

3. VARALDSØY

3.1 Sunnfjordskar mine

Sulphide enriched qtz-keratophyr. Mineralized zone can be traced discontinuously over several kilometers. Pyrite is the only sulphide averaging 10 Vol.-%. It may sporadically contain 30% by volume of the rock.

Samples: VL - 21 - 84 21925 60550 Fusa 1215 III
massive qtz-keratophyr with low-grade dissemination
of pyrite

VL - 22 - 84 21925 60550 Fusa 1215 III
slightly banded qtz-keratophyr with high-grade
dissemination of pyrite

VL - 23 - 84 21925 60550 Fusa 1215 III
same as VL-22-84

3.2 Ølve Gullverk

Adit of 10 m length conducted to test a gold-mineralization within a chlorite bearing sericite schist (metasediment) which in places contains cm to dm large lenses and stringers of milky quartz. They result certainly from remobilization while deformation and metamorphism. Indications of gold-qtz veining or alteration phenomena have not been found.

4. FRUASTAD (Fykse sund)

Plug of ultrabasic rock within caledonian metavolcanics. The occurrence has been mined by Norwegian Talk.

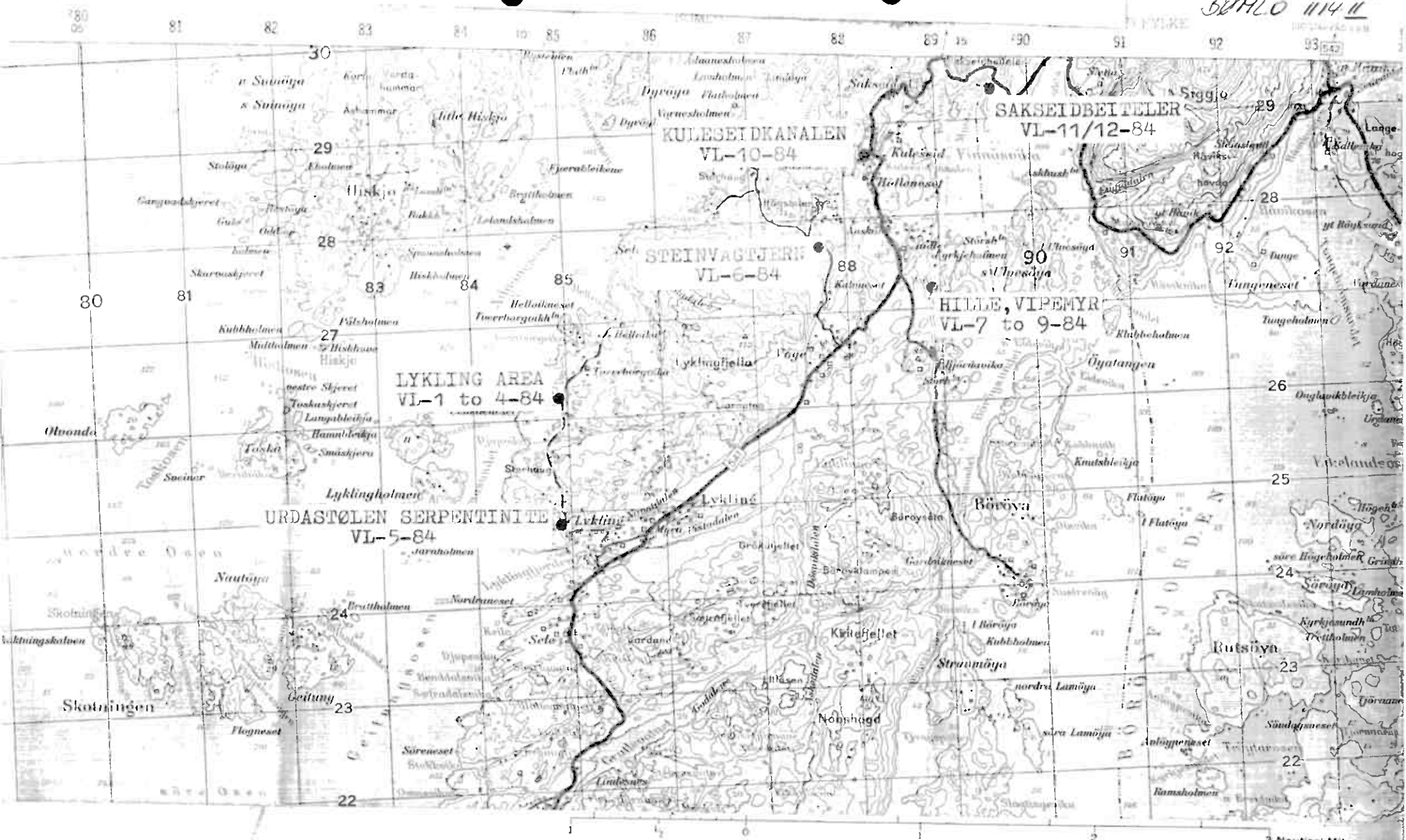
sample: VL - 24 - 84 48200 001000 Jondal 1315 IV
massive serpentinite from loading point. No
visuable sulphides

DATE 30/11-1984

SERVICE
AGREEMENT# _____

Cu Pb Zn Ag Cd Ni Co Fe Mn Mo Au As Sb B U Th Sn W S F Ba Pt Pd														Whole Rock Analysis - (Si Al Ca Mg Na K Fe Mn Cr Ti P Sr Rb Zr LOI) 30 El													
SAMPLE NUMBER														SAMPLE NUMBER													
11. GALT samples																											
for														Au Cu Zn As Ag Pb													
samples:																											
2-1-84														VL-21-84													
2-2-84														VL-22-84													
2-3-84														VL-23-84													
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Vek. Roads
 Motorveg. Dual highway.
 Riksveg. (Haugesund, Eidsvåg, Rjukan)

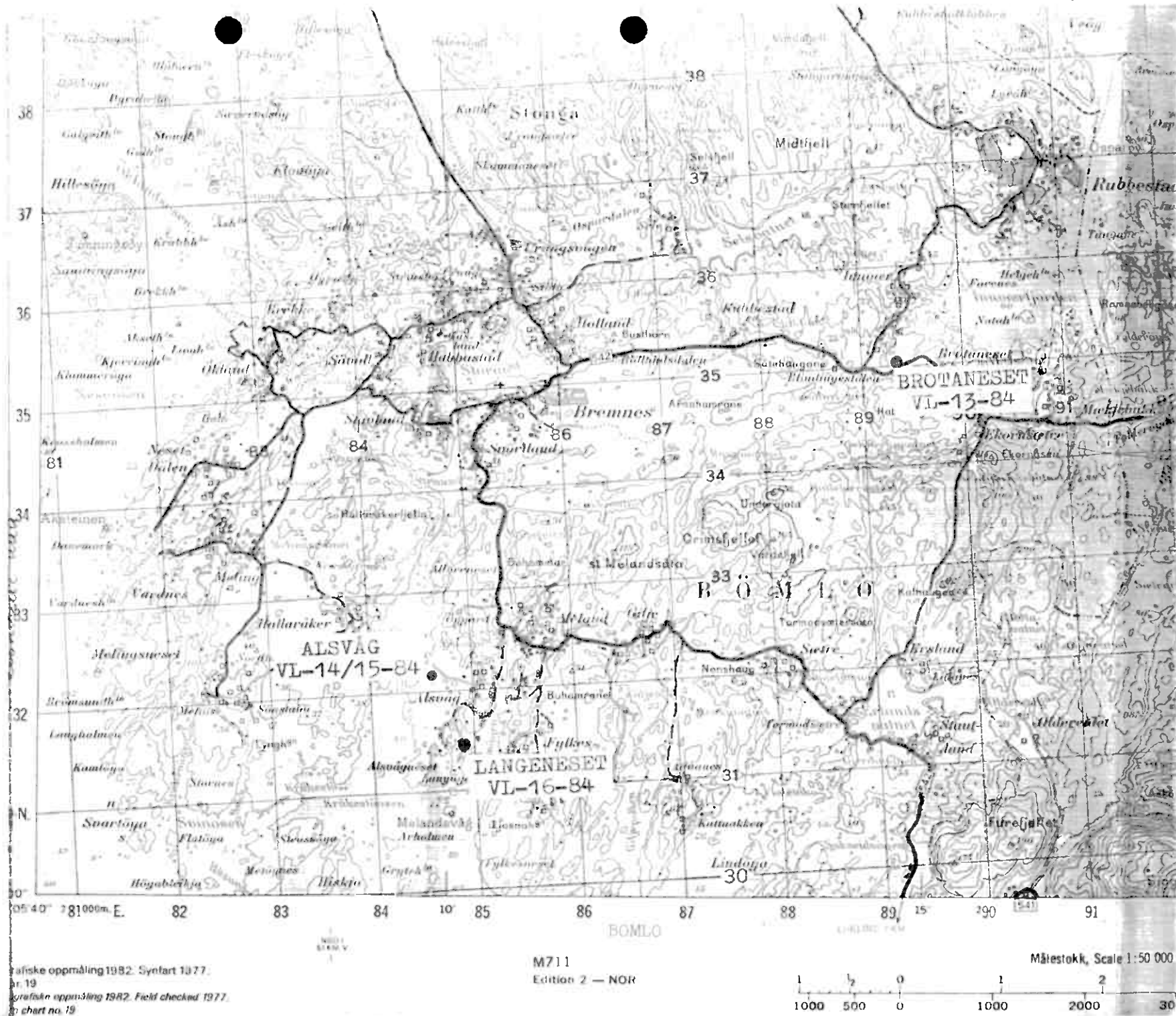
Fast dekke Grusdekke
 Hard surface Loose or light surface

EKVIDISTANSE 20 METER
 Tellekurver 100 m
 Mellomkurver 10 m
 Høgd i meter over gjennomsnitts sjønivå
 Djup i meter under springtjære

CONTOUR INTERVAL 20 METERS
 Index contours: 100 meters
 Supplementary contours: 10 meters
 Vertical Datum: Mean Sea Level
 Soundings in meters below Spring Low Water

3 Nautical Miles

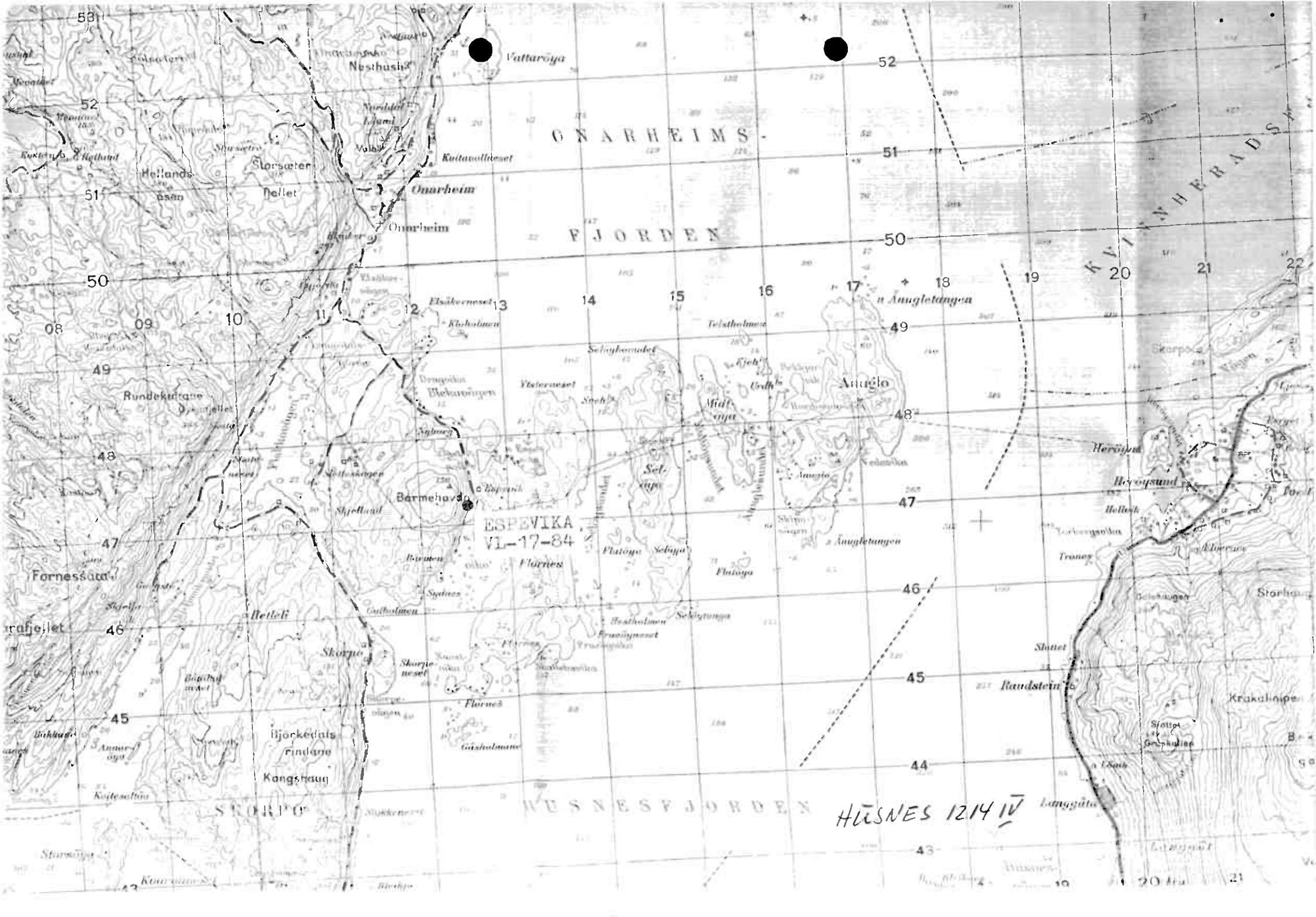
FIRJAR 1114II



Topografiske oppmåling 1982. Synt kart 1977.
 nr. 19
 Topografisk oppmåling 1982. Field checked 1977.
 chart no. 19

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 Edition 2 — NOR

Målestokk, Scale 1:50 000
 1 000 500 0 1000 2000 3000



ONARHEIMS

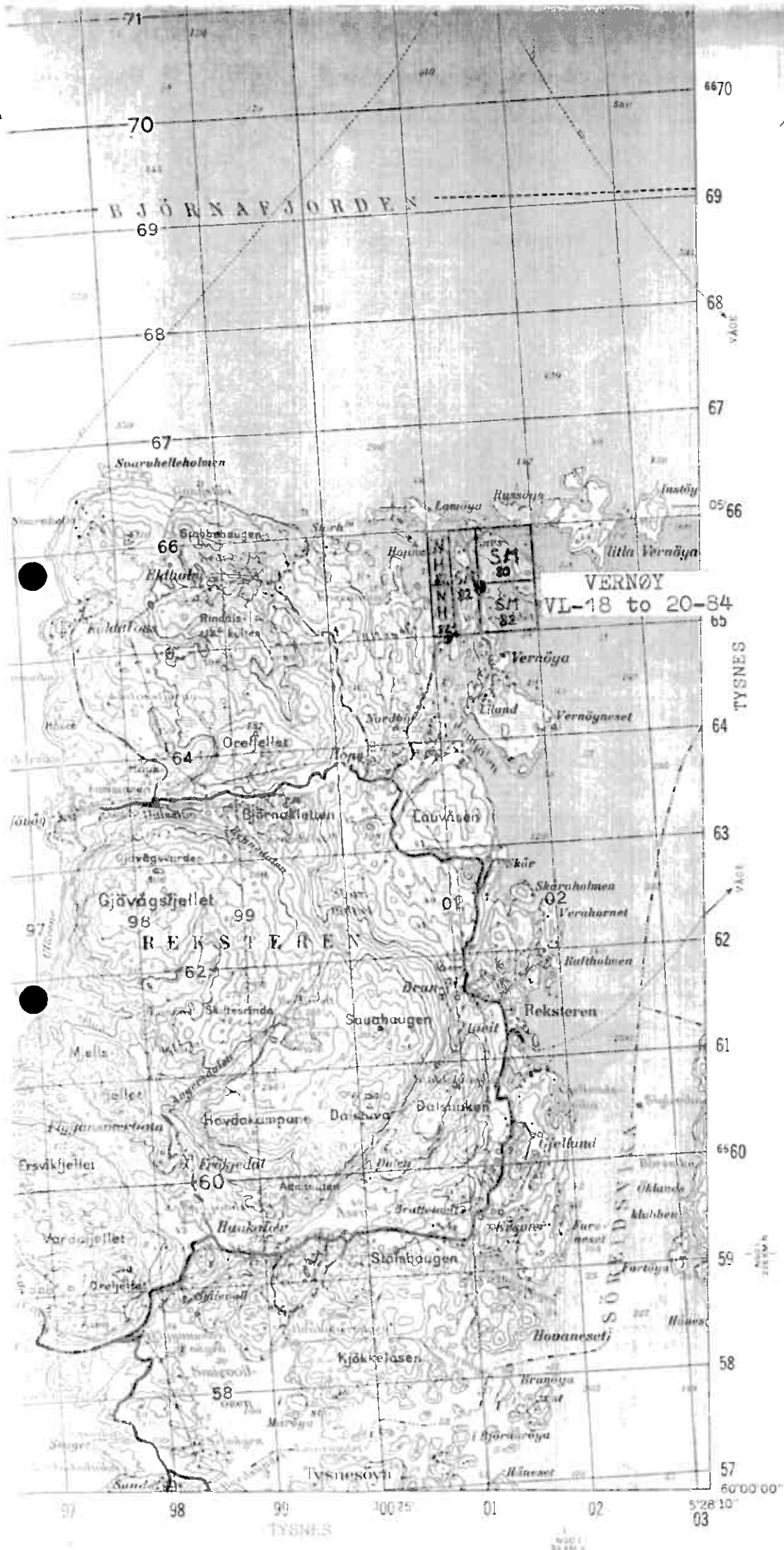
FJORDEN

ESPEVIKA
VL-17-84

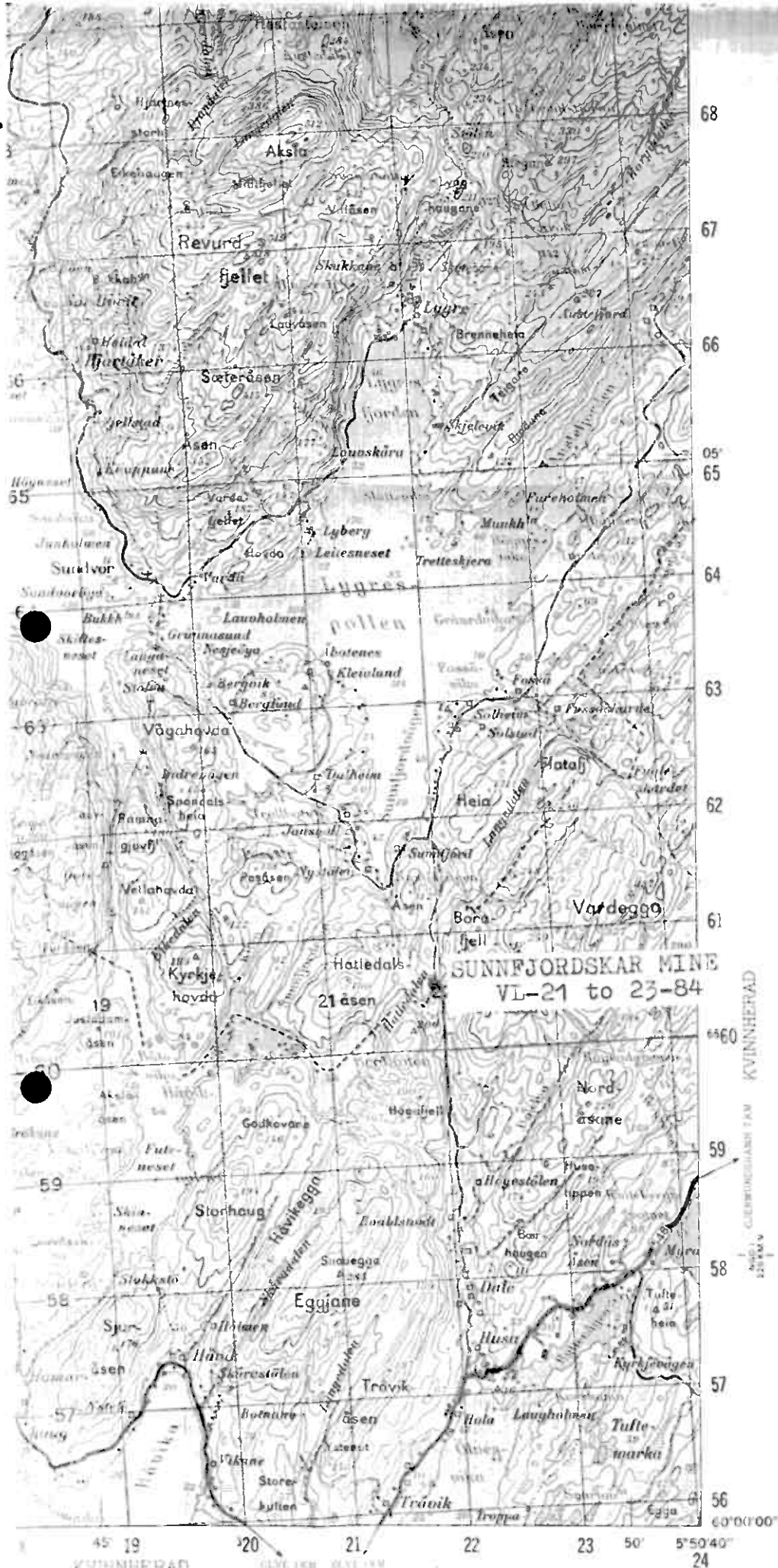
HUSNESFJORDEN

HUSNES 1214 IV

AUSTEVOLL 1150



FUSA 1215 III



TRYKT I NORGES GEOGRAFISKE OPPMÅLING 2-81.
ETTERTRYKK ULOVLIG, NGO HAR ALL RETT ETTER LOV OM ÅNDSVERK.

HORDALAND FYLKE

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