Bergvesenet rapport nr	Intern Journal nr	Internt arkiv nr	Rapport lokalisering	Gradering
4805	0496/03			**Apen**
Kommer fra ..arkiv	Ekstern rapport nr	Oversendt fra Crew Norway AS	Fortrolig pga	Fortrolig fra dato:

Tittel

Exploration in Storwartz Ore Field, Røros, Norway

Forfatter	Dato År	Bedrift (Oppdragsgiver og/eller oppdragstaker)
Rosholt, Bernt Wilberg, Rune	2001	Crew Norway AS

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Røros Holtålen	Sør-Trøndelag		17203	Røros

Fagområde	Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt)
Geologi Geokjemi		Storwartz Bekkostjørna Aursunden - Klemmetvollen Stamnesbekken
Råstoffgruppe	**Råstofftype**	
Malm/metall	Zn Cu	

Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse

In total 3 targets have been followed up in the Storwartz ore fields during 2001.

EXPLORATION IN

STORWARTZ ORE FIELD, RØROS

NORWAY

2001 Bernt Røsholt,
Rune Wilberg

Contents

Enclosures:

1. Summary of results of mines and prospects in Storwartz ore field 1998
2. Targets of Storwartz ore field
3. Assay results of soil samples from Storwartz ore field 2001

Røros-Meråker District

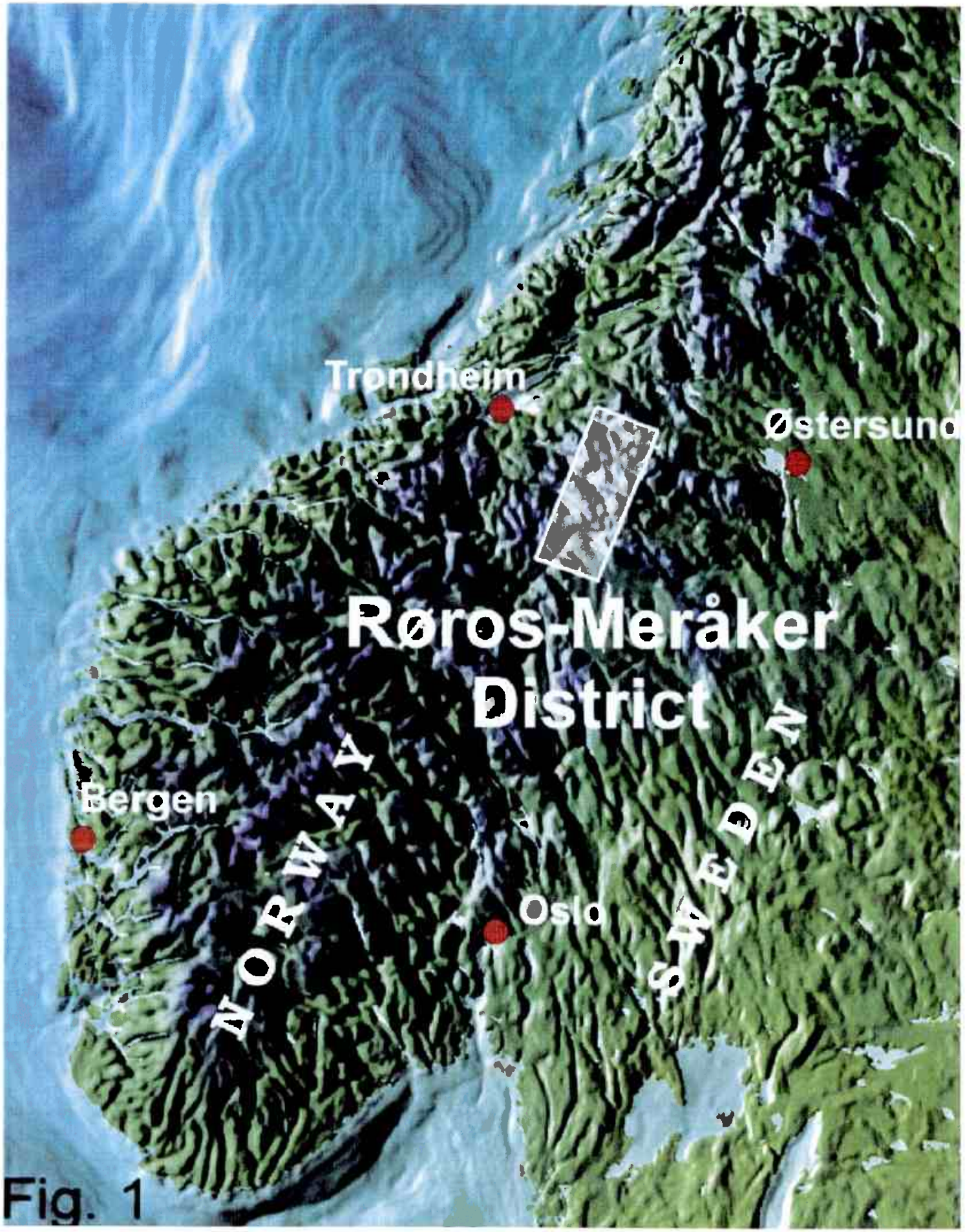


Fig. 1

Overview of the Exploration in Storwartz Ore Field, Røros 1998-2001.

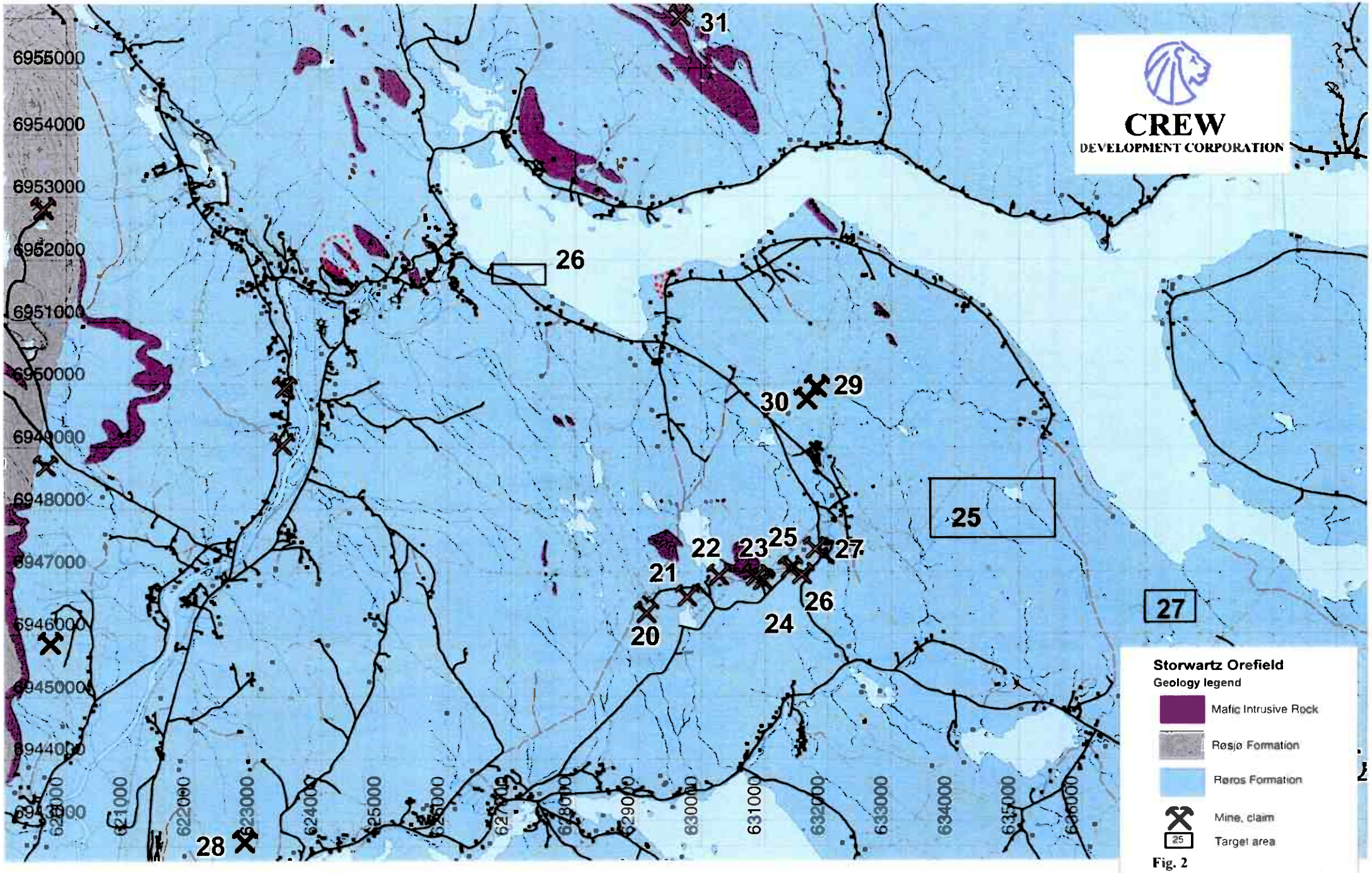
This report gives an overview of the exploration work that has been carried out in Storwartz Ore Field since 1998 when Mindex ASA started its work.
It is first given a historical background of the old mines, regional and local geology, 1998 exploration campaign and a summary of the known ore deposits 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 The Storwartz Ore Field.
In 2001 three targets were followed up in The Storwartz Ore Field with various grades of follow up work. A conclusion for further follow up work is worked out under each target.

Storwartz Ore Field (Røros-Eastern Ore Field) with sediment-hosted Zinc-Copper Deposits.

The Storwartz ore field as part of the Røros-Meråker Mining Province, Central Norway (see fig. 1), is located about 10 km NE of Røros Town. It is one of the two (the other being Nordgruvefeltet) most famous and productive ore fields in the Røros district (Petersen 1999). Storwartz Ore Field, (Røros-Eastern Ore Field = Østgruvefeltet) includes all the mines in the Storwartz ore field and a few other occurrences in the surrounding area.

History.

333 years of mining history in Røros was initiated by the finding of the Storwartz deposit in 1644. The Storwartz ore field comprises a series of long term producing mines along an east-west extension of 3 km (fig. 2). The mines have been in operation more or less continuously between 1645 and 1972, producing copper. Zinc has not been extracted from the ores, even though it is a major component.
Gamle (Old) Storwartz (20) was in operation until 1708, when Nye (New) Storwartz (21) was found. Since then it has been the main producing mine far into the 1900th. East of Storwartz, Hestkletten (22) was detected in 1650, Quintus (24) in 1691 and Myrgruva (23) in 1694. They were connected, and produced until the last half of 1700th and a short period at the beginning of 1900th.
Nyberget mine (25) was active 1650-1717, and again 1861-90 producing together with Nye Solskinn (26), to which it is connected. Gamle Solskinn (27) was exploited in the period 1673-1730, and periodically between 1870 and 1918.
Olavsgruva (25) is separated from the higher level Nyberget mine by a fault. It was opened in 1937 after being detected by geophysics and drilling. It ceased in 1972, and that marked the end of mining in the Storwartz ore field.
3 km north of Olavsgruva is the Klasberget mine (29), which was exploited a short period from 1660 and between 1687 and 1693, while the adjacent Klasberglia (30) was operated during World War I.
Exploration in earlier days has included ground geophysics, airborne geophysics ABEM 1959 and core drilling.
About 3.5 mill. tonnes of ore has been extracted from the ore field which is considered exhausted.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Storwartz Orefield
Geology legend
Mafic Intrusive Rock
Røsjø Formation
Røros Formation
Mine, claim
25
Target area

Fig. 2

Regional Geology.

The Cambro-Silurian rocks of the Røros-Meråker 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 by 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 consists of phyllites, metasandstone, marble, conglomerate, and thin beds of greenstones and quartz keratophyre.

The *Hersjø Formation* (*Fundsjø Group* in the Meråker area) 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.

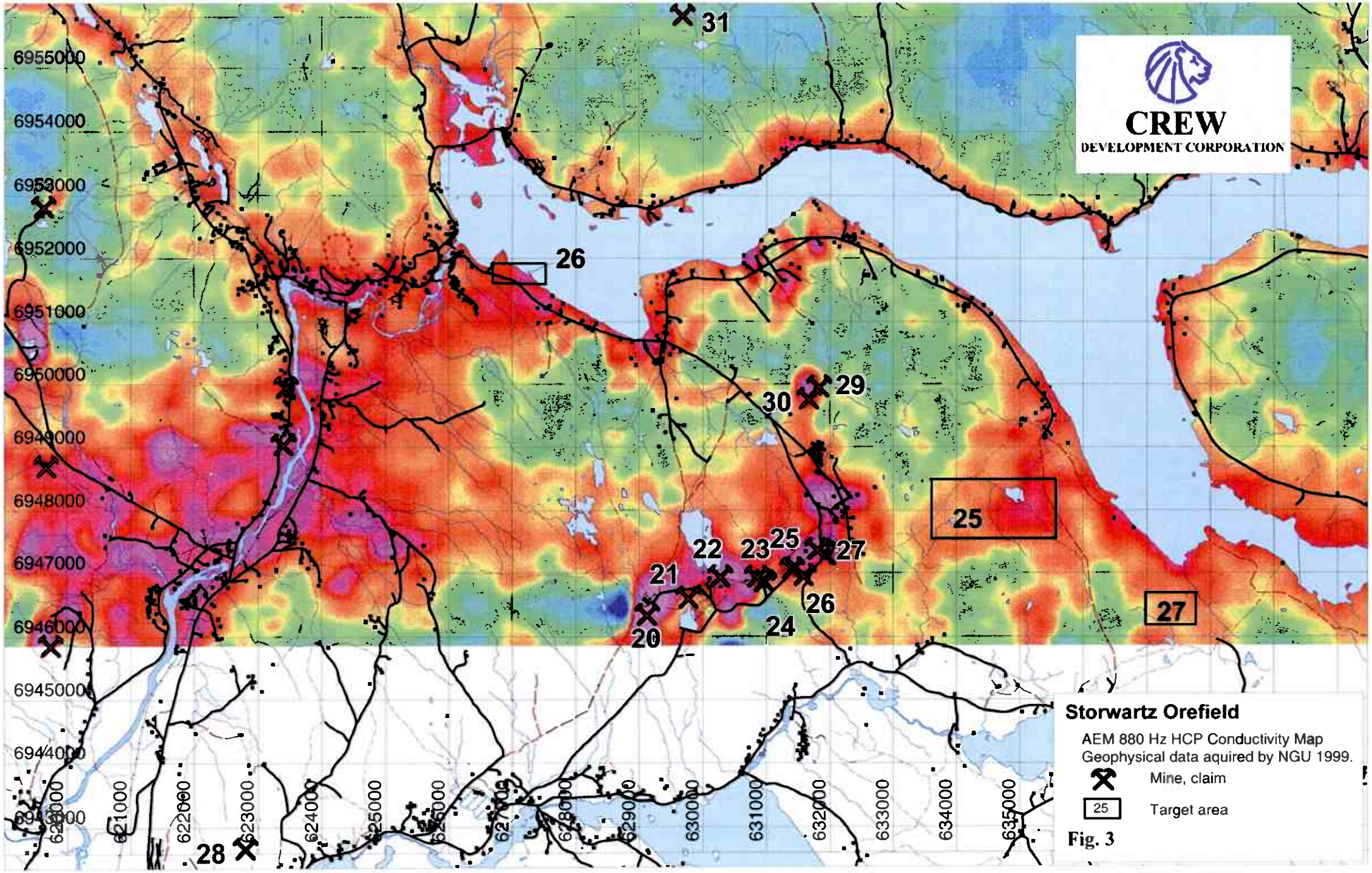
It is possible, although not proven, that the rocks of the Gula Group have been overturned, and belong to a large recumbent nappe with roots far to the west; and thus the Slågan Group and the Hummelfjell Formation represent the youngest members of the supposed inverted succession.

The interpretation of the area has been challenged by work recently started in the Otta area (SW of Røros). 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 Dalsbygd, Fundsjø (Hersjø Fm) and Aursund (Røros and Røsjø Fms) groups plus the upper Åsli Formation (Gula Group) 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 Witt-Nilsson (1998).

Local Geology.
Storwartz Ore Field is underlain by rocks of the Røros Formation, which is 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-meter thick massive layers may occur. The colors of the rocks usually vary from grey to light grey, or greyish 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.

Ore deposits. Mode of occurrence.
The Røros Formation is a fertile sedimentary succession 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, valid both for the Storwartz field (20-27) and the Abraham mineralization (31).
North of lake Aursunden, the Abraham prospect is located close to an extensive gabbro body. An up to 5 m thick quartz-sericite schist horizon, resembling a silicified felsic tuff, hosts stratabound Py-Sl(-Cpy) mineralization, with repeated mm-dm-thick massive-sulfide layers. Two grab samples of respectively massive and semimassive mineralization assayed 13.8 % Zn and 6.0 % Zn with less than 0.3 % Cu.
Two major metagabbro sills occur structurally above the Storwartz deposits, the Hestkletten – Quintus ore horizon appears 25 m below the Hestkletten gabbro. Storwartz, Nyberget and Nye Solskinn have exploited a lower ore horizon (fig. 2). Whether they are isoclinal limbs of the same horizon is not clear. The Storwartz ore plunge 8-10° to the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Storwartz Orefield
AEM 880 Hz HCP Conductivity Map
Geophysical data aquired by NGU 1999.
Mine, claim
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Target area

Fig. 3

east, same as isoclinal fold axis. The deposit is ruler-shaped, 1400 m long and 120-300 m wide. Isoclinal folding seems to be lacking in the easternmost part of the field (Witt Nilsson 1998), where the deposits are more sheet-like.
A general trend of zonation seems to be valid in the Storwartz ore field: increasing zinc- and decreasing copper grade in the deposits from east to west. Judged from the dumps, it seems that the banded Zn-pyritic ore type is limited to the four westernmost deposits, while the brecciated, generally Cu-dominated pyrrhotitic ore occurs in all deposits.
Gunnar Kullerud (1947) states in his thesis: "New Storwartz was one of the best copper producers of all the Røros mines. It is now (1947) regarded as exhausted when the rich pillars as well as a rich sphalerite ore, (up to about 20%Zn), in the southernmost sections of the mine are not accounted for."

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 1, shows results of the selected elements Au, Ag, Cu, Pb, Zn, As and Fe.

1999 Helicopter Survey Results.
An advantage of EM survey in the Røros Field for massive sulfide deposits is that the environment is practically without graphite horizons, while a disadvantage is that flatlying, Zn-rich deposits or Zn-rich portions of deposits may give little or no response. Fig. 3 shows the 880Hz Horizontal Coplanar coil map. As can be seen, the strongest EM responses in the Storwartz field are recorded in the outskirts of the ore field: over the westernmost deposit, Gamle Storwartz (with coinciding Mag), and from the easternmost, Gamle Solskinn deposit, bending northwards, towards the Klasberget deposit. This latter trend is a distance of 3 km, which has associated weak Mag response. Drilling in this area in1946 and -58 intersected several parallel Po-Sl-Cpy massive-layers, up to 40 cm in thickness. This anomaly seems to trend southwards to about 700 m south of Solskinn, where earlier drilling has proved Zn-Cu mineralization at Sommerhøgda.
In an area (Bekkosen) about 3 km east of Solskinn, responding, weaker EM and Mag signals are recorded, which are not yet explained.

2001 Follow up work in Storwartz ore field.

Enclosure no 2 and figs no 2 and 3 exhibits the three targets that have been followed up in 2001. It should be notified that the auger soil sampling method which has been applied for in the Storwartz ore field may be limited in areas with thick overburden, and that a few additional deep overburden (DOB) sampling tests should be carried out in some places in order to confirm the possible existence of soil anomalies.
Under each target presentation, a proposal for follow up is given.

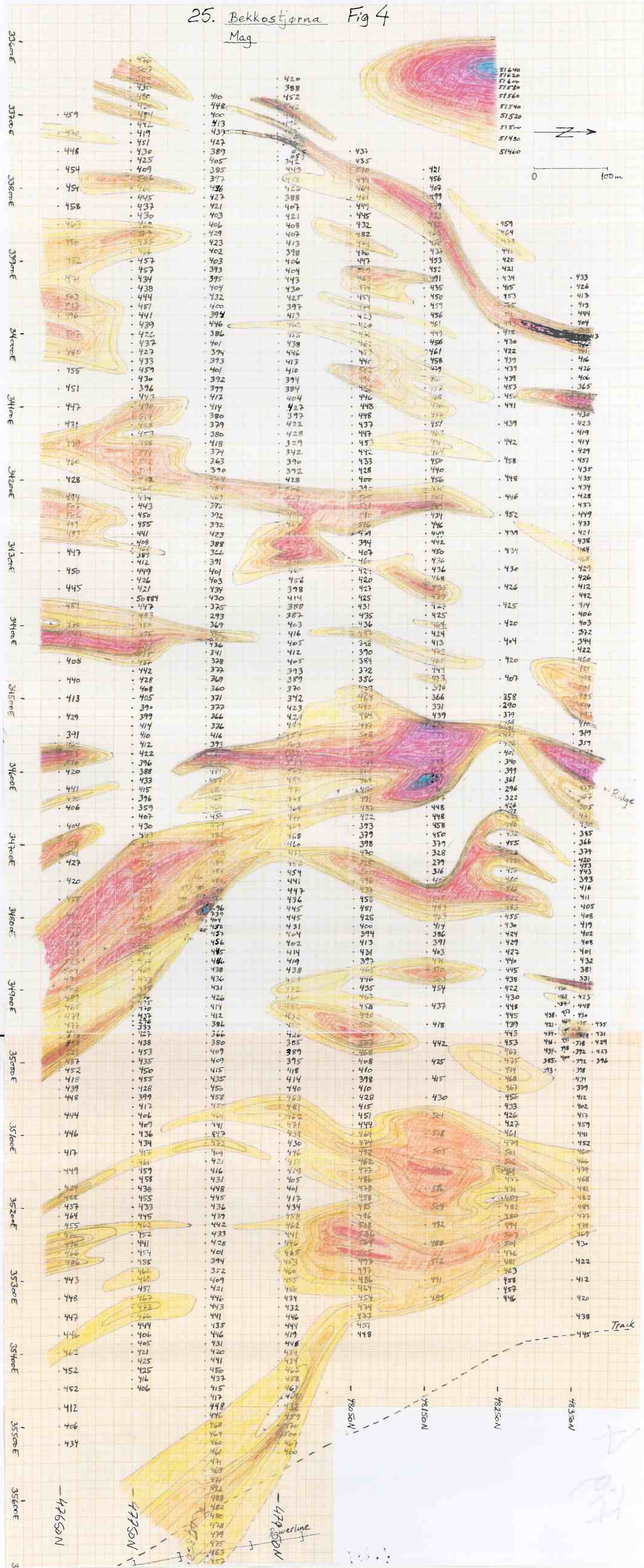
25. Bekkostjørna

Bekkostjørna target is located in the eastern continuation of the Storwartz ore field about 3km ENE of "Nye Solskinn Gruve", the eastern most located mine.
2 km long, E – W profiles cover a series of approximately N – S running mag trends with partly coincident VLF anomalies. See fig 4 and 5.
The fact that this area occupies an eastern continuation of the axis from the Storwartz ore field, 2 – 3 km away, and possibly also trending towards the Klasberget or Svarthåmmåren prospects 3 km to the NW, makes it an attractive target.
The sediment strata are rather flatlying and undulating. The scarce outcrops show massive greywacke, biotite schist and greygreen, finegrained schist (plotted on the VLF map).
The mag trend around 34575E 47850 – 48350N follows a ridge, and could possibly be caused by gabbro.
The assay results of the 76 B – horizon soil samples are rather discouraging with no zinc, copper or lead anomalies. See enclosure no 3. Some anomalies of nickel are, however, occurring in or near to the coinciding Mag and VLF anomalies. The high nickel contents in the soil up to 736ppm indicates that the combined geophysical anomalies may be caused by pyrrhotite mineralized zones. It is proposed that a limited DOB sampling program on about 30 samples to be collected. (Profile 48150N/ 34450-34900E and profile 48250N/ 33900-34500E). This should give a clear answer to whether the B-horizon soil samples are reflecting the geochemical pattern of the outcropping rock formations or not.

Enclosure no 2 exhibits the target list of the Storwartz ore field with summary of proposed follow up work.

Outcrops:

1. greygreen, finegrained schist with carbonate spots; sch: 0 - 50°/6 - 20°
2. same as 1.
3. same, more chloritic; sch: 110°/8°
4. less schisty, carb – spotted greywacke, weak garben development; sch: 15°/8°
5. cliff with greygreen, finegrained schist (chl, musc, bio, minor carb) with boudinated qtz layers; sch: 125°/8 - 12°; isoclinal- and dragfolds: 270°/5 - 10°
6. same as 5.
7. banding of greenish schist and greywacke (qtz, feldsp, bio, carb)
8. greygreen schist with carb – spots; gently dipping SE
9. light, mediumgrained biotite schist rich in ankerite spots; rel. flatlying, undulating
10. same as 9; sch: 150°/17° (undulating)
11. same as 9
12. same as 9;
13. same as 9; flatlying
14. same as 9
15. same as 9; sch: 22°/14°
16. same as 9
17. same as 9
18. same as 9; sch: 26°/6°


25. Bekkostjørna Fig 4
Mag
336mE
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338mE
339mE
340mE
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342mE
343mE
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345mE
346mE
347mE
348mE
349mE
350mE
351mE
352mE
353mE
354mE
355mE
356mE
N
0
100 m
Ridge
Track
Riverline
476SN
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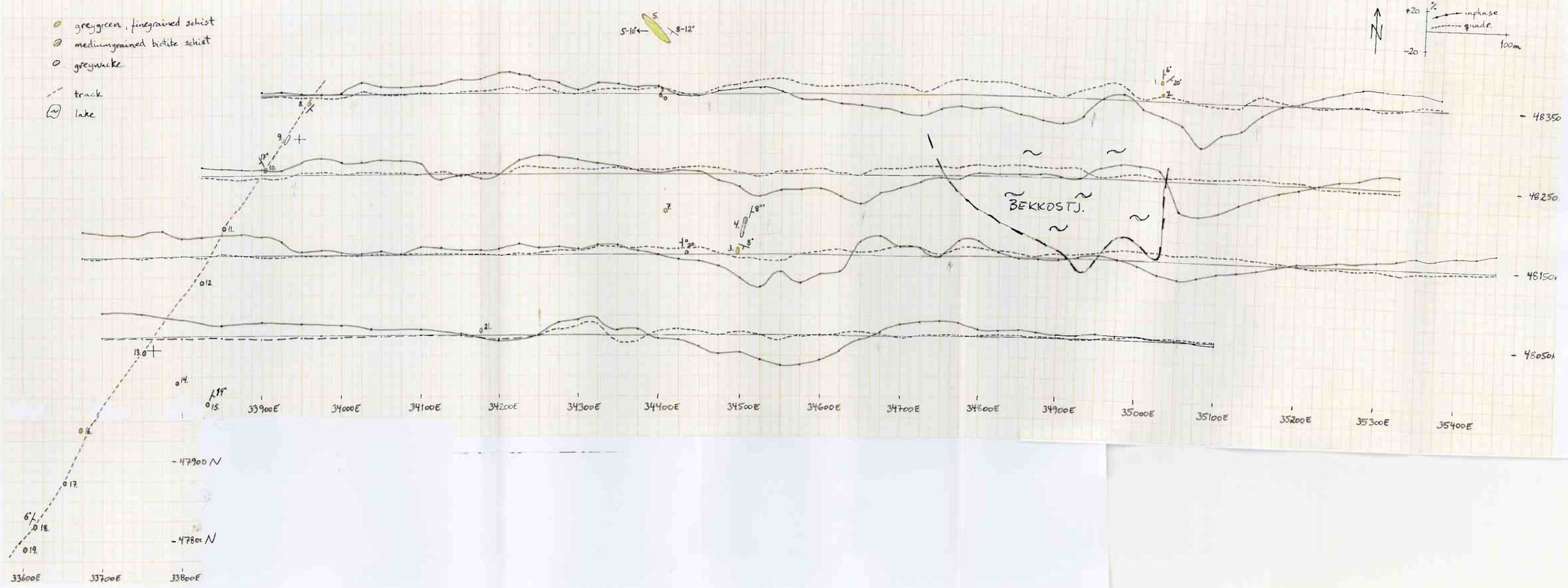
480SN
481SN
482SN
483SN

25. Bekkostjørna Fig 5

VLF (NAA)



19. same as 9
20. schisty greywacke; dip towards west
21. approx N – S – running hydrothermalquartz vein in massive greywacke

26. Aursunden / Klemmetvollen (Røros):
Aursunden/Klemmetvollen target is located on the southern shore of the western end of lake Aursunden. It represents the southern tip of a distinct 2km long strong NNW-SSE striking AEM anomaly which is partly coinciding with strong Mag anomalies.
A small area at the shore of Aursunden are covered by mag and VLF to delineate a combined anomaly following the lake, where it extends on shore. See fig no 6 and 7. The airborne anomalies are confirmed. VLF shows only a very weak trend. Soil sampling is not conducted. Low water level allows DOB sampling out at the lake during spring. No exposures are to be found in the area.
The target is proposed to be followed up with about 15 DOB samples in two profiles in the southern part: Profile 51750N/ 27200-27300E and 51800N/27150-27250E.
The northern part exhibits stronger anomalies, so this location is proposed to be followed up by four VLF and Mag profiles in E-W-direction from 26500-27300E/52800-53000-53200 and 53400N. This area should also be covered by 20 DOB samples. For optimal survey coverage, the exploration work should be carried out while the hydro power regulated lake is at its lowest in mid April.

Enclosure no 2 exhibits the target list of the Storwartz ore field with summary of proposed follow up work.

27. Stamnesbekken (Røros):
Stamnesbekken target is located in the SE branch of lake Aursunden.
Distinct mag trend from lake Aursunden and at least 700 m southwards is demonstrated at fig 8. Only the southern part of it is covered by 4 VLF profiles, which shows very weak associated EM response. See fig no 9. The AEM exhibits, however, two quite strong crossing NW-SE and NNW-SSE trending anomalies with a crossing point at about 37420E/47350N. A quite strong mag anomaly is also associated with the AEM anomalies.
No outcrops are found in the area. In total 45 B-horizon soil samples are collected in 3 profiles. No Zn or Cu anomalies in this survey. The overburden thickness may be to thick for obtaining any geochemical response of the B-horizon soil samples. The assay results are exhibited in enclosure no 3. As for target no 25, Bekkostjørna, anomalous Ni contents occur in the B-horizon soil samples with up to 332ppm Ni. Additional DOB samples should be collected to confirm the Ni anomalies as well as find out whether the correct geochemical pattern of the outcropping rock formations is reflected.

It is proposed that about 20 DOB samples are collected and that an additional VLF and Mag survey is carried out in four E-W profiles 47100N, 47200N, 47300N and 47300N from 37300-37600E.

26. Aursunden / Klemmetvollen . Mag

Fig 6.

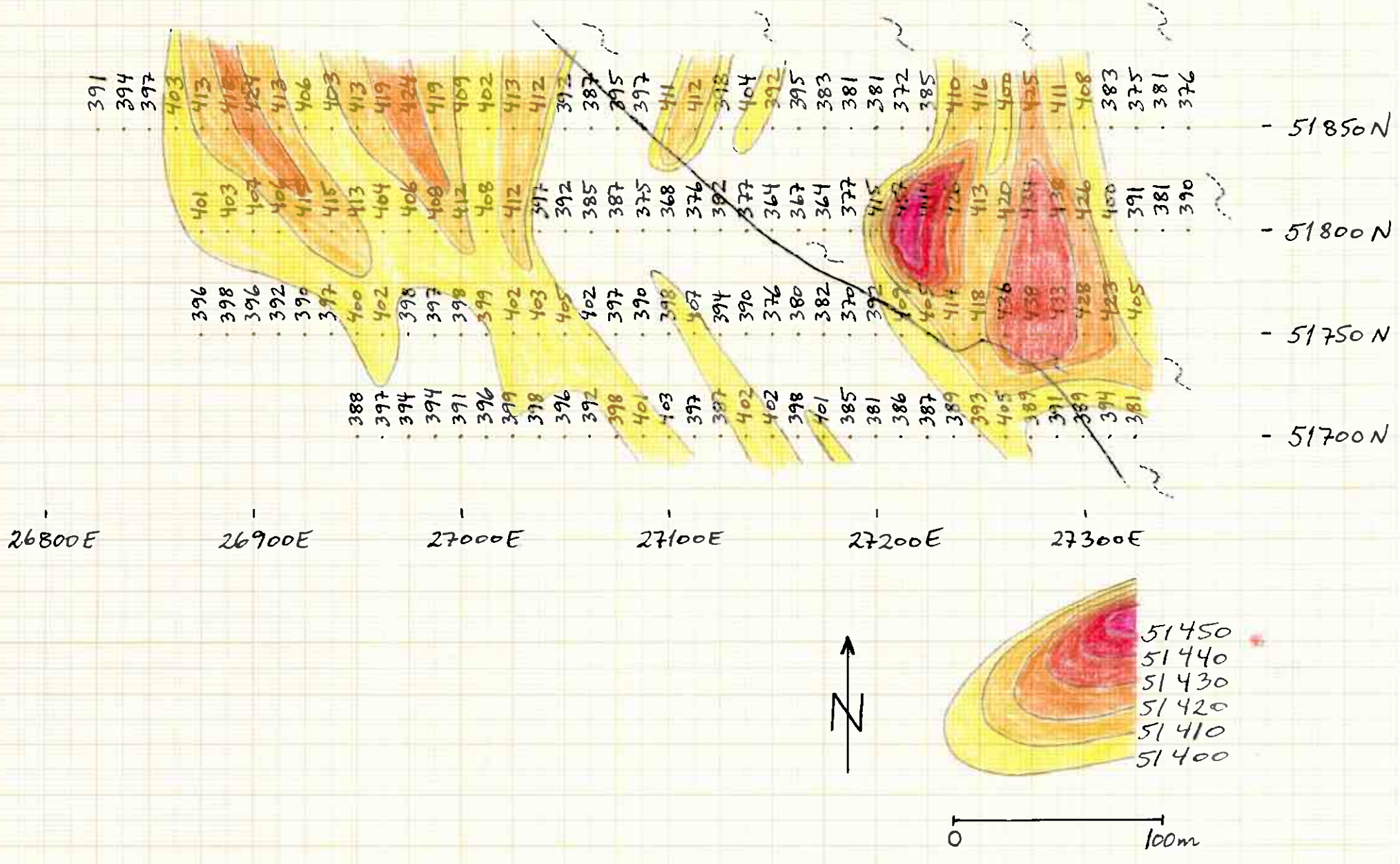
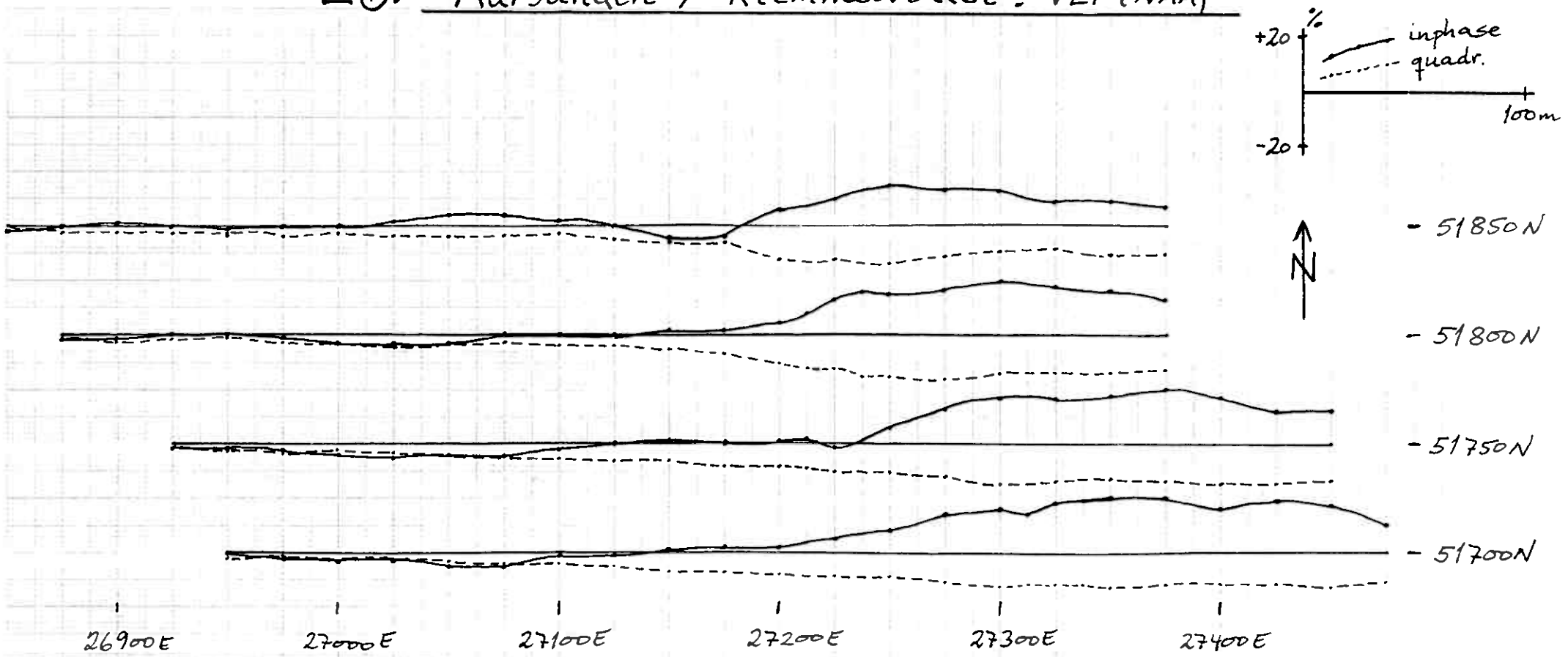


Fig 7

26. Aursunden / Klemmetvollen . VLF (NAA)



27. Stamnesbekken . Mag Fig 8

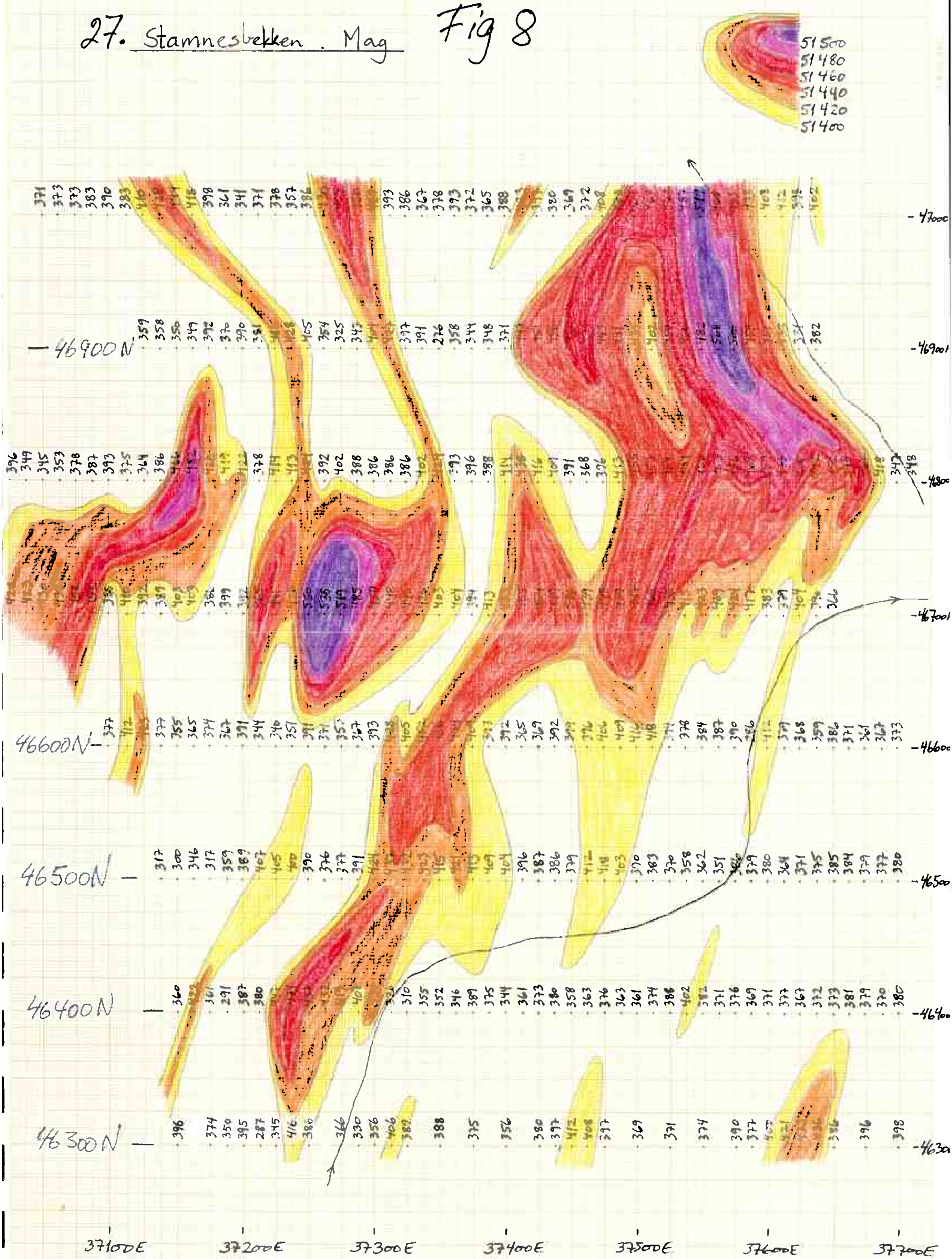
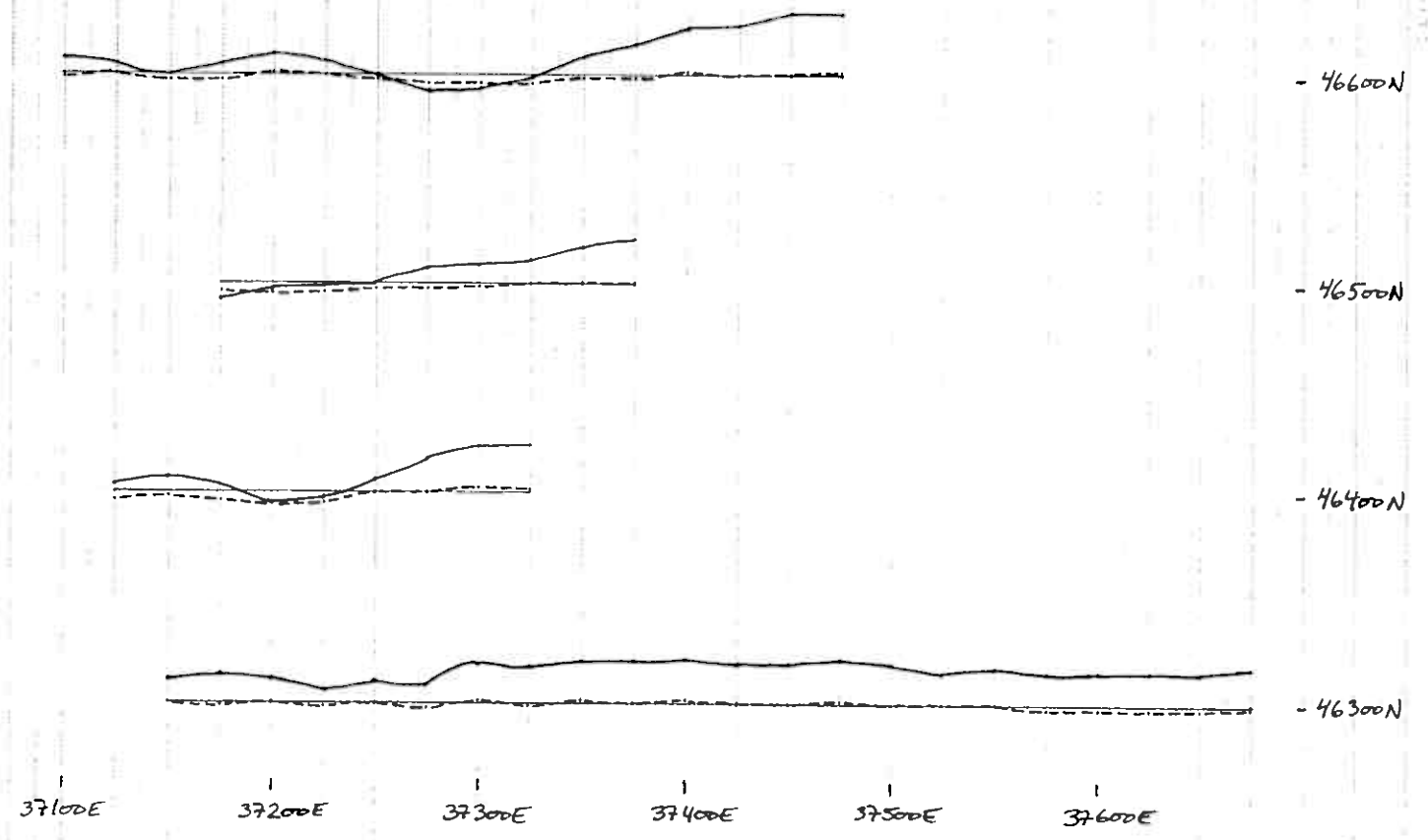


Fig 9

27. Stamnesbekken. VLF (7x2), facing W ← Fig 9.



For optimal survey coverage, the exploration work should be carried out while the hydro power regulated lake is at its lowest in mid April.

Enclosure no 2 exhibits the target list of the Storwartz ore field with summary of proposed follow up work.

Estimated costs of follow up work in Storwartz ore field:

Bekkostjørna, target no 25:				
DOB sampling	3 days	NOK 4000/day	NOK	12000
Klemmetvollen, target no 26:				
DOB sampling	3 days	NOK 4000/day	NOK	12000
VLF and Mag surveys	3 days	NOK 4000/day	"	12000
Stamnesbekken, target no 27:				
DOB sampling	2 days	NOK 4000/day	NOK	8000
VLF and Mag surveys	2 days	NOK 4000/day	"	8000
Assays			"	10000
Field transportation, travel			"	12000
Housing, allowances			"	10000
Total			NOK	84000

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.
Kullerud, Gunnar, 1947, Det store Eksamensarbeide: "Gi en geologisk beskrivelse av Olavsgruben og de andre gruber i Solskinnsfeltet (Nyberget, Gamle og Nye Solskinns gruber), med en særlig undersøkelse av disse gamle grubers malmtyper og av de opptredende forkastninger i feltet."
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.
Røsholt, B.2001: Drilling Results Klinkenberg Mine 2001. Bergarkivet.
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. no 1

Summary of results of ore samples from Storwartz Ore Field, Røros

20. Gamle Storwartz (Klasberget) UTM 0629126 6946382

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
400057	127	32	476	31100	185700	488	> 10.00
400058	106	8,5	9680	7274	193900	82	> 10.00
400059	12	4,8	18100	675	4282	142	> 10.00
400060	55	3,4	6383	1811	15600	27	> 10.00
400061	78	34	4018	25900	155400	372	> 10.00
400062	262	11,1	32700	7997	72700	85	> 10.00

21. Nye Storwartz (Klasberget) UTM 0629775 6946645

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
399664	267	5,6	9344	4681	265000	19	24
399665	11	5,5	1817	9243	54000	9	6,67
399666	67	9,8	13000	2007	77000	13	> 10.00
399667	197	7,4	24000	708	28000	5	> 10.00
399668	90	59,1	23000	106200	203600	20	23,1
399669	10	0,8	2820	497	84000	11	9,63
399670	325	21,8	30000	5803	108000	432	> 10.00
399671	385	28,5	21000	13700	163400	178	29,3
399672	255	25,4	1123	18200	19000	24	6,82
399673	35	15,9	97000	1396	8457	37	> 10.00
399674	68	3,5	5568	391	133000	84	> 10.00
400063	124	2,3	12800	1703	6203	13	> 10.00
400064	197	3,1	6754	2009	4586	30	9,24
400065	144	4,2	21800	674	64300	17	> 10.00
400066	67	7,2	13900	794	145600	89	> 10.00
400067	763	13,3	3785	29200	179200	7	> 10.00

22. Hestkletten (Klasberget) UTM 0630278 6946979

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
399675	17	3	14000	208	1873	< 5	9,2
399676	1630	8,5	23000	428	39000	8	8,76
399677	48	19,8	4670	16900	40000	6	8,87
400068	276	5,3	22400	263	33300	12	> 10.00
400069	129	4,6	21300	342	29400	7	8,3
400070	69	2,2	16800	115	64400	95	6,37
400071	173	0,6	1448	872	257400	6	> 10.00

23. Myrgruva (Klasberget) UTM 0630858 6946792

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
400044	264	2,8	1126	1719	169800	< 5	> 10.00
400045	274	4,6	3008	886	78700	< 5	> 10.00
400046	32	4,4	22900	120	24100	5	> 10.00
400049	388	17,9	28000	19400	84000	< 5	5,45

24. Quintus (Klasberget) UTM 0630967 6946905.

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
400047	26	2	17500	567	55800	< 5	> 10.00
400048	24	3,2	13900	65	24900	< 5	> 10.00

25. Nyberget / Olavsgruva (Klasberget) UTM 0631406 6947102

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
400042	211	14,6	55900	22	3245	25	> 10.00
400043	49	15,9	71200	86	7494	62	> 10.00

26. Nye Solskinn (Klasberget) UTM 0631588 6947000

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
400040	451	8	36800	19	39700	66	> 10.00
400041	83	3,9	15800	88	27700	74	> 10.00

27. Gamle Solskinn (Klasberget) UTM 0631804 6947415

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
400038	16	3,8	24400	14	7672	32	> 10.00
400039	81	2,2	4583	60	65000	65	> 10.00

28. Isakgruva UTM 0622802 6942706

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
400037	100	0,8	4527	178	427	7	5,4

29. Klasberget (Klasberget) UTM 0631831 6950000

29. Klasberget (Klasberget) UTM 0631831 6950000

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
399701	14	5,8	48000	181	59000	175	> 10.00
399702	107	4,2	44000	119	3147	148	15,5
399703	15	3,3	23000	121	35000	150	> 10.00
399704	16	3,6	28000	95	16000	76	> 10.00
399705	232	5,6	34000	181	24000	123	> 10.00

30. Klasberglia (Klasberget) UTM 0631671 6949805

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
399757	197	3,3	8021	268	832	192	> 10.00
399758	116	31,2	180500	288	31000	109	29,1
399759	252	10,2	33000	130	9980	227	11

31. Abraham (Abrahamshøgda) UTM 0629678 6955870

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
399707	96	3,4	1126	376	138000	186	> 10.00
399708	43	1,5	2747	115	60000	143	7,06
399709	426	3,4	13000	391	7262	121	18,1
399710	287	7,5	19000	2237	24000	146	14
399842	39	1,4	6073	26	236	16	12,5

Target list, Storwartz ore field
Røros Area

Target	UTM-area	Aero-EM/ Mag	Ground survey	DOB/AS	Minr	Comments, Proposed follow up
25. Bekkostjørna	33,6-35,7E/47,6-48,4N	Modr/Modr	Mag, VLF,Geo	76AS		E Continuation of Storwartz?30 DOB samples.
26. Klemmetvollen	26,8-27,4E/51,7-51,9N	High/Modr	Mag, VLF			35 DOB samples, VLF and mag survey
27. Stamnesbekken	37-37,7E/46,3-47N	Modr/Modr	Mag, VLF	25AS		20 DOB samples, VLF and mag survey

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

Encl no 2

Storwartz ore field soil samples 2001

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y
Sch. Code				ICP70	ICP70	ICP70	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	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	3	0.5	0.5
AB044	633912	6948350	Bekkostj.	<0.5	<0.01	0.62	0.87	0.03	0.04	0.06	1.6	0.09	36	111	5430	2.34	122	123	3.9	23.8	<3	4.4	2.5
AB045	633962	6948350	Bekkostj.	<0.5	<0.01	1.37	1.12	0.03	0.2	0.11	2.4	0.06	26	81	327	1.97	16	153	12.2	27.9	<3	5.3	4.7
AB046	633987	6948350	Bekkostj.	<0.5	<0.01	1.13	1.2	0.02	0.07	0.09	2.1	0.09	34	85	134	2.4	12	76	3.4	32.2	<3	4.4	3.2
AB047	634012	6948350	Bekkostj.	<0.5	0.01	1.36	1.75	0.08	0.58	0.21	4.4	0.12	50	65	137	2.57	21	89	12.6	51.9	<3	7.1	6.5
AB048	634037	6948350	Bekkostj.	<0.5	<0.01	1.33	1.42	0.03	0.11	0.07	2.2	0.05	25	69	209	2.41	20	116	17	33.3	<3	4	5.4
AB049	634062	6948350	Bekkostj.	<0.5	<0.01	1.13	1.33	0.02	0.1	0.07	1.8	0.07	30	63	101	2.01	10	59	3.9	33.3	<3	3.9	2.4
AB050	634112	6948350	Bekkostj.	<0.5	<0.01	0.93	1.39	0.01	0.12	0.03	2.1	0.12	53	87	239	3.14	12	52	13.1	28.6	<3	2.3	2.8
AB051	633850	6948250	Bekkostj.	<0.5	<0.01	1.21	1.33	0.03	0.04	0.08	2.8	0.05	28	164	107	2.04	27	251	7.3	56.2	<3	4	8.3
AB052	633900	6948250	Bekkostj.	<0.5	<0.01	1.09	0.78	0.03	0.11	0.1	1.5	0.04	18	89	94	2.28	12	109	10.1	19	<3	4.5	4.7
AB053	633925	6948250	Bekkostj.	<0.5	<0.01	1.28	1.05	0.03	0.1	0.08	1.6	0.05	20	72	143	1.78	16	125	8.8	23.3	<3	4.5	3.6
AB054	633950	6948250	Bekkostj.	<0.5	0.01	1.59	1.45	0.04	0.3	0.15	2.5	0.1	34	100	314	2.59	22	159	10.5	41	<3	7.2	3.9
AB055	633975	6948250	Bekkostj.	<0.5	<0.01	1.25	1.11	0.02	0.08	0.05	1.6	0.07	28	94	848	2.11	30	105	3.7	31	<3	3.4	2.2
AB056	634000	6948250	Bekkostj.	<0.5	<0.01	1.2	1.76	0.04	0.04	0.1	4.4	0.09	41	147	1560	4.11	39	421	9.7	96.2	<3	5	13.9
AB057	634050	6948250	Bekkostj.	<0.5	<0.01	1.52	1.36	0.04	0.21	0.15	3.2	0.09	34	95	146	2.19	26	343	13.4	46.4	<3	6.4	9.1
AB058	634075	6948250	Bekkostj.	<0.5	<0.01	0.88	1.28	0.03	0.12	0.13	2.5	0.1	41	72	153	2.28	10	56	6.8	36.6	<3	6.2	4.4
AB059	634100	6948250	Bekkostj.	<0.5	<0.01	1.1	1.6	0.04	0.22	0.17	4.4	0.09	37	69	129	2.4	16	115	28	38.9	<3	5.8	20.3
AB060	634125	6948250	Bekkostj.	<0.5	<0.01	1.38	1.38	0.04	0.09	0.11	3.2	0.07	36	119	104	1.96	19	161	9.9	36.1	<3	4.3	5.6
AB061	634150	6948250	Bekkostj.	<0.5	<0.01	2.81	0.93	0.03	0.1	0.08	1.9	0.04	20	99	275	2.3	31	293	6.9	34	<3	3.8	3.2
AB062	634175	6948250	Bekkostj.	<0.5	<0.01	1.94	1.31	0.02	0.15	0.06	2.6	0.09	54	150	315	3.89	35	191	7.7	54.4	<3	3.2	2
AB063	634200	6948250	Bekkostj.	<0.5	<0.01	2.3	1.35	0.04	0.09	0.15	2.6	0.06	29	73	208	2.67	24	244	9.7	37.8	<3	5.4	7.2
AB064	634225	6948250	Bekkostj.	<0.5	<0.01	1.37	1.53	0.04	0.08	0.22	2.9	0.12	49	108	300	2.93	15	87	7	44.3	<3	8.4	4.5
AB065	634250	6948250	Bekkostj.	<0.5	<0.01	0.75	1.21	0.02	0.07	0.08	2.1	0.11	45	77	945	2.57	14	54	6.6	32.4	<3	4.1	5.1
AB066	634150	6948050	Bekkostj.	<0.5	<0.01	1.92	1.52	0.04	0.11	0.16	3.8	0.09	34	161	150	2.28	23	308	9.1	65.2	<3	7.9	9.8
AB067	634200	6948050	Bekkostj.	<0.5	<0.01	1.1	1.45	0.04	0.18	0.12	2.2	0.08	30	72	95	1.91	16	83	2.3	33.8	<3	6.1	3.3
AB068	634225	6948050	Bekkostj.	<0.5	<0.01	1.1	1.54	0.04	0.22	0.11	2.7	0.11	43	90	171	2.49	25	94	7	47.6	<3	6	3.8
AB069	634250	6948050	Bekkostj.	<0.5	<0.01	1.27	1.49	0.05	0.31	0.15	2.4	0.11	35	113	112	1.95	16	122	6.6	46.3	<3	8.1	4
AB070	634275	6948050	Bekkostj.	<0.5	<0.01	1.13	1.62	0.04	0.18	0.16	3.4	0.14	53	102	814	3.19	19	93	4.7	63.3	<3	8.4	5.6
AB071	634300	6948050	Bekkostj.	<0.5	<0.01	1.42	1.01	0.03	0.08	0.11	3.1	0.06	26	145	141	1.6	12	149	8.9	33.7	<3	5.7	8.6
AB072	634350	6948050	Bekkostj.	<0.5	<0.01	0.83	1.32	0.03	0.1	0.13	3.2	0.08	29	60	261	1.65	11	115	16.8	31.1	<3	6.6	26
AB073	634487	6948150	Bekkostj.	<0.5	<0.01	2.16	1.23	0.05	0.09	0.17	4.1	0.04	26	178	178	3.07	23	215	8	33.7	<3	6	6.1
AB074	634512	6948150	Bekkostj.	<0.5	<0.01	1.52	0.51	0.02	0.05	0.07	2.2	0.03	13	99	81	0.91	46	736	11.6	21	<3	3.6	7.3
AB075	634537	6948150	Bekkostj.	<0.5	<0.01	1.08	0.63	0.02	0.04	0.04	0.8	0.03	12	64	145	1.45	15	100	3	15.6	<3	2.4	2.3
AB076	634562	6948150	Bekkostj.	<0.5	<0.01	1.07	1	0.03	0.05	0.05	1.1	0.03	14	69	134	1.53	9	76	3.3	21.9	<3	3	2.6
AB077	634587	6948150	Bekkostj.	<0.5	<0.01	1.22	0.73	0.03	0.04	0.07	0.8	0.02	10	61	137	1.32	12	98	3.1	15.1	<3	3.1	2.8
AB078	634612	6948150	Bekkostj.	<0.5	<0.01	0.99	0.78	0.02	0.05	0.05	0.8	0.03	11	66	99	1.34	8	58	2.8	15.5	<3	2.9	2.1
AB079	634637	6948150	Bekkostj.	0.8	<0.01	1.37	0.74	0.03	0.09	0.08	1.6	0.03	14	65	174	1.33	13	110	6.6	22.8	<3	4.3	3.3
AB080	634662	6948150	Bekkostj.	<0.5	<0.01	1.79	0.81	0.03	0.09	0.06	1.3	0.03	17	94	310	1.89	23	159	5.4	27.7	<3	3.1	2.5
AB081	634687	6948150	Bekkostj.	<0.5	<0.01	1.81	0.6	0.03	0.08	0.07	1.2	0.02	13	74	250	1.64	23	173	5.7	20.2	<3	3.2	2.5

Prepared by Bernt Røsholt 12/5/01

Encl. no 5

Storwartz ore field soil samples 2001

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y
Sch. Code				ICP70	ICP70	ICP70	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	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	3	0.5	0.5
AB082	634712	6948150	Bekkostj.	<0.5	<0.01	1.12	0.64	0.03	0.09	0.11	1.2	0.03	12	56	135	1.36	11	130	7.7	18.4	<3	4.6	3.8
AB083	634737	6948150	Bekkostj.	<0.5	<0.01	1.47	0.91	0.03	0.12	0.16	2	0.04	19	64	138	1.36	21	303	25.4	31.3	<3	7.2	13.2
AB084	634762	6948150	Bekkostj.	<0.5	<0.01	1.91	1.27	0.05	0.16	0.15	2.8	0.05	25	115	125	1.79	20	247	12.6	49	<3	6.7	6.1
AB085	634787	6948150	Bekkostj.	<0.5	<0.01	0.95	0.96	0.04	0.07	0.14	1.8	0.04	20	99	150	1.71	13	76	3.2	27.1	<3	5.8	3.3
AB086	634812	6948150	Bekkostj.	<0.5	<0.01	1.48	1.09	0.05	0.12	0.17	2.3	0.05	24	112	479	2.46	22	118	4.4	32.6	<3	6	4
AB087	634862	6948150	Bekkostj.	<0.5	<0.01	1.47	1.34	0.04	0.14	0.12	2.5	0.07	27	108	105	1.8	16	148	6.3	37.2	<3	7.9	4.3
AB088	635050	6948350	Bekkostj.	<0.5	<0.01	0.86	0.76	0.03	0.1	0.08	1	0.03	14	42	71	1.25	7	70	7.1	21.7	<3	3.7	2.8
AB089	635000	6948350	Bekkostj.	<0.5	<0.01	0.88	0.98	0.04	0.09	0.09	1	0.02	12	47	112	1.29	7	97	13.2	17.7	<3	4.1	3.8
AB090	634975	6948350	Bekkostj.	<0.5	<0.01	0.96	0.84	0.04	0.11	0.09	1.2	0.03	17	48	63	1.37	7	63	8	19.4	<3	3.9	3.2
AB091	634950	6948360	Bekkostj.	<0.5	<0.01	2.41	1.17	0.04	0.12	0.22	3.7	0.06	34	132	201	2.98	32	555	26.8	41.6	<3	6.6	43.3
AB092	634925	6948360	Bekkostj.	<0.5	<0.01	1.08	0.76	0.04	0.14	0.1	1.1	0.02	13	36	88	1.22	9	79	12	23.2	<3	4.9	5.6
AB093	634900	6948360	Bekkostj.	<0.5	<0.01	0.44	0.74	0.02	0.03	0.03	0.9	0.03	15	54	38	0.94	4	21	1.7	12.8	<3	2.3	2
AB094	634850	6948350	Bekkostj.	<0.5	<0.01	0.84	1.24	0.03	0.15	0.07	1.7	0.07	26	47	228	1.71	13	52	4.9	28.5	<3	3.6	2.7
AB095	634437	6948250	Bekkostj.	<0.5	<0.01	1.14	1.37	0.02	0.12	0.07	2	0.06	34	48	191	2.27	12	48	8.2	33.7	<3	2.7	3
AB096	634487	6948250	Bekkostj.	<0.5	<0.01	1.55	1.95	0.04	0.2	0.12	4.7	0.1	52	66	164	2.99	21	152	16.1	47.9	<3	4.3	7.7
AB097	634512	6948250	Bekkostj.	0.8	<0.01	0.85	1.33	0.04	0.09	0.17	4.9	0.05	35	83	943	2.55	13	138	22.1	50.5	<3	6.4	20
AB098	634537	6948250	Bekkostj.	<0.5	<0.01	1.63	0.71	0.03	0.09	0.06	1.3	0.03	16	79	284	1.94	23	171	7.6	21.9	<3	3.6	2.9
AB099	634562	6948250	Bekkostj.	<0.5	<0.01	1.55	0.9	0.04	0.09	0.07	1.4	0.04	19	67	387	1.75	25	179	7.8	23.7	<3	3.7	2.9
AB100	634587	6948250	Bekkostj.	<0.5	<0.01	0.88	0.58	0.03	0.06	0.08	1	0.03	11	52	69	1.08	7	90	3.9	16.1	<3	4.2	2.9
AB101	634637	6948250	Bekkostj.	<0.5	<0.01	1.51	0.79	0.04	0.11	0.11	1.4	0.03	15	63	92	1.33	17	267	8.2	25.8	<3	4.7	3.2
AB102	635087	6948350	Bekkostj.	<0.5	<0.01	1.35	1.74	0.04	0.05	0.09	2.4	0.07	34	60	211	2.27	12	63	8.4	49	<3	3.2	4
AB103	635112	6948350	Bekkostj.	<0.5	<0.01	0.78	0.72	0.04	0.1	0.1	1.1	0.02	12	33	78	1.21	10	139	12.6	21.6	<3	4.6	4.6
AB104	635137	6948350	Bekkostj.	<0.5	<0.01	0.92	0.77	0.04	0.1	0.12	1.4	0.03	14	43	72	1.08	11	99	14.5	20.9	<3	5.1	5.6
AB105	635162	6948350	Bekkostj.	<0.5	<0.01	1.33	1.7	<0.01	0.04	0.09	3.6	0.11	35	102	141	2.29	21	215	12.8	39.7	<3	4.3	5.9
AB106	635187	6948350	Bekkostj.	<0.5	<0.01	0.73	0.9	0.03	0.04	0.1	1.4	0.03	15	41	63	1.1	8	82	5.6	21	<3	4.4	3.3
AB107	635212	6948350	Bekkostj.	<0.5	<0.01	0.76	0.86	0.03	0.09	0.07	1.2	0.03	15	42	63	1.18	8	48	6.8	19.9	<3	3.6	2.9
AB108	635237	6948350	Bekkostj.	<0.5	<0.01	1.06	1	0.04	0.13	0.1	1.4	0.03	17	48	158	1.4	12	79	8.7	28.1	<3	4.3	3.7
AB109	635287	6948350	Bekkostj.	<0.5	<0.01	0.93	1.25	0.03	0.08	0.09	2.2	0.07	27	70	163	1.91	14	93	6.1	30.1	<3	4.5	5.2
AB110	635100	6948250	Bekkostj.	<0.5	<0.01	0.95	0.81	0.05	0.14	0.1	1.5	0.03	15	51	286	1.29	10	122	10.1	20.8	<3	4.5	4.5
AB111	635125	6948250	Bekkostj.	<0.5	<0.01	0.79	0.55	0.05	0.08	0.11	0.9	0.02	9	35	111	0.94	6	69	12.9	15	<3	4.3	3.2
AB112	635150	6948250	Bekkostj.	<0.5	<0.01	1.05	1.09	0.04	0.14	0.11	2	0.05	22	62	125	1.71	14	128	10.7	27.9	<3	4.2	3.9
AB113	635175	6948250	Bekkostj.	<0.5	<0.01	0.89	1.02	0.04	0.08	0.1	1.6	0.05	21	54	73	1.58	8	74	6.3	25.2	<3	4.3	3.1
AB114	635200	6948250	Bekkostj.	<0.5	<0.01	0.79	0.65	0.05	0.11	0.13	1.3	0.03	13	40	85	1.13	7	116	8.4	18.2	<3	5.1	7.5
AB115	635225	6948250	Bekkostj.	<0.5	<0.01	0.99	1.08	0.04	0.1	0.08	1.8	0.06	26	76	162	1.89	12	75	6.5	26.3	<3	3.7	2.8
AB116	635250	6948250	Bekkostj.	<0.5	<0.01	0.63	0.69	0.03	0.06	0.08	1.3	0.03	14	39	99	1	7	36	4	17.8	<3	3.4	2.9
AB117	635275	6948250	Bekkostj.	<0.5	<0.01	1.16	1.44	0.03	0.21	0.07	2.6	0.09	38	70	203	2.35	15	64	5.3	42.6	<3	3	2.3
AB118	635300	6948250	Bekkostj.	<0.5	<0.01	0.21	0.36	<0.01	0.03	0.02	<0.5	0.03	9	24	62	0.37	4	10	1.1	8.1	<3	1.4	1.4
AB119	635325	6948250	Bekkostj.	<0.5	<0.01	1.29	1.78	0.05	0.12	0.21	3.4	0.07	42	85	294	3.23	15	158	12.3	56.8	<3	7.5	8.5

Prepared by Bernt Røsholt 12/5/01

Storwartz ore field soil samples 2001

Smpl. ID	UTM E	UTM N	Target	Be	Na	Mg	Al	P	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Sr	Y
Sch. Code				ICP70	ICP70	ICP70	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	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	3	0.5	0.5
AB120	637150	6946400	Stamnesbl	<0.5	<0.01	0.99	1.03	0.02	0.14	0.12	1.5	0.04	19	72	95	1.39	10	105	5.5	28.1	<3	4.5	4.2
AB121	637200	6946400	Stamnesbl	<0.5	<0.01	1.48	1.6	0.04	0.12	0.18	2.4	0.06	33	98	132	2.35	12	68	3.8	58.1	<3	5.9	4.2
AB122	637225	6946400	Stamnesbl	<0.5	<0.01	2.47	1.5	0.05	0.09	0.19	2.7	0.06	38	135	499	3.21	21	125	5.7	64.9	<3	6.9	3.9
AB123	637250	6946400	Stamnesbl	<0.5	<0.01	1.7	1.93	0.07	0.39	0.28	4.2	0.11	44	99	449	2.93	16	96	9.6	63.8	<3	9	5.8
AB124	637275	6946400	Stamnesbl	<0.5	<0.01	1.97	1.27	0.05	0.16	0.18	2.2	0.04	25	79	255	2.28	17	142	17.7	40.7	<3	6.1	5.3
AB125	637300	6946400	Stamnesbl	<0.5	<0.01	2.1	1.43	0.05	0.25	0.16	2.5	0.04	27	65	465	2.42	21	216	30.7	46.4	<3	6.1	12.3
AB126	637350	6946400	Stamnesbl	<0.5	<0.01	2.05	2.21	0.05	0.3	0.23	4.3	0.1	41	90	386	3.21	24	333	28.3	70.6	<3	8.2	11.7
AB127	637312	6946700	Stamnesbl	0.8	<0.01	2.3	1.33	0.05	0.21	0.24	4.1	0.05	27	91	299	2.6	19	243	18.4	61.9	<3	8.7	17.6
AB128	637362	6946700	Stamnesbl	<0.5	<0.01	1.59	1.82	0.04	0.19	0.15	3.6	0.05	33	80	200	2.41	17	147	20.8	48.6	<3	6.1	16.2
AB129	637387	6946700	Stamnesbl	<0.5	<0.01	1.94	2.16	0.06	0.27	0.16	3.5	0.07	41	74	197	2.8	17	99	10	63.7	<3	4.8	4.2
AB130	637412	6946700	Stamnesbl	<0.5	<0.01	1.33	0.92	0.02	0.08	0.08	1.4	0.03	21	64	212	1.81	15	105	5.3	34.5	<3	3.5	3.8
AB131	637437	6946700	Stamnesbl	<0.5	<0.01	0.49	0.68	<0.01	0.17	0.01	1.3	0.04	15	44	41	0.8	5	20	1.5	18	<3	1.5	1.1
AB132	637462	6946700	Stamnesbl	<0.5	<0.01	1.37	0.99	0.03	0.11	0.07	1.4	0.03	17	68	110	1.32	10	77	5.3	28	<3	3.6	2.8
AB133	637487	6946700	Stamnesbl	<0.5	<0.01	1.41	1.3	0.03	0.1	0.09	1.6	0.05	28	74	243	2.04	16	132	13.3	47.1	<3	6.5	5.7
AB134	637512	6946700	Stamnesbl	<0.5	<0.01	1.54	1.29	0.04	0.12	0.09	1.9	0.04	24	70	253	1.96	14	118	9.3	33.2	<3	3.8	3.3
AB135	637537	6946700	Stamnesbl	<0.5	<0.01	1.34	1.47	0.04	0.2	0.1	2.6	0.07	30	74	205	1.94	12	78	5.4	40.2	<3	3.8	3
AB136	637562	6946700	Stamnesbl	<0.5	<0.01	1.07	1.29	0.01	0.08	0.02	1.8	0.06	26	63	132	1.75	8	51	4.2	35.1	<3	1.5	1.9
AB137	637612	6946700	Stamnesbl	<0.5	<0.01	1	1.33	0.05	0.12	0.09	2.2	0.06	27	57	115	1.92	10	86	12.4	45.2	<3	3.8	4.9
AB138	637450	6947000	Stamnesbl	<0.5	<0.01	2.57	0.92	0.01	0.08	0.14	2.5	0.05	19	125	114	1.31	20	276	17	30.9	<3	7.6	5.9
AB139	637500	6947000	Stamnesbl	<0.5	<0.01	1.13	0.69	0.03	0.06	0.12	1.5	0.02	14	55	171	1.29	8	85	4.3	20.4	<3	5	4.5
AB140	637525	6947000	Stamnesbl	<0.5	<0.01	2.56	1.77	0.05	0.16	0.3	4.4	0.04	37	130	646	3.5	29	266	21.8	56.2	11	10.9	18.3
AB141	637550	6947000	Stamnesbl	0.6	<0.01	2.11	2.42	0.09	0.38	0.36	4.9	0.1	54	99	581	3.46	20	128	24.4	75.8	<3	11.8	11.2
AB142	637575	6947000	Stamnesbl	0.7	<0.01	1.72	1.7	0.05	0.11	0.22	4.4	0.06	35	108	1500	3.61	23	332	28.9	84.4	19	8.2	15.1
AB143	637600	6947000	Stamnesbl	<0.5	<0.01	0.87	1.57	0.03	0.11	0.01	1.3	0.07	75	62	252	4.96	7	39	6	50	<3	1.6	2.5
AB144	637650	6947000	Stamnesbl	<0.5	<0.01	1.09	1.35	0.02	0.09	0.03	1.5	0.03	25	46	232	1.8	8	38	3.4	41.7	<3	1.6	2.2

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Smpl. ID	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
An. Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB044	<0.5	<1	<0.2	<1	<10	<5	59	4.8	<10	11	<5	9
AB045	3.7	<1	<0.2	<1	<10	<5	30	10.1	<10	5	<5	15
AB046	2.1	<1	<0.2	<1	<10	<5	23	6.2	<10	4	<5	13
AB047	3.2	<1	<0.2	<1	<10	<5	45	5.4	<10	<2	<5	24
AB048	2.7	<1	<0.2	<1	<10	<5	18	8.6	<10	7	<5	18
AB049	2.6	<1	<0.2	<1	<10	<5	14	4.2	<10	4	<5	20
AB050	3.5	<1	<0.2	<1	<10	<5	19	2.4	<10	6	<5	18
AB051	2.6	<1	<0.2	<1	<10	<5	29	15.8	<10	7	<5	15
AB052	4.9	<1	<0.2	<1	<10	<5	23	10.2	<10	5	<5	9
AB053	2.6	<1	0.3	<1	<10	<5	16	7.4	<10	5	<5	14
AB054	3.8	<1	0.5	<1	<10	<5	42	8.1	<10	6	<5	22
AB055	0.6	<1	<0.2	<1	<10	<5	21	4	<10	5	<5	14
AB056	1.3	<1	<0.2	<1	<10	<5	48	18.5	<10	5	<5	25
AB057	1.5	<1	<0.2	<1	<10	<5	32	14.7	<10	2	<5	21
AB058	1.5	<1	<0.2	<1	<10	<5	26	8.8	<10	7	<5	19
AB059	5.7	1	<0.2	<1	<10	<5	34	42.1	<10	8	<5	22
AB060	2.7	<1	<0.2	<1	<10	<5	18	14.1	<10	2	<5	18
AB061	<0.5	<1	<0.2	<1	<10	<5	16	4.6	<10	5	<5	13
AB062	1.6	<1	<0.2	<1	<10	<5	19	1.4	<10	9	<5	20
AB063	<0.5	<1	<0.2	<1	<10	<5	14	8.4	<10	5	<5	22
AB064	1.5	<1	<0.2	<1	<10	<5	23	7.7	<10	6	<5	18
AB065	3.6	<1	<0.2	<1	<10	<5	25	6.1	<10	6	<5	13
AB066	4.4	<1	0.3	<1	<10	<5	34	14.9	<10	6	<5	18
AB067	2.4	<1	<0.2	<1	<10	<5	17	5	<10	5	<5	22
AB068	3	<1	<0.2	<1	<10	<5	31	5.6	<10	<2	<5	24
AB069	2.4	<1	0.3	<1	<10	<5	46	6.3	<10	5	<5	23
AB070	1	<1	<0.2	<1	<10	<5	63	8.6	<10	5	<5	23
AB071	5.1	<1	<0.2	<1	<10	<5	44	16.8	<10	6	<5	12
AB072	1.5	<1	<0.2	<1	<10	<5	60	47.7	<10	13	<5	27
AB073	<0.5	<1	<0.2	<1	<10	<5	25	9	<10	7	<5	20
AB074	3.6	1	<0.2	<1	<10	<5	26	13.2	<10	3	<5	6
AB075	0.8	<1	<0.2	<1	<10	<5	12	4.4	<10	5	<5	8
AB076	2.3	<1	<0.2	<1	<10	<5	13	5.5	<10	2	<5	11
AB077	<0.5	<1	<0.2	<1	<10	<5	10	4.5	<10	5	<5	8
AB078	1.4	<1	<0.2	<1	<10	<5	12	4.9	<10	<2	<5	9
AB079	1.7	1	<0.2	<1	<10	<5	16	5.4	<10	5	<5	11
AB080	<0.5	<1	<0.2	<1	<10	<5	17	3.8	<10	9	<5	11
AB081	1.8	<1	<0.2	<1	<10	<5	16	5.6	<10	4	<5	8

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Smpl. ID	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
An. Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB082	2.4	<1	<0.2	<1	<10	<5	22	6.7	<10	<2	<5	8
AB083	9.4	<1	0.2	<1	<10	<5	83	20.3	<10	7	<5	13
AB084	6.6	<1	<0.2	<1	<10	<5	49	11.8	<10	3	<5	18
AB085	4.8	<1	0.3	<1	<10	<5	24	6.4	<10	7	<5	14
AB086	2.3	<1	<0.2	<1	<10	<5	37	6.2	<10	4	<5	13
AB087	4.1	<1	0.3	<1	<10	<5	34	6.5	<10	6	<5	19
AB088	2.3	<1	<0.2	<1	<10	<5	13	4.5	<10	3	<5	11
AB089	0.8	<1	<0.2	<1	<10	<5	17	6.8	<10	4	<5	9
AB090	2.6	<1	<0.2	<1	<10	<5	13	5.8	<10	4	<5	10
AB091	12.9	<1	<0.2	<1	<10	<5	31	59.6	<10	5	<5	16
AB092	6	<1	<0.2	<1	<10	<5	20	11	<10	4	<5	11
AB093	0.9	<1	<0.2	<1	<10	<5	13	5.5	<10	7	<5	9
AB094	1.4	<1	<0.2	<1	<10	<5	18	5	<10	6	<5	19
AB095	1.9	<1	0.5	<1	<10	<5	11	2.1	<10	4	<5	21
AB096	2.5	<1	<0.2	<1	<10	<5	36	9.5	<10	5	<5	29
AB097	1.7	<1	<0.2	<1	<10	<5	27	20.9	<10	5	<5	22
AB098	<0.5	<1	<0.2	<1	<10	<5	17	4.9	<10	7	<5	10
AB099	1.5	<1	0.4	<1	<10	<5	17	4.5	<10	8	<5	12
AB100	2.9	<1	<0.2	<1	<10	<5	12	7.2	<10	4	<5	8
AB101	3.2	<1	<0.2	<1	<10	<5	15	6.5	<10	4	<5	11
AB102	3.9	<1	<0.2	<1	<10	<5	14	5.1	<10	6	<5	27
AB103	5.4	<1	<0.2	<1	<10	<5	21	8.5	<10	3	<5	10
AB104	7.7	<1	<0.2	<1	<10	<5	27	10.6	<10	3	<5	10
AB105	5.8	<1	<0.2	<1	<10	<5	43	9.6	<10	8	<5	21
AB106	4.3	<1	<0.2	<1	<10	<5	19	7.6	<10	3	<5	12
AB107	3.8	<1	0.3	<1	<10	<5	17	7.1	<10	5	<5	11
AB108	2.1	<1	<0.2	<1	<10	<5	18	5.9	<10	3	<5	15
AB109	1.4	<1	<0.2	<1	<10	<5	28	8.8	<10	5	<5	27
AB110	3.9	<1	0.4	<1	<10	<5	20	8.5	<10	8	<5	12
AB111	3.6	<1	<0.2	<1	<10	<5	10	6.4	<10	<2	<5	7
AB112	2.6	<1	<0.2	<1	<10	<5	25	6	<10	2	<5	15
AB113	3.2	<1	<0.2	<1	<10	<5	18	6.6	<10	5	<5	14
AB114	3.3	<1	<0.2	<1	<10	<5	18	8.1	<10	2	<5	10
AB115	1.9	<1	0.2	<1	<10	<5	17	4.6	<10	3	<5	15
AB116	2.9	<1	0.2	<1	<10	<5	11	5.7	<10	2	<5	8
AB117	4.3	<1	<0.2	<1	<10	<5	20	3.8	<10	5	<5	19
AB118	1.6	<1	<0.2	<1	<10	<5	17	4.9	<10	6	<5	3
AB119	2.3	<1	0.8	<1	<10	<5	37	13.7	<10	11	<5	35

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Smpl. ID	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
An. Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Det. Lim.	0.5	1	0.2	1	10	5	1	0.5	10	2	5	1
AB120	5.3	<1	0.7	<1	<10	<5	28	6.4	<10	5	<5	14
AB121	3.9	<1	1.4	<1	<10	<5	19	5.9	<10	6	<5	18
AB122	2.1	<1	<0.2	<1	<10	<5	25	6.6	<10	10	<5	16
AB123	4.6	<1	0.6	<1	<10	<5	38	7.8	<10	11	<5	23
AB124	4.5	<1	0.8	<1	<10	<5	17	9.5	<10	5	<5	14
AB125	8.6	<1	0.7	<1	<10	<5	27	20.4	<10	10	6	17
AB126	3.1	<1	<0.2	<1	<10	<5	34	18.9	<10	8	<5	42
AB127	1.9	2	<0.2	<1	<10	<5	24	26.4	<10	6	<5	20
AB128	3.2	<1	<0.2	<1	<10	<5	28	24.5	<10	9	<5	28
AB129	4	<1	<0.2	<1	<10	<5	25	2.2	<10	3	<5	31
AB130	1.3	<1	<0.2	<1	<10	<5	13	6.9	<10	2	<5	15
AB131	1.1	<1	<0.2	<1	<10	<5	16	6.5	<10	3	<5	7
AB132	1.1	<1	<0.2	<1	<10	<5	18	7.6	<10	5	<5	14
AB133	3.2	<1	<0.2	<1	<10	<5	21	8.2	<10	8	<5	21
AB134	2.3	<1	<0.2	<1	<10	<5	16	5.9	<10	7	<5	16
AB135	3.4	<1	0.3	<1	<10	<5	19	5	<10	6	<5	19
AB136	2.6	<1	0.5	<1	<10	<5	12	6.2	<10	9	<5	15
AB137	1.5	<1	<0.2	<1	<10	<5	17	9.7	<10	5	<5	21
AB138	3	<1	0.4	<1	<10	<5	35	11.8	<10	12	<5	15
AB139	2.9	<1	0.3	<1	<10	<5	13	9.2	<10	4	<5	8
AB140	1.9	<1	<0.2	<1	<10	<5	31	26.9	<10	18	<5	21
AB141	4.6	<1	0.5	<1	<10	<5	36	14.2	<10	19	<5	27
AB142	2.8	1	0.3	<1	<10	<5	35	19.5	<10	10	<5	25
AB143	3.9	<1	<0.2	<1	<10	<5	19	12.8	<10	14	<5	13
AB144	2	<1	<0.2	<1	<10	<5	9	6.4	<10	7	<5	16

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