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4806	0496/03			**Apen**
Kommer fra ..arkiv	Ekstern rapport nr	Oversendt fra Crew Norway AS	Fortrolig pga	Fortrolig fra dato:

Tittel

Exploration in Nordgruvefeltet (Røros Northern Ore Field), Røros, Norway

Forfatter
Rosholt, Bernt
Wilberg, Rune

Dato År: 2001

Bedrift (Oppdragsgiver og/eller oppdragstaker)
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Fagområde	Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt)
Geologi Geokjemi		Rødalen Koian - Kroken Vensåsen Bergan Arvedalslina Langtjørna Frysihjel Kongens Harborg Torvbekken Storfjellsjoen Rosjoen - Svartdika Svelta i Rødalen Fruhaugen Hamran
Råstoffgruppe	**Råstofftype**	
Malm/metall	Zn Cu	

Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse

In total 15 targets have been followed up in the Nordgruvefeltet Ore Field during 2000 and 2001.
One of the targets, Rødalen 7N, was drilled in 2001. Se separate report.
Six of the tested targets (5, 6, 7, 10, 11 and 12) returned negative conclusions and therefore not recommended fort further follow up..
Six of the remaining eigth targets are proposed to be followed up by DOB sampling, Mag and VLF surveys (1, 4, 8, 9, 13 and 14).
The remaining two targets (2 and 3) are proposed to be tested for a more deep penetrating geophysical method.

EXPLORATION IN

NORDGRUVEFELTET, RØROS

NORWAY

2001 Bernt Røsholt,
Rune Wilberg

Contents

Encosures:

Røros-Meråker District

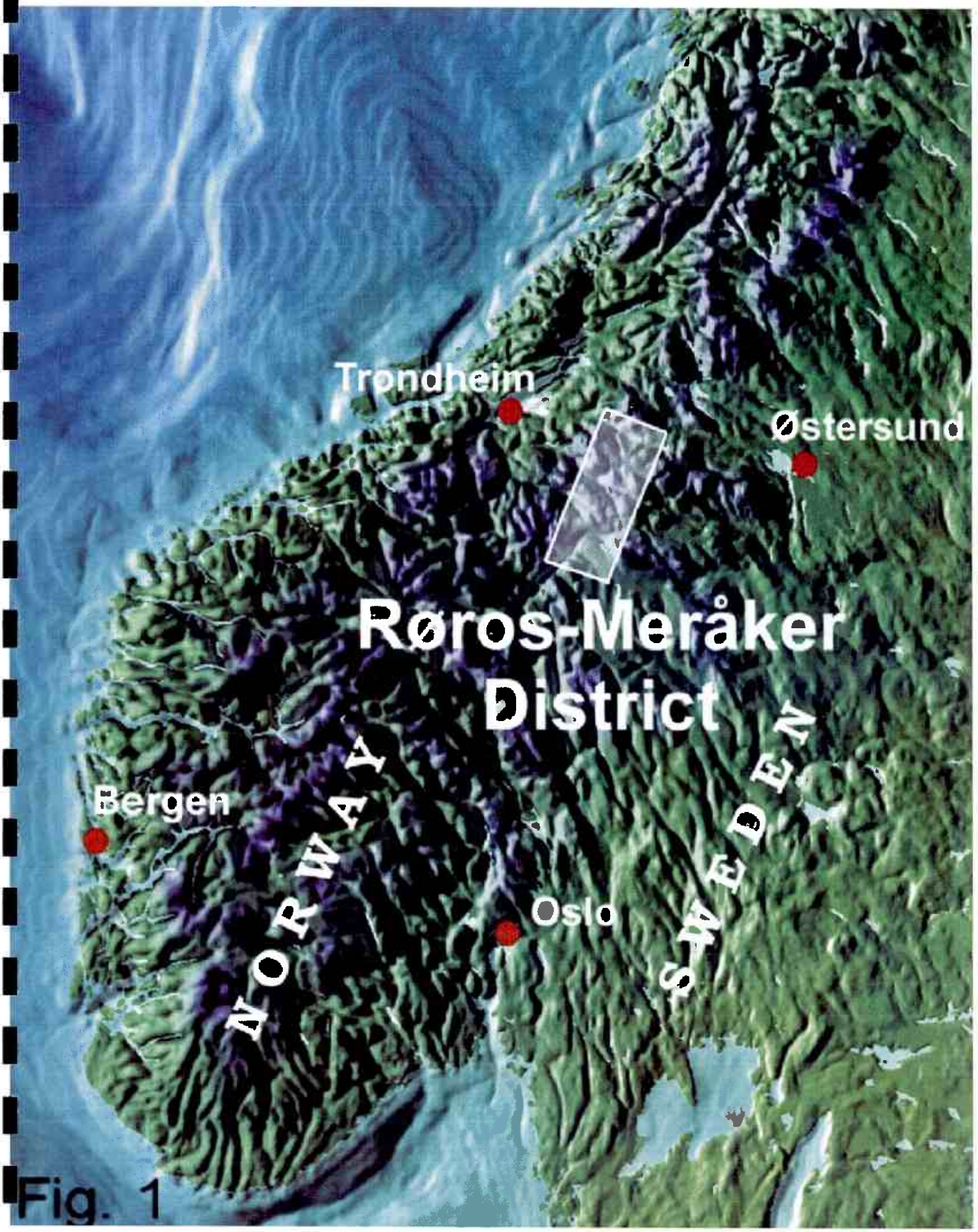
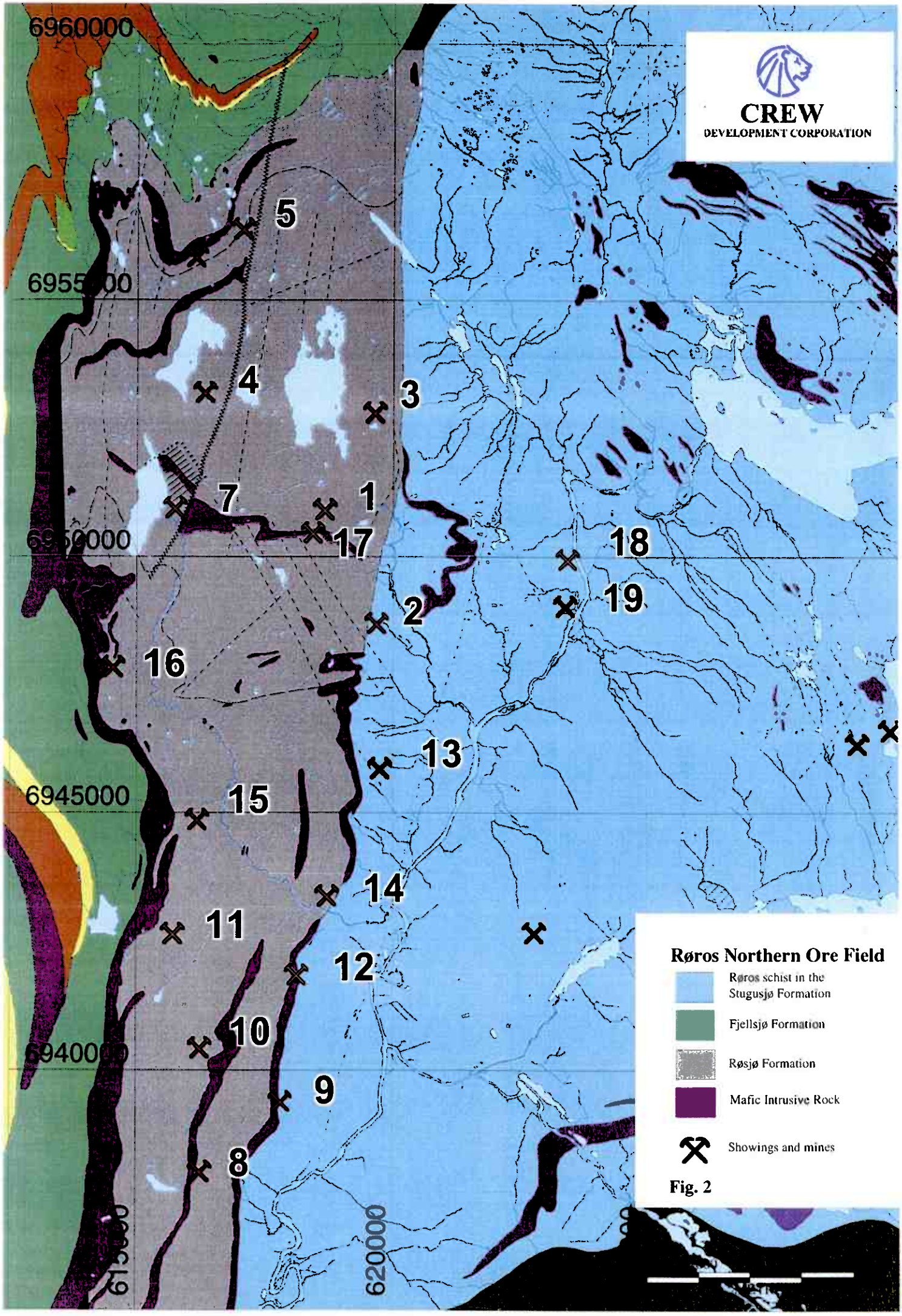


Fig. 1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Røros Northern Ore Field
Røros schist in the Stugusjø Formation
Fjellsjø Formation
Røsjø Formation
Mafic Intrusive Rock
Showings and mines

Fig. 2

Overview of the Exploration in Nordgruvefeltet, Røros 1998 to 2001.

This report gives an overview of the exploration work that has been carried out in Nordgruvefeltet since 1998 when Mindex ASA started its work.
It is first given a historical background of the old mines, regional and local geology, 1998 exploration campaign and a summary of the known ore deposits from the area. This summary explains the nature of the ore bodies, metal distribution and proposals for where to look for new deposits.
In 1999 a helicopter survey covered the southern part of the Røros region including Nordgruvefeltet.
In 2000 a detailed ground geophysical, geochemical and geological survey was carried out over the target Rødalen (=Røsjøen N) as well as over the Hamran target. The Røsjøen N target was followed up by a 643m core-drilling program in 2001, see separate report.
In 2001 fourteen additional targets were followed up in Nordgruvefeltet with various grades of follow up work. A conclusion for further follow up work is worked out under each target.

Nordgruvefeltet (Røros-Northern Ore Field) with sediment-hosted, Zinc-Copper Deposits.

Nordgruvefeltet as part of the Røros-Meråker Mining Province, Central Norway, see fig. 1, is located about 10 km NNW of Røros Town. It is one of the two, (the other being Storwartz ore field) most famous and productive ore fields in the Røros district. (Petersen 1999).

History.

The first mine in the area, Arvedal, was found 1657. Arvedal is located at the far Eastern side of the Kongens Mine trend, which has an almost continuous mineralization along strike for more than 5km to the Western side of Røsjøen. See geological map fig 2. In addition to Arvedal and Kongens (1736) Mines, Oskar Sjakt, Rødalen Mine and drill core sections of the mineralization on the western side of Lake Røsjøen belongs to the Kongens Mine trend. Christianus Sextus mine (1723), Mugg (1774), Fjellsjø (1945) and Lergruvbakken (1959) are mines in the area which have been producing ore. A number of thirteen small mines and prospects are also registered in Nordgruvefeltet.
Exploration in earlier days has included ground geophysics mostly turam, boulder tracing, stream sediment geochemistry, airborne geophysics ABEM 1959 and core drilling.
About 2,5 Mill tonnes of ore has been extracted from the ore field and about 1,5 Mill. tonnes remains as reserves.

Regional Geology.

The Cambro-Silurian rocks of the Røros-Meråker district make up the southeastern limb of a large and complexly folded synformal structure composing the Trondheim Region. The rocks belong to the Upper Allochton of the Scandinavian Caledonides.

The geology is characterized by a series of low-angle thrusts, or nappes, which dip gently towards the west. Lithologically, the rocks represent a lateral transition from epiclastic rocks along the former margin of the Baltic Shield to the east, through

calcareous-pelitic shelf sediments to predominantly volcanogenic rocks of the Iapetus Ocean in the West. During the Caledonian Orogen in Silurian times, this lateral facies-transition piled up into a series of major nappe sheets, which roughly placed the various lithofacies on top of each other.

The Røros district is bordered to the West by a major thrust, the Tydal Thrust, which separates rocks of predominantly volcanogenic origin in the West from the primarily sedimentary rocks in the East.

The Lowermost nappe sequence consists of a thick succession of epiclastic sediments (sparagmites) and augen gneisses. Overlying these Eocambrian rocks is the *Hummelfjell Formation*, which includes a generally sedimentary sequence of quartzites, quartz mica schists, and graphite schists, with minor associated mafic tuffs. Wolff (1978) correlated the Hummelfjell Formation with the *Slågan Group* in the northerly Meråker district.

The Hummelfjell formation is overlain by the *Røros Formation,* correlated with the Kjølhaug group in the Meråker area, and subsequently with the *Røsjø Formation*, consisting of a thick sequence of calcareous, grey to greenish phyllite and greywacke. The more westerly Røsjø formation appears a little less calcareous than the Røros formation and has a more pronounced banding, with a few interbedded layers of volcanogenic rocks, although the two do not differ much in composition or appearance (Rui & Bakke 1975). These Røros and Røsjø metasediments are locally heavily invaded by pre-metamorphic gabbro sills.

Overlying the Røros and Røsjø formations is the *Dalsbygd Group* in the Røros area and the *Sulåmo Group* in the Meråker area which consist of phyllites, metasandstone, marble, conglomerate, and thin beds of greenstones and quartz keratophyre.

The Hersjø formation is the next in succession, and consists mainly of basic volcanogenic rocks (greenstones and greenschists) with minor horizons of acidic volcanic tuffs and flows.

The Gula group (Gula nappe), which caps the whole greenstone belt, includes a large succession of sediments, with minor thin beds of mafic volcanics (amphibolites). The Gula group has been considered to represent the oldest, assumed Late Precambrian/ Cambrian member of the partly inverted stratigraphical succession, pre-dating the volcanogene Hersjø formation of probable Lower Ordovician age.

It is possible, although not proven, that the rocks of the Gula Group have been overturned, and belongs to a large recumbent nappe with roots far to the west; and thus the Slågan group and the Hummelfjell formation represent the youngest members of the supposed inverted succession.

The interpretation of the area has been challenged by work recently started in the Otta area. Papers by Sturt et al. (1991 and 1995) and Bjerkgård & Bjørlykke (1994) suggest a major reinterpretation of the stratigraphy of the whole area. Rather than forming part of an isolated nappe, the Hummelfjell unit is now correlated with the Heidal series of the Otta area, and both are regarded as equivalents of the lower part of the Gula group. The rocks outcropping between the Gula and the Hummelfjell are considered metasediments of Ordovician age. The Dalsbygda, Fundsjø/Hersjø and Aursund groups plus the upper Åsli formation are now grouped together into the Sel group. This is a single package of Ordovician sediments and volcanics, lying in the core of a major fold structure, of Scandian age. The three thrust planes lying between

the Gula and the Hummelfjell units are not recognized. The tectono-stratigraphy of the area thereby is greatly simplified.

Most of the rocks in the area are metamorphosed in greenschist facies. Contact metamorphic rocks surrounding gabbro intrusives include hornfelses as well as cordierite- and andalucite-bearing rocks.

The structural geology and deformation history is treated separately in a report by P. Witt-Nilsson

Local Geology.
Most of the mines and prospects in Nordgruvefeltet, see fig. no 2 and enclosure no 1, "Summaries of results of mines and prospects in Nordgruvefeltet", are located in the **Røsjø Formation**, described below. Some of the prospects, Fruhaugen (9), Littlefjell (12), Kvernenglia (13), Slettmoen (18) and Pustbakken (19) are hosted in the more calcareous underlying **Røros Formation** to the East.

The Røros Formation:
Extensive areas east of the Røsjø formation are underlain by a series of calcareous, argillaceous to subarenaceous mica schists, earlier named "Røros skifer" (Rui & Bakke 1975). More rarely, the beds pass into more massive arenaceous types.

The Røros formation often exhibits a weak to distinct compositional banding related to variations essentially in the quartz and carbonate contents. The individual beds usually range from about 0.5-10 cm in thickness, though several dm-thick, quite massive layers may occur. The colors of the rocks usually vary from gray to light gray, or grayish green.

In addition to quartz and biotite, the ordinary Røros schists usually carry abundant, though variable, amounts of muscovite, chlorite, and carbonate, and lesser amounts of sodic plagioclase and epidote minerals. Biotite, hornblende and garnet are frequently developed as larger porphyroblasts, e.g. in the typical biotite porphyroblast-bearing "Stuedals-skifer" and the hornblende garben schists.

Conformable sheets and lenses of fine- to coarse grained saussuritic gabbros are frequently intruded into the Røros formation, and bodies of serpentinite and other ultramafic rocks occur along its base.

The Kjølhaug group of the Meråker area is correlated with the Røros formation, and comprise a thick sequence of gray-green phyllites, phyllitic greywackes and greywackes (often banded), partly conglomeratic, and less calcareous than the Røros formation to the south. The less calcareous nature might mean that the Kjølhaug group should be correlated with the Røsjø formation.

The Kjølhaug group is frequently intruded by gabbro sills.

The Røsjø Formation:
The Røros formation is transitionally grading into the overlying Røsjø formation, which can be followed from Tolga to the Kjøli area (about 70km). The formation is composed of two members (Rui & Bakke 1975). In the lower part finely banded and laminated gray to grayish brown metaargillites predominate. Characteristic are thin, but distinct, green interlayerings, which are usually less than one cm thick.

The metaargillites are chiefly composed of quartz and biotite with subordinate amounts of sodic plagioclase, clinozoisite, and chlorite. The thin green beds consist of hornblende, sodic plagioclase, and quartz in varying proportions. It remains uncertain whether these bands represent volcanoclastic sediments or contemporaneous pyroclastic volcanics (Rui & Bakke 1975).

In the higher parts of the Røsjø formation the beds usually become increasingly massive, and consist mainly of metagreywackes. The chief constituent is quartz, but sodic plagioclase may be present in substantial amounts. The variable distribution of the dark coloured minerals, i.e. notably hornblende, epidote minerals, and chlorite, are responsible for the variable gray to greenish colour of the rocks. Hornblende is commonly developed as tiny, needle-shaped porphyroblasts, often about one cm long.

Green beds of hornblende-rich schists, from a few cm to a few dm in thickness, are also found within this part of the succession. Petrographically they are similar to the greenstones from the Hersjø formation (Rui & Bakke 1975).

The Hersjø formation, which is located west and above the Tydal thrust, consists of volcanics with subordinate sediments (graphitic phyllites and siliceous, banded sediments). The volcanics include a differentiated sequence of mafic flows (hornblende schists and greenstone), mafic and felsic tuffs, and subordinate rhyolite flows. The greenstone-belt also contains sills and dykes of diorite, porphyrite and trondhjemite, representing shallow intrusions.

1998 Exploration Campaign.

In 1998 Mindex ASA (which in December 1999 merged with Crew Development Corporation) carried out an exploration campaign in the whole Røros-Meråker region. (Wilberg & Røsholt 1998). All mines and claims were visited, described and sampled. Grab samples of representative ore types were collected and analyzed for 34 elements, and a data base for all visited locations has been made. The table, enclosure no1, shows results of the selected elements Au, Ag, Cu, Pb, Zn, As and Fe.

Ore deposits. How do they occur, and where to look for new ones?

Røros and Røsjø are both fertile sedimentary formations hosting rich volcanogenic Zn-sulphide deposits. In the sequence of metasediments some sills of metagabbro occur. Ore deposition is frequently linked to the gabbro sills.

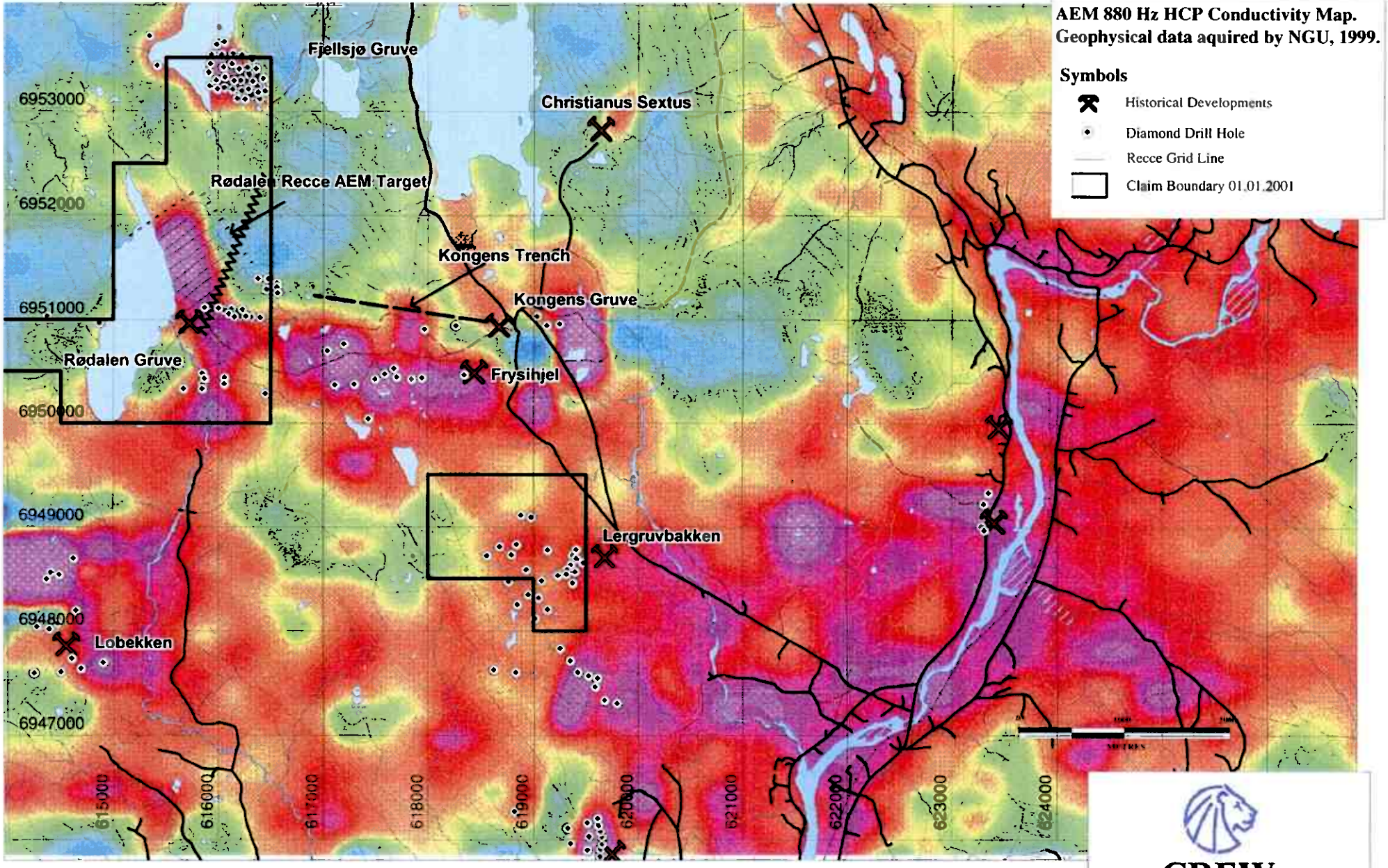
The main mine, Kongens Gruve in the Nordgruvefelt is located 856 m a.s.l. on the Western side of the railway. It has been mined for copper since 1657 and iron pyrites since 1878 when the railway was completed. (The Zn-content was never accounted for in the earlier days). The ore occurs mainly along the boundary between a schistose mica-schist in the footwall and a "Hårdart" ("Hard silicious rock"), the latter most likely an altered sediment in the hanging wall. Both are strongly folded, and the ore is forming a pronounced ruler-shaped body with the longest known axial length in Norway. (In total more than 5km, writers pers. comment). The ore-body's width is 50-120m, and its thickness varies from 1-8m.(Foslie 1926 p 57).

In addition to Kongens Gruve no 1, fig 2, it is only Mugg-Gruva (5) in the northern part of the Nordgruvefeltet that also has a pronounced ruler shaped ore-body and Frysihjel prospect (17). Most of the other ore-bodies in the Nordgruvefelt are occurring more as almost flatlying sheets. One of these deposits is Lergruvbakken,

found 1959. A short description of Lergruvbakken (2) is given by (Rui 1990): Lergruvbakken was mining two ore plates A and C divided by a fault. The C-ore-horizon comprises of an almost continuous layer of massive sulphides. It is mostly less than 0.5m in thickness, but with frequent pinch and swell structures caused by minor folding. The ore zone is almost flatlying, undulating with a tendency of dipping slightly to the S or SE. Centrally of the extracted part of the C-ore-body, a branched system of massive sulphide veins below the main zone occur. This structure is interpreted as the feeder zone connected to the formation of the ore-body and explains the locally large thickness of the mineralization in drillhole no 168. The massive ore in Lergruvbakken may be called as a "pyrrhotitic breccia-ore", often named as "durchbewegt" due to numerous, deformed silicate-inclusions. The silicates comprises mainly of biotite-chlorite-aggregates grown together with quartz. Totally these may constitute for 30-50 vol.% of the massive ore.
The deposit is very Zn-rich, and about 50% of the combined sulphides comprises of sphalerite with pyrrhotite as a good number two. The content of pyrite may be as much as 25-30 vol.%, but comprises normally for less than 5 vol.%. The massive ore is often accompanied by a weaker mineralization as disseminations, stripes and "schlieren", mainly in the foot wall.
A modal plot of the Røsjø Formation's rocks including the ore zone, shows strong increase of about 30% of muscovite and chlorite both in the hanging wall and foot wall of the ore horizon.
Originally all of the Nordgruvefeltet deposits were deposited on the sea floor forming horizontal to sub-horizontal ore horizons. Later, during the Caledonian orogenesis, some of the deposits were folded and often enriched along the fold-axes. This was especially the case for the Arvedal-Kongens-Røsjø trend which can be followed as an ore ruler for more than 5 km. The less deformed ore deposits have almost retained their original appearance like Lergruvbakken.

It is obviously the ruler shaped ore-bodies enriched by folding and remobilization that could represent the best ore potentials. Close looks in the vicinity of and in the continuation of the ruler shaped ore bodies in Nordgruvefeltet should be priority number one in a follow up.

Furthermore, signals from known flat lying ore deposits in the area should thoroughly be studied to see whether similar signals occur. Favorable conditions with well sized potholes near to the "black smokers" at the sea floor could create ore deposits of considerable sizes.
Flatlying deposits like Lergruvbakken has only responded weakly to the airborne geophysics. It should be attempted to reconstruct the ore level and use it as a marker horizon and carefully see possible horizontal to subhorizontal EM-anomalies in relation to this. Even weak EM-anomalies could represent sulphide concentrations of potential size.
In his Masters theses from the Nordgruvefeltet, Lieungh 1973, is able to distinguish between four different sulphide layers in the Kongens-Røsjø area, based on surface mapping, mine observations and sections from core drilling. The observations are correlated to electromagnetic conductors, and the concordant amphibolite (gabbro) occurring in the area is used as a reference level. The idea with the different sulphide layers should be pursued with correlation of mines and prospects to the horizontal coplanar EM helicopter anomalies. This could lead to potential drilling targets.


AEM 880 Hz HCP Conductivity Map.
Geophysical data aquired by NGU, 1999.
Symbols
Historical Developments
Diamond Drill Hole
Recce Grid Line
Claim Boundary 01.01.2001
Fjellsjø Gruve
Christianus Sextus
Rødalen Recce AEM Target
Kongens Trench
Kongens Gruve
Rødalen Gruve
Frysihjel
Lergruvbakken
Lobekken
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623000
624000
METRES
CREW
DEVELOPMENT CORPORATION

Fig. 3

1999 Helicopter Survey. Results of Nordgruvefeltet.

The advantage of EM survey in the Røros Field for massive sulphide deposits is that the environment is practically without graphite horizons.

Strong responding EM and Mag signals are recorded over the main Arvedal-Kongens-Rødalen trend. Fig no 3 shows the 880Hz Horizontal Coplanar coil anomalies.

The ore zone in the far western end of the Kongens trend which is proved to continue with a drill core intersection of a narrow ore horizon at a depth of 600m at the western side of Røsjøen is too deep to be recognized by the airborne survey.

It seems that the Kongens Rødalen trend, on the NE side of the Røsjøen, makes a right turn towards the north where a strong EM anomaly occurs. It is also seems that the rocks at the NE side of the Røsjøen dips towards the west and south west as the general trend. No detailed exploration or drilling has been made in this area. It was therefore selected for follow up work with ground geophysics and geochemistry. For further details, see below about follow up work on Rødalen target.

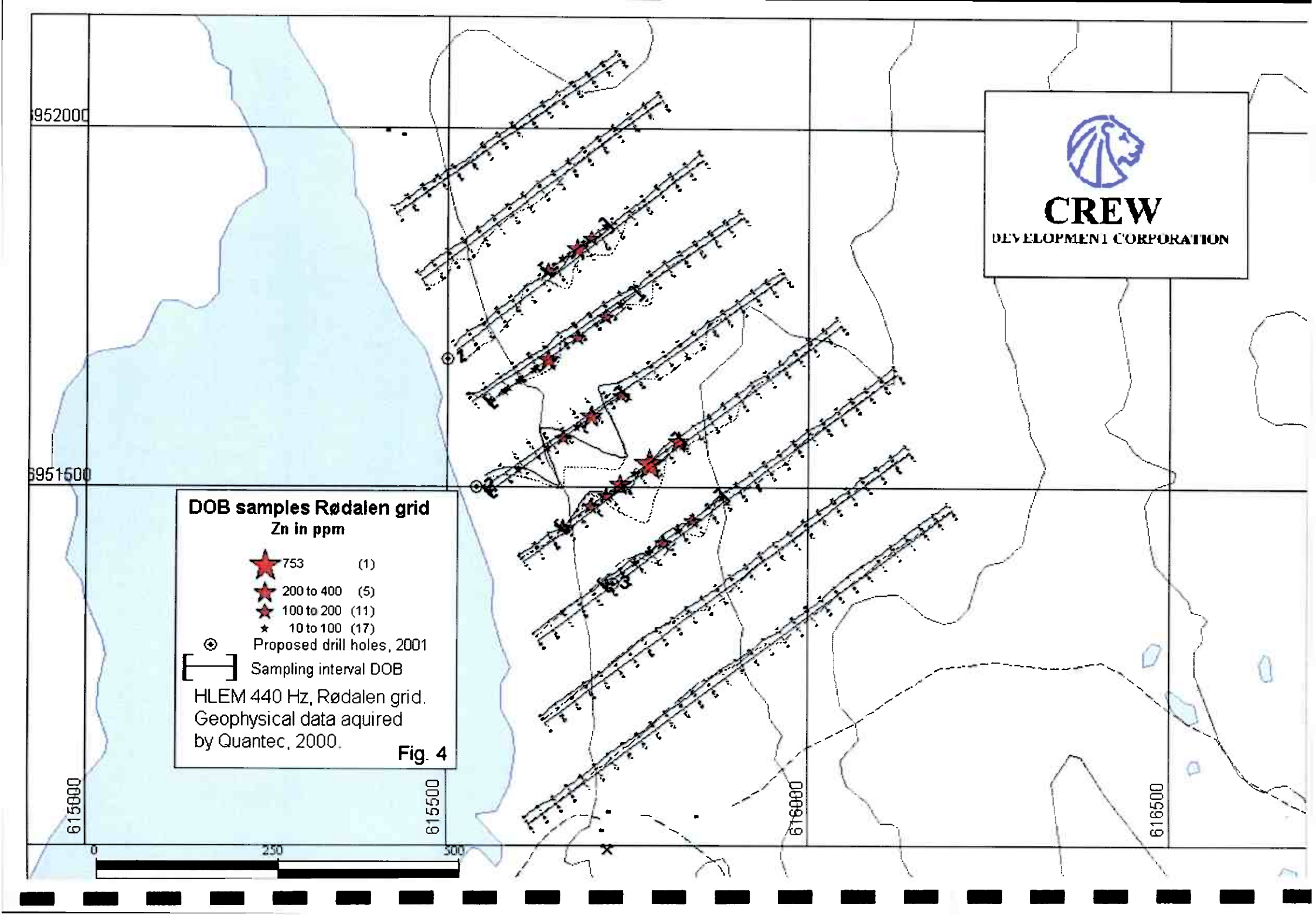
The continuation of the anomaly towards the east, shows a combined Mag/EM anomaly over the old mine dumps. It is not likely that this combined anomaly could be caused alone by the old dump and waste dam. Only few historic drillholes have been sunk in this area. Detailed ground geophysics and deep soil sampling where appropriate is recommended to see weather the Kongens Rødalen trend also continues towards the east.

Further to the NE and SE about 2-3km, distinct coinciding Mag./EM anomalies shows up where little exploration has been made earlier. (Locations: Kroken, Arvedalslia, Holtålsåsen-Vensåsen).
The distinct Mag/EM anomaly west of Holtålsåsen and south-east of Vensåsen is also coinciding with a pronounced fault or fracture zone marked on the geological map.

Follow up on some selected helicopter EM and mag anomalies:
Some helicopter anomalies have been followed up with reconnaissance geology with some sampling of rocks and sediments.

2000 Hamran picks, Target no 14.

The Hamran picks have been sampled with stream sediments. Enclosure no 5. The five stream sediment samples collected from the stream draining the Hamran anomaly are not anomalous on base metals. Only one sample, HAM03 shows a little elevated contents of Zn (83ppm). For additional details, see field report Rune Wilberg, enclosure no3.
In the Hamran picks area, which is located between Lergruvbakken, the last operating mine in the area and Kvernenglia, at least 7 separate targets can be identified. See separate chapter, page 14 on follow up at the end of this report.


CREW
DEVELOPMENT CORPORATION
DOB samples Rødalen grid
Zn in ppm
753 (1)
200 to 400 (5)
100 to 200 (11)
10 to 100 (17)
Proposed drill holes, 2001
Sampling interval DOB
HLEM 440 Hz, Rødalen grid.
Geophysical data aquired
by Quantec, 2000.
Fig. 4
6952000
6951500
615000
615500
616000
616500
0
250
500

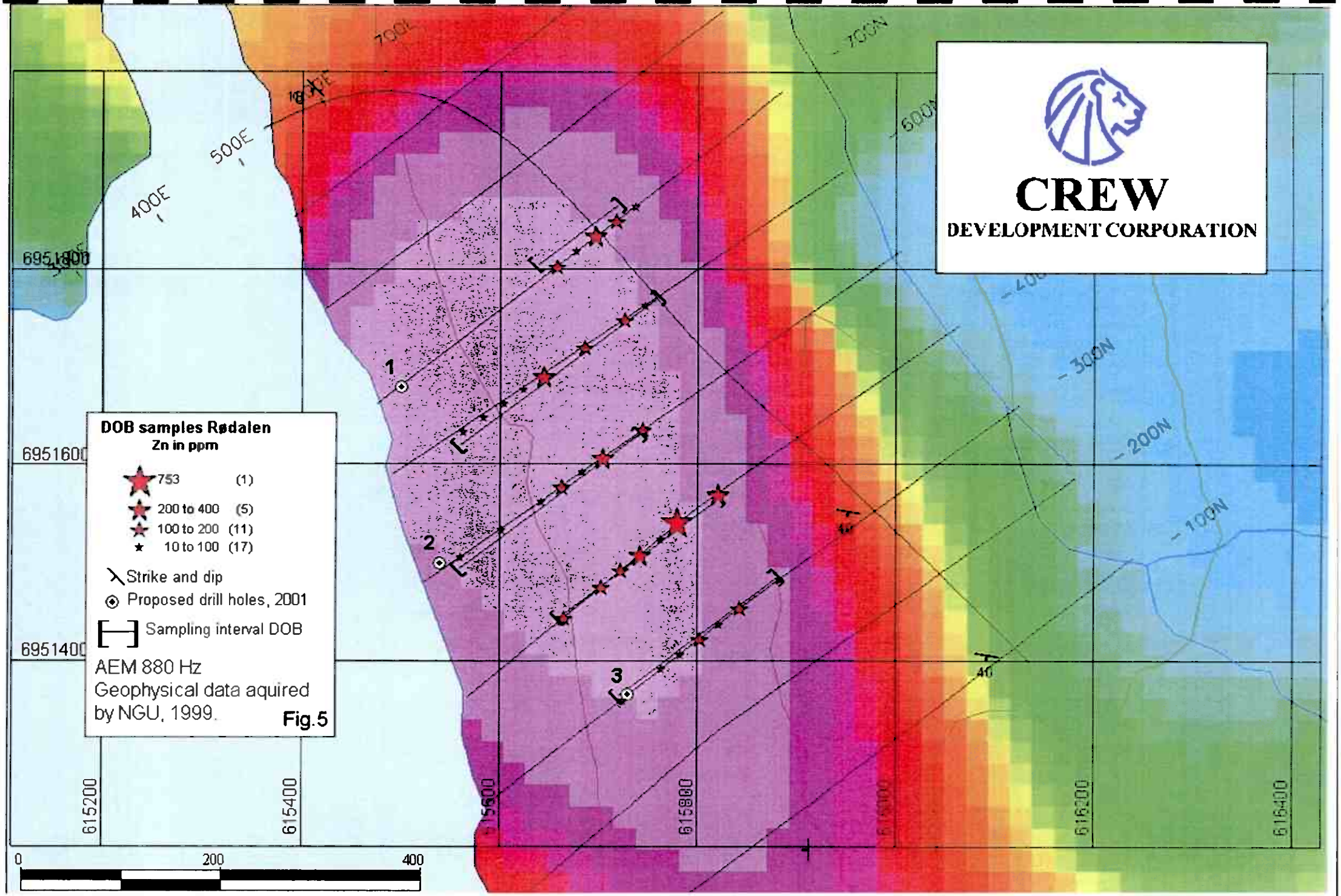
2000 Rødalen target, target no 7N, follow up work on ground geophysics and deep soil sampling.

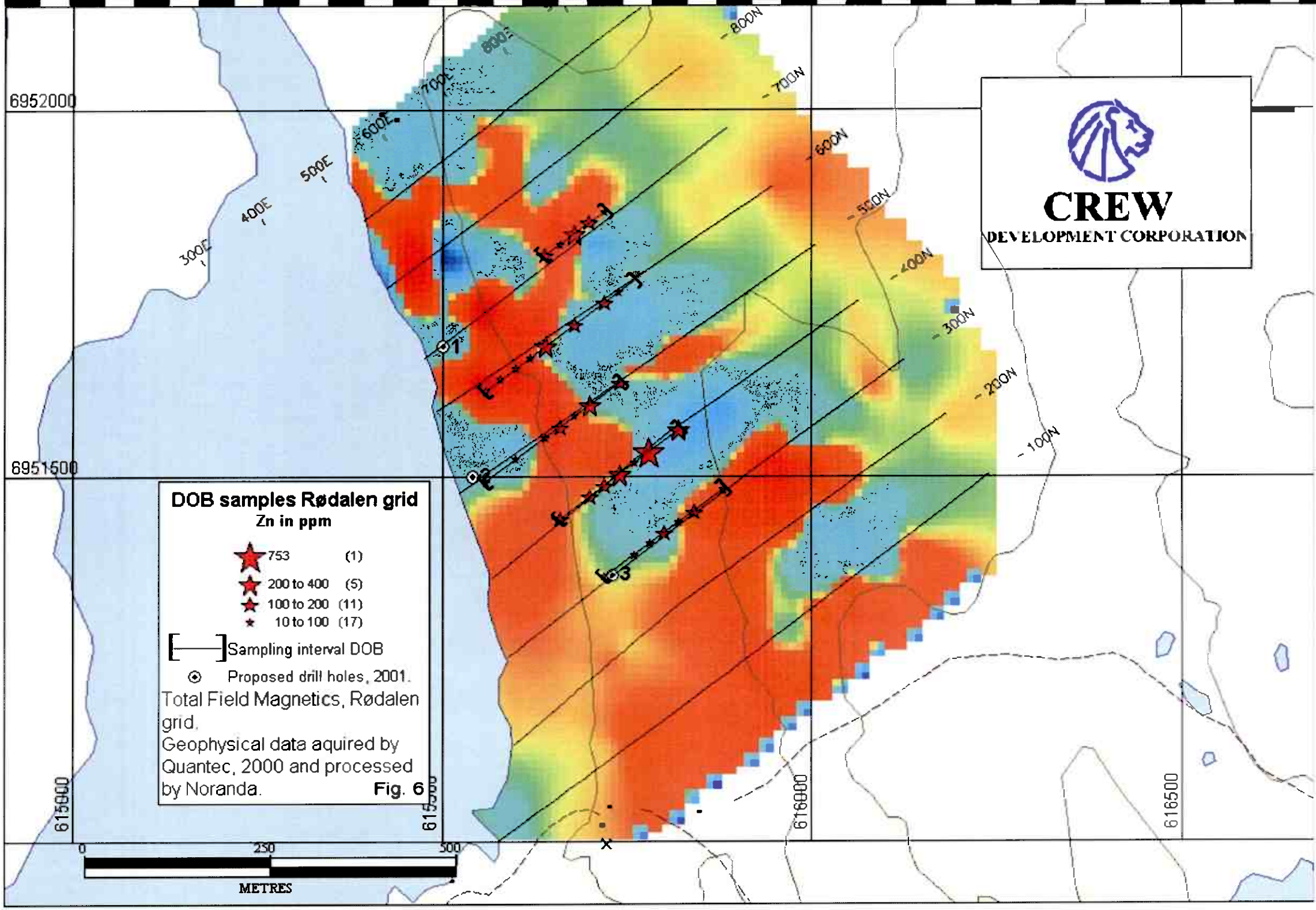
Ground geophysics:
The Canadian contractor, Quantec Geoscience Inc., from Ontario covered an area of about 0,5km^2 with profile distance 100m. In total 5,55pkm was covered with TFM (Total Field Magnetics) and VLF, and 5,525pkm with HLEM. (Quantec 2000, internal report)
Fig no 4 shows the Zn content of the DOB samples together with the ground HLEM 440Hz survey. The ground survey picks up the helicopter EM response quite well, (Fig 5).
Fig 6 shows the DOB Zn results plotted over the helicopter mag results.

Deep soil geochemistry:
In total a number of 34 deep soil samples were collected along the same profiles as the ground geophysics and over the HLEM anomalies. Fig no 7 shows the Zn-Cu-Pb-contents in the soils plotted on the map of the geological observations by R. Wilberg. Enclosure no 2 exhibits the complete soil analysis of the samples from Rødalen.

Reconnaissance geology:
Reconnaissance geology has been made in the area by Rune Wilberg while collecting deep soil samples. See map, fig 7. Enclosure no 3 is Mr. Wilberg's field report. Sample no 400142 is a garnet-chlorite schist, probably alteration along the gabbro contact with disseminated pyrite and traces of chalcopyrite in a 10-20cm thick layer. It returned a content of 702ppm Cu and 2050ppm Zn. A float sample, no 400143, is found in a naturally poisoned area with the "Copper indicating flower" Viscaria Alpina. The floats are dominated by finegrained rusty garnet-amphibolite with carbonate and chalcopyrite disseminations. Another smaller poisoned area occurs about 100m to the SSE which will extend the anomalous zone to about 600m. Complete analysis of the two rock samples is shown on enclosure no 4.

Conclusion and Follow up:
The anomaly picture of each anomaly map like the results from EM-helicopter, HLEM-ground and soil geochemistry reflects strong, distinct and coinciding anomalies. Including the geological observation of copper bearing floats in poisonous areas (Sample no 400142) as well as the poisonous area about 100m to the SSE and sulphide and copper bearing outcropping rocks (Sample no 400143), the strike of the anomalous area will be around 600m in length.
The well documented anomalies warrants a thorough follow up. Fig 8 shows the ground VLF in phase fraser filtered results, 24kHz, with two (or three) conducting zones. The eastern zone (The strongest response) may correspond with the rock boundary between the gabbro and the schist. This second zone calls for a better coverage of the soil samples, and it is proposed to extend the sampling grid towards the north, south, east and partly west as well as some infill samples.


CREW
DEVELOPMENT CORPORATION
DOB samples Rødalen
Zn in ppm
753 (1)
200 to 400 (5)
100 to 200 (11)
10 to 100 (17)
Strike and dip
Proposed drill holes, 2001
Sampling interval DOB
AEM 880 Hz
Geophysical data aquired
by NGU, 1999.
Fig.5
1
2
3
700E
500E
400E
700N
600N
300N
200N
100N
6951800
6951600
6951400
615200
615400
615600
615800
616200
616400
0
200
400


6952000
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616500
800E
700E
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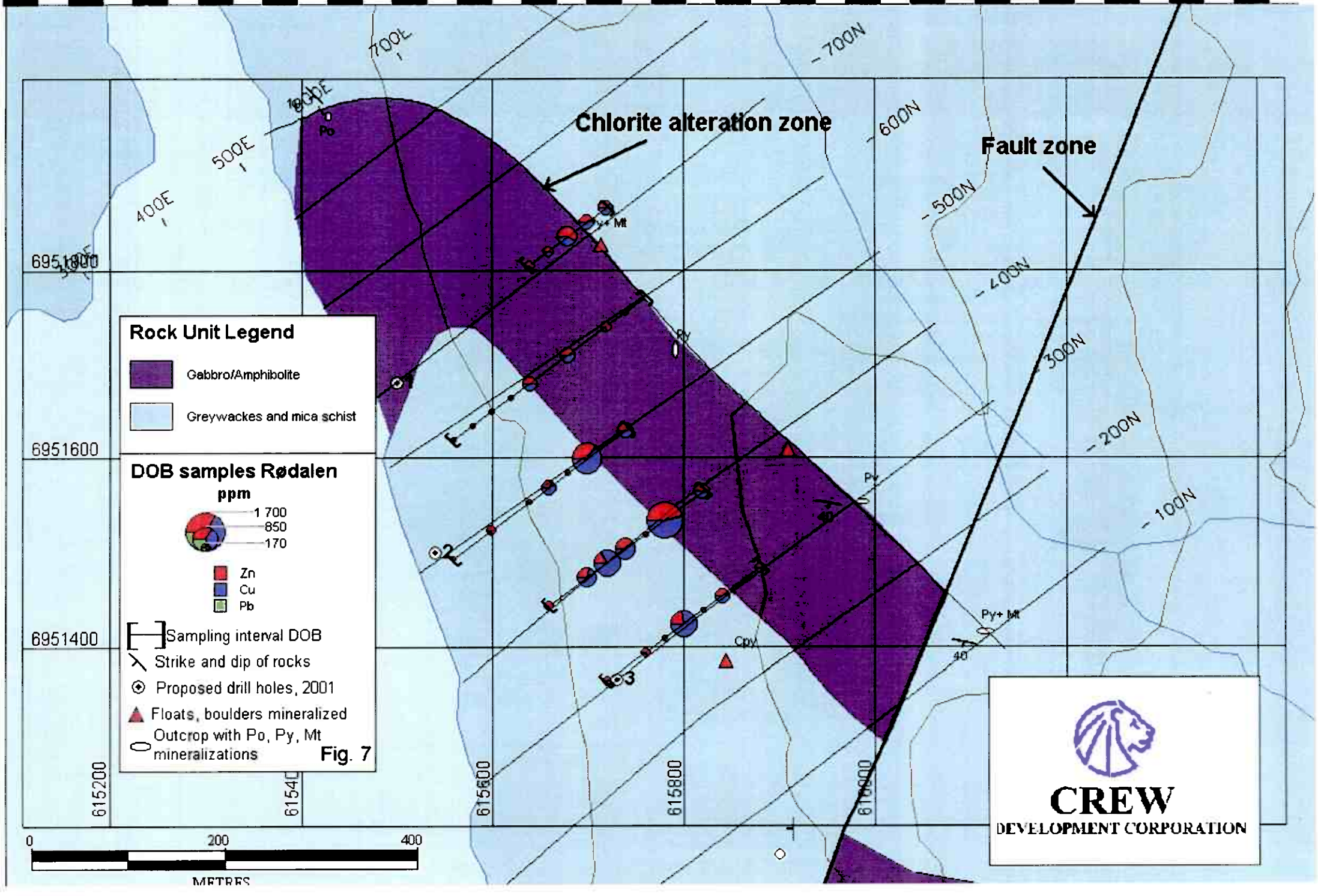
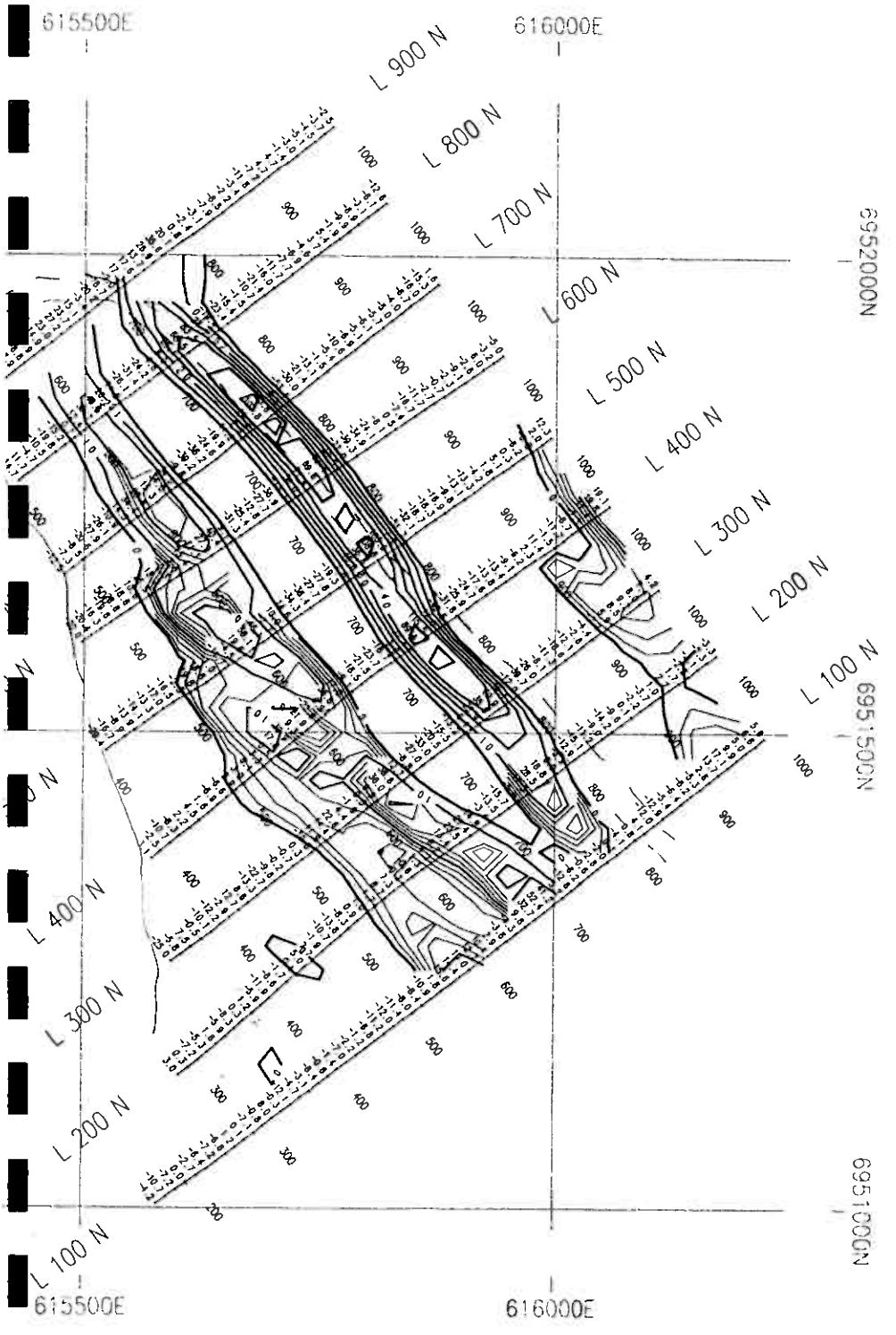
500E
400E
300E
800N
700N
600N
500N
400N
300N
200N
100N
CREW
DEVELOPMENT CORPORATION
DOB samples Rødalen grid
Zn in ppm
753 (1)
200 to 400 (5)
100 to 200 (11)
10 to 100 (17)
Sampling interval DOB
Proposed drill holes, 2001.
Total Field Magnetics, Rødalen grid.
Geophysical data aquired by Quantec, 2000 and processed by Noranda.
Fig. 6
0
250
500
METRES


Chlorite alteration zone
Fault zone
Rock Unit Legend
Gabbro/Amphibolite
Greywackes and mica schist
DOB samples Rødalen
ppm
1 700
850
170
Zn
Cu
Pb
Sampling interval DOB
Strike and dip of rocks
Proposed drill holes, 2001
Floats, boulders mineralized
Outcrop with Po, Py, Mt mineralizations
Fig. 7
700E
500E
400E
700N
600N
500N
400N
300N
200N
100N
6951800
6951600
6951400
615200
615600
615800
0
200
400
METRES
CREW
DEVELOPMENT CORPORATION

RØDALEN

Fig 8

Station Grid - VLF EM INPHASE FRASER FILTER - Hauderfehn, Germany 23.4 kHz



Scale 1:5000

50 0 50 100 150 200

(metres)

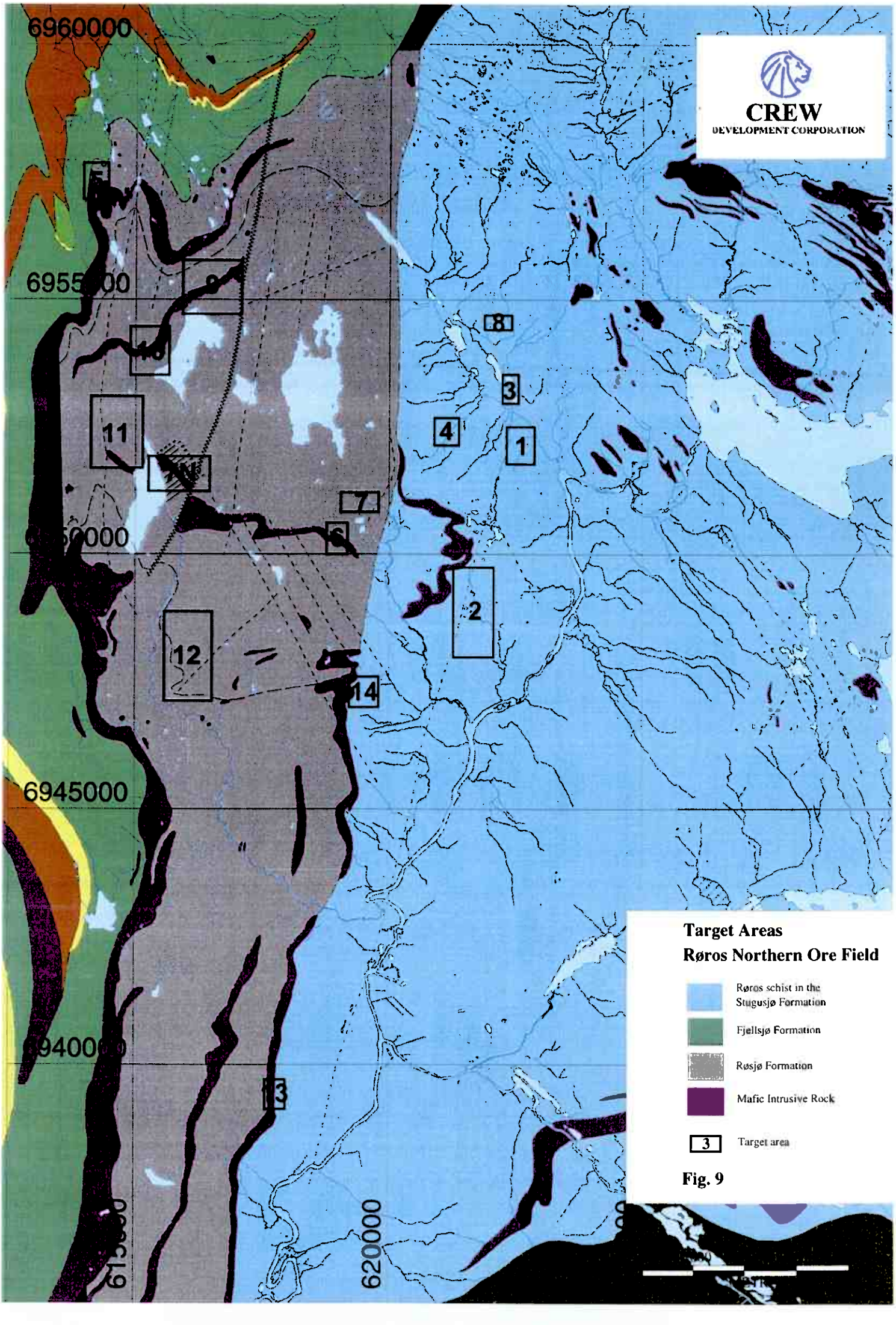
NORANDA INC. RODALEN EXTENSION Roros, Norway	
VLF ELECTROMAGNETIC SURVEY INPHASE FRASER FILTER CONTOUR PLAN MAP	
Station Frequency:	23.4 kHz
Station Azimuth:	N190 deg
Sampling Interval:	12.5 metres
Cross-over Convention:	Neg-to-Pos heading N or E
Gridding Method:	Bigridding
Grid Cell Size	25metres (1x Hanning Smoothed)
Contour Interval:	2, 10, 50 units
Filter Design:	Negative (1,1,-1,-1)
Survey Date:	July, 2000
Instrumentation:	EDA OMNI-PLUS VLF MODULE
Operator:	Marty Kratochvil

Surveyed & Processed by

QUANTEC GEOSCIENCE INC

DWG. NO. QG-122-VLF-CONT-FT-Hauderfehn-Rodalen Extension Grid

Fig 8


6960000
6955000
6945000
620000
CREW
DEVELOPMENT CORPORATION
11
12
14
2
3
4
1
8
7
6
Target Areas
Røros Northern Ore Field
Røros schist in the Stugusjø Formation
Fjellsjø Formation
Røsjø Formation
Mafic Intrusive Rock
3
Target area
Fig. 9

2001 Follow up work in Nordgruvefeltet.

Enclosure no 6 and fig no 9 exhibits the 14 target areas in Nordgruvfeltet that have been followed up in 2001 including also the two targets no 7N Rødalen and no 14 Hamran which were surveyed in 2000. Below each of the targets are given a brief description with results and proposals for follow up. It should be notified that the auger soil sampling method may be limited in areas with thick overburden, and that a few deep soil sampling tests should be carried out in some places in order to find out when it may be necessary to take additional deep soil samples.
The targets are described individually and proposal for follow up is given where appropriate.

1. Koian / Kroken:

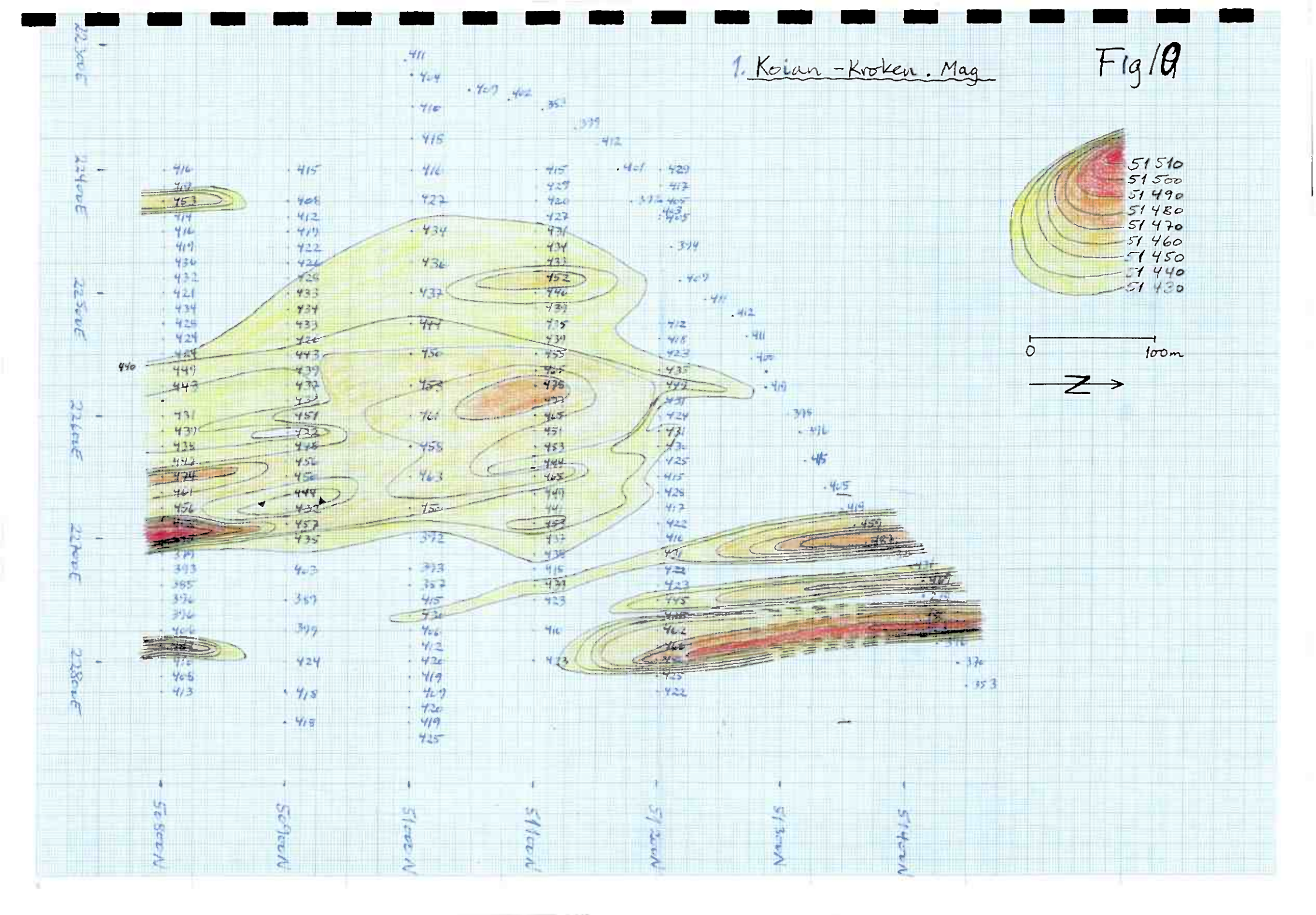
One, or more conductors with associated mag anomaly can be followed at least 1 km along strike. Scarce outcrops in the southern part (the northern part is totally covered) indicate a position of the conductor close to the boundary between mica schist and underlying amphibole schist, probably a mafic tuff. The schists strike N – S, dipping 40 - 65° to the west.
450 m north of the surveyed area, in the strike extension of the conductor, a prospect is located at 622787 6952258. It is a 20 m long, 4 m deep, E – W – running, refilled trench with a few outcrops of mica schist and no mineralization to be seen. Amphibolite is exposed in a ridge a few meters west of the trench. A narrow zone carries py – diss. Strike/dip is variable because of folding, generally between 150°/70° and 180°/90°.
Results from 23 B – horizon soil samples are exhibited in enclosure no 7, "Auger soil samples". There are only background contents of base metals in the soil samples.
Figs no 10 and 11 shows the mag and detailed geology respectively. The outcrops are scarce as can be seen on fig no 11, and mainly located south of the anomaly zone. Fig 12 exhibits the VLF survey over the Koian anomaly with plots of the auger soil samples. The Mag and VLF anomalies are coinciding over the three profiles 51200, 51300 and 51400N. It is proposed to extend the magnetic survey to the north (51500-51700N) and collect around 30 DOB samples in the area 22600-22850E/51300-51600N.

Outcrops, see fig 11:

1. mica schist (minor chlorite and carbonate) with layers containing weak garben development; sch: 180°/60°
2. mica sch with chlorite; sch: 180°/55°
3. mica sch with chlorite; sch: 175°/40°
4. mica sch with chlorite
5. mica sch with chlorite
6. same as 1; sch: 170°/65°
7. amphibole – feldspar sch
8. finegrained greenschist
9. greenschist with traces of py; sch: 170°/60°
10. amphibole sch with carbonate vugs, and epidotized bands and –nodules (intergrown with qtz), weak py – diss.

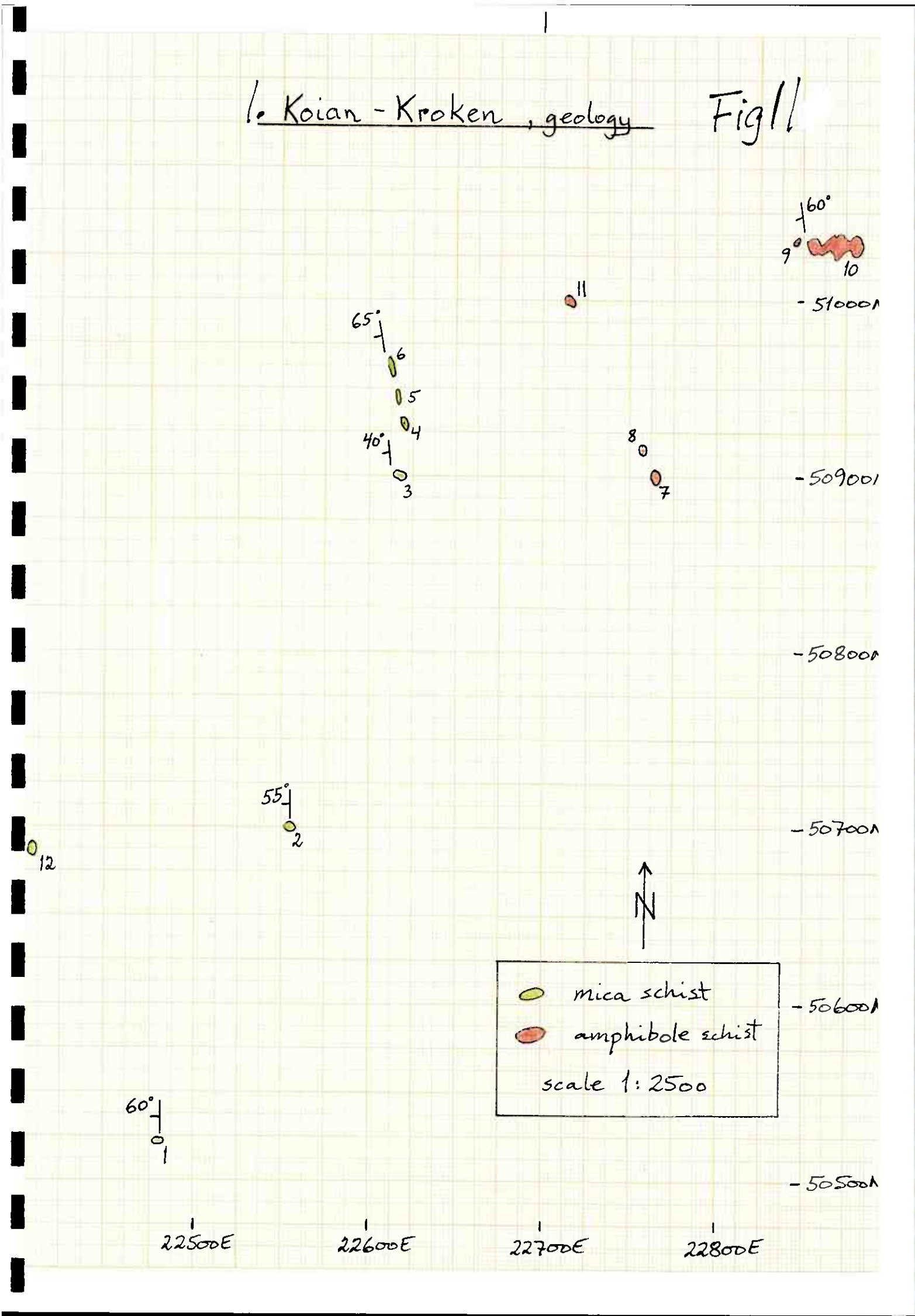
1. Koian - Kroken . Mag

Fig 19



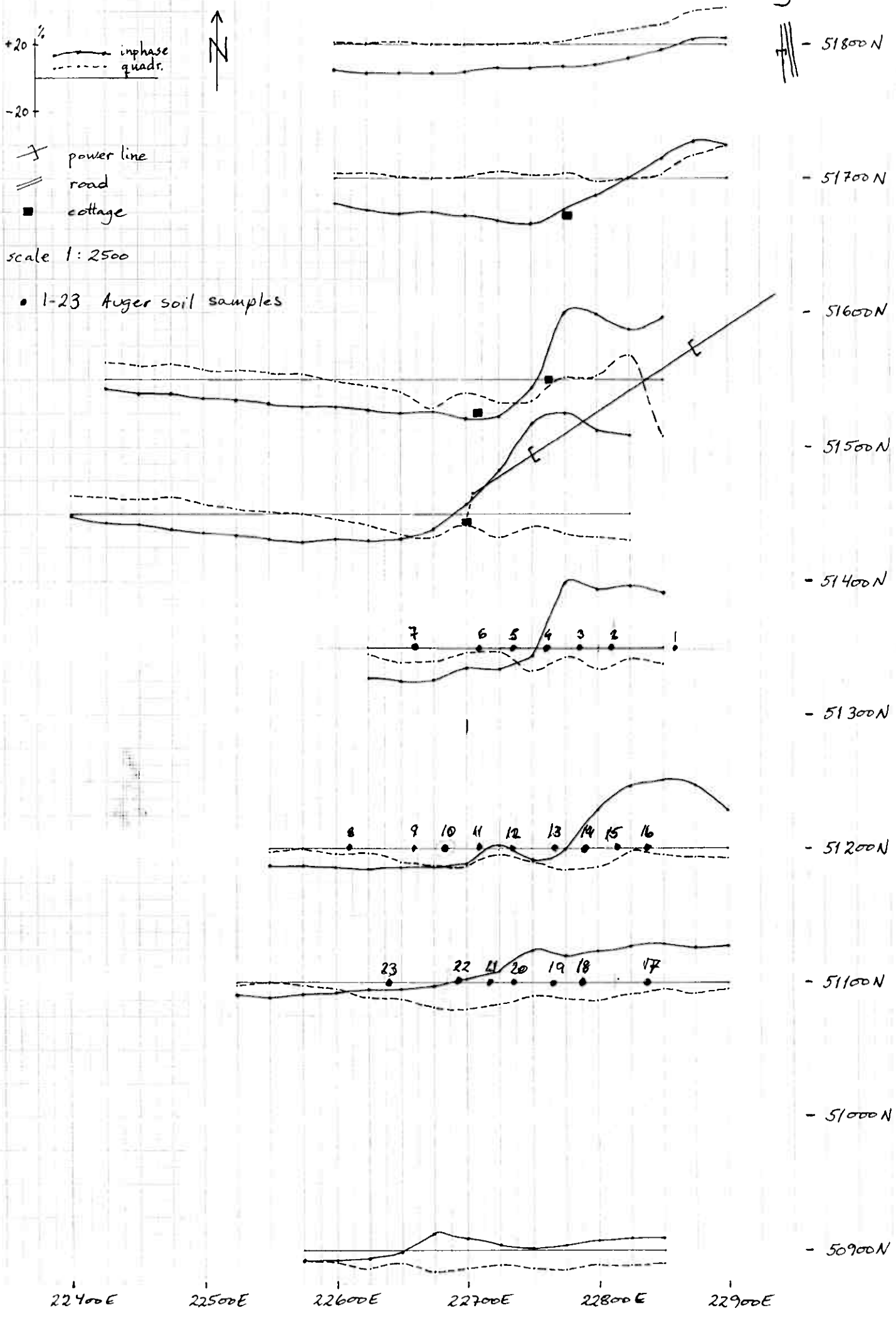
1. Koian - Kroken, geology

Fig 11



1. Koian - Kroken . VLF (7x2) facing ←

Fig 12



11. finegrained amphibole sch with weak py – diss.
12. chlorite – biotite sch

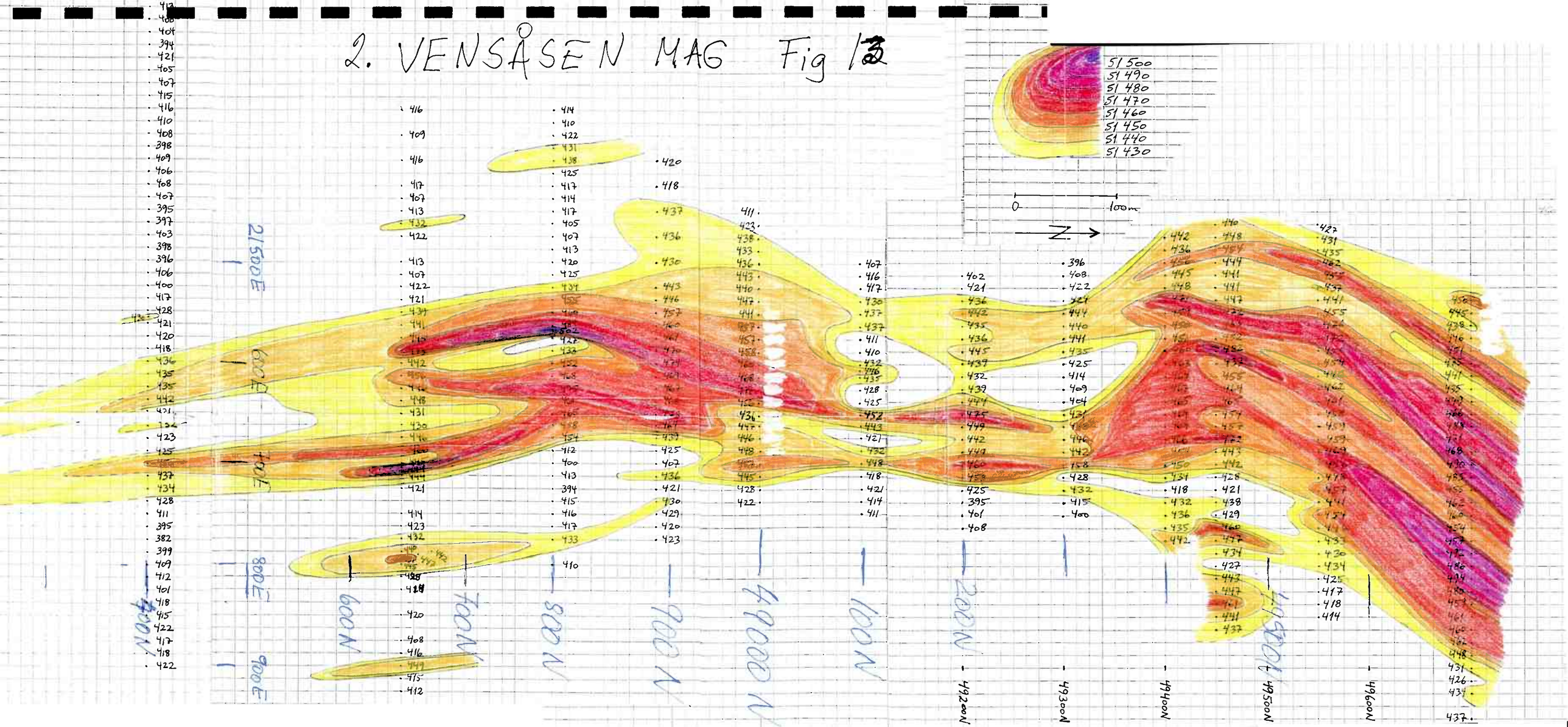
2. Vensåsen:
The helicopter survey indicate an extensive, combined EM – mag anomaly from between Vensåsen and Holtålsåsen, and through the swampy area southwards. The northern part of this trend coincides with an interpreted fault zone (see geological map Røros), deviating southwards.
The ground – mag data, fig 13, indicate a consistent trend through the grid, while the VLF data, fig 14, show a more in continuous and weak anomaly. The mag trend shows a striking tendency to follow a more or less continuous ridge, which may be due to a gabbro sill. No outcrops are found in the area. The locations of the anomalies indicate, however, that they are located a few hundred metres east of the NNE-SSW striking fault zone at the Røros geological maps Rui 1981 and Lieungh 1973, and may coincide with it.
A Turam survey from 1941 (Sakshaug & Brækken 1941: Elektromagnetiske og magnetiske målinger Rødalen og Sletmo gruber. GM rep. no. 24) picks up this anomaly, indicating it to be "a comparatively deep – seated, relatively strong conductor". They suggest follow – up of this anomaly.
Results from the DOB sampling (3 profiles) last spring, was negative, but given this is a deep – seated mineralization, soil sampling is not a reliable method. For results, see enclosure no 8.
Further geophysical measurements with depth – penetrating methods should be considered.

3. Bergan:
The Bergan high EM anomaly is located a few hundred metres west of the fault zone mentioned above under Vensåsen target. It coincides with the two lakes Djuptjørna and Svarttjørna. It may happen that this EM anomaly is caused by the lakes, which often is seen in this EM helicopter survey. No follow up work is done to the Bergan target this year. No further follow up work is proposed before a positive result is obtained from the proposed follow up work at Vensåsen target.

4. Arvedalslina:
An at least 450 m long, weak mag, fig 15 and VLF, fig 16 trend (two parallel in the southern part) follows two ridges, which could represent gabbro ridges. The area is completely covered. Soil sampling not conducted.
1 km+ NNW of this anomaly (from 620928 6953896 to 620878 6953888) is a 50 m long WSW – ENE – running trench in the overburden. Neither outcrops nor mineralized floats observed at the considerable dump. According to locals, the trenching was conducted to trace a possible outcrop of the Christianus Sextus ore body. Two profiles 52300N/21050-21250E and 52400N/21100-21250E with about 15 DOB samples is proposed.

5. Langtjørna:
3 DOB profiles, see enclosure no 8) cover a false conductivity anomaly at the end of a flight line ("end – line – effect") SW of Langtjørna. Only one of them, 6957200 N, covers a real, but very weak ground – mag, fig 17 and – VLF, fig 18 trend further SW. The few outcrops show gabbro, amphibolite and hydrothermalquartz – vein. In addition to the ones outlined on the mag map, amphibolite (foliated gabbro?) is

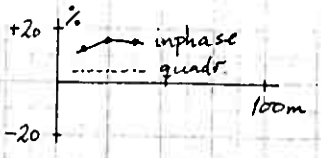
2. VENSÅSEN MAG Fig 12

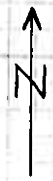


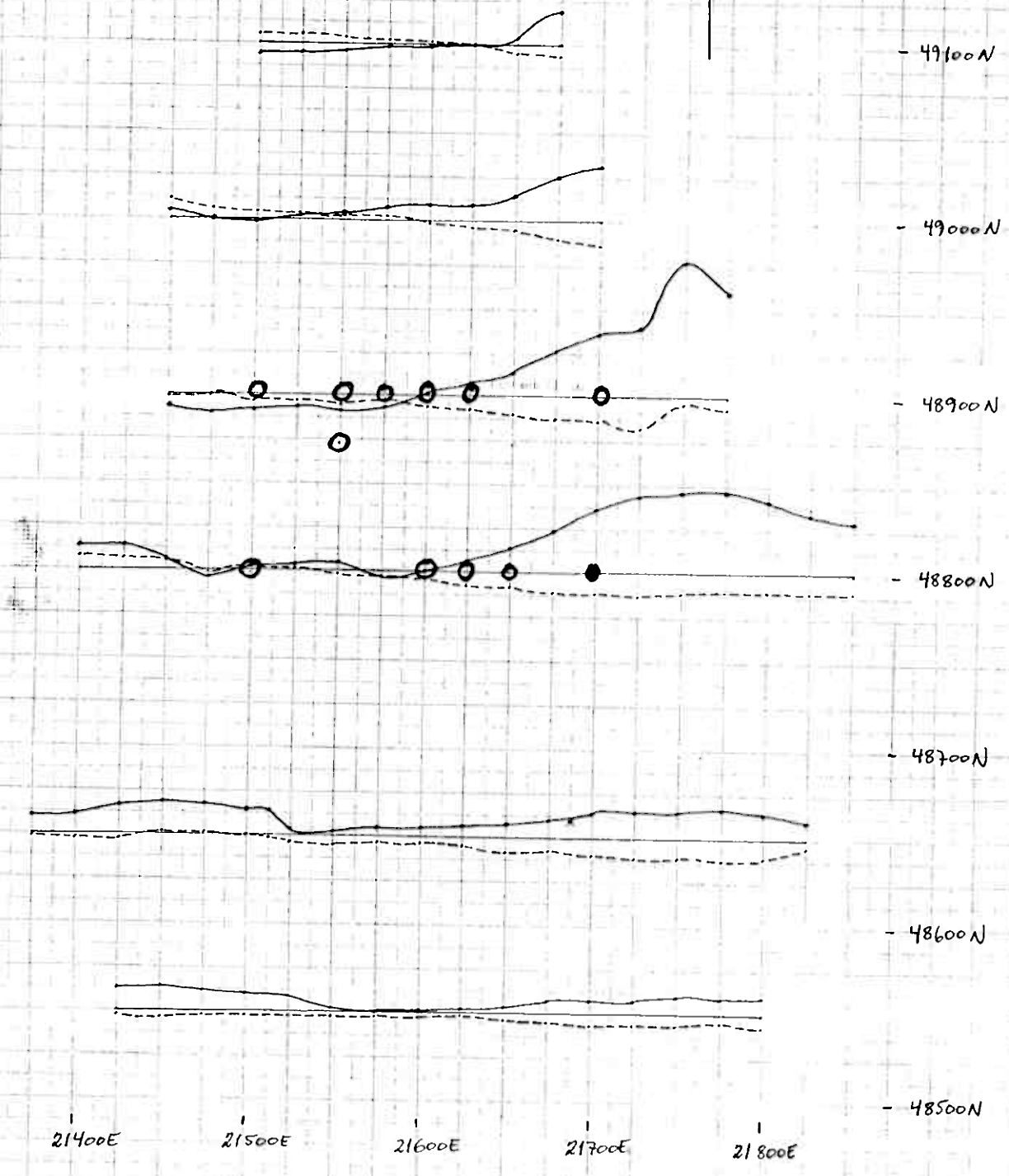
2. Vensåsen. VLF (NAA)

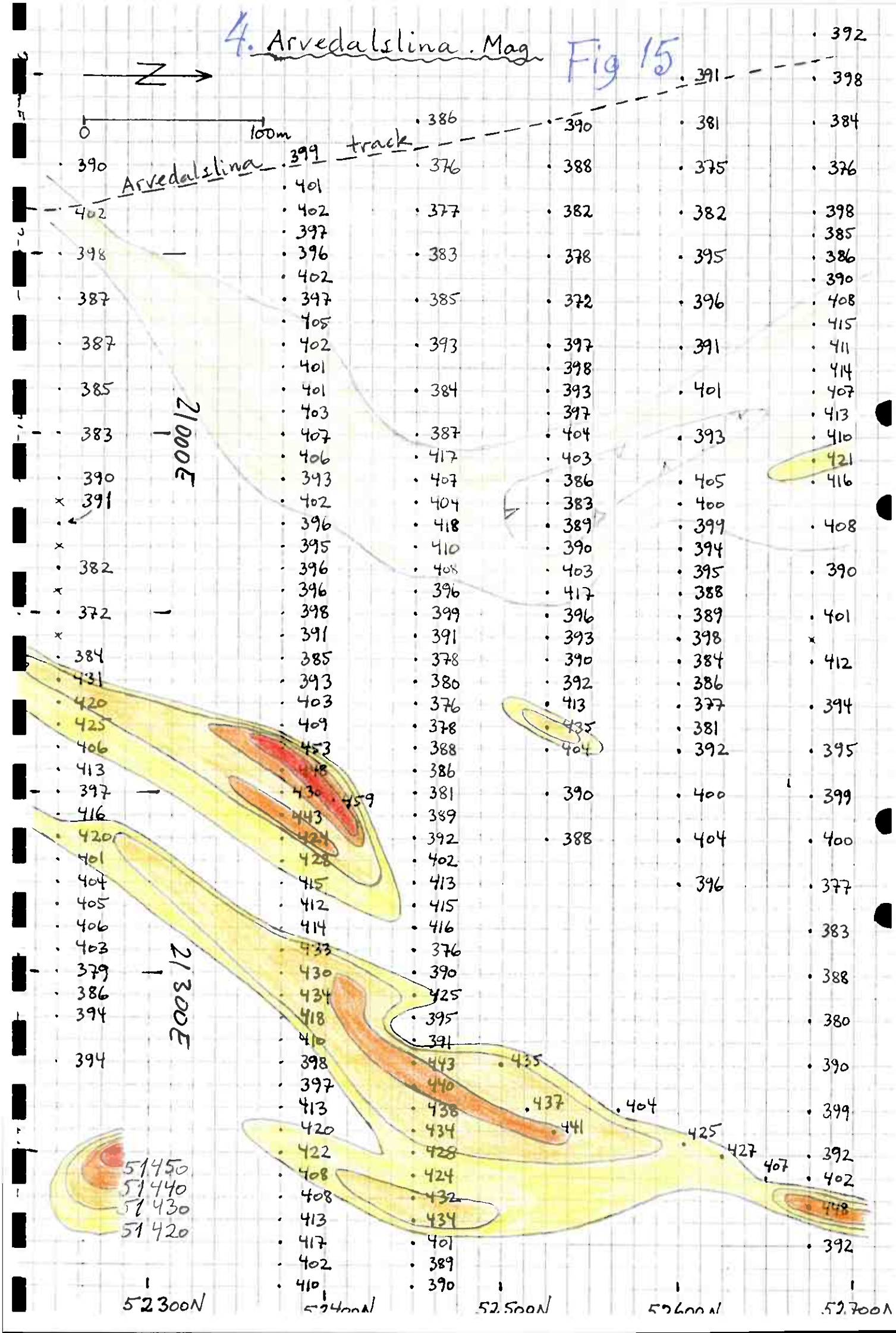
Fig 14.

● Soil sample modr.
○ Soil sample low



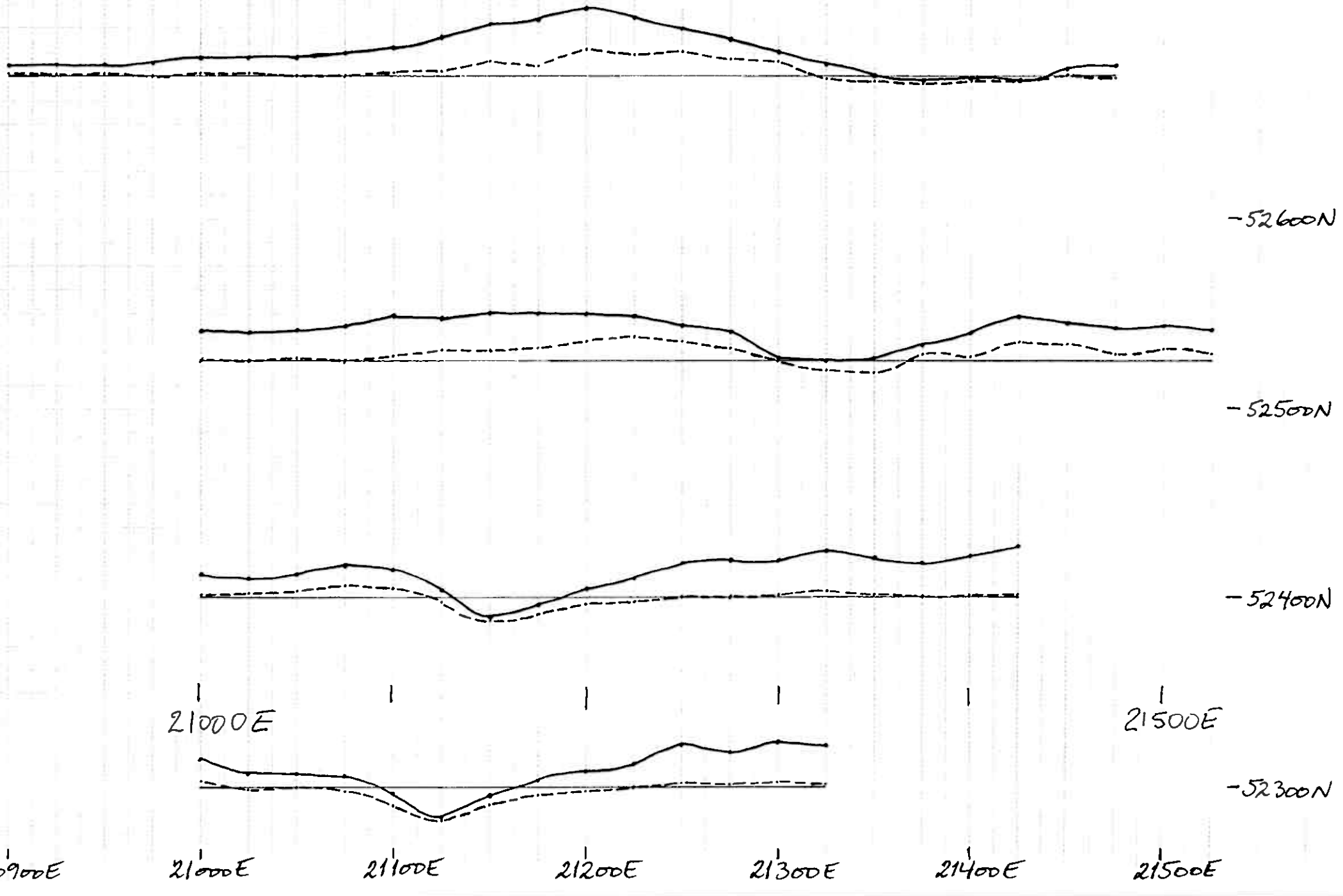




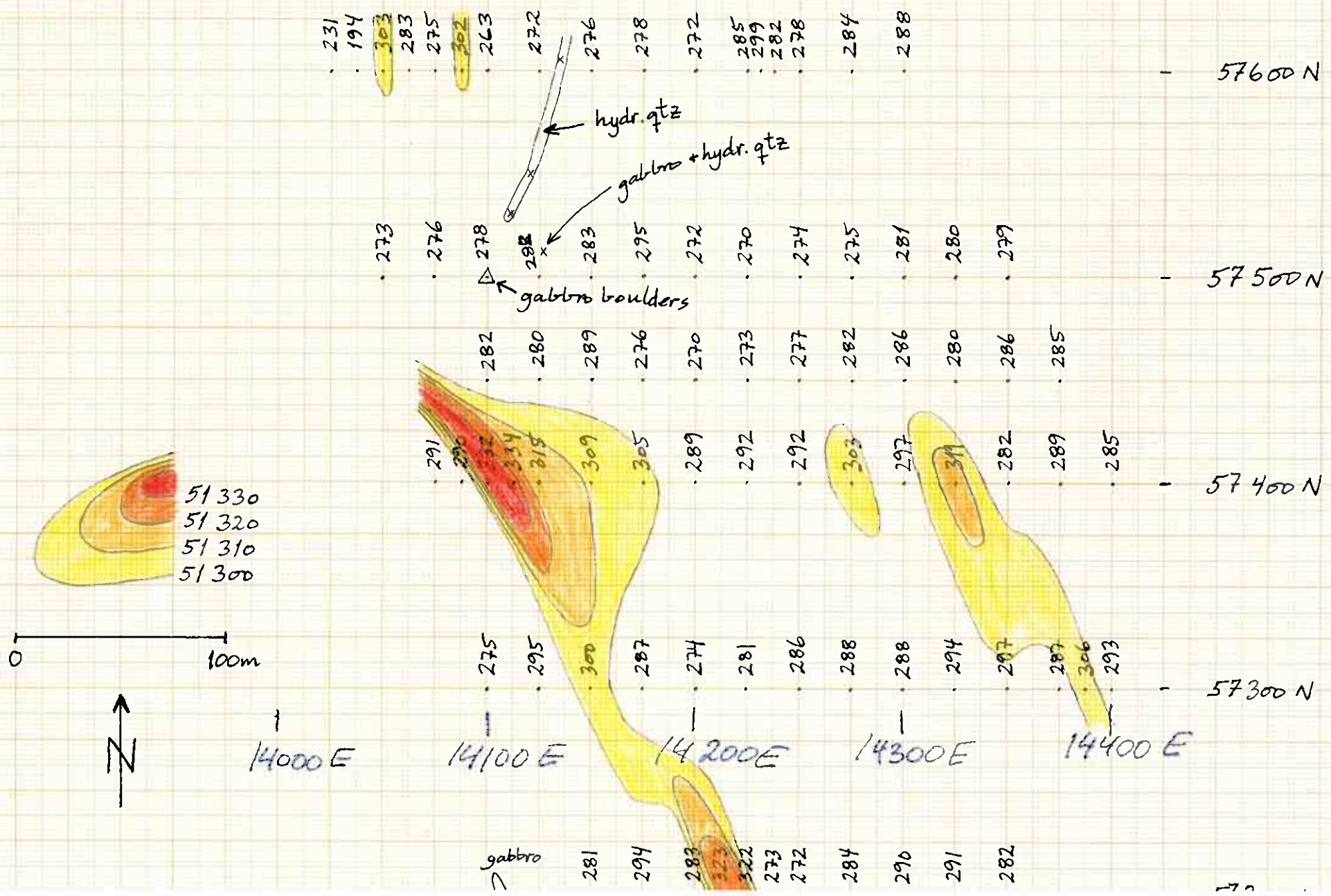

4. Arvedalslina. Mag
Fig 15
N
0
100m
Arvedalslina track
21000E
21300E
51450
51440
51430
51420
52300N
52500N
52600N
52700N

4. Arvedalslina . VLF (TxZ) ← facing

Fig 16



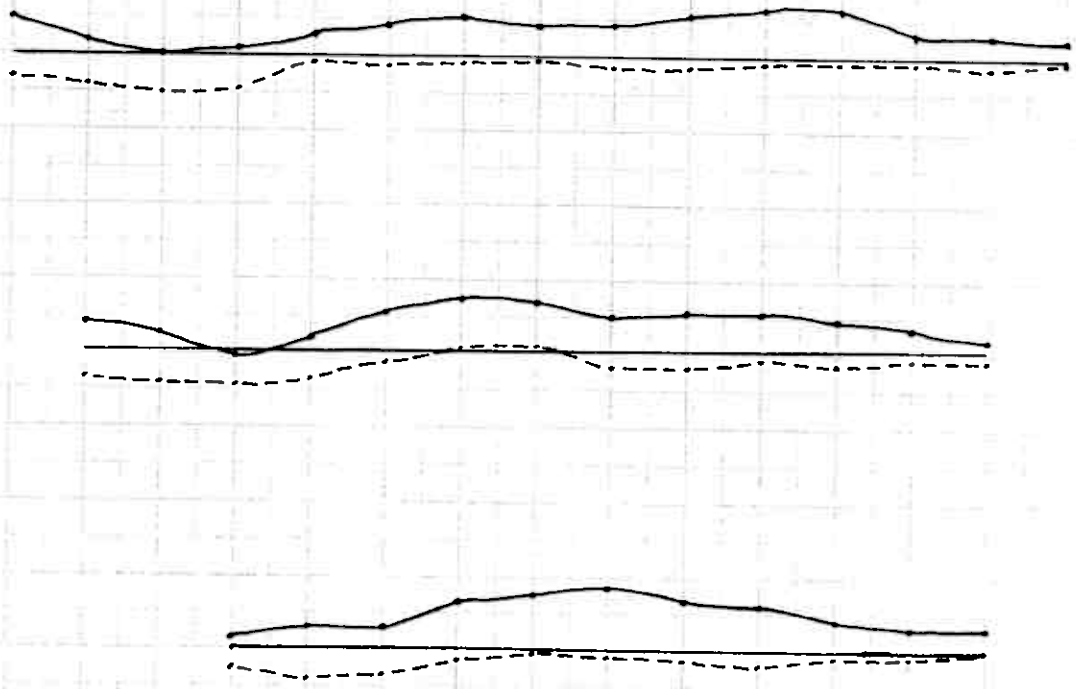
5. Langtjørna. Mag Fig 17



14000E 14100E 14200E 14300E 14400E

+20 % inphase quadr. 100m -20

5. Langtjørna . VLF (NAA) Fig 18.



14000E 14100E 14200E 14300E 14400E

exposed a few places SE of the grid, and at 614145 6957060 (fol: 185°/34°) and 614109 6957194.
Since geochemistry fail to upgrade, no further work are recommended.

6. Frysihjel east:
Mag measurements, fig 19 outline the eastern continuation of the Frysihjel mineralization. Here, the strong mag trend bends off SE – wards. Rusty, po – impregnated gabbro is exposed at 618851 6950385. The covered anomaly is assumed to be related to po (– cpy – sl) – mineralized amphibolite / gabbro (A or B level). A number of drill holes intersect these mineralization levels along the Frysihjel – Prussubekk zone, as well as the above mentioned Røsjø mineralization.
No further follow – up is recommended in this part of the Frysihjel zone.

7. Kongens tailing:
A combined mag – VLF, figs no 20 and 21, -anomaly is chased over 800 m length, extending both north and south of the tailing. More precisely, it consists of two NNW – SSE – running anomalies that join up at the northern end of the tailing.
With the purpose of training a new drill crew and to test this conductor, a drill hole was sunk to 95.7 m depth at 619448 6950511 (60° inclination towards ENE, 70°). It intersected intermixed massive greywacke and chlorite – rich schist, often carbonate – rich (enriched in layers), in places with garnet. Quartz (± carbonate) lenses are common. Traces of py were intersected at 15 m, 26 – 27 m, 30 m, 35.30 m, 38 m, 47.80 – 50.00 m (steep fractures with remobilized py), 62 m (2 bands of py – cpy, 1 mm thick), 81.60 m (1 cm thick band of semimassive po (– py – cpy)), 92.70 m, 95.50 m (weak py (– cpy – hm) in qtz lens).
An outcrop in a stream just SE of the grid shows schistosity / banding to be 160°/20 - 30°.

In 1966 a vertical drill hole (no 76) was sunk approximately 400 m east of Arvedal to test a deep – indication (Sakshaug, G.F. 1967: Elektromagnetisk undersøkelse Kongens Grube – Vensåsen 1966. NGU rep. no. 715 B). It intersected the D – level, the lowermost level so far known in Kongens – Rødalen, at 166.00 – 169.56 m depth, containing 1.34 % Zn and 0.78 % Cu (Mikkelsen, E. 1967: Survey work 1966. Røros Kobberverk. Bergvesenet rep. no. 54).

8. Harborg:
A weak, combined mag, fig 22, and VLF, fig 23, anomaly coincides with a topographical trend, the edge of a terrace, what could possibly correspond to a resistant gabbro sill. The area is totally covered. Soil sampling not conducted.
Two DOB soil sample profiles over the combined anomaly from 22000-22250E and 54500 and 54600N with about 18 samples are proposed.

9. Torvbekken:
According to geological map Røros, an amphibolite runs through the grid from the SW corner and NE – wards. This is the Kongens – Fjellsjø amphibolite (which we drilled at Røsjøen), that extends to the Mugg mine, occupying a level just below the footwall of the ore. In-continuous magnetic highs are associated with this amphibolite, due to both po and mt mineralization, in the Kongens – Rødalen area and west of Storfjellsjøen (see grid Storfjellsjøen below). This amphibolite (gabbro) is

6. Frysihjel east . Mag Fig 19

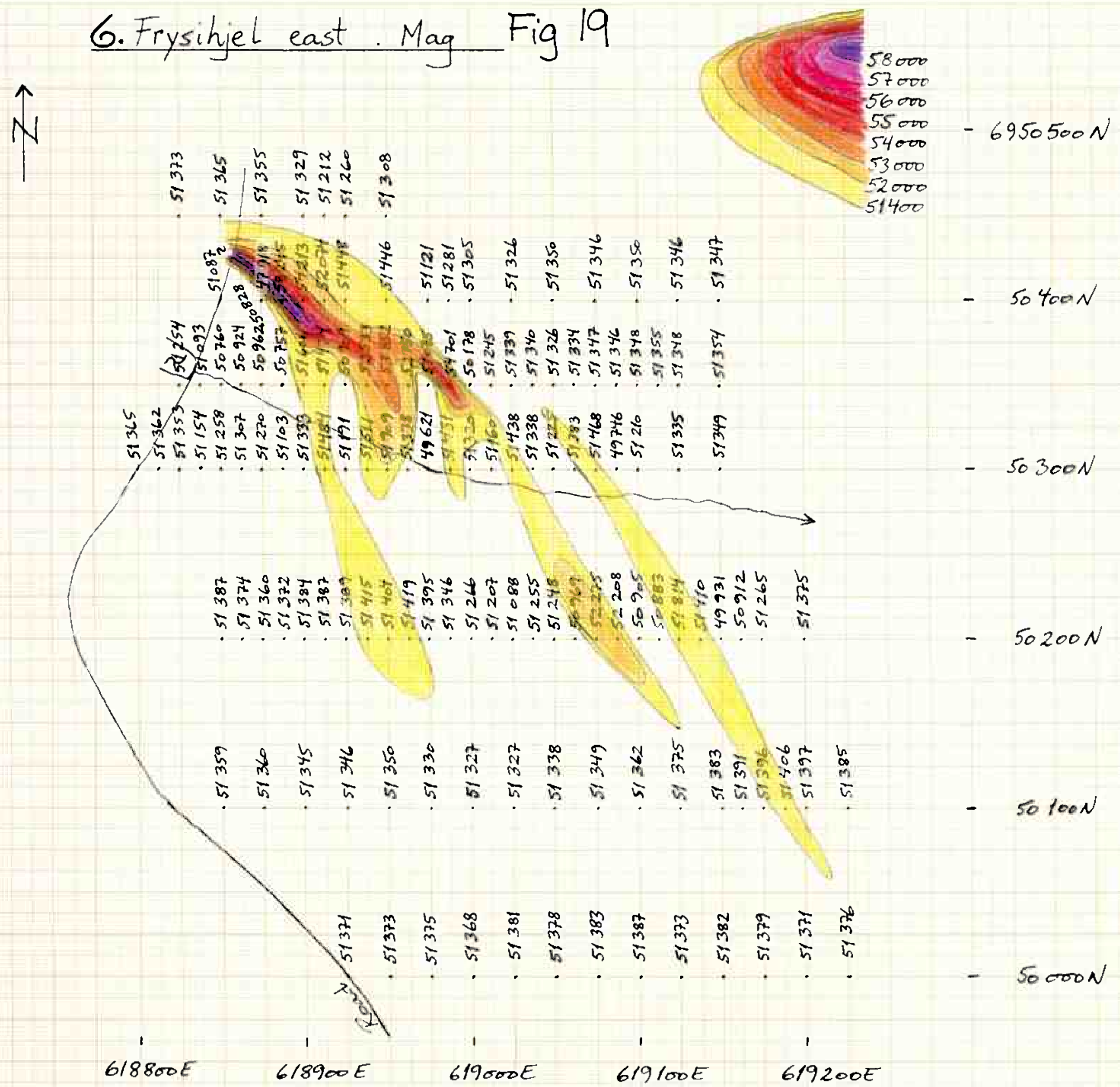
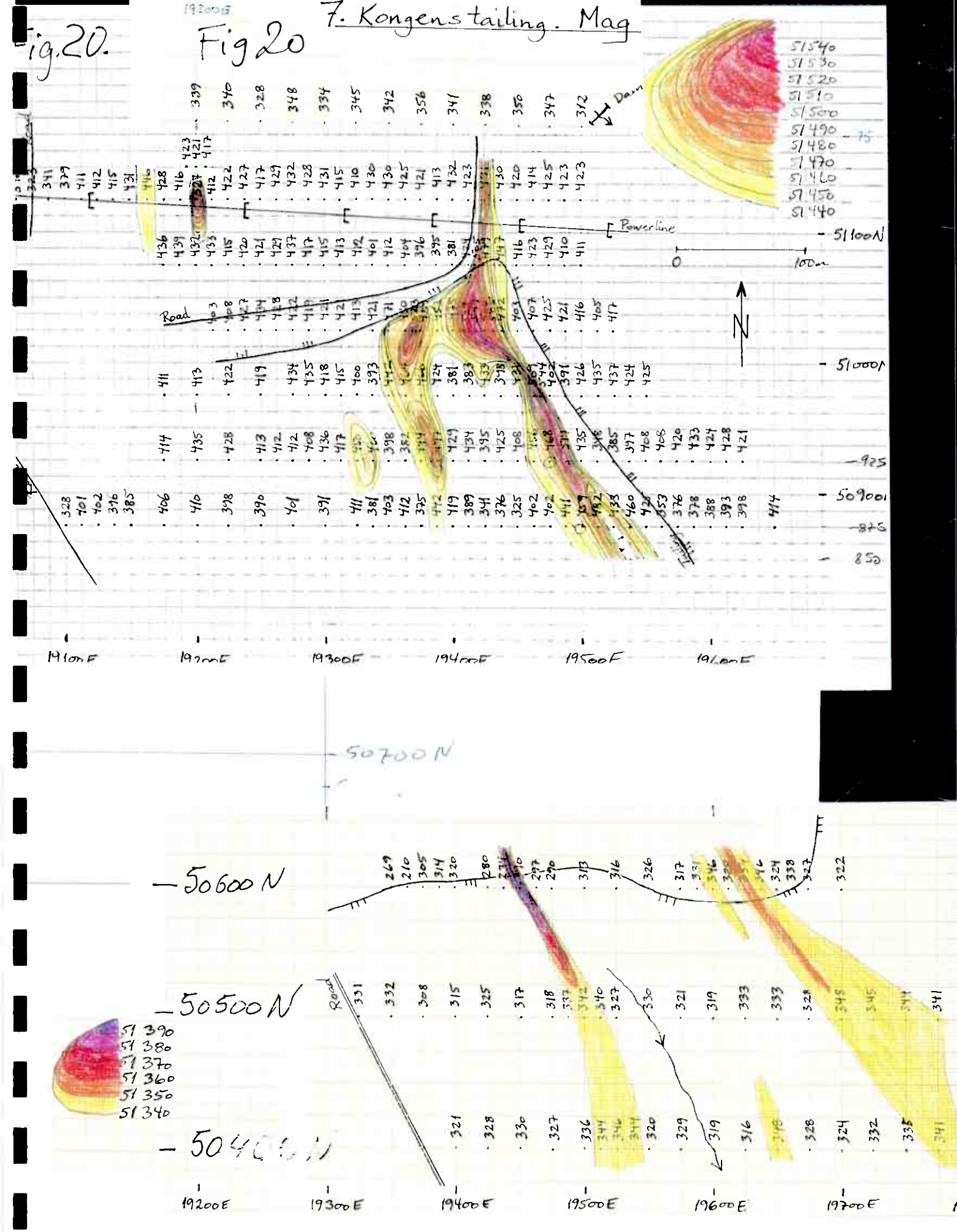


Fig. 20.

Fig 20

7. Kongens tailing. Mag

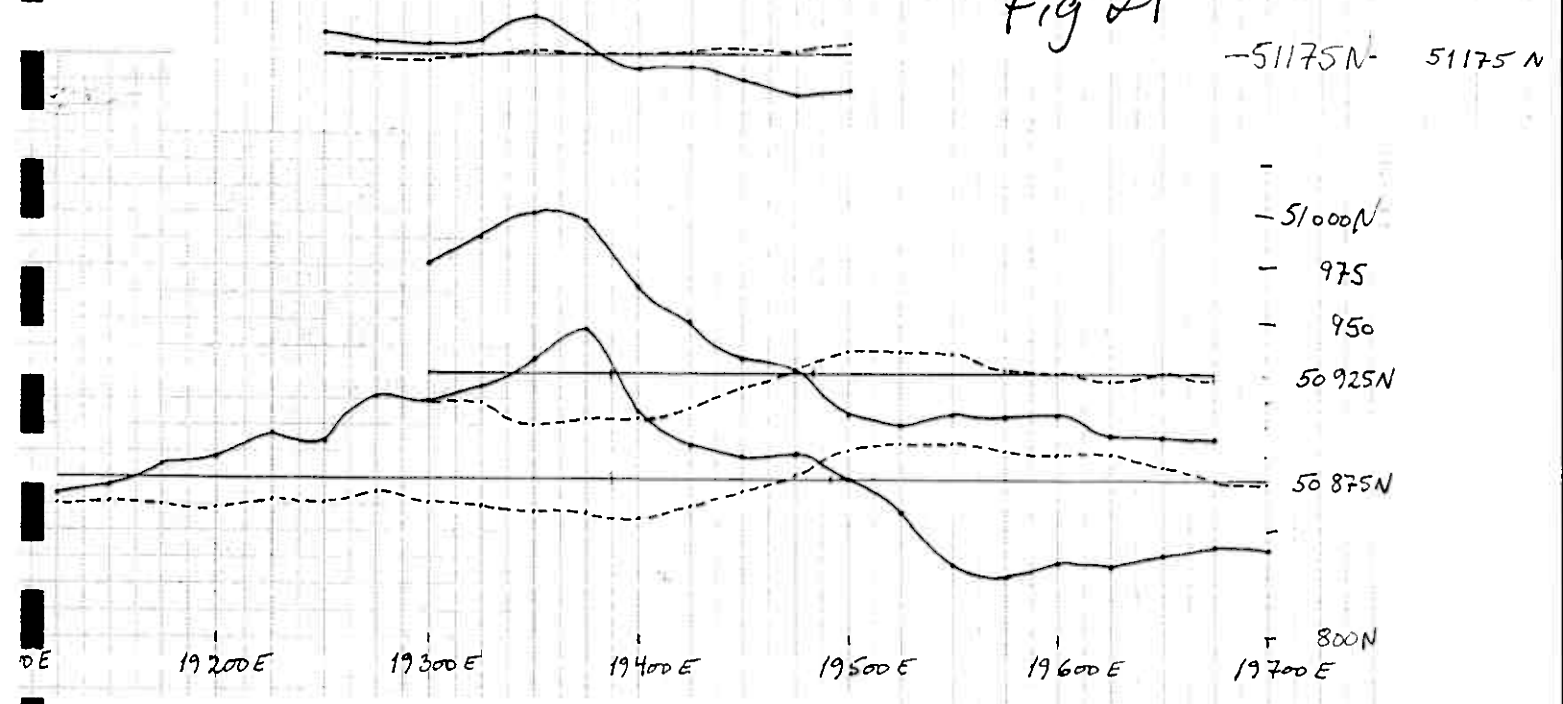


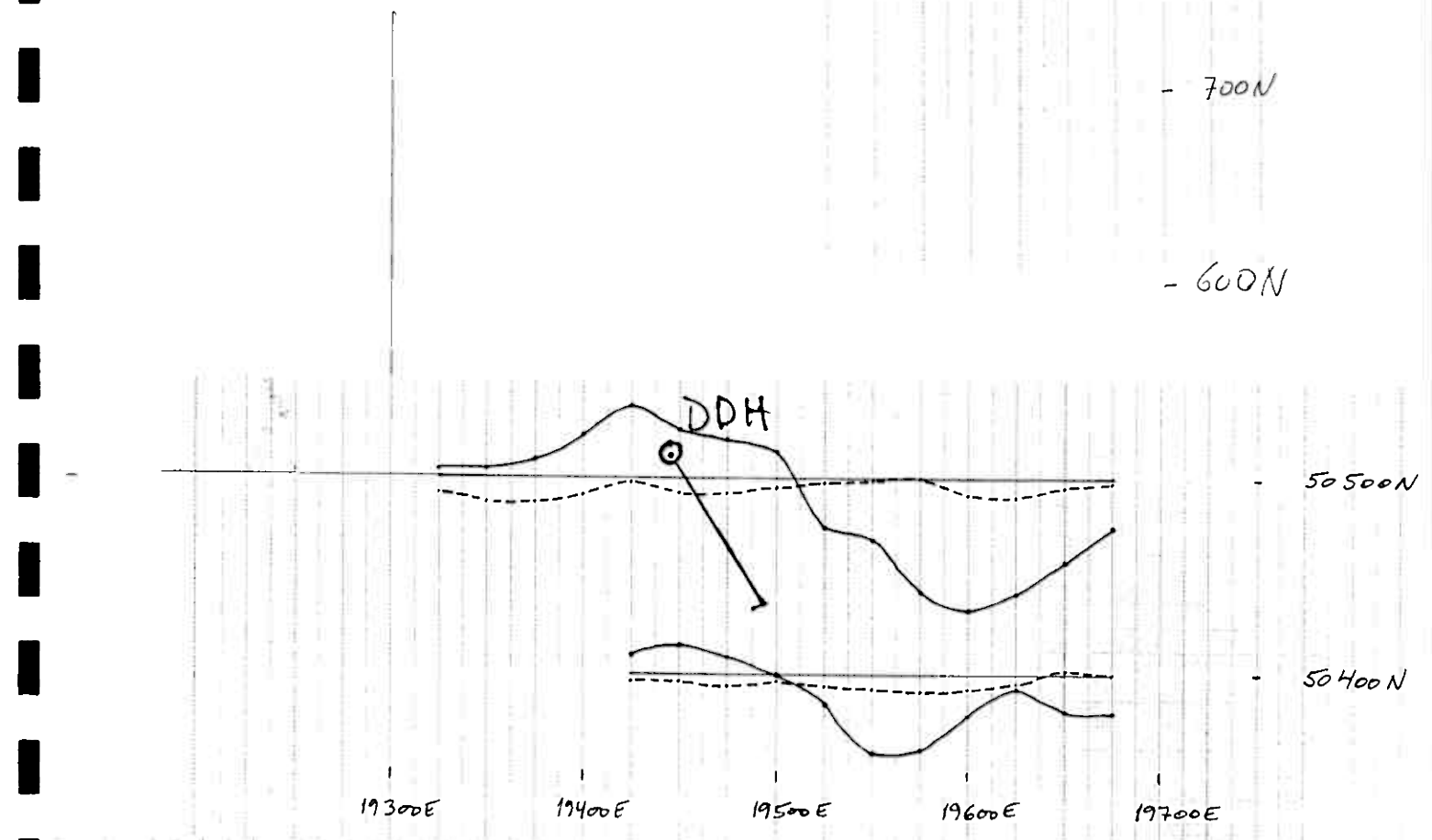
14500

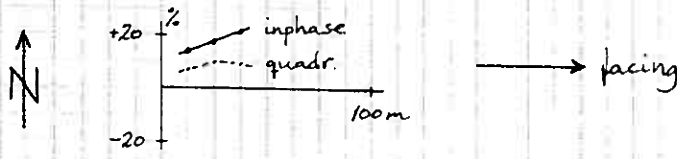
7. Kongens tailing. VLF (7xz)

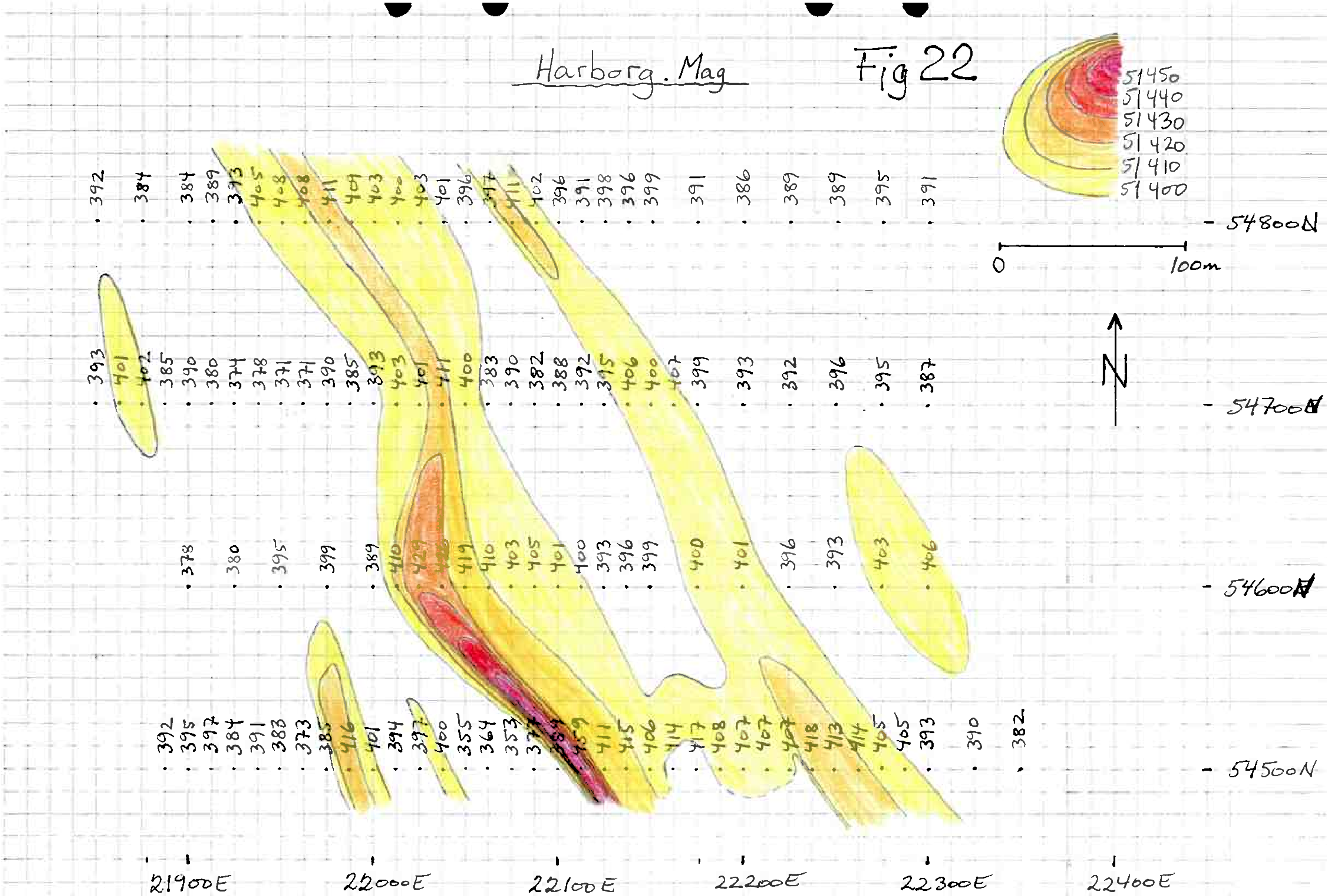
→ facing

Fig 21





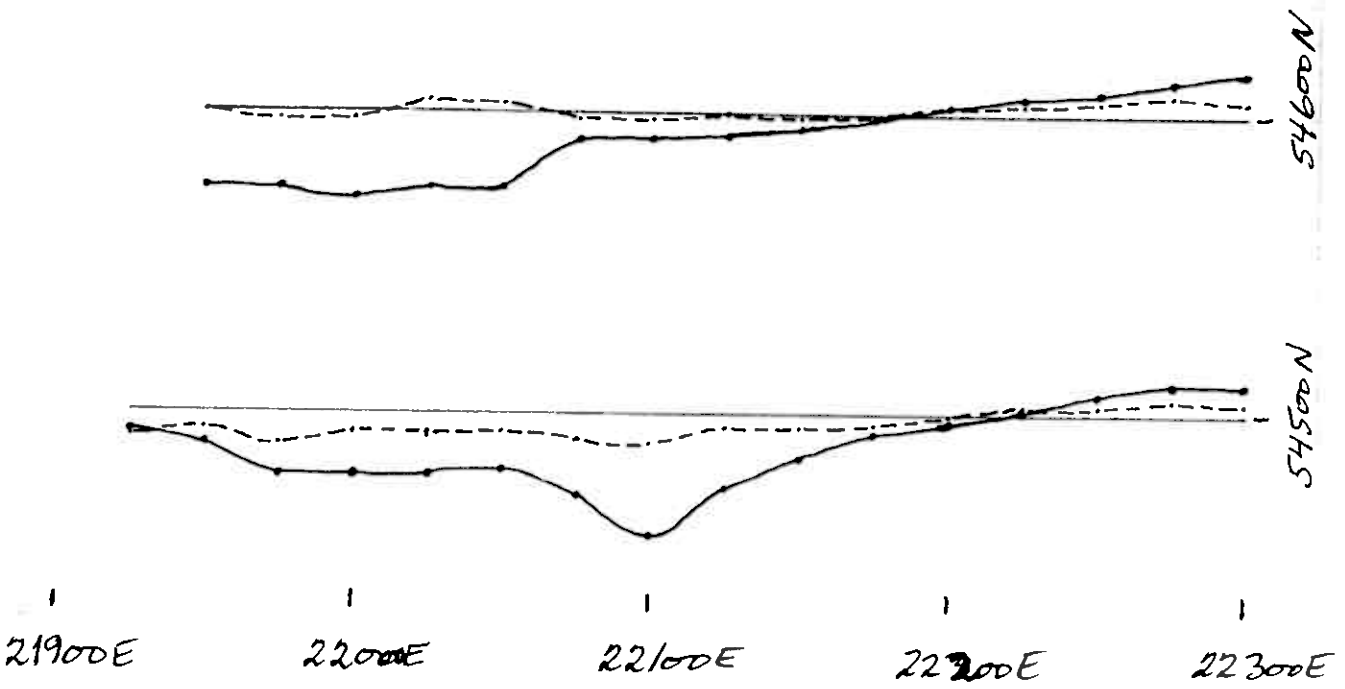




Harborg. Mag
Fig 22
51450
51440
51430
51420
51410
51400
54800N
54700N
54600N
54500N
0
100m
N
21900E
22000E
22100E
22200E
22300E
22400E

Fig 23

Harborg. VLF (UMS) facing ←



exposed in the SW corner of the grid, with associated mag anomaly. At 615953 6954964 is a small prospect in po – impregnated gabbro.
The combined mag – VLF anomaly, figs 24 and 25 respectively, around 616400 6955000 – 6955150 is probably due to mineralization bound to this amphibolite. At 616324 6955055, a small poisoned drainage with local floats of qtz – feldspar – amphibolite and chl – amph schist with rich cpy – diss. (sample 400752 which returned 2,35%Cu and traces of Zn - see enclosure no 9 and location no 11 at fig 25), are probably derived from this amphibolite. Dotted line on the mag map mark the interpreted course of the amphibolite.
The central, western part of the grid reveal a few outcrops of the Røsjø Formation sediments, gently dipping mica – garben schist. At 616154 6955259 an at least 15 cm thick cpy – stringer mineralization in chlorite – mica schist is exposed (sample 400751 contains 4,25%Cu and 0,07%Zn - see enclosure no 9 and location 4 at fig 25).
The contoured anomaly on the mag map at 6955500 – 600 N, with associated weak VLF anomaly, is probably due to a rather flatlying, weak sulfide mineralization. A few restricted poisoned drainages are derived from this trend.
The auger soil samples are plotted at the VLF-map fig 25 and soil anomalies also at the mag map fig 24. Five of the samples have returned high to moderate contents of copper, which are coinciding with the mag anomalies and partly with the VLF anomalies. The Torvbekken samples no 185 to 191 were assayed for Au +33 elements, (XRAL, NA-BAS), returning contents below detection limit. One sample, no AB 189 was anomalous on Zn with 232ppm. See enclosure no 10.

Outcrops (plotted on the VLF map), see fig 25:

1. qtz – mica – garben sch; sch: 264°/12°
2. qtz – mica – garben sch; sch: 14°/18°
3. quartzo – feldspatic garben sch; sch: 330°/12°
4. chl – mica sch with thin qtz – lenses / - bands. At least 15 cm thick layer contain cpy – stringers (sample 400751), up to 1 cm thick massive cpy; sch: 355°/6°
5. quartzo – feldspatic garben sch. Lower down: not schisty, but massive, with unoriented hornblend, feldspar – rich (tuff?)
6. qtz – rich garben sch; sch: 355°/5°
7. mediumgrained gabbro
8. mediumgrained gabbro
9. mediumgrained gabbro
10. edged boulder of gnt – chl – hbl sch with cpy – bands and pyxx
11. small poisoned area with a few local floats of qtz – feldspar – amphibolite and chl – amphibole sch with rich cpy – diss. (400752)
12. 615953 6954964 (see mag map): tiny prospect in po – impregnated gabbro
13. 616650 6955500: poisoned drainage
14. 616375 6955500: ridge, assumed gabbro

The combined geophysical/geochemical anomaly may be traced for more than 600m in a NE-SW direction with one relatively strong anomaly in the NE and one in the SW end respectively. In between no mag anomalies occur and no VLF survey has been made. Outcropping Cpy mineralization is found between the two anomalous areas, but about 300m west of the anomaly trend. The auger soil sampling may have been unsatisfactory if the overburden is too thick. It is therefore proposed additional and complimentary 30 DOB sampling prior to further follow up.

Torvbekken. Mag

Fig 24

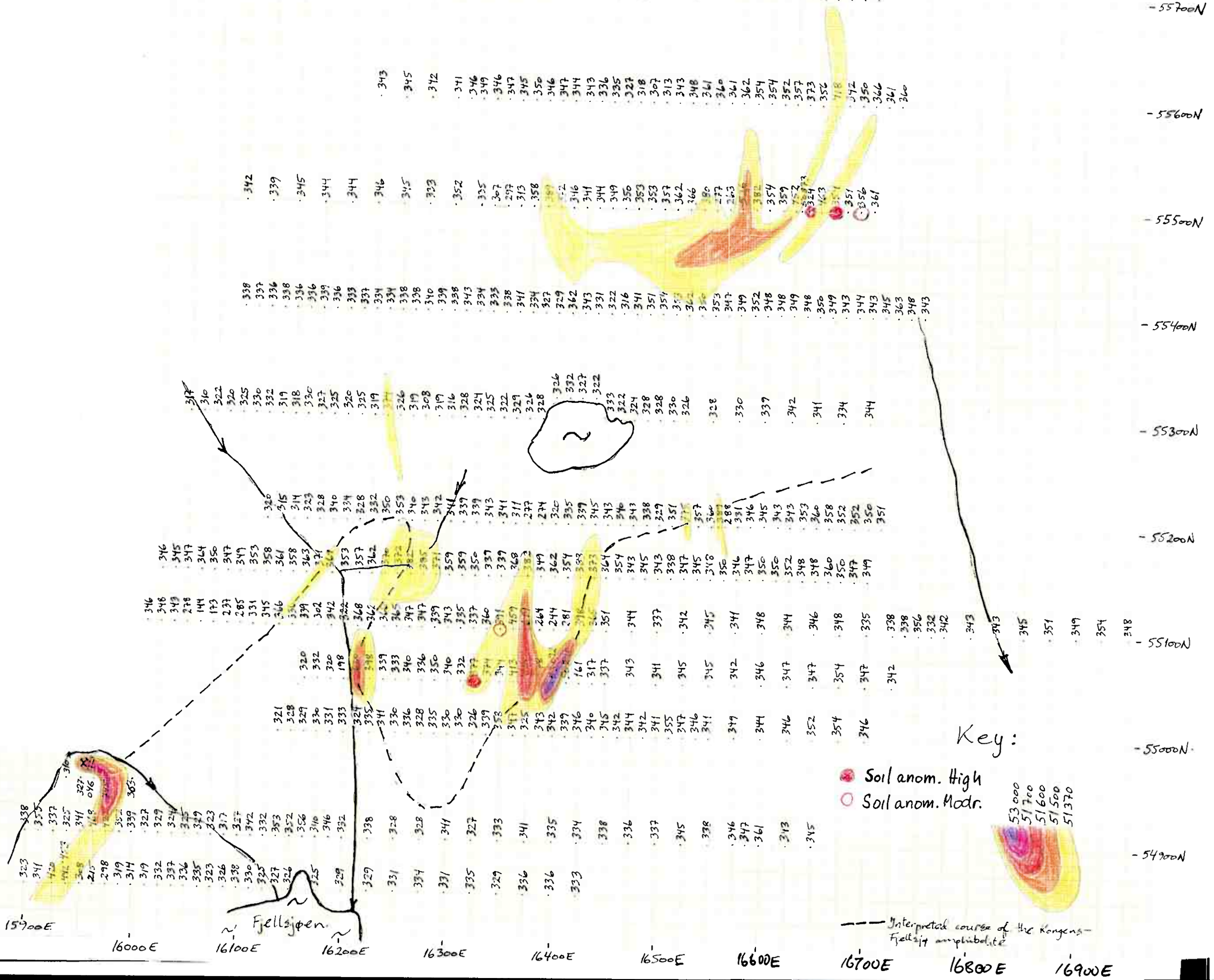
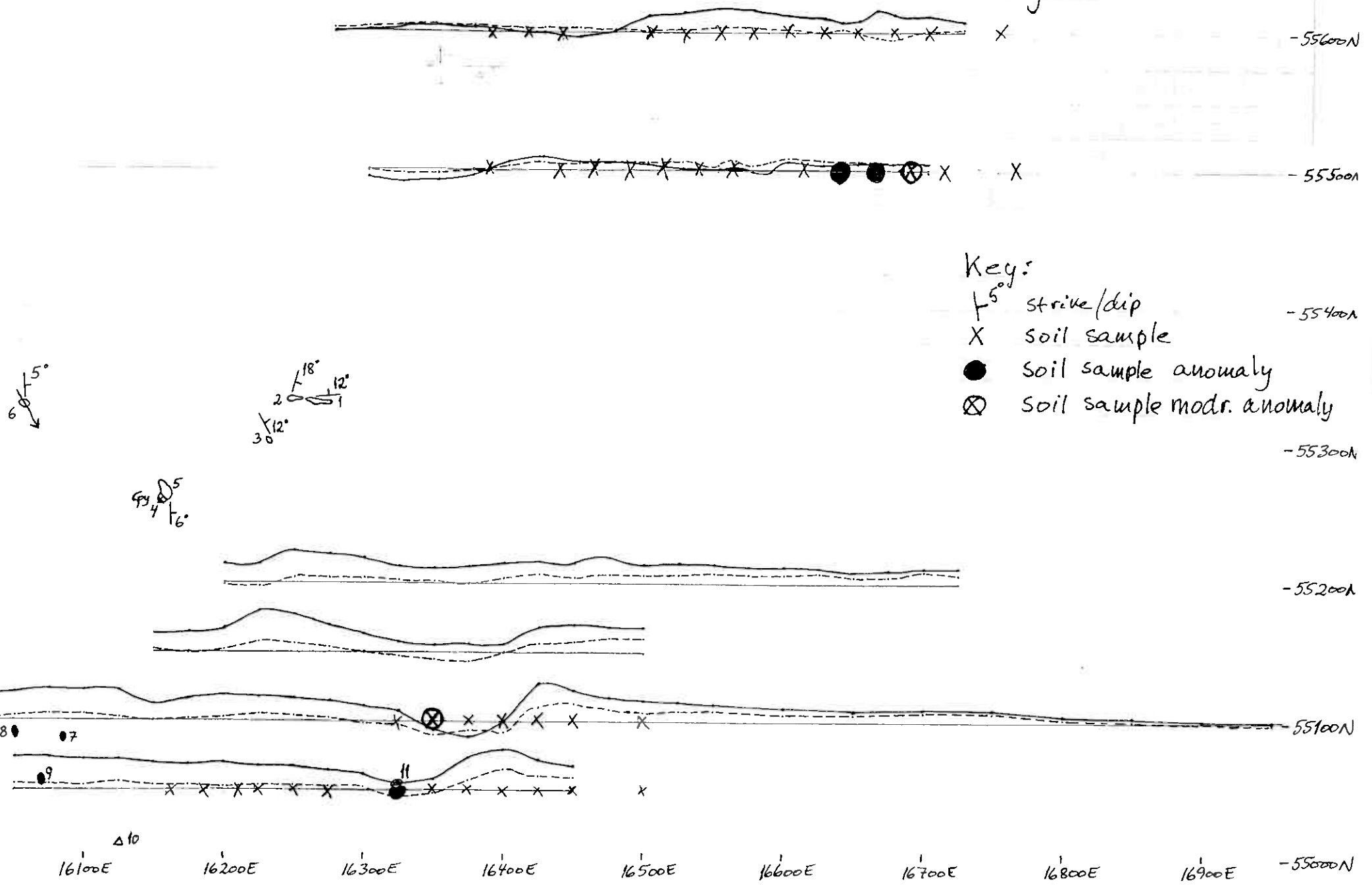


Fig 24

Torvbekken . VLF (TXZ) ← facing W

Fig 25



The metal distribution in both soil, float and outcropping mineralization suggests a copper rich type of mineralization like Mugg.

10. Storfjellsjøen west:
The helicopter survey outlines a mag trend from NW of Røsjøen passing northwards west of Storfjellsjøen. The ground mag measurements, fig 26 indicate scattered mag highs west of Storfjellsjøen due to po and mt in the Kongens – Fjellsjø amphibolite. Two small prospects (mt – py – cpy – diss. in amphibole schist) are located at 615617 6954507 and 615627 6954529. A few very weak magnetic anomalies appear in the sediments. An at least 500 m long trench in the overburden (no exposures) runs along the 6953600 N profile.
The westernmost drill hole at the Fjellsjø deposit, no 6, located approximately 615350 6953700, intersects 15 cm thick impregnation at 57 m depth, containing 0.18 % Cu and traces of Zn.

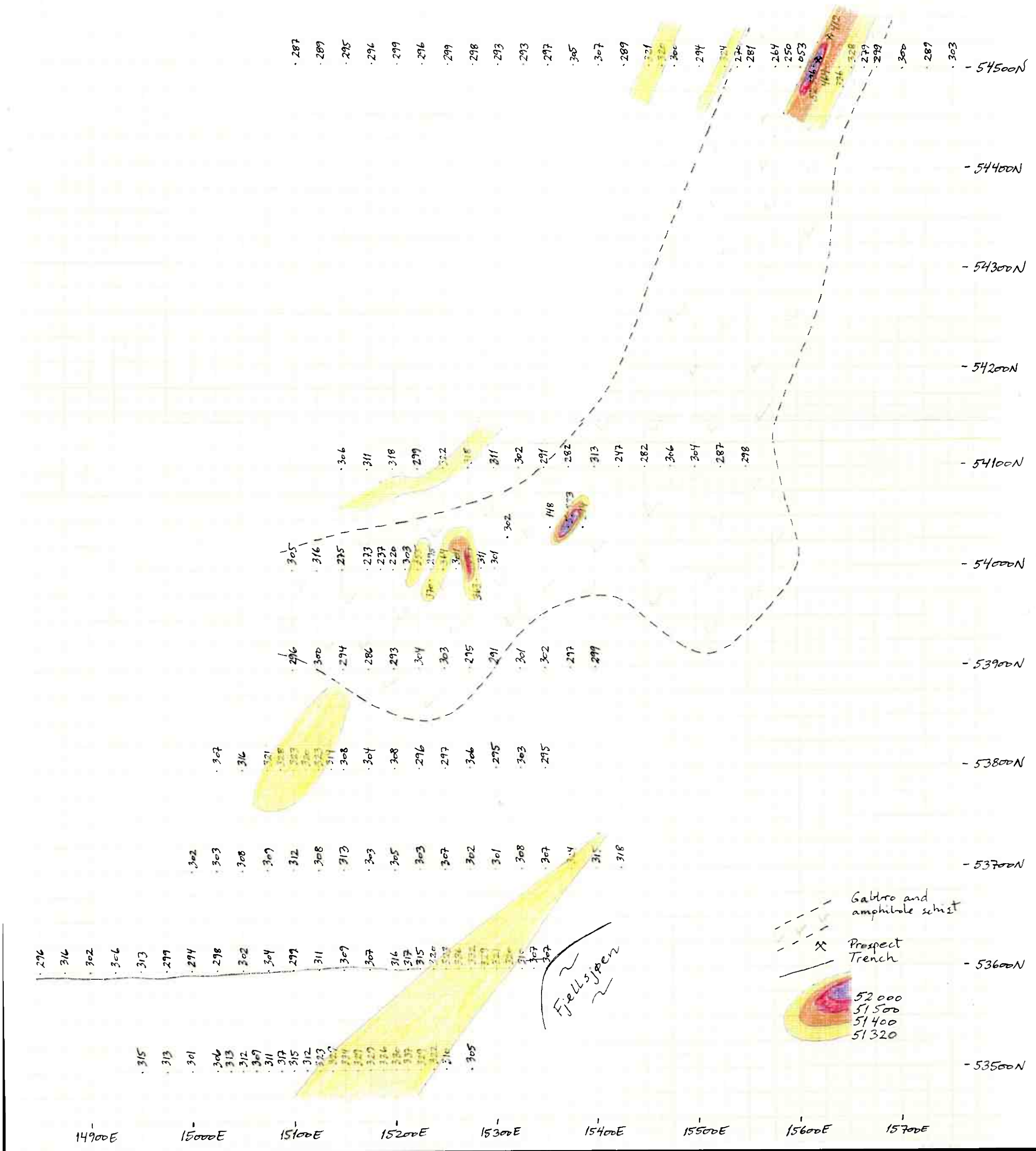
Outcrops:
1. 615283 6953983: amphibole sch / greenstone; NE – strike/ dipping SE
2. 615236 6953988: gabbro; N – S strike
3. 615313 6954030: amphibole sch
4. 615356 6954039: amphibolite
5. 615550 6954100: gabbro
6. 615425 6954100: amphibolite
7. 615375 6954100: amphibolite
8. 615637 6954500: gabbro
9. 615617 6954507: small pit in amphibole schist with chlorite, garnet and mt (– py) – diss.
10. 615627 6954529: small pit in amphibole schist with chlorite, garnet. Weak cpy – diss. ass. with qtz lens
11. 615300 6953900: small poisoned area

No further follow up is recommended.

11. Røsjøen N / Svartdika:
The mag anomaly, fig 27 in the SE corner of the grid follows a crescent – shaped ridge, probably related to gabbro. A train of gabbro boulders are located in the swampy area to the SW (see mag map).
B – horizon soil samples are collected along 2 profiles. The results of the auger soil samples shows only background contents of base metals, see enclosure no 7. With the auger soil profiles crossing gabbro boulder trains as well as ridges of - most likely gabbro - it is not very likely that the geophysical anomalies are caused by base metal sulphides with economic grades.
The weaker mag anomaly at 614350 6952500 – 800 is associated with an EM anomaly from an earlier Turam survey. B – horizon soil samples are collected along 2 profiles, where obtainable in this swampy area. No geochemical response.
The mag trend in the northern part of the grid is covered by thick, very wet swamp, with frequent ponds.
At 614575 6952800 appears an outcrop of horizontal – lying garben schist.
No further work is recommended.

10 Fjellsjøen west. Mag

Fig 26.



11. Røsjøen north / Svartdika. Mag

Fig 27.

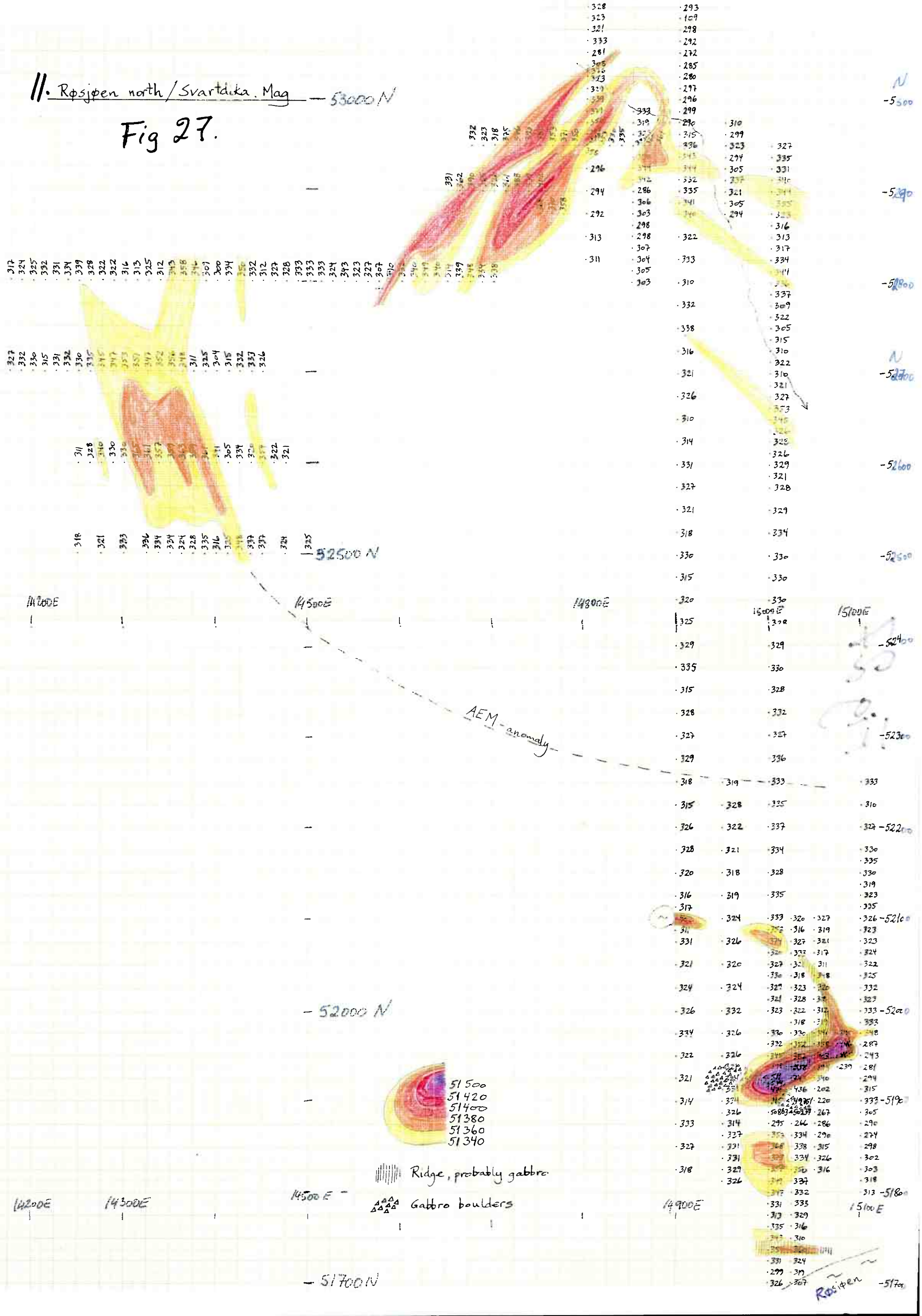


Fig 27

12. Svelta, Rødalen:
The grid cover two NE – SW – striking mag trends, see fig no 28. The one to the west is totally covered, while the other follows a low ridge with a few outcrops. They show finegrained, light grey to greenish – grey siltstone with generally little mica, occasionally more schisty with increasing mica. Thin layers of resistant quartzite. Interlayers of finegrained amphibolite, at least a few dm thick, which is often rusty from po – diss. Also rust – zones in the sediments. The NE – SW – trending bedding has highly variable dips, from vertical to horizontal, due to folding. VLF gave no response. See fig. 29.
B – horizon soil samples are collected along 2 profiles. No soil anomalies, see enclosure no 7.
An earlier Turam survey picked up an underlying, deep – seated (approx 200 m depth) conductor extending 500 m eastwards from about 616300 6948200, which was then proposed drill – tested (Singsaas, P. 1968: Geofysisk undersøkelse Nordgrubefeltet 1967. NGU rep. no. 783).
Other E – W – trending Turam anomalies occur in this area between Lergruvbakken and Lobekken, and the mentioned report conclude with drill – testing of a 1200 m long anomaly (75 – 150 m depth) between approx 616800 6948550 and 618000 6948500.
The western, covered mag anomaly is soil sampled along one profile.
No further follow up is warranted.

13. Fruhaugen:
The Fruhaugen mineralization (described in the Mindex rep. of 1998) is embedded in Røsjø Formation sediments, with amphibolite / gabbro a few tens of meter above and below. Fruhaugen area is located south of the area covered by the helicopter borne survey. The combined VLF (Fig 30) – mag (Fig 31) anomaly indicates the strike length of the mineralization to be at least 400 m (and that the northernmost digging should have been extended NW – wards to cover the anomaly). The predominant feature in Nordgruvefeltet is the longer ore – axis to be directed roughly E – W. This adds further potential to this mineralization.
Fruhaugen area is proposed to be followed up by 20 DOB soil sampling and some trenching if a positive response on assay results.

14. Hamran:
Hamran picks (618960 6946470 and 619380 6947380):
The anomalies occur between the known mineralizations at Lergruvbakken and Kvernenglia, on either side, and close to the contacts of an extensive gabbro sill, that extends along the contact between the Røros Fm and Røsjø Fm.
SW-ern anomaly: No explanation found. Some observations:
619050 6946215: Coarsegr. gabbro. Ca. 40m to the south, 619041 6946181, an old picket ("1100S 2600W").
618865 6946337: 1m2 spot of Fe-rich overburden.
618773 6946389: Finegr. calcareous qtz-mica sch. Sch: 170°/8°.
618807 6946428: Calc. mica sch.
619051 6946666: Old picket
619125 6946740: Coarsegr. gabbro. Gabbro outcropping several places up to:
619173 6946868: More finegr. gabbro.
619386 6947075: Weakly calcareous qtz-mica sch. Sch: 230°/7°.

12. Svelta, Rødalen. Mag Fig 28

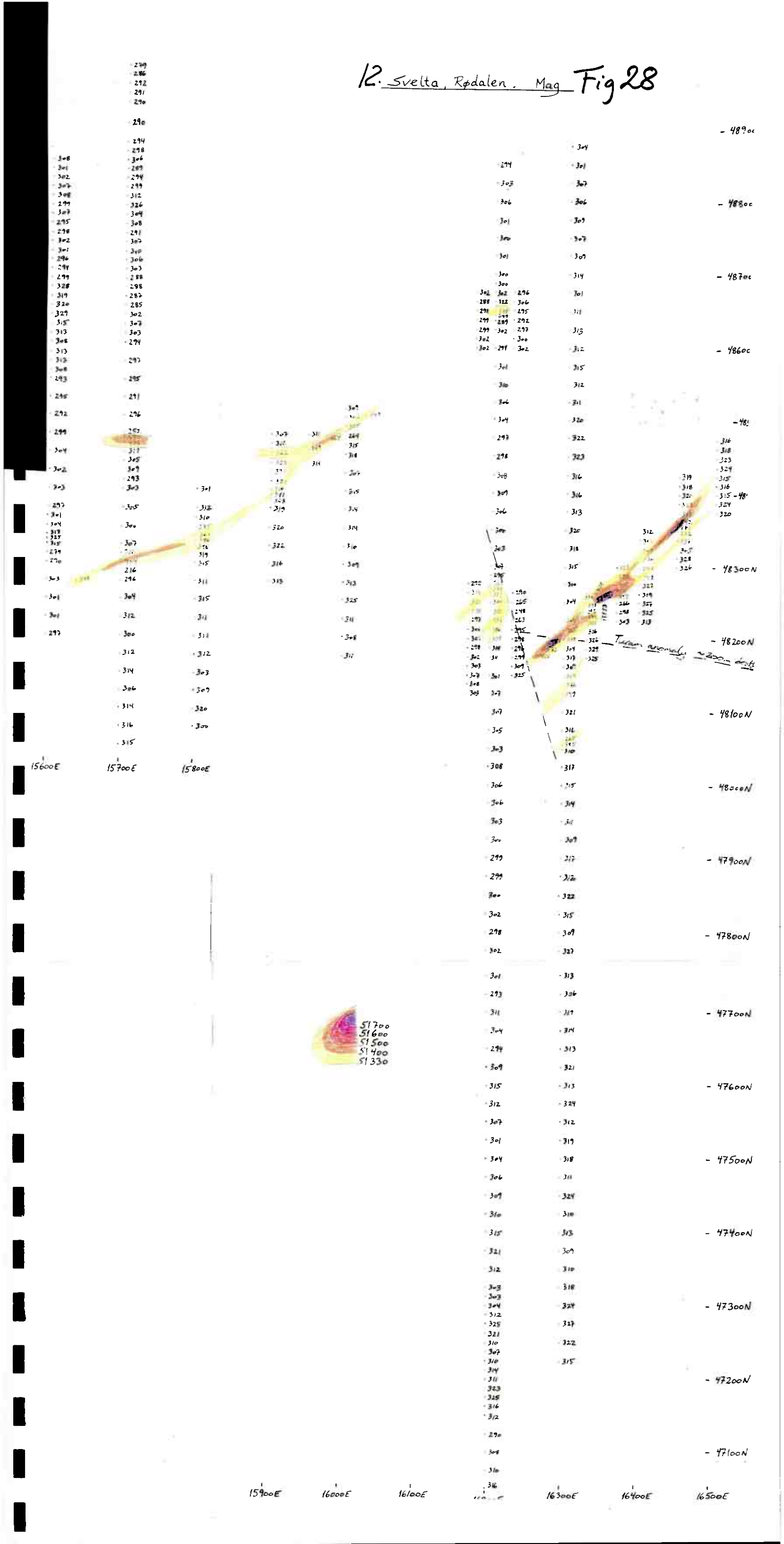
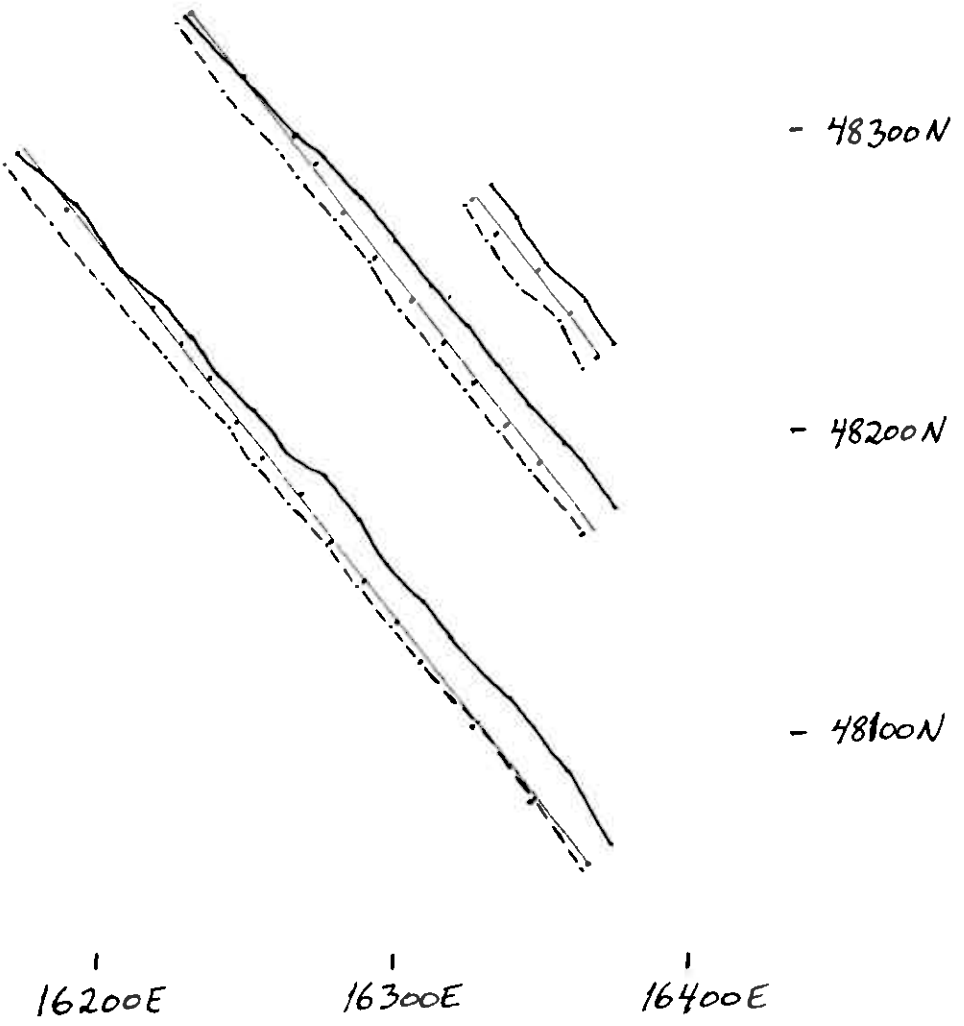


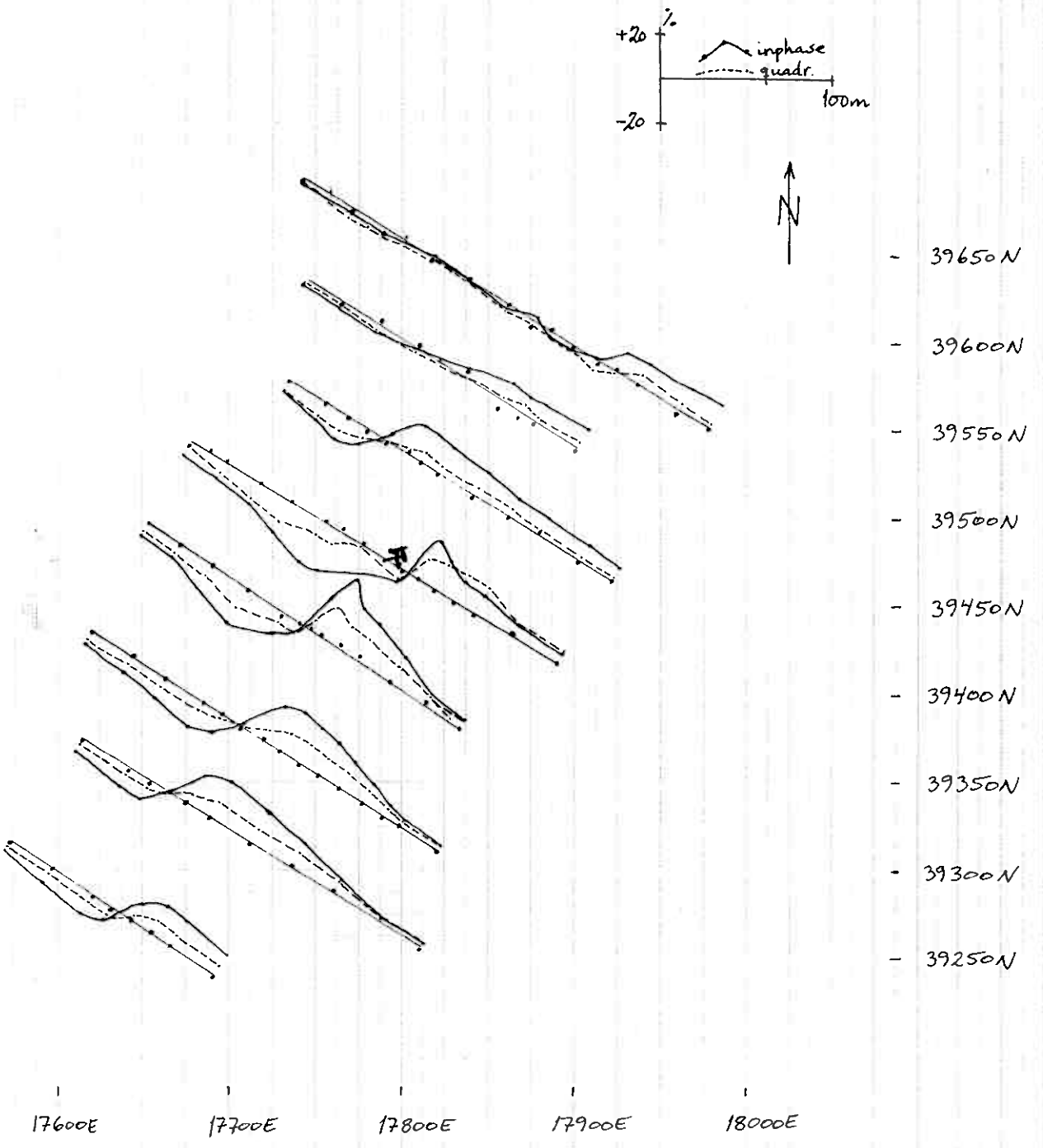
Fig 28

12 Svelta, Rødalen. Fig 29.

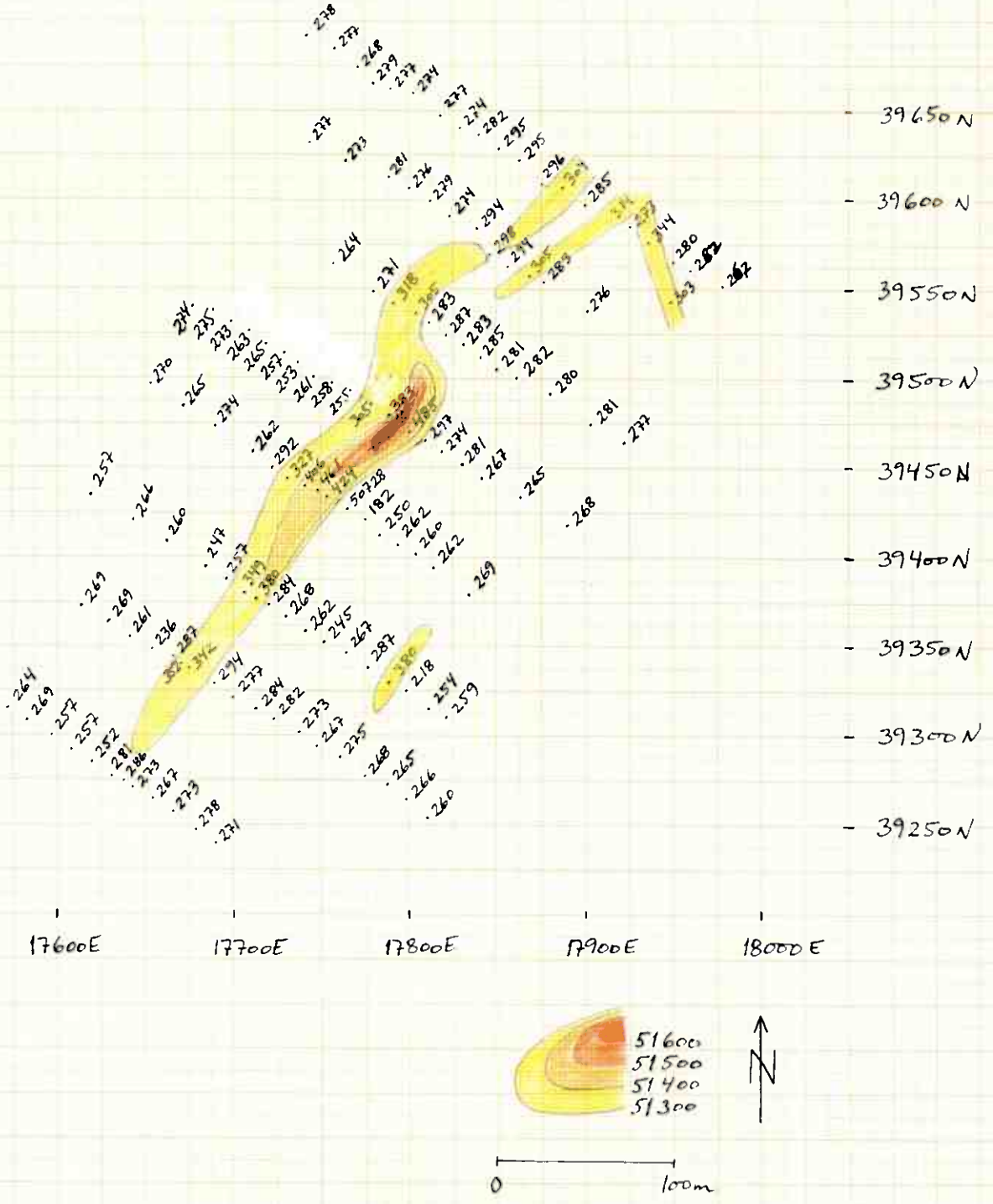
VLF (TxZ), facing WNW



13 Fruhaugen VLF (NAA) Fig 30



13 Fruhaugen. Mag Fig 31



NE-ern anomaly: Stream draining the anomaly; between the anomaly and the steep hill (gabbro) to the west, calc. mica schist is outcropping in the stream.
Stream silt samples collected from this stream:
HAM01: 619340 6947321
HAM02: 619387 6947315
HAM03: 619429 6947309
HAM04: 619483 6947289
HAM05: 619620 6947283
Assay results of the stream sediment samples are very low, see enclosure no 5.
Tractor tracks in the swamp ends in a "hole" at 619424 6947395, from where two 110m long, overgrown wires (15mm thick) run up to 619316 6947401, where it is anchored, for the purpose to pull the tractor off the swamp. The cables are probably causing the AEM anomaly. Grid pickets (from the –60`s?) nearby.

Fig no 32 covers the Hamran anomalies no 1 and 2. About 1km to the north Lergruvbakken is located and 1,5km to the south Kvernenglia prospect is located. Both Lergruvbakken and Kvernenglia are heavily drilled as well as the Hamran prospect. See fig no 3. Hamran prospect is covered by 8 holes in a NW-SE profile over about 800m. No core logging reports have so far been recovered from the Hamran area, but results have most likely been modest, since no later follow up has taken place. No further follow up is therefore recommended for the anomalies 1, 2 and 3 fig 32. Anomalies no 5, 6 and 7, reveals strong EM and combined Mag-EM for no 5 and 6. None of these anomalies have been tested. These three sub-areas in the Hamran area are therefore recommended to be covered by Mag and VLF ground survey programs as well as 60 DOB samples.

Fig 32

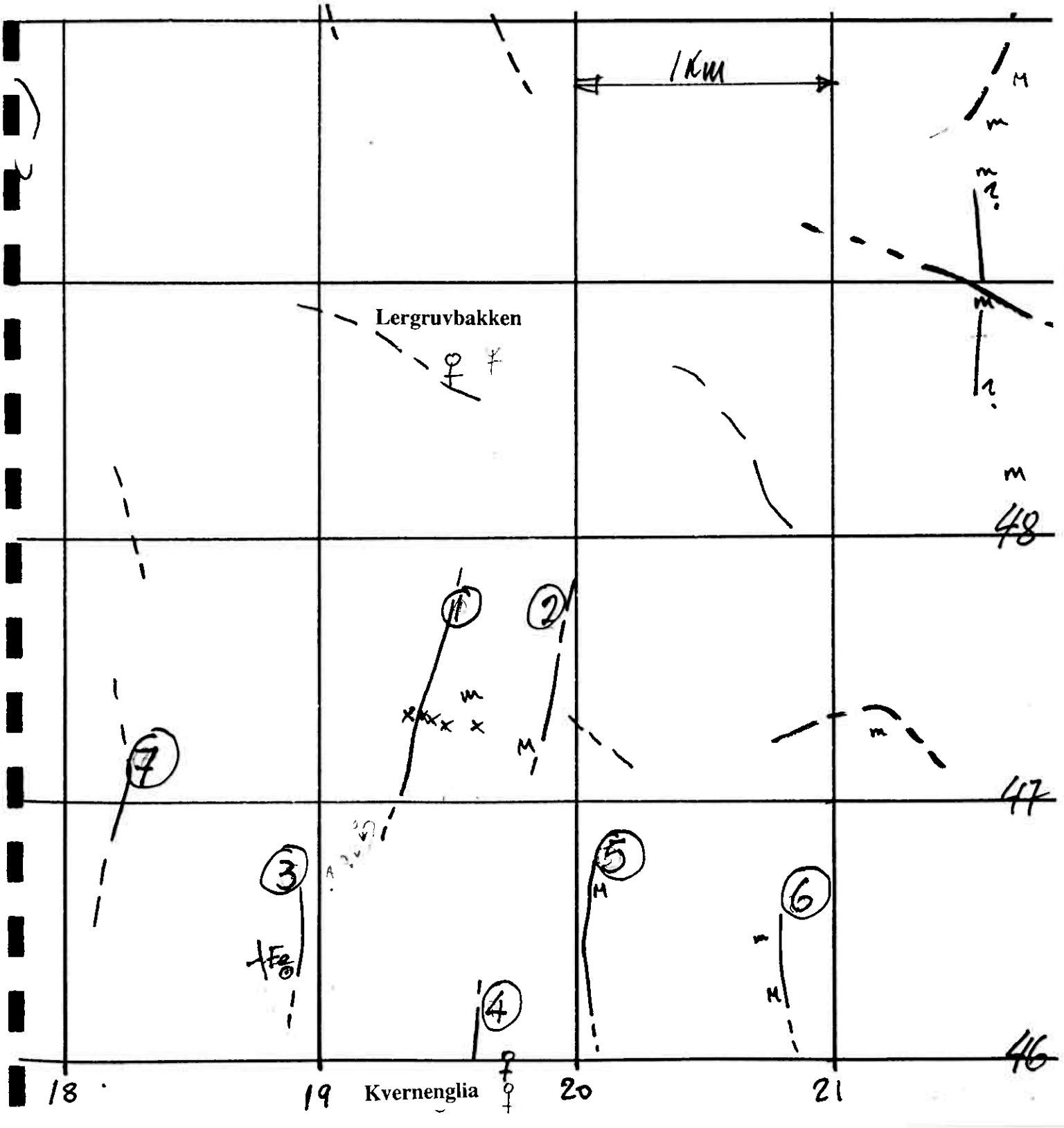
14 Hamran area anomalies

(2) **Combined anomaly**

Helicopter EM anomaly

m M **Mag anomaly**

xx **Hamran stream sediment samples**



Conclusions.

In total 15 target areas have been followed up in Nordgruvefeltet during 2000 and 2001.

One of the targets, Rødalen (7N), was drilled in 2001. See separate report.

Six of the tested targets (No 5, 6, 7, 10, 11 and 12) returned negative conclusions and are therefore not recommended for further follow up. See enclosure no 6.

Six of the remaining eight targets are proposed to be followed up by DOB sampling, mag and VLF surveys. (Targets no 1, 4, 8, 9, 13 and 14). A number of 175 DOB samples and around four days of work for a two men crew for the geophysical ground survey are estimated.

The remaining two targets (No 2 and 3) are proposed to be tested for a more deep penetrating geophysical method.

Estimated costs:

DOB sampling 12 days	NOK 4000	NOK	48000
VLF, Mag surveys 4 days	NOK 4000	"	16000
Assays		"	20000
Field transportation, travel		"	16000
Housing, allowances		"	20000
HLEM 16 pkm NOK 5000/Km		"	80000
Total		NOK	200000

References: Røros-Meråker district

Aasgaard, G., 1927, Gruber og Skjerp i kisdraget Øvre Guldal - Tydal: Norges Geol. Unders. Bull., v. 129, p. 1 - 196.

Aasly, K. 2000, Project work. A geochemical and mineralogical characterization of drillcores from "Nordgruvefeltet" in the Røros Sulphide ore district.

Beard, L. 1999, data aquisition and processing - Helicopter geophysical survey, Røros 1999.

Birkeland, A., Solli, A., Øyvik, M., Sandstad, J.S., Grenne, T. & Erichsen, E. 1996: Malmgeologiske undersøkelser i det østlige Meråkerfelt, Nord-Trøndelag. NGU rep. no. 96.041.

Birkeland, A., 1986, Mineralogiske og geokjemiske undersøkelser av Killingdal gruver, Sør - Trøndelag., Department of Geology, University of Oslo, p. 166.

Birkeland, A., 1996, Malmgeologiske undersøkelser i det østlige Meråkerfelt, Nord - Trøndelag, Norges. Geol. Unders., p. 52.

Birkeland, T. & O. Nilsen 1972, Contact metamorphism associated with gabbros in the Trondheim region. Nor. Geol. Unders. 273, 13-22.

Bjerkgård, T. B., A.., 1994, Geology of the Folldal area, southern Trondheim Region Caledonides, Norway: Norges Geol. Unders. Bull., v. 426, p. 53-76.

Bjerkgård, T. B., A., 1994, The stratabound sulfide deposits in the Folldal area, Southern Trondheim region, Norway: Norsk Geol. Tidskr., v. 74, p. 213-237.

Bjerkgård, T. B., A., 1996, Sulfide Deposits in Folldal, Southern Trondheim Region Caledonides, Norway: Source of Metals and Wall-Rock Alterations Related to Host Rocks.: Econ. Geol., v. 91, p. 676-696.

Bjørlykke, 1993, Lead isotope systematics of Strata-bound sulphide deposits in the Caledonides of Norway.: Econ. Geol., v. 88,, p. 397-417.

Bjørlykke, A. e. a., 1980, A review of Caledonian Stratabound Sulphide deposits in Norway: Geol. Surv. Irl., v. Special Paper no5, p. 29-46.

Bjørlykke, A. S., D.F., 1992, Pb-Zn in Nordland - An evaluation of its potential and recommendations for further work.: Trondheim, Norges Geologiske Undersøkelse.

Bøckman, 1942, Rørosviddas Malmforekomster, *in* Rørosbokkomiteen, editor, Rørosboka: Trondheim, p. 53-71.

Carson, D, 1999, Mineralogy and predictive metallurgy of samples from six MS Deposits in the Røros area. Crew internal report.

Chaloupsky, 1967, Geology of the western and north-eastern part of the Meråker area.: Norges Geol. Unders., v. 245, p. 9-21.

Craig, J.R. 1980: Stratiform sulfide mineralization in the Central U.S. Appalachians. NGU 360, 295-325.

Cratochvil, M. Et al. 2000. Quantec Geoscience Inc. Geopysical Survey Logistics report. Ground survey Jensåsbekken, Kjøli, Rødalen and Svartbekken grids.

Dalsegg, 1992, Geofysiske undersøkelser, Meråkerfeltet -Øst, Meråker Nord-Trøndelag., Norges Geol. Unders. 93.001.

Dalsegg, E 1999.NGU ground survey in Klinkenberg area Røros.

Dalsegg, E. Et al 2000.NGU ground survey at Tjønnvollmyran, Holtålen.

Dalsegg, E. Et al 2000.NGU ground survey in Klinkenberg area, Røros.

Dalsegg, E. Et al 2000.NGU ground survey in Storskarven area, Røros.

Eidsvik, P. 1968: Geofysiske målinger Pustbakken – Slettmo. NGU rep. no. 769.
Eriksen, K. R., 1975, Aktieselskabet Røros Kobberverk, *in* Valmot, O., editor, Bergverk 1975, Jubileumsskr.: Trondheim, Bergingeniør Foren., p. 114-121.
Finne, 1993, Innhold av 28 grunnstoffer i salpetersyreekstrakt av jordprøver fra Meråker., Norges Geol. Unders.
Foslie, S., 1926, Norges Svovelkisforekomster: Norges Geol. Unders., v. No. 127, p. 122.
Gee, D. G. S., B.A.,, 1985, The Caledonide Orogen - Scandinavia and Related Areas, v. 1 + 2, Wiley & Sons, 1266 p.
Gilmour, P. 1971: Strata-bound massive pyritic sulfide deposits – a review. Econ. Geol. 66, 1239-1249.
Gjestland, T. 1992: Gruvene i Storwartz-feltet. Bergstuderendes Forening / Olavsgruvas Venner.
Gonzales, C, 1998: Geophysical Report from the Røros Area. Crew Internal Report No N98/10, 123pp incl. tables and figs.
Gower, C. F., 1992, The relevance of Baltic Shield Metallogeny to Mineral Exploration in Labrador, Current Research, Newfoundland Dept. of Mines and Energy, p. 331-366.
Grenne, T., 1987, Marginal basin type metavolvanites of the Hersjø Formation, eastern Trondheim District, Central Norwegian Caledonides: Norges Geol. Unders. Bull., v. 412, p. 29-42.
Grenne, T., Hertogen, J., Solli, A., Birkeland, A., Erichsen, E., Sandstad, J.S., 1995, The sequential development of magmatic ore-forming processes in the Fundsjø Group, Meråker district, Central Norway.: Norges Geol. Unders. Bull., v. 427, p. 108-111.
Grytdal, I. 1989: Fløttumsgruva. Singsås Bygdemuseum.
Gvein, Ø., 1976, Boring i Græsli, Tydal, Sør - Trøndelag., Aspro, p. 17.
Haugen, A., 1966, En Malmgeologisk beskrivelswe av Gilså - Dronningen - Lillefjell -området i Meråker., Geology Department, University of Trondheim, p. 110.
Juhava, R. 1991: Ore calculation. Fløttum. Int. rep. Folldal Verk A/S / Outokompo Oy. (Available at Bergmester office.)
Karlstrøm, 1993, Edelmetaller i kisforekomster i Nord-Trøndelag., p. 58.
Krupp, R. K., G., 1985, Geological Setting of the Tverrfjell Copper/Zonc Deposit, Central Norway: Geol. Rundsch., v. 74, p. 467-482.
Kumpulainen, R. N., J.P., 1985, Late Proterozoic basin evolution and sedimentation in the westernmost part of Baltoscandia, *in* Gee, D. G. S., B.A., editor, The Caledonide Orogen - Scandinavia and Related Areas, Wiley & Sons, p. 213-232.
Lieungh, B., 1973, Geologiske, petrografiske og malmgeologiske undersøkelser i Nordgruvefeltet, Røros, Geology Department, Blindern: Oslo, University of Oslo, p. 159.
Ljøkjell, P., 1953, Geology of the Fløttum Mine., Department of geology, University of Trondheim, p. 62.
Mogaard, J. O., Blokkum, O, 1993, Geofysiske målinger fra helikopter over Meråkerfeltet, Nord-Trøndelag.
Nilsen, O., 1969, Petrografiske og malmgeologiske undersøkelser i Haltdalen - Kjøliområdet, Department of Geology, University of Oslo, p. 214.
Nilsen, O., 1971, Sulphide mineralization and wall rock alteration at Rødhammeren mine, Sør - Trøndelag, Norway: Norsk Geol. Tidsskr., v. No 53, p. 9.

Nilsen, O., 1988, The Tectonostratigraphic Setting of Stratabound Sulfide Deposits in the southern Trondheim Region, Central Norwegian Caledonides: Norges Geol. Unders. Bull., v. 412, p. 55-66.

Nilsson, L. P., Sturt, B.A., Ramsay, D.M., 1997, Ophiolitic ultramafites in the Follsal-Røros tract, and their Cr-(PGE) mineralization: Norges Geol. Unders. Bull., v. 433, p. 10-11.

Petersen, Jon Sten 1999, Mindex ASA, Røros Zinc-Project, Central Norway. Project Presentation Report.

Qvale, H. S., J., 1985, Ultramafic rocks in the Scandinavian Caledonides, *in* Gee, D. G. S., B.A., editor, The Caledonide Orogen - Scandinavia and Related Areas, Wiley & Sons, p. 694-715.

QuantecGeoscience Inc. 2000, Geophysical Report, Jensåsbekken, Kjøli, Rødalen and Svartbekken at Røros.

Ramsay, D. M. S., B.A., 1998, The Tjørnseter Salient: A cartographic and structural curiosity in the outcrop pattern of the Otta Nappe: Trondheim, Norges Geol. Unders., p. 12.

Riiber, C. C. A., G., 1935, Beskrivelse av kis og kobbergruver og skjerp i Foldal, Dovre, og Alvdal herreder. In Marlow, W. (ed.) Foldal. Beskrivelse til det geologiske rektangelkart.: Norges Geol. unders., v. 145, p. 28. p.68 - 96.

Rolseth, P. O., 1945, Selbo Kobber - Værk., Selbu og Tydal Historielag, 188 p.

Rui, 1998, Sulphide deposits in the nEastern Trondheim Region, Aspro, p. 17.

Rui, I., 1973, Geology and structures of the Røstvangen sulphide deposit in the Kvikne district, Norwegian Caledonides.: Norsk Geol. Tidskr., v. 53, p. 433-442.

Rui, I., 1973, Structural Control and Wall Rock Alteration at Killingdal Mine, Central Norwegian Caledonides: Econ. Geol., v. 68, p. 859-883.

Rui, I., 1990, Nordgrubefeltet ved Røros, Aspro, p. 24.

Rui, I., 1990, Sulfidforekomster i Børsjøhøfeltet, Aspro, p. 12.

Rui, I., 1998, Sulphide Deposits in the Eastern Trondheim Region, Aspro, p. 17.

Rui, I. B., I., 1975, Stratabound sulfide mineralization in the Kjøli area, Røros District, Norwegian Caledonides: Norsk Geol. Tidsskr., v. 55, p. 51-75.

Rui, I. G., G, 1976, Gravimetric indications of basement undulations below the Cambro - SWilurian deposits East of Røros, Southern Norway: Norsk Geol. Tidsskr., v. 56, p. 195 - 202.

Rui, I. J., 1972, Geology of the Røros District, South-eastern Trondheim Region with a special study of the Kjøliskarvene-Holtsjøen area.: Norsk Geol. Tidsskr., v. 52, p. 1-21.

Rui, I. J., 1980, Stratabound Massive Sulfide Deposits in the Røros District of the Trondheim region, Central Norwegian Caledonides: Nor. Geol. Unders. Bull., v. 360, p. 229.

Rui, I. m. F., 1990, Deformasjon og remobilisering av malmer., Bergverkenes Landssammenslutning Industrigruppe, Bergforskningen., p. 199.

Rui, I, 1998, Sulphide deposits in the Eastern Trondheim region. Crew internal report.

Sakshaug, G.F. 1941: Slettmo – Pustbakken. GM rep. no. 24.
Sakshaug, G.F. 1961: Elektromagnetisk undersøkelse Kvernenglia. GM rep. no. 274A.
Sakshaug; G.F. 1961: Elektromagnetisk undersøkelse Mugg – Lille Mugg. GM rep.no.274B.
Singsaas, P. & Brækken, H. 1944: Geofysiske undersøkelser Solskinnsfeltet. GM rep. no. 37.
Singsaas, P. & Brækken, H. 1950: Rapport over elektromagnetisk kartlegging over og omkring Klinkenberg gruve og Abrahams gruve. NGU/GM? rep. no. 72.
Singsaas, P. & Brækken, H. 1951: Geofysisk undersøkelse over området ved Storwartz Grube. NGU/GM? rep. no. 82.
Singsaas, P. & Brækken, H. 1952: Geofysisk undersøkelse Fjellsjøfeltet, Glåmos. NGU/GM? rep. no. 85.
Singsaas, P. 1961: Geofysisk undersøkelse Lergrubebakken/Glåmos. NGU/GM? rep. no. 293.
Singsaas, P. 1965: Geofysisk undersøkelse Lobekken. NGU rep. no. 647.
Sawkins, F. S., 1990, Integrated tectonic-genetic model for volcanic-hosted massive sulfide deposits: Geology, v. 18, p. 1061-1064.
Schack-Pedersen, S. A., 1979, Structures and Ore Genesis of the Grimsdalen Sulfide Deposits, Southern Trondheim Region, Norway.: Norges Geol. Unders. Bull., v. 351, p. 77-98.
Shieh, Y. N. R., I.J., 1980, Sulfur and Oxygen Isotope Ratios in Stratabound Ores and Wall Rocks from the Killingdal Mine, Central Norwegian Caledonides.: Nor. Geol. Unders. Bull., v. 360, p. 231.
Stephens, M. B. G. D. G., 1989, Terranes and polyphase accretionary history in the Scandinavian Caledonides: Geol Soc. Am. Spec. Paper, v. 230, p. 17-30.
Stephens, M. B. R., A., 1986, Stratabound sulfide mineralizations in the Central Scandinavian Caledonides, Sveriges Geol. Unders. Ca., p. 67.
Sturt, B. A., Ramsay, D.M., Neuman, R.B., 1991, The Otta Conglomerate, the Vågåmo Ophiolite - further indications of early Ordovician Orogenesis in the Scandinavian Caledonides: Norsk Geol. Tidsskr., v. 71, p. 107-115.
Sturt, B. A., Bøe, R., Ramsay, D.M., Bjerggård, T., 1995, Stratigraphy of the Otta-Vågå tract and regional stratigraphic implications: Norges Geol. Unders. Bull., v. 427, p. 25-28.
Sturt, B. A., Ramsay, D.M., 1997, The Gudbrandsdalen Antiform - a major Late Caledonian structure: Norges Geol. Unders. Bull., v. 433, p. 12-13.
Sturt, B. A., Ramsay, D. M., Bjerkgård, T., 1997, Revisions of the tectonostratigraphy of the Otta-Røros tract: Norges geol. Unders. Bull., v. 433, p. 8-9.
Sturt, B. A. R., D., 1991, Tectonostratigraphic Relationships and Obduction Histories of Scandinavian Ophiolitic Terranes, *in* Tj. Peters et al., editor, Ophiolite Genesis and Evolution of the Oceanic Lithospher, Ministry of Petroleum and Minerals, Sultanate of Oman, p. 745-769.
Sundblad, K. 1980: A tentative "Volcanogenic" Formation Model for the Sediment-hosted Ankarvattnet Zn-Cu-Pb Massive Sulphide Deposit, Central Swedish Caledonides. NGU 360, 211-227.
Sundblad, 1983, Lead isotope systematics of stratabound sulfide deposits in the higher nappe complexes of the Swedish Caledonides.: Econ. geol., v. 78, p. 1090-1107.
Theting, F., 1935, Beskrivelse av Røstvanggruberne. In Marlow, W. (ed.). Foldal. Beskrivelse til det geologiske rektangelkart.: Norges Geol. Unders., v. 145, p. 97 - 109.

Vogt, T. 1949: Forslag til geofysisk malmleting i traktene nord for Aursunden. Bergarkivet rep. no. 2094.

Vokes, F.M. 1968: Regional metamorphism of the Palaeozoic geosynclinal sulphide ore deposits of Norway. Trans. Inst. Mining Met. 77, B53-B59.

Vokes, F.M. 1969: A review of the metamorphism of sulphide deposits. Earth Sci. Rev. 5, 99-143.

Vokes, F.M. 1976: Caledonian massive sulphide deposits in Scandinavia – a comparative review. In Wolf, K.H. (ed.) Handbook of Stratabound and Stratiform ore deposits, 6, 79-127 Elsevier.

Vokes, F. M., 1980, Some Aspects of research into Caledonian Stratabound Sulfide Deposits of Scandinavia: Nor. Geol. Unders. Bull., v. 360, p. 77-93.

Vokes, F. M., 1987, Caledonian Stratabound Sulfide Ores and Factors affecting them.: Geol. Surv. Finland. Spec. paper, v. 1, p. 15-26.

Vokes, F. M., Rundhovde, E., Boyd, R., Grenne, T., Nilsson, L.-P., Pedersen, R.-B., 1991, The metallogeny of early Ordovician ophiolites in the Norwegian Caledonides, *in* Leroy, P., editor, Source, Transport and Deposition of Metals: Rotterdam, Balkema, p. 627-630.

Vokes, F. R., A., 1980, Stratabound Sulfides in the Caledonian-Appalachian orogen, Nor. Geol. Unders., p. 325.

Walker, 1992, A geophysical investigation of Kjølhauggruppen and Sulåmogruppen over two areas near Meråker, Norway., Norges Geol. Unders.

Wilberg, R & Røsholt, B, 1998: Røros Zinc Project, Geological Investigations of Stratiform Sulfide Deposits in the Røros-Meråker Area. Crew Internal Report No. 98/8, 147 pp + maps and tables.

Witt-Nilsson, P, 1999: The Røros-Meråker district mines – a structural assessment. Crew Internal Report. No. N99/1, 99 pp + maps and diagrams.

Wolff, F. C. e. a., 1967, Studies in the Trondheim Region, Central Norwegian Caledonides II: Norges Geol Unders., v. 245, p. 146.

Wolff, F.C. 1973: Beskrivelse til de berggrunnsgeologiske kart 1721 I og 1722 II – 1:50 000. NGU no. 295.

Zachrisson, E., 1980, Aspects of Stratabound base metal Mineralization in the Swedish Caledonides.: Geol. Surv. Irl., v. Special paper no.5, p. 47-61.

Zachrisson, E., 1986, Scandinavian Caledonides Stratabound Sulfide Deposits, Sveriges Geol. Unders.

ENCLOSURES

Encl 1.

Summary of results of ore samples from Nordgruvefeltet

1. Kongens Gruve from UTM 0618669 6950956 to UTM 0616871 6950865

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399728	127	9	9431	536	19000	74	> 10.00
399729	118	24,9	6055	6331	118000	167	27,1
399730	250	16,1	7284	5080	70000	101	> 10.00
399731	92	7,1	6276	1195	44000	56	21,2
399732	205	33	6530	6490	133000	80	26,8
399733	102	10,9	17000	1753	44000	< 5	> 10.00
399734	109	10,8	13000	1591	38000	23	27,5
399735	155	27	82000	1283	68000	108	> 10.00
399736	1278	37,6	82000	1709	64000	65	> 10.00
399737	1054	27,8	29000	2924	41000	37	28,6
399738	137	29,5	75000	1433	40000	40	> 10.00

2. Lergruvbakken (Orvsjøen) UTM 0619682 6948740

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399739	132	19,4	12000	4431	246500	8	22,2
399740	150	22,9	16000	5239	198100	49	27,5
399741	133	21,4	12000	4617	207800	36	29,8
399742	137	23	13000	5485	198700	52	> 10.00
399743	77	15	16000	2944	178800	8	18,8
399744	31	2,7	2905	329	36000	41	8,98

3. Christianus Sextus Gruve (Orvsjøen) UTM 0619641 6952854

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399718	197	7,8	6028	3901	160400	88	29,7
399719	57	2,6	6730	541	7547	109	> 10.00
399720	66	6	12000	1069	55000	97	22,8
399721	106	2,9	9807	65	2780	114	16,1
399722	125	6,2	31000	70	2228	160	12,1
399723	49	2,1	2719	25	15000	< 5	> 10.00
399724	330	44,6	97000	1430	111000	12	23,7
399725	153	5,7	1783	1130	181000	49	24,1

4. Fjellsjø Gruve (Orvsjøen) UTM 0616307 6953250

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399657	5	0,5	2196	90	2187	< 5	3,9
399658	84	8,3	13000	948	40000	104	> 10.00
399659	519	14,2	33000	1371	35000	105	29,7
399660	390	13,4	38000	816	47000	52	> 10.00
399661	243	9	14000	2224	79000	45	> 10.00
399662	191	4,8	5850	679	111000	40	> 10.00

399663	107	8,4	16000	548	135000	30	21,6

5. Muggruva (Orvsjøen) UTM 0617048 6956440

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399678	505	6,1	6636	111	3464	< 5	25,8
399679	330	16,2	76000	300	2448	< 5	> 10.00
399680	229	6,6	18000	59	1120	< 5	> 10.00
399681	123	7,8	31000	73	1322	< 5	> 10.00
399682	51	1,2	34000	36	427	< 5	27,5

6. Lille Mugg and Nye Mugg (Orvsjøen) UTM 0616129 6955901

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399683	804	9,2	85000	97	21000	< 5	17
399684	257	8,6	3204	28	50000	< 5	> 10.00
399685	244	21,5	85000	117	29000	< 5	20,3
399686	138	22,3	67000	124	13000	< 5	12,7

7. Rødalen Gruve (Orvsjøen) UTM 0615724 6951000

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399652	128	12,2	7723	3146	75000	61	27
399653	101	13,3	12000	1595	37000	33	> 10.00
399654	254	10,5	25000	995	34000	24	> 10.00
399655	56	23,6	98000	1129	28000	9	25
399656	353	14	34000	2058	52000	48	> 10.00

8. Lomtjønna (Lomtjørna) UTM 0616230 6938080

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399706	283	1,2	11000	23	919	117	12,1

9. Fruhaugen (Fruhaugen) UTM 0617801 6939435

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399711	47	1,4	1633	139	46000	289	5,17
399712	347	5,7	12000	121	71000	449	9,6
399713	107	2,3	1824	89	8266	163	20,5

10. Rognåsen or Skittlitjørna (Rognåsen) UTM 0616225 6940479

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399714	30	1,2	5697	21	18000	130	4,8
399715	579	12,4	23000	48	13000	167	15,3
399716	19	0,4	3446	35	2392	103	2,72

11. Skittlilia (Fjellsjøen) UTM 0615700 6942700. Insignificant.

12. Littlefjell (Litlfjell) UTM 0618121 6941899

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399717	20	0,7	7406	32	153	92	15

13. Kvernenglia (Orvsjøen) UTM 0619750 6945900. Heavily covered.
A number of 13 drillholes totaling 979m are stored at The Geological Survey's storage.

14. Røa (Rørosgård) UTM 0618720 6943430. Covered.
A number of 2 drillholes totaling 290m are stored at The Geological Survey's storage

15. Fjellsjøha (Tverrøa) No outcrops. UTM = 0616230 6944790

16. Lobekken (Lomyra) 0614549 6947892. No outcropos.
A number of 7 drillholes totaling 770m are stored at The Geological Survey's storage.

17. Frysihjel (Orvsjøen) UTM 0618435 6950515

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399726	20	3,8	13000	35	2503	< 5	21,5
399727	14	3,3	7533	53	5281	< 5	> 10.00

18. Slettmoen (Slettmoen) UTM 623445 6949990

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399745	160	12,5	13000	2849	25000	5	10,1
399746	49	15,8	8656	4969	48000	< 5	> 10.00
399747	363	40	95000	3891	41000	311	19,3
399748	87	17	12000	6654	55000	146	8,83
399749	513	30,3	41000	3745	29000	149	19,4

19. Pustbakken (Pustbakken) UTM 0623403 6949077
A number of 2 drillholes totaling 150m are stored at The Geological Survey's storage.

Element	Au30	Ag	Cu	Pb	Zn	As	Fe
Units	ppb	ppm	ppm	ppm	ppm	ppm	%
L.R.L.	5	0,2	1	2	1	5	0,01
399699	362	4	4774	1317	21000	204	17
399700	211	2,9	11000	218	1407	231	8,79
399785	91	6,6	1768	17100	28000	198	3,56
399786	359	15,3	12000	2712	14000	36	11,4

2000 Røsjøen N DOB samples

Smpl. Id.	Prospect	Grid N	Grid E	UTM E	UTM N	Depth		Be	Na	Mg	Al	P	K	Ca	Sc	Ti
Sch. Code								ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Un.								ppm	%	%	%	%	%	%	ppm	%
Det.Lim.								0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01
RD001	Røsjø. 7N	10700N	10800E	615718.67	6951864.9	1.9	greenishgrey silt+calc mica sch plug	-0.5	0.01	1.57	2.02	0.07	0.14	0.17	6.1	0.04
RD002	Røsjø. 7N	10700N	10775E	615698.65	6951849.8	1.8	grey to greenish, and rustbrown silt+amphibolite plug	-0.5	0.01	1.37	1.79	0.06	0.17	0.13	5.9	0.05
RD003	Røsjø. 7N	10700N	10750E	615678.63	6951834.7	1.5	light yellowbrown and green silt (stop at boulder?)	-0.5	0.01	0.81	1.07	0.07	0.2	0.19	2.5	0.06
RD004	Røsjø. 7N	10700N	10725E	615658.61	6951819.6	1.1	light to dark brown silt+green, ampibolitic matr.	-0.5	0.02	0.5	0.81	0.06	0.12	0.2	1.6	0.05
RD005	Røsjø. 7N	10700N	10700E	615638.58	6951804.5	2.1	light greybrown and rustybrown silt	-0.5	0.01	0.65	0.84	0.06	0.17	0.22	2.5	0.05
RD006	Røsjø. 7N	10600N	10675E	615678.9	6951709.3	2	light yellowbrown silt+qtzitic garben mica sch plug	-0.5	0.02	0.62	0.88	0.07	0.25	0.2	2.8	0.05
RD007	Røsjø. 7N	10600N	10725E	615718.95	6951739.5	1.4	light brown silt+calc mica sch fragm.+finegr amphibolite plug	-0.5	0.03	0.85	1.2	0.08	0.37	0.27	2.9	0.1
RD008	Røsjø. 7N	10600N	10750E	615738.97	6951754.6	0.8	light greybrown silt+rusty chl sch plug	-0.5	0.01	0.47	0.8	0.04	0.12	0.11	1.5	0.04
RD009	Røsjø. 7N	10600N	10625E	615638.86	6951679.2	1.5	lightbrown to brown silt+fragm of chloritic mica sch and white qtzite	-0.5	0.02	1.07	1.53	0.04	0.22	0.11	3.2	0.06
RD010	Røsjø. 7N	10600N	10600E	615618.84	6951664.1	0.6	lightbrown to brown silt (stop on boulder?)	-0.5	0.01	0.37	0.79	0.03	0.11	0.08	1	0.03
RD011	Røsjø. 7N	10600N	10575E	615598.81	6951649	1.8	light grey silt+qtz plug	-0.5	0.01	0.63	0.93	0.04	0.17	0.11	2.1	0.05
RD012	Røsjø. 7N	10600N	10550E	615578.79	6951633.9	1.2	brown silt+plug of qtzite and greygreen sch	-0.5	0.01	0.21	0.5	0.03	0.08	0.08	1.2	0.03
RD013	Røsjø. 7N	10600N	10525E	615558.77	6951618.8	0.9	brown silt+qtzite fragm (prob stop on boulder)	-0.5	0.01	0.19	0.39	0.02	0.06	0.06	0.6	0.03
RD014	Røsjø. 7N	10500N	10450E	615559.04	6951493.5	1.5	light grey silt+hydr qtz plug	-0.5	0.02	1.46	1.85	0.06	0.53	0.19	2.6	0.1
RD015	Røsjø. 7N	10500N	10500E	615599.08	6951523.7	4	light grey silt with darker, micarich silt at the bottom	-0.5	0.02	1.19	1.48	0.06	0.46	0.16	5.4	0.07
RD016	Røsjø. 7N	10500N	10550E	615639.13	6951553.8	0.7	grey and brown silt and gravel; almost impossible because of boulders	-0.5	0.01	0.19	0.46	0.03	0.09	0.07	0.6	0.02
RD017	Røsjø. 7N	10500N	10575E	615659.16	6951568.9	1.4	brown to greygreen silt+fragm of greygreen sch and hydr qtz (lot of boulders)	-0.5	0.02	1.19	1.5	0.06	0.28	0.19	3.2	0.06
RD018	Røsjø. 7N	10500N	10600E	615679.18	6951584	1.6	light grey silt with darker, micarich silt at the bottom	-0.5	0.02	0.67	0.92	0.05	0.35	0.16	2.6	0.06
RD019	Røsjø. 7N	10500N	10625E	615699.2	6951599.1	2.5	bluegreen and brown silt+chl-amph-matr+plug of finegr amphite w/po-diss.	-0.5	0.04	0.87	1.2	0.11	0.14	0.42	2.8	0.06
RD020	Røsjø. 7N	10500N	10675E	615739.25	6951629.3	1.8	light grey silt, darker grey at bottom, finegr amphite plug	-0.5	0.02	0.63	0.87	0.07	0.14	0.23	2.2	0.04
RD021	Røsjø. 7N	10400N	10700E	615819.61	6951564.3	2	light brown and greenish silt+finegr amph sch plug	-0.5	0.02	0.56	0.83	0.07	0.1	0.21	2.2	0.05
RD022	Røsjø. 7N	10400N	10650E	615779.57	6951534.1	2.3	light grey+greenish silt+humus+qtzite fragm+plug green sch (stop on boulder?)	-0.5	0.01	1.11	1.51	0.06	0.08	0.17	1.9	0.05
RD023	Røsjø. 7N	10400N	10625E	615759.54	6951519	0.9	light brown silt with qtzite fragm (stop on boulder?)	-0.5	-0.01	0.42	0.66	0.03	0.1	0.08	1.2	0.04
RD024	Røsjø. 7N	10400N	10600E	615739.52	6951503.9	2.5	light brown and green silt+plug of weakly rusty chl sch	-0.5	0.02	1.05	1.49	0.11	0.23	0.38	3.6	0.12
RD025	Røsjø. 7N	10400N	10575E	615719.5	6951488.8	3.8	green silt	-0.5	0.03	0.92	1.15	0.09	0.2	0.36	3.4	0.06
RD026	Røsjø. 7N	10400N	10550E	615699.47	6951473.7	4.5	greygreen silt+plug of chloritic amph sch	-0.5	0.02	0.89	1.1	0.07	0.2	0.25	2.6	0.05
RD027	Røsjø. 7N	10400N	10500E	615659.43	6951443.6	5	greygreen silt+chl sch rock powder+plug of chl sch	-0.5	0.03	2.08	2.55	0.06	0.92	0.27	6.6	0.13
RD028	Røsjø. 7N	10300N	10500E	615719.76	6951363.5	1.5	brown silt	-0.5	0.02	0.82	1.18	0.05	0.33	0.19	1.2	0.07
RD029	Røsjø. 7N	10300N	10550E	615759.81	6951393.6	1.3	brown silt+fragm and end plug of chl sch	-0.5	0.02	1.86	2.19	0.07	0.29	0.22	3.3	0.07
RD030	Røsjø. 7N	10300N	10575E	615779.84	6951408.7	1.9	light grey silt+few fragm of light sch.Betw. 29and 30 Poisoned area W/Alp.Visc.	-0.5	0.01	0.46	0.7	0.05	0.1	0.13	1.4	0.04
RD031	Røsjø. 7N	10300N	10600E	615799.86	6951423.8	2.3	green, in places rusty silt+fragm and endplug of rusty chl-amph sch	-0.5	0.04	0.71	1.08	0.09	0.12	0.42	4.1	0.09
RD032	Røsjø. 7N	10300N	10625E	615819.88	6951438.9	1.2	brown silt+rusty (carb?) chl-mica sch fragm+hydr qtz plug (stop on boulder?)	-0.5	0.01	0.6	0.89	0.05	0.12	0.14	1.6	0.04
RD033	Røsjø. 7N	10300N	10650E	615839.91	6951454	1.8	greygreen and brown silt	-0.5	0.02	1.21	1.57	0.06	0.14	0.23	2.5	0.06
RD034	Røsjø. 7N	10300N	10700E	615879.95	6951484.2	0.8	light greygreen and rustybrown silt+qtzite fragm.	-0.5	0.02	0.86	1.31	0.06	0.25	0.17	3.6	0.08
DUP-RD002	Rødalen							-0.5	-0.01	1.39	1.74	0.06	0.17	0.12	5.4	0.05
DUP-RD014	Rødalen							-0.5	0.02	1.4	1.8	0.05	0.48	0.17	2.8	0.09
DUP-RD026	Rødalen							-0.5	0.01	0.86	1.06	0.07	0.19	0.22	2.2	0.04
NIST8606								1.9	0.28	0.36	1.4	0.16	0.11	9.23	2.3	0.1

Enclosure no 2

Prepared by Bernt Røsholt 10/25/01

2000 Røsjøen N DOB samples

V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Au	Na	Ca	Sc	Cr	Fe	Co	Ni
ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA
ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	%	ppm	ppm
2	1	2	0.01	1	1	0.5	0.5	3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	5	500	1	1	10	0.1	5	100
72	75	315	3.21	17	43	153	94	-3	5.7	10.8	7.1	2	-0.2	-1	-10	-5	73	15	-10	-2	-5	-5	22000	-1	19	130	6	25	-100
62	59	385	3.06	17	30	203	157	-3	4.1	13.4	7.7	-1	-0.2	-1	-10	-5	91	20.5	-10	3	-5	-5	14000	-1	15	120	6	24	-100
51	31	326	2.42	19	24	219	293	-3	4.8	6.9	7.8	-1	0.2	-1	-10	-5	158	11.5	-10	6	-5	-5	11000	2	19	87	4.9	22	-100
22	26	373	1.44	13	21	70.3	91.4	-3	5	9.4	7.4	-1	-0.2	-1	-10	-5	37	19.2	-10	5	-5	-5	12000	2	14	90	3.6	18	-100
30	33	529	1.6	11	25	84	128	-3	6.4	8.8	8.2	-1	0.3	-1	-10	-5	78	14	-10	6	-5	-5	16000	-1	11	76	2.9	13	-100
34	30	262	1.59	13	24	128	125	-3	5.3	6.6	5.5	-1	-0.2	-1	-10	-5	86	9.9	-10	3	-5	-5	15000	1	16	79	3.9	19	-100
46	49	457	2.05	14	35	69.4	167	-3	5.7	18.5	4.6	-1	-0.2	-1	-10	-5	90	23.7	-10	9	-5	-5	17000	3	21	130	5.3	25	-100
17	18	230	1.25	8	20	24.9	39.7	-3	5.2	8.1	9.7	-1	0.3	-1	-10	-5	29	20.1	-10	5	-5	-5	8900	-1	9	54	2.3	9	-100
48	48	256	2.74	14	26	211	212	-3	3.3	9.8	7.5	-1	-0.2	-1	-10	-5	94	20	-10	3	-5	-5	10000	-1	13	100	5	18	-100
13	20	147	1.02	5	19	10.6	26.1	-3	3.6	7.2	6.1	1	-0.2	-1	-10	-5	29	17.3	-10	5	-5	23	8200	-1	6	50	1.8	7	-100
24	29	246	1.32	7	26	15.5	37	-3	4.8	9.7	7.8	-1	-0.2	-1	-10	-5	76	18.6	-10	4	-5	-5	11000	1	9	65	2.3	9	-100
12	14	98	0.69	4	9	12	17.5	-3	3.6	5.2	4.2	2	-0.2	-1	-10	-5	28	14.2	-10	4	-5	-5	8300	-1	6	43	1.5	5	-100
11	12	79	0.76	3	10	2.6	11.4	-3	3.2	2.8	2.5	-1	-0.2	-1	-10	-5	15	8.5	-10	3	-5	-5	8400	-1	4	30	1.4	-5	-100
60	79	348	2.61	14	40	24.2	70.4	-3	5	4.7	4.1	-1	-0.2	-1	-10	-5	175	10.4	-10	-2	-5	-5	16000	2	15	140	4.9	18	-100
59	57	262	2.09	10	38	25.8	77.4	-3	5.2	6.7	5.7	1	-0.2	-1	-10	-5	195	12.7	-10	4	-5	-5	19000	-1	14	98	3.9	16	-100
9	15	145	0.75	4	14	4.8	16.5	-3	3.4	4.2	5.7	-1	-0.2	-1	-10	-5	19	12.8	-10	4	-5	17	6800	-1	4	35	1.4	5	-100
49	66	556	2.64	21	35	190	106	-3	9.5	10.4	5.5	-1	-0.2	-1	-10	-5	132	15.3	-10	-2	-5	-5	18000	1	15	120	4.9	28	-100
30	39	112	1.44	8	25	28.6	51.1	-3	7.8	7.7	9.7	-1	-0.2	-1	-10	-5	75	18.5	-10	4	-5	-5	13000	1	11	80	2.5	11	-100
55	39	215	2.33	23	41	694	388	-3	7	5.2	3.8	2	0.3	2	-10	-5	77	5.2	-10	-2	-5	-5	13000	4	33	150	8.2	37	-100
31	26	138	1.46	7	19	151	143	-3	6.2	6.8	6.1	-1	-0.2	-1	-10	-5	59	12.2	-10	3	-5	-5	13000	2	17	81	4.1	14	-100
30	26	215	1.67	13	26	165	204	-3	5.9	5.9	4.4	-1	-0.2	-1	-10	-5	60	11.4	-10	3	-5	-5	13000	2	15	76	3.9	16	-100
40	46	247	2.7	34	42	898	753	-3	4.9	5	4.4	-1	-0.2	2	-10	-5	55	7.6	-10	3	-5	-5	8400	3	21	130	6.3	42	-100
16	20	61	1.05	6	16	18.1	56.3	-3	3.7	4.1	5.4	-1	-0.2	-1	-10	-5	25	12.7	-10	3	-5	-5	8900	-1	7	53	2	7	-100
75	49	233	3.68	25	40	361	228	-3	7.1	14	5.2	1	-0.2	2	-10	-5	175	17.1	-10	4	-5	-5	15000	3	27	130	7.9	34	-100
46	48	207	2.12	17	37	797	154	-3	5.9	7	4.8	-1	-0.2	-1	-10	-5	87	9.5	-10	2	-5	31	18000	3	27	140	6.2	30	-100
40	41	199	1.75	12	28	390	165	-3	5.3	6.5	3.7	2	-0.2	-1	-10	-5	102	9.8	-10	3	-5	-5	16000	2	21	120	5	20	-100
101	97	440	3.58	19	55	49.5	142	-3	10.7	11.7	5.3	2	0.2	-1	-10	-5	353	17.1	-10	2	-5	-5	25000	2	20	140	5.5	23	-100
31	66	224	1.94	9	29	53.7	60.2	-3	6	5.7	5.6	-1	0.2	-1	-10	-5	150	14	-10	-2	-5	-5	18000	3	11	120	3.5	10	-100
69	86	358	3.12	15	52	44.8	95.3	-3	7.3	7.1	3.9	-1	-0.2	-1	-10	-5	130	11.2	-10	-2	-5	-5	26000	2	19	130	5.3	23	-100
16	19	79	0.98	5	17	18.4	39.6	-3	6.2	5.9	7.3	-1	-0.2	-1	-10	-5	29	18.4	-10	5	-5	-5	10000	-1	8	58	2	7	-100
61	36	209	2.36	16	24	676	194	-3	5.9	6	3.7	1	0.3	-1	-10	-5	73	6.8	-10	4	-5	-5	16000	5	46	190	10	35	-100
24	33	211	1.46	7	23	51	45.6	-3	5.1	5.5	5.2	1	0.3	-1	-10	-5	28	14.5	-10	4	-5	-5	12000	-1	8	71	2.7	10	-100
42	56	395	2.39	14	35	196	142	-3	6.6	7.1	5	1	0.4	-1	-10	-5	57	12.9	-10	3	-5	-5	16000	2	15	110	4.5	18	-100
42	52	143	2.05	11	30	46.9	72.8	-3	4.2	8.1	7	-1	-0.2	-1	-10	-5	36	13.2	-10	6	-5	-5	16000	1	14	110	3.7	18	-100
62	58	378	2.93	16	29	198	151	-3	4	13.1	7.5	-1	-0.2	-1	-10	-5	90	20.2	-10	3	-5	-5	13000	1	16	130	6.4	26	-100
54	74	332	2.53	13	39	24.2	66	-3	4.7	4.9	3.9	-1	-0.2	-1	-10	-5	173	9.2	-10	-2	-5	-5	17000	2	16	140	4.9	20	-100
37	38	183	1.69	11	27	418	154	-3	5.3	5.8	3.4	2	-0.2	-1	-10	-5	97	9.2	-10	3	-5	-5	16000	2	20	100	5	20	280
24	24	5620	5.46	6	22	44.4	44.7	-3	7.1	20	21.5	1050	0.3	-1	16	-5	14	25.6	652	22	20	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000

Prepared by Bernt Røsholt 10/25/01

2000 Røsjøen N DOB samples

Zn	As	Se	Br	Rb	Sr	Mo	Ag	Sb	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Ir	Hg	Th	U
NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BAS
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
50	2	5	1	30	500	5	5	0.2	3	100	1	3	10	0.5	0.2	0.5	0.5	0.05	1	1	4	20	1	0.5	0.5
240	-2	-5	3	-30	-500	-5	-5	-0.2	-3	200	22	77	28	5.3	1.1	-0.5	2.7	0.41	5	1	-4	-20	-1	8.1	2.2
380	-2	-5	-1	-30	-500	-5	-5	-0.2	-3	300	30	61	29	5.8	1.2	-0.5	3	0.42	6	1	-4	-20	-1	7.8	3.3
470	-2	-5	-1	55	-500	-5	-5	0.2	-3	360	26	57	25	6.3	1.1	1.5	3.4	0.52	7	-1	-4	-20	-1	4.4	1.3
220	-2	-5	3	33	-500	-5	-5	-0.2	-3	260	34	70	22	6.4	1.5	-0.5	3	0.49	7	2	-4	-20	-1	6.5	1.6
250	-2	-5	-1	31	-500	-5	-5	-0.2	-3	290	26	60	25	4.9	1.1	-0.5	2.6	0.46	7	3	-4	-20	-1	6.8	1.7
170	-2	-5	-1	-30	-500	-5	-5	0.3	-3	240	23	55	24	5.2	1.1	-0.5	3	0.54	7	-1	-4	-20	-1	5.6	1.8
340	-2	-5	-1	33	-500	-5	-5	-0.2	-3	150	41	64	35	8.1	2.2	1.6	4.8	0.75	6	-1	-4	-20	-1	5.6	1.8
68	-2	-5	4	87	-500	-5	-5	-0.2	-3	370	31	76	26	5.1	1	-0.5	2.7	0.46	7	-1	-4	-20	-1	7.6	2.3
390	-2	-5	2	64	-500	-5	-5	-0.2	-3	350	31	61	29	5.9	0.8	-0.5	2.5	0.44	6	2	-4	-20	-1	6.1	-0.5
-50	-2	-5	9	70	-500	-5	-5	-0.2	-3	370	25	51	23	4.2	0.9	-0.5	1.9	0.33	6	1	-4	-20	-1	6.1	-0.5
100	-2	-5	2	76	-500	-5	-5	-0.2	-3	350	30	64	25	5.3	1	-0.5	2.6	0.4	6	-1	-4	-20	-1	6.4	1.8
61	-2	-5	8	66	-500	-5	-5	-0.2	-3	420	24	48	23	4	0.8	-0.5	2.3	0.38	8	1	-4	-20	-1	5	1.8
-50	-2	-5	7	63	-500	-5	-5	-0.2	-3	420	15	30	14	2.5	0.4	0.6	1.4	0.23	5	-1	-4	-20	-1	3.2	1.1
150	-2	-5	-1	-30	-500	-5	-5	0.2	-3	290	30	64	28	5	1	1.6	2.5	0.41	6	-1	-4	-20	-1	8.4	2.1
180	-2	-5	-1	76	-500	-5	-5	-0.2	-3	440	23	47	18	3.9	0.9	-0.5	2.1	0.38	6	1	-4	-20	-1	7.7	1.7
-50	-2	-5	5	63	-500	-5	-5	-0.2	-3	320	20	38	19	3.1	0.6	-0.5	1.8	0.3	6	-1	-4	-20	-1	4.4	1.3
170	-2	-5	-1	30	-500	5	-5	0.2	-3	220	28	59	27	5.3	1.1	-0.5	2.7	0.46	5	2	-4	-20	-1	7.7	-0.5
-50	-2	-5	-1	110	-500	-5	-5	-0.2	-3	370	31	62	23	5.2	1.6	1.3	2.3	0.41	6	-1	-4	-20	-1	7.3	1.5
740	-2	-5	-1	46	-500	-5	-5	-0.2	-3	180	16	36	23	6	1.9	2.3	3.8	0.61	5	-1	-4	-20	-1	2.2	-0.5
210	-2	-5	-1	63	-500	-5	-5	0.3	-3	240	24	51	20	5.2	1.1	1.4	3.1	0.5	7	2	-4	20	-1	5.7	1.8
360	-2	-5	2	44	-500	-5	-5	-0.2	-3	250	23	47	18	4.7	1	-0.5	2.7	0.45	7	-1	-4	-20	-1	4.9	1.1
1100	-2	-5	-1	-30	-500	-5	-5	-0.2	-3	360	25	51	23	5.5	1.3	-0.5	3.1	0.52	6	-1	-4	-20	-1	5.7	1.6
91	-2	-5	2	88	-500	-5	-5	-0.2	-3	360	22	44	18	3.5	1	-0.5	1.9	0.27	7	1	-4	-20	-1	4.7	-0.5
380	-2	-5	-1	74	-500	-5	-5	0.3	-3	300	31	64	33	7.9	1.8	-0.5	4.4	0.69	5	-1	-4	-20	-1	3.6	1.6
400	-2	-5	-1	-30	-500	-5	-5	-0.2	-3	220	23	49	20	6	1.3	-0.5	3.6	0.6	6	2	-4	-20	-1	5.6	-0.5
270	-2	-5	-1	53	-500	-5	-5	0.3	-3	420	23	49	22	5.2	1.3	-0.5	3.2	0.5	6	-1	-4	-20	-1	4.9	1.5
210	-2	-5	-1	-30	-500	-5	-5	-0.2	-3	490	33	66	30	5.7	1	-0.5	2.9	0.4	5	3	-4	-20	-1	9.4	-0.5
140	-2	-5	3	34	-500	-5	-5	-0.2	-3	320	36	71	27	5.7	1.1	1.5	2.4	0.4	6	3	-4	-20	-1	11	3.1
190	-2	-5	-1	-30	-500	-5	-5	-0.2	-3	300	30	65	31	5.5	1.1	-0.5	2.8	0.41	5	2	-4	-20	-1	8.9	2.3
68	-2	-5	1	99	-500	-5	-5	0.3	-3	350	31	65	26	5.1	0.8	-0.5	2.7	0.45	9	1	-4	-20	-1	7.1	1.7
630	-2	-5	-1	-30	-500	-5	-5	0.3	-3	240	18	40	23	7.3	2	2.8	5.5	0.84	5	-1	-4	-20	-1	2.4	-0.5
84	-2	-5	3	-30	-500	-5	-5	-0.2	-3	290	25	51	26	4	1.1	-0.5	2.2	0.38	9	-1	-4	-20	-1	6.2	1.9
220	-2	-5	2	46	-500	-5	-5	-0.2	-3	190	30	64	28	5.5	1.3	0.9	2.6	0.44	6	2	-4	-20	-1	7.6	1.4
180	-2	-5	-1	50	-500	-5	-5	-0.2	-3	250	19	41	20	3.8	0.8	-0.5	1.9	0.34	6	2	-4	-20	-1	7.2	-0.5
270	-2	9	2	41	-500	-5	-5	-0.2	-3	350	32	67	31	6.2	1.4	1.5	2.9	0.43	6	-1	-4	-20	-1	8.2	2.8
120	-2	-5	3	-30	-500	-5	-5	-0.2	-3	250	30	64	27	5.1	1.1	-0.5	2.5	0.38	6	1	-4	-20	-1	8.9	1.8
360	-2	-5	-1	45	-500	-5	-5	-0.2	-3	250	24	51	22	5.2	1.4	1.4	3.1	0.52	6	2	-4	-20	-1	5.2	2
-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000

Prepared by Bernt Røsholt 10/25/01

Encl. no 3

Rødalen, Nordgruvefeltet

By Rune Wilberg 2000

The outcrops are not tied to grid coord., but localized by means of GPS.
The scarce outcrops are restricted to what seem to be the contact zone to a gabbro sill, the gabbro margins being finegr. amphibolite, while the interior is coarsegr. gabbro. Diss. of py, cpy and mt are detected in gnt-chl sch along this contact zone between sediments and gabbro; py and mt along the gabbro-footwall, and cpy along the hangingwall.
To the east, Kongens Gruve extends close to the northern contact of this gabbro sill, while the Frysihjel and Prussubekken mineralizations appear along the southern contact.

Descr. of outcrops:

1. 616360 6951251. Finegr., light bio sch. Rel flat: NNW-SSE/slightly dipping WSW.
2. 616120 6951416. Tiny blast in at least 1.5m thick, rusty (weak py-diss.) gnt-chl sch with variable amounts of amphibole, probably alteration along the gabbro contact. Enrichment of finegr. diss. of py and mt (traces of cpy) in a 10-20cm thick layer (susc. 800-1000K; 50-200 in the surrounding sch), sample 400142. Sch: 102°/37°.
3. 615990 6951551. 1.5m high wall. Lower part: at least 40 cm thick kinkfolded gnt (up to 3-4mm size)-chl-amph-sch with weak py-diss. (susc. 80-100K). Above, transitional change: decreasing chl, increasing qtz and feldspar, to light sed./greywacke (20K) with 10cm thick amphibolite sill. Sch: 100°/35-40°.
4. 615789 6951715. 15m long, N-S running, shallow trench with no exposure. Assumed local floats show weakly rust stained, finegr. amphibolite, and gnt-chl sch with weak py-diss.
5. 615711 6951826. 4x4m2 spot with no vegetation. Local floats of rusty, finegr. gnt-amph sch and gnt-chl sch with py-mt-diss.
6. 615432 6951962. The exposure makes up the fourth wall (2m high) in an old house (ruin). Weakly rusty, finegr. amph. sch. with weak po-diss. (dust and stringers). Susc. in the lower 20cm: 150-400K, above: 50-150K. Sch: 125°/10°.
7. 615473 6951704. Finegr. amphibolite (60-90K).
8. 615847 6951384. Poisoned area with local floats and the Cu-flower, Viscaria Alpina. The floats are dom. by finegr., rusty gnt-amphibolite with carb. and cpy-diss. Minor floats of gnt-chl sch with freq. lenses/bands of hydr. qtz. Quite a bit of cpy-diss. in both sch and qtz, sample 400143. Malachite. Another small poisoned area with Viscaria about 100m to the SSE.
9. 615925 6951635. Many local boulders of coarsegr. gabbro.
10. 615899 6951179. Finegr. mica sch, bio-dom. Sch: 178°/35°.

Two drill holes where found in the grid area: 615907 6951074: DH 103 (vert.) from 1967, which intersected sulphide-diss. at 182m depth, and an older vert. hole at 615717 6951242. **No!! this is not a hole, only an old claim marking.** BR comment.
Following grid pickets (40-50 years old?) are localized:
5100X 200Y: 615708 6951617
4900X 200Y: 615910 6951615
5000X 100Y: 615810 6951716
5100X 0Y: 615711 6951820

Storovlingen/Litlvola (map sheet Stuggusjøen)
Completely covered. Some floats of garben phyllite with traces of py. Roadcut at 641520 6976810: Bio sch, in places rusty with 1-2% po. Crosscutting, few m thick trondhjemite dyke.

Møsjødalsvola (map sheet Stuggusjøen)
Rel. much overburden, no min. to be seen. Anomaly related to the thrust zone?

Langsvola (map sheet Stuggusjøen)
Northern part of the anomaly possibly structurally related, follows depression – crosscutting schistosity/layering. Southern part: Few floats of dark phyllite with po-dust. Mylonite zone due east.

Rugldalen (map sheet Røros)
Covered. At 618705 6957071, pile of covered rocks with poisoning at one side, and a few floats of massive, brecciated po-cpy min. with chl sch rugs and qtz nodules. ??

Storkletta (map sheet Røros)
1.5km north of Christianus Sextus. Not explained – thin cover. Mica sch with approx the same E-dip as the terrain is exposed at the ridge, west of the anomaly, and in the hillside to the north.

Pliktfogdvollen (map sheet Røros)
Covered. Some small, rusty floats at 631800 6948800.

Follow-up reconnaissance of selected airborne geophysical anomalies

Another anomaly through 620000 6947000 is covered.

Koian-Kroken (west of Glåmos):
AEM+Mag anomaly, approx. 622650 6951700. Totally covered. A small historical showing, cpy-diss., appears NE of the anomaly, at approx. 622850 6952200.

Vensåsen-Holtålsåsen:
An extensive anomaly between Vensåsen and Holtålsåsen, approx. 4km east of Kongens Gruve is probably structurally related. A prominent fracture zone (see geol. map Røros) is coinciding with the anomaly. At least the southern part is covered. Old grid picket ("1300N 2475W") found at 621605 6948582.

Frysihjel:
AEM pick SSW of Oscar shaft, 616750 6950600: Covered.
AEM pick E of Frysihjel, 619010 6950210: Covered.

Another anomaly through 620000 6947000 is covered.

Hamran picks (618960 6946470 and 619380 6947380):
The anomalies occur between the known mineralizations at Lergruvbakken and Kvernenglia, on either side, and close to the contacts of an extensive gabbro sill, that extends along the contact between the Røros Fm and Røsjø Fm.
SW-ern anomaly: No explanation found. Some observations:

619050 6946215: Coarsegr. gabbro. Ca. 40m to the south, 619041 6946181, an old picket ("1100S 2600W").
618865 6946337: 1m2 spot of Fe-rich overburden.
618773 6946389: Finegr. calcareous qtz-mica sch. Sch: 170°/8°.
618807 6946428: Calc. mica sch.
619051 6946666: Old picket
619125 6946740: Coarsegr. gabbro. Gabbro outcropping several places up to:
619173 6946868: More finegr. gabbro.
619386 6947075: Weakly calcareous qtz-mica sch. Sch: 230°/7°.

NE-ern anomaly: Stream draining the anomaly; between the anomaly and the steep hill (gabbro) to the west, calc. mica sch is outcropping in the stream.
Stream silt samples collected from this stream:
HAM01: 619340 6947321
HAM02: 619387 6947315
HAM03: 619429 6947309
HAM04: 619483 6947289
HAM05: 619620 6947283
Tractor tracks in the swamp ends in a "hole" at 619424 6947395, from where two 110m long, overgrown wires (15mm thick) run up to 619316 6947401, where it is anchored, for the purpose to pull the tractor off the swamp. The cables are probably causing the AEM anomaly. Grid pickets (from the –60`s?) nearby.

Samples for analysis:

Spl.no	Locality	Coord	Description
400142	Rødalen	616120 6951416	Gnt-chl sch with py-mt(-cpy)-diss.
400143	Rødalen	615847 6951384	Floats of gnt-chl sch w/hydr.qtz, cpy-diss.
in both			
399588	Rødalen	10350N 10640E	Finegr, silicifyed amphibolite w/po-cpy-diss.

Sample Ident	District	Prospect	Prosp. no	UTM- E	UTM-N	Au	Cu	Zn	Ag	Pb	Cu
Scheme Code						FA30 1	ICP70	ICP70	ICP70	ICP70	ICAY50
Analysis Unit						ppb	ppm	ppm	ppm	ppm	%
Detection Limit						1	0.5	0.5	0.2	2	0.01
400142	Røros N	Rødalen	7 loc.grid	616120	6951416	4	702	2050	0.3	184	-3000
400143	Røros N	Rødalen	7 loc.grid	615847	6951384	31	>10000	422	5.4	5	1.42

Results rock samples Nordgruvefeltet 2000

Endosore no 4

Sample Ident	District	Prospect	Prosp. no	UTM- E	UTM-N	Au	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co
Scheme Code						FA301	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
Analysis Unit						ppb	ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm
Detection Limit						1	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1
400142	Røros N	Rødalen	7 loc.grid	616120	6951416	4	-0.5	0.01	4.11	4.22	0.17	0.02	0.47	9.3	0.16	312	168	1230	11	42
400143	Røros N	Rødalen	7 loc.grid	615847	6951384	31	-0.5	0.05	0.83	1.28	0.05	0.02	1.43	3.2	0.07	75	177	582	5.92	31
DUP-400142						2	-0.5	0.01	4.25	4.41	0.17	0.02	0.5	9.6	0.19	323	160	1300	11.4	42
399588	Røros N	Rødalen	7 loc.grid	615805	6951495	12	-0.5	0.12	0.75	0.97	0.13	0.22	0.77	5.1	0.08	79	73	246	2.49	26

Prepared by Bernt Røsholt 2/1/01

Results rock samples Nordgruvefeltet 2000

Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Cu	Zn	Ag	Ag
ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICAY50	ICAY50	AA73	ICAY50
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	%
1	0.5	0.5	3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	0.01	0.01	0.3	0.01
32	702	2050	-3	4.1	3.1	3	-1	0.3	10	-10	-5	19	*INF	-10	184	-5	-3000	-3000	-3000	-3000
54	>1000	422	-3	11.8	3.7	2	-1	5.4	5	-10	-5	8	10.9	-10	5	INF	1.42	-3000	-3000	-3000
31	705	2110	-3	3.9	3.2	3.4	-1	0.3	10	-10	-5	18	*INF	-10	189	-5	-3000	-3000	-3000	-3000
57	750	147	-3	6.7	5.5	4.4	-1	0.5	-1	-10	-5	110	-0.5	-10	-2	-5	-3000	-3000	-3000	-3000

Prepared by Bernt Røsholt 2/1/01

2000 Stream sediment samples Hamran (HAM)

Sample Ident	UTM E	UTM N	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag
Scheme Code			ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
Analysis Unit			ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit			0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0.5	3	0.5	0.5	0.5	1	0.2
HAM01	619340	6947321	-0.5	-0.01	0.27	0.5	0.04	0.04	0.16	0.9	0.02	12	16	90	0.82	5	10	7.9	35.1	-3	5.9	4.3	2.5	-1	0.2
HAM02	619387	6947315	-0.5	-0.01	0.33	0.71	0.02	0.02	0.09	1.3	0.03	20	50	230	1.17	8	20	9.3	30.3	-3	4	5.1	1.9	1	-0.2
HAM03	619429	6947309	-0.5	-0.01	0.37	0.68	0.04	0.05	0.23	1.2	0.03	21	21	838	2.04	12	19	8.7	83.3	-3	8.4	5.5	3.1	-1	0.3
HAM04	619483	6947289	-0.5	-0.01	0.29	0.49	0.05	0.07	0.13	0.8	0.02	11	12	199	1.07	6	14	11.7	31.6	-3	6.5	5	6.9	-1	-0.2
HAM05	619620	6947283	-0.5	-0.01	0.23	0.42	0.04	0.04	0.14	0.8	0.02	12	10	454	1.06	6	13	12.6	67.2	-3	5.9	5.2	2.2	-1	0.2
NIST8606			2	0.03	0.35	1.39	0.16	0.11	9.44	2	0.1	22	27	5620	5.3	6	23	42.6	44.8	-3	5.7	20.2	22.4	1030	0.4
DUP-HAM01			-0.5	-0.01	0.26	0.5	0.04	0.04	0.16	0.9	0.02	12	14	92	0.83	4	9	7.3	35.4	-3	5.8	4.3	2	-1	-0.2

Sample Ident	UTM E	UTM N	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Au	Na	Ca	Sc	Cr	Fe	Co	Ni	Zn	As	Se	Br	Rb	Sr	Mo
Scheme Code			ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	NA-BA	NA-BAS	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BAS	NA-BA	NA-BA	NA-BA	NA-BAS
Analysis Unit			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit			1	10	5	1	0.5	10	2	5	5	500	1	1	10	0.1	5	100	50	2	5	1	30	500	5
HAM01	619340	6947321	-1	-10	-5	27	10.7	-10	4	-5	-5	12000	-1	7	51	1.8	-5	-100	-50	-2	-5	8	76	-500	-5
HAM02	619387	6947315	-1	-10	-5	56	12.1	-10	3	-5	-5	13000	-1	9	61	2.3	-5	-100	-50	2	-5	6	32	-500	-5
HAM03	619429	6947309	-1	-10	-5	53	11.2	-10	9	-5	-5	11000	-1	8	64	3.2	-5	-100	-50	2	-5	8	-30	-500	-5
HAM04	619483	6947289	-1	-10	-5	46	14.6	-10	5	-5	-5	11000	-1	7	43	1.9	-5	-100	-50	-2	-5	2	75	-500	-5
HAM05	619620	6947283	-1	-10	-5	38	11.3	-10	5	-5	-5	11000	-1	6	48	2.2	-5	-100	96	2	-5	6	-30	-500	-5
NIST8606			-1	16	-5	14	24.8	640	22	20	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000
DUP-HAM01			-1	-10	-5	27	10.5	-10	3	-5	-5	11000	-1	7	49	1.8	-5	-100	-50	-2	-5	8	47	-500	-5

Sample Ident	UTM E	UTM N	Ag	Sb	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Ir	Hg	Th	U
Scheme Code			NA-BAS	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BAS	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BA	NA-BAS
Analysis Unit			ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
Detection Limit			5	0.2	3	100	1	3	10	0.5	0.2	0.5	0.5	0.05	1	1	4	20	1	0.5	0.5
HAM01	619340	6947321	-5	-0.2	-3	450	22	50	17	3.8	-0.2	-0.5	2.4	0.35	10	2	-4	-20	-1	6.3	2.3
HAM02	619387	6947315	-5	-0.2	-3	310	21	54	19	3.8	1.1	-0.5	2.2	0.28	9	2	-4	-20	-1	5.5	2.9
HAM03	619429	6947309	-5	-0.2	-3	220	21	51	20	3.7	0.9	-0.5	2.6	0.36	10	-1	-4	-20	-1	5.5	2.2
HAM04	619483	6947289	-5	-0.2	-3	340	26	58	22	4.2	0.8	-0.5	2.6	0.35	9	-1	-4	-20	-1	7	1.8
HAM05	619620	6947283	-5	0.2	-3	280	20	45	17	3.5	0.9	-0.5	2.2	0.35	11	1	-4	-20	-1	5.1	3
NIST8606			-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000	-3000
DUP-HAM01			-5	-0.2	-3	300	21	46	19	3.7	-0.2	-0.5	2.4	0.33	10	1	-4	-20	-1	6.2	2

Enclosure 51

Prepared by Bernt Røsholt 10/25/01

Target list Nordgruvefeltet,
Røros Area

Target	UTM-area	Aero-EM/ Mag	Ground survey	DOB/AS	Minr	Comments, Proposed follow up
1. Koian-Kr.	22,3-,8E/50,8-51,4N	Modr/High	Mag, VLF, Geo	23AS	Old showing	Tot covered. 800m E of fault zone. Mag,VLF +30 DOB samples
2. Vensås SE	21,2-22,1E/48,0-49,7N	High/High	Mag, VLF	20DOB		Covered, coincide w/fault zone. HLEM ?
3. Bergan	22,3-,5E/53,0-,3N	High/				Tot covered. Coincide w/fault zone. Follow up if Vensås HLEM positive.
4. Arved.lina	20,8-21,4E/52,2-,7N	Modr/Modr	Mag, VLF			Similar to Chr Sextus. +15 DOB samples.
5. Langtjørna	14,0-,4E/57,2-,6N	High dipol/	Mag, VLF	15DOB		Strong EM anom between Røsjø and gabbro. Likely end line effect. No follow up
6. Frysihjel E.	18,8-19,2E/50,0-,5N		Mag		Showings	Likely same minr. greenstone as Rødalen. No follow up
7. Slamd. Kong	19,0-,7E/50,9-51,2N	High dipol/Modr	Mag, VLF		E of Kongens	Anom over waste dam. Note also Dipol EM and modr mag. No follow up
7N. Rødalen	15,4-16,2E/51,3-,9N	Modr/High	Mag, VLF, Geo++	34DOB	Cpy,py,po	Surveyed in 2000. Drilled in 2001, separate report.
8. Harborg	21,9-22,3E/54,5-,6N	Low/Low	Mag, VLF			Tot covered. +18 DOB samples
9. Torvbekken	15,9-17,0E/54,8-55,7N	Low/Low	Mag, VLF, Geo	47AS	Cpy	AS anom. Follow up with +30 DOB samples.
10. Fjellsjøen W	14,9-15,7E/53,5-54,5N	/Low	Mag, Geo		Trace Cpy	No follow up
11. Røsjøen N.	14,2-15,1E/51,7-53,1N	Low/Low	Mag, Geo	21AS		No follow up
12. Svelta, Rød.	15,6-16,5E/47,1-48,9N	Low/Low	Mag, VLF, Geo	13AS		No follow up
13. Fruhaugen	17,6-18,0E/39,2-,7N		Mag, VLF, Geo		Claim	Covered. Follow up with 20 +DOB samples
14. Hamran	19,2-,8E/47,0-47,5N	High/Modr.		5SSS		Three anom in the Hamran area to be followed up with Mag, VLF and +60 DOB samples

AS: Auger soil samples
DOB: Deep over burden samples
SSS: Stream sediment samples

Enclosure no 6.

2001 Auger soil samles, Nordgruvefeltet

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Det. Lim.				0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0.5
AB001	622860	6951350	Kolan	<0.5	<0.01	0.69	1.17	0.02	0.14	0.05	1.6	0.06	25	36	82	1.37	7	21	6.2	35.3
AB002	622810	6951350	Kolan	<0.5	<0.01	0.18	0.56	0.01	0.04	0.04	0.7	0.04	14	14	152	0.88	4	8	3.6	14.3
AB003	622785	6951350	Kolan	<0.5	<0.01	0.23	1.83	0.03	0.05	0.05	2.2	0.04	16	32	64	1.54	4	14	5.7	21.1
AB004	622760	6951350	Kolan	<0.5	<0.01	0.32	0.82	0.02	0.05	0.03	1.1	0.18	74	39	185	4.27	6	10	5.1	23.1
AB005	622735	6951350	Kolan	<0.5	<0.01	0.44	1.54	0.03	0.08	0.03	2.3	0.1	67	47	167	4.81	7	14	6.9	39.4
AB006	622710	6951350	Kolan	<0.5	<0.01	0.45	0.81	0.02	0.02	0.02	0.7	0.11	86	65	67	4.59	7	39	6	14.2
AB007	622660	6951350	Kolan	0.5	<0.01	0.76	1.72	0.03	0.1	0.07	3.5	0.11	75	50	156	4.58	12	29	18.5	32.2
AB008	622610	6951200	Kolan	<0.5	<0.01	0.41	0.95	0.02	0.05	0.05	2	0.06	38	26	1570	1.94	9	19	7.2	91.5
AB009	622660	6951200	Kolan	<0.5	<0.01	0.27	0.68	0.02	0.05	0.11	9.7	0.02	12	24	212	0.94	5	15	58.7	18.7
AB010	622685	6951200	Kolan	<0.5	<0.01	0.3	0.94	0.03	0.06	0.17	11.6	0.02	13	27	368	1.02	9	19	92.8	19.3
AB011	622710	6951200	Kolan	<0.5	<0.01	0.36	1.44	0.02	0.04	0.05	1.9	0.09	52	41	110	4.93	7	13	23.3	35.8
AB012	622735	6951200	Kolan	<0.5	<0.01	0.13	0.31	<0.01	0.04	0.02	<0.5	0.06	31	11	66	0.96	2	4	1.9	10
AB013	622765	6951200	Kolan	<0.5	<0.01	0.22	0.47	0.02	0.05	0.12	1.1	0.02	13	13	172	0.76	4	8	6.1	32.4
AB014	622790	6951200	Kolan	<0.5	<0.01	0.17	0.44	<0.01	0.04	0.07	0.7	0.04	18	16	124	1.03	6	7	2	14.7
AB015	622815	6951200	Kolan	<0.5	<0.01	0.16	0.86	0.02	0.03	0.02	1	0.08	42	24	54	3.52	4	7	4.6	24.8
AB016	622840	6951200	Kolan	<0.5	<0.01	0.17	0.93	0.02	0.05	0.02	0.8	0.08	37	25	59	2.14	3	7	5.2	14.2
AB017	622840	6951100	Kolan	<0.5	<0.01	0.11	0.5	0.01	0.04	0.02	<0.5	0.1	34	20	76	2.21	4	4	2.6	16.5
AB018	622790	6951100	Kolan	<0.5	0.01	0.35	0.6	<0.01	0.07	0.04	1.4	0.08	39	25	75	1.2	5	9	1.8	15.7
AB019	622765	6951100	Kolan	<0.5	0.01	0.31	1.06	0.02	0.04	0.06	1.7	0.09	54	26	176	1.99	7	9	5	15.4
AB020	622740	6951100	Kolan	<0.5	<0.01	0.28	1.88	0.02	0.04	0.04	3	0.08	53	31	49	3.06	5	8	12.6	21.4
AB021	622715	6951100	Kolan	1	0.01	0.26	0.81	0.02	0.03	0.06	2	0.16	162	21	91	3.53	8	6	4.3	32.6
AB022	622690	6951100	Kolan	<0.5	<0.01	0.2	0.56	0.01	0.04	0.04	1	0.04	23	13	93	1.17	3	6	2.6	17.8
AB023	622640	6951100	Kolan	<0.5	<0.01	0.26	0.73	0.02	0.05	0.09	1.5	0.05	31	18	349	1.32	7	10	8.1	23.5
Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Det. Lim.				0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0
AB145	616500	6955050	Torvbkn.	<0.5	<0.01	0.16	0.68	0.02	0.03	0.01	0.5	0.11	37	15	78	2.11	2	6	1.4	10
AB146	616450	6955050	Torvbkn.	<0.5	<0.01	1.11	1.77	0.06	0.13	0.09	4.1	0.06	58	63	192	2.25	9	32	5.8	26.1
AB147	616425	6955050	Torvbkn.	<0.5	<0.01	0.81	2.36	0.06	0.07	0.08	4.2	0.04	50	64	146	2.61	7	26	4.5	40
AB148	616400	6955050	Torvbkn.	<0.5	<0.01	0.29	0.64	0.05	0.06	0.04	1.5	0.05	67	55	1010	2.21	7	18	31.7	21.4
AB149	616375	6955050	Torvbkn.	<0.5	<0.01	0.63	1.58	0.07	0.08	0.12	2.7	0.04	37	43	177	1.86	5	21	17.2	31.8
AB150	616350	6955050	Torvbkn.	<0.5	<0.01	0.09	0.59	0.02	0.03	0.02	1.5	0.06	32	12	52	1.3	1	3	3.1	6.8
AB151	616325	6955050	Torvbkn.	<0.5	<0.01	0.19	1.04	0.03	0.04	0.04	6.4	0.03	25	21	158	1.24	8	8	29	24.9
AB152	616275	6955050	Torvbkn.	<0.5	<0.01	0.11	1.79	0.05	0.02	0.05	2.8	0.09	63	41	105	4.18	7	20	54.3	11.8

Enclosure 7

2001 Auger soil samles, Nordgruvefeltet

AB153	616250	6955050	Torvbkn.	0.6	<0.01	0.49	1.65	0.03	0.03	0.03	2.5	0.05	42	47	113	2.61	5	16	20.6	30.6
AB154	616225	6955050	Torvbkn.	<0.5	<0.01	0.35	0.62	0.02	0.04	0.05	1.7	0.03	18	18	61	0.87	2	10	20.9	16.5
AB155	616212	6955050	Torvbkn.	<0.5	<0.01	0.5	0.92	0.04	0.02	0.09	2.6	0.03	26	31	99	0.89	2	14	34.1	42.4
AB156	616187	6955050	Torvbkn.	<0.5	<0.01	0.45	1.46	0.03	0.04	0.04	3.7	0.04	31	35	80	1.45	3	13	28.5	21.6
AB157	616162	6955050	Torvbkn.	<0.5	<0.01	0.97	1.92	0.04	0.1	0.07	2.9	0.06	42	55	189	2.67	8	26	6.3	35.2
AB158	616275	6955100	Torvbkn.	<0.5	<0.01	0.2	0.74	0.02	0.02	0.04	1.2	0.05	64	23	51	2.2	<1	6	17.5	10.8
AB159	616325	6955100	Torvbkn.	<0.5	<0.01	0.73	2.64	0.04	0.09	0.03	5.2	0.09	71	64	184	3.45	6	17	42.2	32.3
AB160	616350	6955100	Torvbkn.	<0.5	<0.01	0.31	1.2	0.04	0.04	0.07	3.3	0.04	26	26	96	1.6	3	11	113	23
AB161	616375	6955100	Torvbkn.	<0.5	<0.01	0.26	0.81	0.02	0.04	0.04	1.4	0.05	21	19	64	1.37	2	7	40.4	18.2
AB162	616400	6955100	Torvbkn.	<0.5	<0.01	0.35	1.35	0.03	0.04	0.02	2.1	0.07	33	41	179	2.65	4	10	8.1	20.6
AB163	616425	6955100	Torvbkn.	<0.5	<0.01	0.35	0.87	0.04	0.04	0.09	1.7	0.05	20	24	78	1.34	3	11	10.4	16.1
AB164	616450	6955100	Torvbkn.	<0.5	<0.01	0.34	1.09	0.04	0.03	0.05	2.2	0.08	109	33	100	3.12	4	12	11.4	22
AB165	616500	6955100	Torvbkn.	<0.5	<0.01	<0.01	0.14	<0.01	0.03	<0.01	<0.5	0.03	6	2	3	0.05	<1	<1	<0.5	1.1
AB166	616750	6955600	Torvbkn.	<0.5	<0.01	0.97	1.57	0.06	0.08	0.14	4.1	0.04	40	58	168	1.77	7	30	30.4	48.4
AB167	616700	6955600	Torvbkn.	<0.5	<0.01	0.88	1.35	0.05	0.06	0.13	3	0.04	36	41	163	1.62	6	25	12.4	55.7
AB168	616675	6955600	Torvbkn.	<0.5	<0.01	0.97	1.89	0.07	0.07	0.16	4.5	0.03	43	54	195	2.02	8	28	20.4	54.4
AB169	616650	6955600	Torvbkn.	<0.5	<0.01	0.96	1.64	0.04	0.11	0.08	3.4	0.04	43	54	220	2.2	7	26	30.2	74.5
AB170	616625	6955600	Torvbkn.	<0.5	<0.01	0.98	1.7	0.07	0.14	0.16	3.5	0.05	42	51	321	2.04	10	30	29.1	66.4
AB171	616600	6955600	Torvbkn.	<0.5	<0.01	0.65	1.76	0.04	0.07	0.06	2.7	0.04	32	46	134	1.93	4	18	13	39.4
AB172	616575	6955600	Torvbkn.	<0.5	<0.01	0.68	1.77	0.06	0.06	0.12	3.2	0.04	31	45	139	1.66	6	18	30.8	33.8
AB173	616550	6955600	Torvbkn.	0.6	<0.01	0.75	1.26	0.03	0.08	0.06	3.4	0.04	37	45	144	1.69	7	20	12.4	31.7
AB174	616525	6955600	Torvbkn.	<0.5	<0.01	1.35	2.01	0.08	0.17	0.18	4.9	0.05	59	67	377	2.54	12	39	32.8	65.3
AB175	616500	6955600	Torvbkn.	<0.5	<0.01	0.24	0.76	0.02	0.04	0.03	1.4	0.06	21	20	80	0.7	2	7	9	19.4
AB176	616437	6955600	Torvbkn.	<0.5	<0.01	0.77	1.32	0.04	0.05	0.06	2.7	0.04	40	46	179	2.17	5	20	15.1	29.6
AB177	616412	6955600	Torvbkn.	<0.5	<0.01	0.25	0.63	0.02	0.04	0.04	1.1	0.06	30	19	67	1.03	3	7	6	13.9
AB178	616387	6955600	Torvbkn.	<0.5	<0.01	0.76	1.53	0.07	0.07	0.2	2.7	0.04	34	46	207	2.17	6	22	13.4	45.2
AB179	616387	6955500	Torvbkn.	<0.5	<0.01	0.64	0.88	0.03	0.04	0.1	1.7	0.05	38	37	818	1.57	5	17	7.8	56.5
AB180	616437	6955500	Torvbkn.	<0.5	<0.01	0.14	1.04	0.02	0.03	0.01	1.1	0.1	36	29	140	2.95	2	5	3.1	11.4
AB181	616462	6955500	Torvbkn.	0.6	<0.01	1	3.42	0.06	0.04	0.06	4.6	0.05	53	73	198	3.2	10	25	6.5	37.8
AB182	616487	6955500	Torvbkn.	<0.5	<0.01	0.35	1.02	0.03	0.03	0.04	1.7	0.07	43	32	85	1.74	3	11	17.4	14.2
AB183	616512	6955500	Torvbkn.	<0.5	<0.01	0.4	0.94	0.03	0.03	0.05	1.4	0.07	45	31	145	2.39	4	12	13.1	18.3
AB184	616537	6955500	Torvbkn.	<0.5	<0.01	0.96	2.19	0.06	0.07	0.14	3.9	0.06	55	64	210	2.67	9	28	9.5	44.2
AB185	616562	6955500	Torvbkn.	<0.5	<0.01	0.18	0.47	<0.01	0.02	0.01	<0.5	0.08	26	12	47	1.44	4	5	3.2	11.2
AB186	616612	6955500	Torvbkn.	<0.5	<0.01	1.01	1.68	0.06	0.18	0.13	4.1	0.06	52	52	246	2.31	10	26	29.8	46.3
AB187	616637	6955500	Torvbkn.	<0.5	<0.01	0.77	1.16	0.06	0.1	0.18	3.2	0.04	31	35	238	1.58	10	25	571	72.6
AB188	616662	6955500	Torvbkn.	<0.5	<0.01	0.62	1.17	0.04	0.14	0.1	2.4	0.05	34	35	124	1.3	6	15	452	37.1

2001 Auger soil samles, Nordgruvefeltet

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Det. Lim.				0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0.5
AB189	616687	6955500	Torvbkn.	0.5	<0.01	1.14	2.27	0.07	0.24	0.18	7.5	0.08	54	61	338	2.45	14	30	90.4	115
AB190	616712	6955500	Torvbkn.	<0.5	<0.01	0.84	1.26	0.05	0.08	0.1	2.6	0.03	37	41	171	1.75	9	22	16	53.7
AB191	616762	6955500	Torvbkn.	<0.5	<0.01	1.09	1.72	0.06	0.15	0.15	3.9	0.06	48	52	296	2.32	10	29	26	47.5
AB192	616350	6948254	Svelta	<0.5	<0.01	0.3	0.51	0.01	0.07	0.04	0.6	0.07	18	17	102	0.81	5	7	2.7	17.5
AB193	616350	6948230	Svelta	<0.5	<0.01	0.22	0.48	0.01	0.06	0.04	0.6	0.05	16	13	45	0.61	4	5	4.1	15.6
AB194	616350	6948280	Svelta	<0.5	<0.01	0.38	0.64	0.03	0.06	0.09	1.1	0.05	17	18	62	1.01	5	10	3.8	24.9
AB195	616450	6948360	Svelta	<0.5	<0.01	0.51	0.95	0.03	0.13	0.09	1.2	0.06	21	28	155	1.28	6	18	11.1	28.2
AB196	616450	6948355	Svelta	<0.5	<0.01	0.46	0.89	0.04	0.09	0.11	1.4	0.04	15	22	232	1.25	6	19	21	36.8
AB197	616450	6948330	Svelta	<0.5	<0.01	1.05	1.67	0.03	0.42	0.09	1.6	0.13	44	53	172	2	10	30	5.1	43.1
AB198	616450	6948365	Svelta	<0.5	<0.01	0.44	0.78	0.05	0.1	0.11	1.4	0.04	15	20	289	1.25	7	20	27.2	36.7
AB199	616450	6948390	Svelta	<0.5	<0.01	0.46	0.87	0.04	0.09	0.1	1.5	0.04	15	21	123	1.16	5	18	20.3	31.8
AB200	615800	6948280	Svelta	0.6	<0.01	1.19	2.05	0.07	0.46	0.33	1.5	0.17	64	168	187	3.17	12	27	24.9	63.1
AB201	615800	6948305	Svelta	<0.5	<0.01	0.55	0.84	0.06	0.12	0.19	1.3	0.04	19	26	154	1.13	3	18	18.7	42
AB202	615800	6948330	Svelta	0.7	<0.01	0.82	1.43	0.05	0.3	0.23	2.7	0.1	41	54	367	2.15	11	29	20.1	46.6
AB203	615800	6948355	Svelta	<0.5	<0.01	0.62	1.2	0.04	0.1	0.19	2.2	0.05	29	36	477	1.73	8	22	28.6	75.8
AB204	615800	6948380	Svelta	<0.5	<0.01	0.53	0.96	0.02	0.09	0.1	1.1	0.08	30	34	471	1.52	7	17	6	36.8

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Det. Lim.				0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0.5
AB205	615000	6951825	Svartdika	<0.5	<0.01	0.03	0.19	<0.01	0.02	0.01	<0.5	0.03	8	4	8	0.06	<1	1	1.1	3.1
AB206	615000	6951875	Svartdika	<0.5	<0.01	0.48	1.34	0.04	0.08	0.05	2.1	0.1	58	38	145	3.24	5	15	7	40.1
AB207	615000	6951900	Svartdika	<0.5	<0.01	0.5	0.92	0.05	0.11	0.1	1.7	0.04	16	21	277	1.43	6	22	36.9	41
AB208	615000	6951925	Svartdika	<0.5	<0.01	0.42	0.79	0.03	0.1	0.08	1.6	0.04	16	18	146	1.11	4	18	27.8	29.2
AB209	615000	6951950	Svartdika	<0.5	<0.01	0.69	1.19	0.05	0.2	0.1	2	0.07	29	34	553	1.73	12	26	29	61.9
AB210	615000	6951975	Svartdika	<0.5	<0.01	0.58	1.27	0.04	0.16	0.09	1.7	0.07	30	35	273	1.7	8	23	26.9	42.6
AB211	615000	6952025	Svartdika	<0.5	<0.01	0.88	1.38	0.03	0.26	0.03	1.9	0.17	55	67	464	3.06	11	27	12	46.5
AB212	615025	6952025	Svartdika	<0.5	<0.01	0.63	1.02	0.03	0.16	0.07	1.4	0.08	29	38	148	1.58	8	17	7.1	37.3
AB213	615025	6951975	Svartdika	<0.5	<0.01	0.42	0.69	0.04	0.11	0.08	1.2	0.04	16	20	191	1.1	4	16	18.4	24.6
AB214	615025	6951950	Svartdika	<0.5	<0.01	0.78	1.59	0.05	0.23	0.05	2.1	0.15	54	70	743	2.92	11	25	11.1	65.5
AB215	615025	6951925	Svartdika	<0.5	<0.01	0.55	1.46	0.04	0.1	0.09	2.2	0.05	25	40	143	1.54	6	23	23	39.7
AB216	615025	6951900	Svartdika	<0.5	<0.01	0.03	0.17	<0.01	0.04	<0.01	<0.5	0.04	7	3	8	0.11	<1	1	1.2	2

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Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Tl	V	Cr	Mn	Fe	Co	Ni	Cu	Zn
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
Det. Lim.				0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1	1	0.5	0.5
AB217	615025	6951875	Svartdika	<0.5	<0.01	0.53	0.96	0.04	0.11	0.11	1.7	0.04	17	21	239	1.38	6	21	24.7	40.2
AB218	615025	6951825	Svartdika	<0.5	<0.01	0.31	0.55	0.04	0.07	0.12	1.1	0.03	11	13	136	0.88	3	13	17.1	24.4
AB219	614425	6952500	Svartdika	<0.5	<0.01	0.68	1.05	0.06	0.12	0.17	1.9	0.05	23	31	126	1.43	8	22	26.24	39.2
AB220	614450	6952500	Svartdika	<0.5	<0.01	0.65	1.09	0.05	0.1	0.12	1.4	0.05	22	27	153	1.43	5	20	15.3	37.9
AB221	614362	6952600	Svartdika	0.8	<0.01	0.42	0.92	0.04	0.06	0.1	1.6	0.04	18	21	84	1.18	5	11	12.2	25.8
AB222	614337	6952600	Svartdika	<0.5	<0.01	0.46	0.91	0.04	0.06	0.12	1.5	0.05	25	25	112	1.28	6	13	9.2	29.8
AB223	614312	6952600	Svartdika	<0.5	<0.01	0.04	0.1	<0.01	0.02	0.02	<0.5	0.07	10	7	9	0.15	2	<1	<0.5	2.4
AB224	614387	6952600	Svartdika	<0.5	<0.01	0.38	0.6	0.02	0.07	0.05	0.8	0.06	29	24	101	1.5	5	10	5.1	20.9
AB225	614412	6952600	Svartdika	<0.5	<0.01	0.47	0.78	0.05	0.09	0.13	1.1	0.04	15	19	85	0.91	5	13	15.7	29.4

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Smpl. ID	UTM E	UTM N	Target	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB001	622860	6951350	Kolan	<3	2.4	3.1	1.8	<1	0.2	<1	<10	<5	30	6.9	<10	9	<5	15
AB002	622810	6951350	Kolan	<3	3	3.3	2.3	<1	<0.2	<1	<10	<5	18	8.7	<10	4	<5	5
AB003	622785	6951350	Kolan	<3	2.8	5.6	5.4	<1	0.3	<1	<10	<5	19	10.4	<10	7	<5	7
AB004	622760	6951350	Kolan	<3	1.7	1.4	4	<1	<0.2	<1	<10	<5	17	2.2	<10	12	<5	4
AB005	622735	6951350	Kolan	<3	2.4	4.2	1.5	<1	0.3	<1	<10	<5	22	3.7	<10	12	<5	10
AB006	622710	6951350	Kolan	<3	1.7	1.4	2.3	<1	0.4	<1	<10	<5	8	0.5	<10	17	<5	3
AB007	622660	6951350	Kolan	<3	4.1	7.3	3	2	<0.2	<1	<10	<5	25	5.9	<10	11	<5	21
AB008	622610	6951200	Kolan	<3	3.2	3.9	2.4	<1	0.4	<1	<10	<5	32	5.6	<10	7	<5	12
AB009	622660	6951200	Kolan	<3	4.6	91.5	2	<1	<0.2	<1	<10	<5	18	87.9	<10	4	<5	12
AB010	622685	6951200	Kolan	<3	6	76.1	4.7	<1	<0.2	<1	<10	<5	24	72	<10	25	<5	10
AB011	622710	6951200	Kolan	<3	3.3	3.7	3.1	<1	<0.2	<1	<10	<5	29	4	<10	14	<5	13
AB012	622735	6951200	Kolan	<3	1.5	1.2	1.8	<1	<0.2	<1	<10	<5	12	6	<10	6	<5	2
AB013	622765	6951200	Kolan	<3	4.8	4.1	1.9	<1	<0.2	<1	<10	<5	26	9.1	<10	7	<5	5
AB014	622790	6951200	Kolan	<3	3.2	2.4	3.5	<1	0.2	<1	<10	<5	20	8.5	<10	6	<5	5
AB015	622815	6951200	Kolan	<3	2.7	2.3	3.2	<1	1.2	<1	<10	<5	22	3.2	<10	8	<5	3
AB016	622840	6951200	Kolan	<3	1.9	2.5	2.7	<1	<0.2	<1	<10	<5	17	3.6	<10	10	<5	3
AB017	622840	6951100	Kolan	<3	1.7	1.6	1.8	<1	<0.2	<1	<10	<5	19	3.4	<10	5	<5	2
AB018	622790	6951100	Kolan	<3	2.3	2.3	4.1	<1	0.2	<1	<10	<5	14	4.1	<10	8	<5	5
AB019	622765	6951100	Kolan	<3	3	3.7	0.9	<1	<0.2	<1	<10	<5	22	4.4	<10	9	<5	4
AB020	622740	6951100	Kolan	<3	1.9	5.8	2.3	<1	0.6	<1	<10	<5	21	7.2	<10	8	<5	8
AB021	622715	6951100	Kolan	<3	3.4	2.8	2.3	2	<0.2	<1	<10	<5	36	2.1	<10	11	<5	4
AB022	622690	6951100	Kolan	<3	2.5	2	2.3	<1	<0.2	<1	<10	<5	28	5	<10	4	<5	8
AB023	622640	6951100	Kolan	<3	3.9	9.3	<0.5	<1	0.3	<1	<10	<5	23	13.3	<10	6	<5	8
Smpl. ID	UTM E	UTM N	Target	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB145	616500	6955050	Torvbkn.	<3	1.7	1.4	3	<1	<0.2	<1	<10	<5	9	5.5	<10	8	<5	2
AB146	616450	6955050	Torvbkn.	<3	4.4	4.2	1.3	<1	<0.2	<1	<10	<5	45	11.5	<10	7	<5	8
AB147	616425	6955050	Torvbkn.	<3	3.6	4.4	<0.5	<1	<0.2	<1	<10	<5	35	10.9	<10	<	<5	8
AB148	616400	6955050	Torvbkn.	<3	1.9	1.7	1	2	0.6	<1	<10	<5	22	4.4	<10	10	<5	3
AB149	616375	6955050	Torvbkn.	<3	4.5	5.2	0.8	<1	<0.2	<1	<10	<5	27	10.9	<10	6	<5	6
AB150	616350	6955050	Torvbkn.	<3	1.8	3.3	2.7	<1	<0.2	<1	<10	<5	9	8.8	<10	7	<5	2
AB151	616325	6955050	Torvbkn.	<3	2.5	21	1.5	<1	<0.2	<1	<10	<5	20	22.5	<10	2	<5	4
AB152	616275	6955050	Torvbkn.	<3	1.6	4.5	1.1	<1	<0.2	<1	<10	<5	7	4.4	<10	7	<5	2

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AB153	616250	6955050	Torvbkn.	<3	3	3.7	2.4	2	<0.2	<1	<10	<5	15	8.6	<10	11	<5	7
AB154	616225	6955050	Torvbkn.	<3	3.4	5.4	0.6	<1	<0.2	<1	<10	<5	27	13.4	<10	4	<5	4
AB155	616212	6955050	Torvbkn.	<3	4.1	9.3	<0.5	1	<0.2	<1	<10	<5	26	18.4	<10	2	<5	6
AB156	616187	6955050	Torvbkn.	<3	2.6	10.4	2.4	1	0.5	<1	<10	<5	16	17.8	<10	5	<5	6
AB157	616162	6955050	Torvbkn.	<3	3.9	3.9	2.2	<1	<0.2	<1	<10	<5	30	10.6	<10	4	<5	8
AB158	616275	6955100	Torvbkn.	<3	2.8	7.6	1.3	1	<0.2	<1	<10	<5	22	12.8	<10	7	<5	2
AB159	616325	6955100	Torvbkn.	<3	1.8	9.1	2.9	1	0.2	<1	<10	<5	50	12.9	<10	<5	<5	5
AB160	616350	6955100	Torvbkn.	<3	3.7	18.3	1.8	<1	<0.2	<1	<10	<5	13	25.6	<10	5	<5	5
AB161	616375	6955100	Torvbkn.	<3	3.4	4.7	2.1	<1	<0.2	<1	<10	<5	11	14.3	<10	3	<5	4
AB162	616400	6955100	Torvbkn.	<3	3	4	2.3	<1	0.2	<1	<10	<5	11	8.6	<10	8	<5	4
AB163	616425	6955100	Torvbkn.	<3	5.2	4.6	3.9	<1	<0.2	<1	<10	<5	11	20.8	<10	6	<5	4
AB164	616450	6955100	Torvbkn.	<3	2.3	2.9	1.6	1	0.4	<1	<10	<5	15	4.2	<10	9	<5	3
AB165	616500	6955100	Torvbkn.	<3	1.1	1.2	<0.5	<1	0.3	<1	<10	<5	11	9.6	<10	2	<5	<1
AB166	616750	6955600	Torvbkn.	<3	5	14.5	2.1	1	<0.2	<1	<10	<5	22	23.9	<10	5	<5	8
AB167	616700	6955600	Torvbkn.	<3	4.6	5	0.9	<1	<0.2	<1	<10	<5	21	9.1	<10	8	<5	7
AB168	616675	6955600	Torvbkn.	<3	5.4	8.6	1.4	<1	0.2	<1	<10	<5	24	18.4	<10	5	<5	7
AB169	616650	6955600	Torvbkn.	<3	3.6	5.4	1	<1	<0.2	<1	<10	<5	34	11.2	<10	4	<5	8
AB170	616625	6955600	Torvbkn.	<3	5.7	6.2	2	<1	0.6	<1	<10	<5	43	16	<10	6	<5	9
AB171	616600	6955600	Torvbkn.	<3	3.4	3.5	1.2	<1	<0.2	<1	<10	<5	24	8.4	<10	4	<5	6
AB172	616575	6955600	Torvbkn.	<3	4.8	5	1.4	<1	0.3	<1	<10	<5	20	10.8	<10	2	<5	6
AB173	616550	6955600	Torvbkn.	<3	3.6	3.6	1.5	2	<0.2	<1	<10	<5	34	9.1	<10	3	<5	6
AB174	616525	6955600	Torvbkn.	<3	6.1	7.2	1.9	1	<0.2	<1	<10	<5	69	15.1	<10	<5	<5	11
AB175	616500	6955600	Torvbkn.	<3	2.8	2.7	1.3	1	<0.2	<1	<10	<5	20	8.9	<10	4	<5	3
AB176	616437	6955600	Torvbkn.	<3	3.3	3.1	1.6	1	<0.2	<1	<10	<5	19	6.3	<10	7	<5	6
AB177	616412	6955600	Torvbkn.	<3	2.6	1.8	1.5	<1	<0.2	<1	<10	<5	13	6.7	<10	6	<5	2
AB178	616387	6955600	Torvbkn.	<3	6.3	4.1	1.3	<1	<0.2	<1	<10	<5	26	7.4	<10	3	<5	6
AB179	616387	6955500	Torvbkn.	<3	4.3	2	1.1	3	<0.2	<1	<10	<5	32	5.2	<10	7	<5	4
AB180	616437	6955500	Torvbkn.	<3	2.2	2.3	3.1	1	0.7	<1	<10	<5	13	6.3	<10	7	<5	2
AB181	616462	6955500	Torvbkn.	<3	3.3	5.1	1.2	2	0.3	<1	<10	<5	15	8.1	<10	<5	<5	8
AB182	616487	6955500	Torvbkn.	<3	3.4	1.8	2.9	<1	<0.2	<1	<10	<5	14	6.5	<10	7	<5	3
AB183	616512	6955500	Torvbkn.	<3	3.6	2	2.4	<1	<0.2	<1	<10	<5	12	5.9	<10	8	<5	3
AB184	616537	6955500	Torvbkn.	<3	5.5	4.8	1.7	<1	<0.2	<1	<10	<5	24	9.3	<10	3	<5	8
AB185	616562	6955500	Torvbkn.	<3	1.9	1.6	3.7	<1	0.6	<1	<10	<5	8	5.4	<10	6	<5	2
AB186	616612	6955500	Torvbkn.	<3	4.2	6.3	2.2	<1	0.3	<1	<10	<5	94	15.3	<10	3	<5	8
AB187	616637	6955500	Torvbkn.	<3	5.2	10.9	3.2	<1	0.5	<1	<10	<5	31	18.1	<10	4	<5	6
AB188	616662	6955500	Torvbkn.	<3	3.3	4.1	1.5	1	0.8	<1	<10	<5	75	7.7	<10	3	<5	5

2001 Auger soil samles, Nordgruvefeltet

Smpl. ID	UTM E	UTM N	Target	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB189	616687	6955500	Torvbkn.	<3	5.4	21.2	2.6	2	0.3	<1	<10	<5	82	40.8	<10	7	<5	12
AB190	616712	6955500	Torvbkn.	<3	4.2	4.2	1.2	<1	0.4	<1	<10	<5	19	12.1	<10	5	<5	6
AB191	616762	6955500	Torvbkn.	<3	5.3	9.2	2.2	<1	0.3	<1	<10	<5	26	21.3	<10	4	<5	8
AB192	616350	6948254	Svelta	<3	2.2	2.5	3.3	<1	<0.2	<1	<10	<5	21	11.8	<10	6	<5	4
AB193	616350	6948230	Svelta	<3	2.5	2.6	2.1	<1	0.4	<1	<10	<5	19	10.9	<10	4	<5	3
AB194	616350	6948280	Svelta	<3	3.9	3.3	2	<1	0.3	<1	<10	<5	22	13.3	<10	8	<5	5
AB195	616450	6948360	Svelta	<3	4.2	4.6	4.2	<1	0.2	<1	<10	<5	38	13.7	<10	9	<5	6
AB196	616450	6948355	Svelta	<3	5.1	7	4.2	<1	0.3	<1	<10	<5	26	19.8	<10	7	<5	7
AB197	616450	6948330	Svelta	<3	3.4	2.8	2.9	<1	0.3	<1	<10	<5	70	7.6	<10	6	<5	9
AB198	616450	6948365	Svelta	<3	5.3	7.4	7.1	<1	<0.2	<1	<10	<5	27	21	<10	8	<5	6
AB199	616450	6948390	Svelta	<3	5.1	6.1	4.9	<1	<0.2	<1	<10	<5	27	18.4	<10	8	<5	7
AB200	615800	6948280	Svelta	<3	8.9	4.6	2.5	<1	0.3	<1	<10	<5	71	9.7	<10	8	<5	18
AB201	615800	6948305	Svelta	<3	7.8	4.2	1.5	1	<0.2	<1	<10	<5	36	11.5	<10	4	<5	7
AB202	615800	6948330	Svelta	<3	8.2	10.1	3.6	1	<0.2	<1	<10	<5	61	16.7	<10	14	<5	15
AB203	615800	6948355	Svelta	<3	6.6	12.7	2.2	1	<0.2	<1	<10	<5	44	22.9	<10	13	<5	10
AB204	615800	6948380	Svelta	<3	4.9	4.1	2.1	1	<0.2	<1	<10	<5	43	12.2	<10	6	<5	8

Smpl. ID	UTM E	UTM N	Target	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB205	615000	6951825	Svartdika	<3	1.3	1	1.6	<1	<0.2	<1	<10	<5	15	8.8	<10	4	<5	<1
AB206	615000	6951875	Svartdika	<3	3.6	3	2.7	<1	<0.2	<1	<10	<5	45	7	<10	12	<5	5
AB207	615000	6951900	Svartdika	<3	5.3	8.9	7.4	1	<0.2	<1	<10	<5	30	21.7	<10	11	<5	7
AB208	615000	6951925	Svartdika	<3	4.8	7.2	6	<1	0.2	<1	<10	<5	41	20.7	<10	8	<5	6
AB209	615000	6951950	Svartdika	<3	5	5.4	4.9	<1	<0.2	<1	<10	<5	56	16.1	<10	14	<5	8
AB210	615000	6951975	Svartdika	<3	4.8	6.2	4.1	<1	0.2	<1	<10	<5	56	17.5	<10	13	<5	7
AB211	615000	6952025	Svartdika	<3	2.8	2.3	3.9	<1	0.6	<1	<10	<5	48	5.3	<10	10	<5	7
AB212	615025	6952025	Svartdika	<3	4	3.3	3.4	<1	<0.2	<1	<10	<5	38	9.8	<10	7	<5	6
AB213	615025	6951975	Svartdika	<3	4.9	5.5	6.6	<1	0.2	<1	<10	<5	32	21	<10	6	<5	5
AB214	615025	6951950	Svartdika	<3	3.7	3	1.7	<1	<0.2	<1	<10	<5	53	6.9	<10	6	<5	9
AB215	615025	6951925	Svartdika	<3	5	4.4	3	1	0.5	<1	<10	<5	29	14.7	<10	8	<5	6
AB216	615025	6951900	Svartdika	<3	1.3	1.1	0.8	<1	<0.2	<1	<10	<5	11	9.8	<10	7	<5	<1

2001 Auger soil samles, Nordgruvefeltet

Smpl. ID	UTM E	UTM N	Target	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
Sch. Code				ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit				ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB217	615025	6951875	Svartdika	<3	5.6	7.2	7.6	<1	<0.2	<1	<10	<5	34	20.1	<10	11	<5	7
AB218	615025	6951825	Svartdika	<3	5.8	5.4	5.4	<1	0.2	<1	<10	<5	17	17.7	<10	7	<5	4
AB219	614425	6952500	Svartdika	<3	7.7	6.8	6.5	<1	<0.2	<1	<10	<5	31	22.2	<10	3	<5	8
AB220	614450	6952500	Svartdika	<3	6.3	5.4	2.7	1	0.5	<1	<10	<5	23	18.3	<10	7	<5	8
AB221	614362	6952600	Svartdika	<3	5.1	5.5	2	<1	<0.2	<1	<10	<5	16	13.4	<10	<	<5	4
AB222	614337	6952600	Svartdika	<3	5.9	5.2	2.3	<1	1.1	<1	<10	<5	17	14.2	<10	7	<5	5
AB223	614312	6952600	Svartdika	<3	1.9	1.5	1.7	<1	<0.2	<1	<10	<5	9	6.2	<10	5	<5	<1
AB224	614387	6952600	Svartdika	<3	3.4	2.4	1.7	<1	0.5	<1	<10	<5	16	6.5	<10	5	<5	3
AB225	614412	6952600	Svartdika	<3	5.6	5.9	5.6	<1	0.3	<1	<10	<5	20	18.4	<10	3	<5	6

2001 DOB Samples Nordgruvefeltet

Spl.no	UTM E	UTM N	Depth	Target	Description	Smpl. Id	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co
						Sch Code	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
						Ana Unit	ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm
						Det Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1
DOB342	621500	6948800	3.5	Vensåsen	grey silt	DOB 342	-0.5	0.02	0.49	0.61	0.04	0.15	0.7	1.1	0.02	11	14	273	1.15	4
DOB343	621550	6948770	1.4	Vensåsen	rustybrown sand/gravel	DOB 343	-0.5	0.02	0.2	0.36	0.02	0.07	0.07	0.7	0.02	8	33	265	0.85	2
DOB344	621575	6948800	1.9	Vensåsen	greybrown silt/sand	DOB 344	-0.5	0.02	0.17	0.36	0.02	0.05	0.04	1.1	0.02	9	16	111	0.66	2
DOB345	621600	6948800	2.4	Vensåsen	humus/swamp. LQS. No silt deposit	DOB 345	-0.5	0.02	0.06	0.14	0.02	-0.01	0.88	0.6	-0.01	2	9	117	0.38	-1
DOB346	621625	6948800	2	Vensåsen	humus/swamp. LQS. No silt deposit	DOB 346	3.3	0.02	0.06	0.51	0.05	-0.01	0.5	1.6	-0.01	8	20	65	0.34	-1
DOB347	621650	6948800	2.4	Vensåsen	grey sand/gravel	DOB 347	-0.5	0.02	0.54	0.64	0.04	0.2	0.25	1.9	0.03	18	28	121	1.18	6
DOB348	621700	6948800	1.6	Vensåsen	humus/swamp. LQS. No silt deposit	DOB 348	0.7	0.02	0.1	0.74	0.06	0.04	0.49	1.6	-0.01	20	26	693	4.07	6
DOB349	621500	6949000	4.8	Vensåsen	grey silt	DOB 349	-0.5	0.01	0.4	0.49	0.04	0.1	0.2	0.9	0.02	10	13	128	0.98	3
DOB350	621550	6949000	4.1	Vensåsen	grey sand/gravel	DOB 350	-0.5	0.02	0.49	0.52	0.03	0.19	0.31	1.2	0.03	13	38	170	1.1	3
DOB351	621575	6949000	2	Vensåsen	grey silt/sand	DOB 351	-0.5	0.01	0.45	0.6	0.05	0.13	0.17	1.4	0.03	13	17	117	1.09	6
DOB352	621600	6949000	2.3	Vensåsen	greybrown silt/sand	DOB 352	-0.5	0.01	0.23	0.37	0.04	0.06	0.09	1	0.02	8	10	200	0.8	4
DOB353	621625	6949000	0.7	Vensåsen	rustybrown sand	DOB 353	-0.5	0.02	0.24	1.09	0.03	0.05	0.03	1	0.04	22	20	91	1.92	3
	621660	6949000		Vensåsen	sampling not possible															
DOB354	621700	6949000	4.8	Vensåsen	grey silt	DOB 354	-0.5	0.02	0.58	0.78	0.04	0.17	0.19	1.3	0.03	15	17	192	1.4	5
DOB356	621550	6949800	2	Vensåsen	greybrown sand	DOB 356	0.7	0.02	0.5	1.03	0.02	0.14	0.04	2	0.06	36	39	141	1.91	6
DOB357	621600	6949800	2.3	Vensåsen	greybrown sand	DOB 357	0.6	0.01	0.25	0.38	0.03	0.08	0.1	1.6	0.02	10	14	98	0.96	3
DOB358	621625	6949800	2.6	Vensåsen	grey sand	DOB 358	0.5	0.02	0.48	0.5	0.04	0.13	0.56	1.2	0.02	13	15	184	0.99	5
DOB359	621650	6949800	1.3	Vensåsen	rustybrown sand	DOB 359	0.9	0.02	0.8	1.49	0.05	0.23	0.14	3.7	0.07	36	50	414	2.34	11
DOB360	621675	6949800	0.7	Vensåsen	greybrown sand	DOB 360	0.6	0.02	0.37	1	0.02	0.16	0.04	1.5	0.05	29	32	99	1.56	5
DOB361	621700	6949800	1	Vensåsen	greybrown sand	DOB 361	0.8	0.02	0.56	1.21	0.05	0.14	0.11	2.4	0.04	22	30	388	1.53	11
DOB362	621750	6949800	0.5	Vensåsen	greybrown sand	DOB 362	0.5	0.02	0.15	0.49	0.02	0.04	0.03	0.6	0.03	11	14	55	0.81	2

Spl.no	UTM E	UTM N	Depth	Target	Description	Smpl. Id	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co
						Sch Code	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
						Ana Unit	ppm	%	%	%	%	%	%	ppm	%	ppm	ppm	ppm	%	ppm
						Det Limit	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1	2	0.01	1
DOB363	614150	6957600	0.6	Langtjørna	greybrown silt/sand	DOB 363	0.7	0.02	2.27	3.16	0.07	0.97	0.16	6.9	0.22	169	104	896	4.67	28
DOB364	614175	6957600	2.5	Langtjørna	grey silt	DOB 364	0.5	0.02	0.61	0.85	0.06	0.23	0.22	1.7	0.04	22	26	219	1.42	8
DOB365	614200	6957600	1.9	Langtjørna	greygreen silt	DOB 365	0.7	0.02	0.54	0.89	0.05	0.18	0.16	2	0.04	21	23	292	1.44	7
DOB366	614225	6957600	1.4	Langtjørna	greygreen silt/sand	DOB 366	0.6	0.02	0.77	1.11	0.06	0.25	0.19	2.3	0.06	29	37	288	1.68	10
DOB367	614250	6957600	0.6	Langtjørna	brown soil with qtz fragm. LQS	DOB 367	0.8	0.02	1.42	2.7	0.04	0.68	0.12	2.8	0.21	82	85	244	3.34	17
DOB369	614350	6957400	1	Langtjørna	greybrown silt with chl. sch fragm.	DOB 369	0.8	0.03	2.18	3.01	0.07	1.57	0.24	2.8	0.24	89	94	390	3.86	22
DOB370	614300	6957400	0.5	Langtjørna	grey silt and soil	DOB 370	0.7	0.02	0.62	1.47	0.04	0.22	0.08	1.1	0.13	52	52	217	2.83	7
DOB371	614275	6957400	0.9	Langtjørna	greybrown silt/sand with mica	DOB 371	0.7	0.02	1.21	1.78	0.06	0.68	0.16	1.6	0.12	49	64	346	2.37	13
DOB372	614250	6957400	2.1	Langtjørna	brown silt with chl. sch fragm.	DOB 372	0.7	0.02	1.29	1.8	0.07	1.05	0.2	2.2	0.15	60	70	363	2.49	15
DOB373	614225	6957400	1.9	Langtjørna	grey silt	DOB 373	0.5	0.02	0.68	0.9	0.06	0.36	0.22	2.2	0.06	31	32	228	1.46	11
DOB374	614150	6957200	0.3	Langtjørna	brown soil with qtz fragm. LQS	DOB 374	0.7	0.02	0.68	1.62	0.04	0.11	0.1	2.3	0.09	51	57	148	2.56	7
DOB375	614175	6957200	2.2	Langtjørna	dark grey sand	DOB 375	0.6	0.02	0.92	1.09	0.06	0.41	0.18	2.7	0.06	40	52	152	1.88	11
DOB376	614200	6957200	3.9	Langtjørna	grey silt	DOB 376	0.5	0.02	0.59	0.68	0.05	0.14	0.76	1.4	0.03	16	20	231	1.18	5
DOB377	614225	6957200	3.1	Langtjørna	grey silt	DOB 377	0.6	0.02	0.64	0.75	0.05	0.23	1.12	1.5	0.04	19	25	263	1.27	7
DOB378	614250	6957200	2.3	Langtjørna	grey and rustybrown sand	DOB 378	1	0.02	1.66	2.27	0.08	0.89	0.35	10.7	0.12	104	89	1090	4.56	23

Enclosure no 8

Prepared by Bernt Røsholt 1/31/01

2001 DOB Samples Nordgruvefeltet

Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	0.5	0.5	3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
17	15.1	26.1	12	19.9	6.8	9.7	-1	-0.2	-1	-10	-5	79	16	-10	7	-5	6
16	7.7	14.3	8	3.7	4	6.6	2	-0.2	-1	-10	-5	25	12.3	-10	5	-5	4
12	8.8	12.6	10	2.3	3.5	3.9	2	-0.2	-1	-10	-5	20	11.2	-10	7	-5	3
17	7.7	18.4	5	24.9	4.4	1.4	3	-0.2	-1	11	-5	306	5.2	-10	-2	-5	-1
29	51.8	31.4	14	22.2	18.9	4	5	-0.2	1	-10	-5	194	21.7	-10	3	-5	-1
21	17.1	80.9	15	7.3	7.4	7.7	-1	-0.2	-1	-10	-5	37	18	-10	8	-5	6
19	26.5	97	37	17.2	31	1.6	3	-0.2	-1	-10	-5	198	32.6	-10	29	-5	2
15	11.6	24.1	10	8.2	6.9	9.5	-1	-0.2	-1	-10	-5	34	16.7	-10	5	-5	5
20	6.9	19.8	11	8.7	5	5.9	1	-0.2	-1	11	-5	19	11.6	-10	7	-5	6
22	16.9	29.5	12	6.8	9	12.7	-1	-0.2	-1	-10	-5	49	22.5	-10	7	-5	6
13	14	19.4	8	3.6	7.2	7.8	-1	-0.2	-1	-10	-5	30	13.8	-10	6	-5	3
10	5.6	20.2	22	2.2	3.7	6.4	-1	-0.2	-1	-10	-5	21	12.6	-10	9	-5	6
21	11.6	30.9	13	8.8	9.6	14.8	-1	-0.2	-1	-10	-5	80	22.9	-10	7	-5	8
18	4.3	22.3	-3	2.3	4	3.7	-1	-0.2	-1	-10	-5	37	9.2	-10	5	-5	12
14	13.4	16.7	-3	4.1	10.4	6.8	-1	-0.2	-1	-10	-5	44	18.4	-10	5	-5	5
17	11.6	22.6	-3	15.5	6.7	7.5	-1	-0.2	-1	-10	-5	42	14.3	-10	3	-5	7
33	15.6	39.3	-3	4.1	9.8	4.3	1	0.3	-1	-10	-5	44	17	-10	10	-5	18
15	2.9	21.1	-3	2.8	2.8	4.4	-1	-0.2	-1	-10	-5	36	7.6	-10	8	-5	8
31	16.3	31.9	-3	4.4	5.9	3.3	-1	-0.2	-1	-10	-5	31	13.2	-10	7	-5	13
9	4.4	10	-3	1.6	1.7	2.5	1	-0.2	-1	-10	-5	14	5.6	-10	4	-5	3
Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li
ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	0.5	0.5	3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
44	110	120	-3	3.1	4.2	2	7	-0.2	-1	-10	-5	124	2.7	-10	5	-5	20
22	31.8	55.2	-3	13.1	8.4	11	-1	0.4	-1	-10	-5	56	17	-10	3	-5	7
22	35.5	52.8	-3	6.5	9.5	16.1	-1	-0.2	-1	-10	-5	88	19.3	-10	8	-5	7
26	54.7	59.8	-3	6.7	9.9	8.4	-1	-0.2	-1	-10	-5	99	22.6	-10	-2	-5	7
37	37.5	62.5	-3	4.3	3.7	2.8	-1	0.2	-1	-10	-5	118	12	-10	-2	-5	16
66	61.6	94.2	-3	6	10.3	4.2	-1	-0.2	-1	-10	-5	315	14.6	-10	2	-5	27
15	50	53.5	-3	3.5	2.3	1.5	-1	-0.2	-1	-10	-5	68	3.8	-10	4	-5	5
40	40.3	46.3	-3	4.6	4.8	3.6	-1	0.2	-1	-10	-5	137	17.1	-10	-2	-5	16
37	47	59.1	-3	5.5	8.1	5.3	1	0.6	-1	-10	-5	177	12.6	-10	3	-5	14
26	52.9	39.2	-3	6.3	9.3	7	1	-0.2	-1	-10	-5	101	15	-10	-2	-5	7
24	11.5	50.9	-3	3.5	3.7	2.9	2	-0.2	-1	-10	-5	40	6.6	-10	5	5	7
29	47.6	57.5	-3	6.4	7.1	5.3	1	-0.2	-1	-10	-5	146	12.7	-10	6	-5	11
17	19.4	53.3	-3	21.7	6.9	7.8	-1	-0.2	-1	-10	-5	64	14.1	-10	4	-5	6
19	23.7	35	-3	24.7	7.3	7.3	-1	-0.2	-1	-10	-5	71	13.4	-10	3	-5	7
56	80.9	60.6	-3	9.7	20.4	7.6	2	0.5	-1	-10	-5	234	23.8	-10	4	-5	27

Results Rock samples Nordgruvefeltet 2001

Sampl. Id	Loc	UTM E	UTM N	Description	Au	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr
Sch. Code					FA301	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70
An. Unit					ppb	ppm	%	%	%	%	%	%	ppm	%	ppm	ppm
Det. Lim					1	0.5	0.01	0.01	0.01	0.01	0.01	0.01	0.5	0.01	2	1
400751	Torvbekken	616154	6955259	chlorite-mica schist with cpy-stringers	136	<0.5	<0.01	2.68	3.13	0.06	0.26	0.09	6.5	0.05	91	159
400752	Torvbekken	616324	6955055	chl.-amph. Sch. and qtz-feldsp-amph. with cpy-diss. (floats)	81	<0.5	0.05	0.49	0.87	0.06	0.02	0.49	2.9	0.02	39	64

Enclosure no 4

Results Rock samples Nordgruvefeltet 2001

Sampl. Id	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y	Zr	Mo	Ag	Cd	Sn	Sb	Ba	La	W	Pb	Bi	Li	Cu	Pb	Zn
Sch. Code	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICP70	ICAY50	ICAY50	ICAY50
An. Unit	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%
Det. Lim	2	0.01	1	1	0.5	0.5	3	0.5	0.5	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1	0.01	0.01	0.01
400751	651	10.3	29	36	>10000	691	<3	5	7	7.8	22	11.9	2	<10	<5	152	13	<10	53	*IN	8	4.25	n.a.	n.a.
400752	183	4.81	34	18	23110	256	<3	17.9	5	3.1	14	5.2	1	<10	<5	4	6	<10	10	*IN	4	2.35	n.a.	n.a

Au assays on 30 soil samples Røros 2001

Smpl. Id.	UTM E	UTM N	Target	Au	Na	Ca	Sc	Cr	Fe	Co	Ni	Zn	As	Se	Br	Rb	Sr	Mo	Ag
Sch. Code				NA-BAS	NA-BAS	NA-BAS	NA-B	NA-BA	NA-B	NA-BAS	NA-BAS	NA-BAS	NA-BAS	NA-BAS	NA-BA	NA-BAS	NA-BAS	NA-BA	NA-BA
An. Unit				ppb	ppm	%	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.				5	500	1	1	10	0.1	5	100	50	2	5	1	30	500	5	5
AB116	635250	6948250	Bekkostj.	<5	9350	<1	6	310	1.6	8	<100	63	<2	<5	3	33	<500	<5	<5
AB117	635275	6948250	Bekkostj.	<5	12960	<1	10	504	3.4	19	112	84	<2	<5	3	49	620	<5	<5
AB118	635300	6948250	Bekkostj.	<5	13430	<1	9	310	1.1	6	<100	<50	<2	<5	1	54	<500	<5	<5
AB119	635325	6948250	Bekkostj.	<5	11390	1.4	11	268	4.2	19	<100	114	5	5	4	<30	<500	<5	<5
AB120	637150	6946400	Stamn.bk.	<5	8050	<1	7	521	2.3	13	<100	61	<2	<5	1	123	<500	<5	<5
AB121	637200	6946400	Stamn.bk.	<5	13830	<1	13	553	3.7	19	<100	169	<2	<5	2	74	560	<5	<5
AB122	637225	6946400	Stamn.bk.	<5	11190	1.1	11	850	4.5	27	124	126	2	<5	6	36	<500	<5	<5
AB123	637250	6946400	Stamn.bk.	<5	21560	<1	13	327	4.1	22	<100	146	<2	<5	2	72	<500	<5	<5
AB124	637275	6946400	Stamn.bk.	<5	10660	1.4	10	444	3.3	21	153	109	3	<5	2	99	<500	<5	<5
AB125	637300	6946400	Stamn.bk.	<5	10970	<1	11	276	3.5	25	122	142	2	<5	2	71	<500	5	<5
AB185	616562	6955500	Torvbekken	<5	10110	2.4	7	50	2.6	<5	<100	58	<2	<5	12	49	<500	<5	<5
AB186	616612	6955500	Torvbekken	<5	21620	<1	12	95	4	10	<100	90	<2	<5	14	78	<500	<5	<5
AB187	616637	6955500	Torvbekken	<5	17520	1.5	12	82	3	11	<100	117	<2	<5	4	33	<500	<5	<5
AB188	616662	6955500	Torvbekken	<5	15430	<1	9	72	2.3	6	<100	66	<2	<5	12	40	<500	<5	<5
AB189	616687	6955500	Torvbekken	<5	18120	2.2	16	99	3.9	14	<100	232	<2	<5	23	<30	<500	<5	<5
AB190	616712	6955500	Torvbekken	<5	16860	1.1	10	77	3	8	<100	55	<2	<5	18	39	<500	<5	<5
AB191	616762	6955500	Torvbekken	<5	17800	<1	13	86	3.7	10	171	114	<2	<5	20	<30	540	<5	<5
AB192	616350	6948254	Svelta	<5	11650	1.3	8	61	1.6	<5	<100	<50	<2	<5	3	73	<500	<5	<5
AB193	616350	6948230	Svelta	<5	9930	<1	7	56	1.3	<5	<100	54	<2	<5	3	70	<500	<5	<5
AB194	616350	6948280	Svelta	<5	10960	<1	8	58	1.9	5	<100	86	<2	<5	2	52	<500	<5	<5
AB221	614362	6952600	Svartdika	<5	13870	<1	9	53	2.3	7	<100	<50	<2	<5	5	<30	<500	<5	<5
AB222	614337	6952600	Svartdika	<5	13290	1.3	9	50	2.4	7	<100	64	<2	<5	5	38	<500	<5	<5
AB223	614312	6952600	Svartdika	<5	13140	1	6	46	1	<5	<100	74	<2	<5	<1	<30	<500	<5	<5
AB224	614387	6952600	Svartdika	<5	14290	<1	10	79	3.1	8	<100	60	<2	<5	6	65	<500	<5	<5
AB225	614412	6952600	Svartdika	<5	11710	<1	9	53	1.8	6	<100	99	<2	<5	1	75	<500	<5	<5
AB226	624867	7004671	Melshognst.	<5	17700	1	16	74	2.5	7	<100	560	<2	<5	10	64	720	<5	<5
AB227	624848	7004686	Melshognst.	<5	21960	<1	17	66	2.7	<5	111	253	9	<5	20	<30	<500	<5	<5
AB228	624833	7004698	Melshognst.	<5	19050	2.9	16	41	4.3	11	<100	112	3	<5	28	<30	<500	<5	<5
AB229	624817	7004709	Melshognst.	<5	20490	1.7	14	53	3.2	6	<100	183	3	<5	16	<30	<500	<5	<5
AB230	624889	7004653	Melshognst.	<5	36060	<1	6	12	0.5	<5	<100	<50	6	<5	6	<30	720	<5	<5
DUP-AB116				<5	9120	<1	5	299	1.6	8	<100	59	<2	<5	2	<30	<500	<5	<5
DUP-AB187				<5	17000	1.7	12	81	2.9	11	<100	136	2	<5	4	<30	<500	<5	<5
DUP-AB225				<5	11730	<1	9	54	1.8	6	<100	101	<2	<5	1	88	<500	<5	<5

Enclosure no 10

Au assays on 30 soil samples Røros 2001

Sb	Cs	Ba	La	Ce	Nd	Sm	Eu	Tb	Yb	Lu	Hf	Ta	W	Ir	Hg	Th	U
NA-BAS	NA-BAS	NA-BAS	NA-B	NA-B	NA-BAS	NA-B	NA-BA	NA-BAS	NA-B	NA-B	NA-	NA-BA	NA-BA	NA-BAS	NA-BA	NA-B	NA-BAS
ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm
0.2	**3**	**100**	**1**	**3**	**10**	**0.5**	**0.2**	**0.5**	**0.5**	**0.05**	1	1	**4**	**20**	1	**0.5**	**0.5**
<0.2	<3	448	11	21	14	2.1	0.8	0.7	1.4	0.18	6	<1	9	<20	2	2.7	1.4
<0.2	4	381	8	17	<10	1.6	1.2	<0.5	1.3	0.22	6	1	7	<20	1	1.6	<0.5
0.4	6	269	9	15	<10	1.7	0.4	<0.5	1	0.24	5	<1	6	<20	<1	3	1.4
<0.2	5	455	19	40	<10	4.5	1.9	0.9	2	0.29	4	<1	9	<20	<1	8.8	2.4
<0.2	4	430	13	31	<10	2.7	0.9	0.7	2	0.22	5	<1	5	<20	2	2.9	<0.5
0.4	<3	140	12	19	<10	2.3	0.7	<0.5	1.3	0.22	5	<1	7	<20	3	4.5	3.2
<0.2	7	177	13	24	<10	2.7	0.5	0.5	1.9	0.12	4	<1	<4	<20	2	5.1	2
<0.2	8	463	12	26	<10	2.5	<0.2	1.1	1.9	0.34	3	<1	<4	<20	1	6.2	0.9
0.3	4	355	17	33	<10	3.4	1.2	1.1	1.6	0.31	5	<1	4	<20	<1	5.2	0.9
<0.2	5	366	26	45	<10	5.1	0.7	0.5	2.2	0.29	4	<1	5	<20	2	7.3	1.5
0.3	<3	319	16	30	<10	3	0.4	0.8	1.7	0.43	7	<1	<4	<20	2	5.1	0.8
<0.2	<3	165	25	51	<10	4.3	1.6	0.9	2.3	0.51	5	<1	<4	<20	<1	8.7	0.8
0.3	<3	155	31	68	18	6.6	1.2	1.2	3.3	0.5	5	<1	5	<20	1	8.3	1.8
<0.2	<3	455	17	23	<10	3.3	0.8	0.8	1.5	0.3	6	<1	<4	<20	2	6.6	1.3
<0.2	<3	312	52	132	<10	10.7	2.8	1.6	3.7	0.69	6	2	<4	<20	2	15.7	4.4
0.3	<3	<100	21	32	<10	3.5	0.9	1	2.3	0.38	4	<1	5	<20	<1	6.6	3.4
<0.2	<3	212	31	51	19	5.3	0.9	1	1.9	0.44	6	<1	<4	<20	1	10.5	0.6
0.2	<3	484	22	46	10	3.9	1.4	1	2.2	0.29	8	<1	<4	<20	<1	4.2	0.5
0.3	<3	259	21	43	<10	3.7	1.3	0.7	1.9	0.33	7	1	<4	<20	1	4.7	2
<0.2	3	157	24	52	12	4.2	1	0.9	1.9	0.35	6	<1	6	<20	<1	5.4	0.6
<0.2	<3	203	25	39	<10	4.3	0.9	0.7	2	0.27	6	1	4	<20	<1	6.3	1.7
<0.2	<3	157	26	54	18	4.6	0.8	0.7	2.4	0.31	5	<1	<4	<20	<1	5.5	<0.5
<0.2	<3	249	15	27	<10	2.5	0.7	0.7	1.3	0.17	7	<1	<4	<20	2	2.9	2.7
0.9	<3	289	17	33	<10	3.5	0.4	<0.5	1.5	0.31	5	<1	<4	<20	1	4.9	2.6
0.2	<3	418	31	66	13	5.3	0.8	1	2.4	0.36	5	<1	<4	<20	1	7.5	<0.5
0.3	<3	109	20	40	<10	4.8	0.9	1.2	3.2	0.53	6	<1	<4	<20	<1	4.7	0.8
0.4	<3	150	11	30	<10	4.5	1.4	1.3	4.6	0.78	5	<1	4	<20	2	2.1	1.4
0.2	<3	246	14	32	<10	3.7	1.3	<0.5	1.9	0.41	4	<1	<4	<20	<1	2.7	0.7
0.4	<3	246	15	30	<10	4	1.2	0.9	3.2	0.43	5	<1	<4	<20	<1	3.7	0.7
0.3	<3	181	13	35	<10	5.5	1.7	1	9.6	1.68	6	1	5	<20	<1	0.6	<0.5
<0.2	<3	505	11	24	10	2	0.7	0.7	1.3	0.16	6	<1	8	<20	2	2.5	1.6
0.2	<3	145	29	71	15	6	1	1.1	3.2	0.48	5	<1	4	<20	1	8	1.6
0.2	<3	472	30	66	17	5.2	0.6	1.1	2.3	0.38	4	<1	4	<20	2	6.9	<0.5