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The Mofjellet Mine
Results of diamond drilling 2006
A review of resources

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Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse

Containing local and total resources potential.

The Mofjellet Mine

Results of diamond drilling
2006
A review of resources

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Mo i Rana 2006

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Abstract

Drilling in 2005 and 2006 has increased our understanding about geology and structures in the Mofjellet deposit and we have gained more information about the ore potential in specific parts of the deposit. A structural interpretation of several profiles in the Mofjellet mine has been made (see appendix). An overview of measured, inferred and indicated resources in Mofjellet with the tonnages are given. Altogether1,36 million tons of mineral resources is estimated in Mofjellet (table 6).

To increase the profile density, more drilling could be necessary. However, using the old data to construct or use already existing intermediate profiles is a necessary first step before more drillings is planned. A review on how to improve this years drill hole profiles with more drillings, as well as a suggestion to new profiles has been given. The importance of processing a digital map of the mine for further investigations is stressed.

Contents

1. Introduction

This report gives an overview of the results of diamond drilling carried out in 2006 in the Mofjellet ore body, but is also based upon old drill hole and mining data.

21 drill holes were drilled in 2006, in order to find out more about the ore potential in different parts of the Mofjellet deposit. The targets were restricted to three different possible prospects. 15 holes were drilled from the old railway tunnel (Fig. 2), in order to make an estimation of the ore potential in the western, upper folded part of the ore body, as well as the lower ore lens (cf. Fig. 3). Three holes were drilled from the central, lower part of the ore body, to find out more about the continuation of the so called Nasa fold structure in the south. Three other c. 500 m long holes were drilled to test the possible existence of ore in a deep-lying fold structure further south, but were also intersecting the continuation of the known ore lenses.

In this report, the results from drilling of the main ore body is treated; the results from the deep drilling will be treated in a later, separate report.

Additionally, this report seeks to give an overview over all resources in the Mofjellet mine, including inferred and indicated resources.

1.1 Resource/reserve definitions

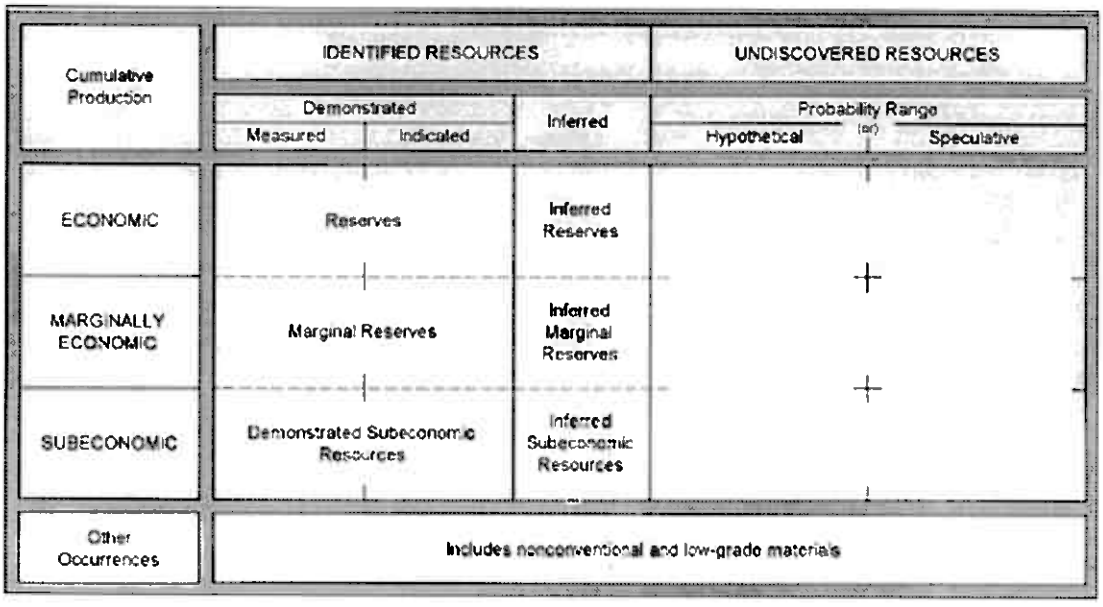

Figure 1: Major elements of Mineral-Resource classification (from U.S. Geological Survey)

The classification scheme used is shown in Figure 1, and is taken from U.S. Geological Survey.

Resource: A concentration of naturally occurring solid, liquid, or gaseous material in or on the Earth's crust in such form and amount that economic extraction of a commodity from the concentration is currently or potentially feasible.

Identified Resources: Resources whose location, grade, quality, and quantity are known or estimated from specific geologic evidence. Identified resources include economic, marginally economic, and sub-economic components. To reflect varying degrees of geologic certainty, these economic divisions can be subdivided into measured, indicated, and inferred.

Demonstrated: A term for the sum of measured plus indicated.

Measured: Quantity is computed from dimensions revealed in outcrops, trenches, workings, or drill holes; grade and(or) quality are computed from the results of detailed sampling. The sites for inspection, sampling, and measurements are spaced so closely and the geologic character is so well defined that size, shape, depth, and mineral content of the resource are well established.

Indicated: Quantity and grade and(or) quality are computed from information similar to that used for measured resources, but the sites for inspection, sampling, measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for measured resources, is high enough to assume continuity between points of observation.

Inferred: Estimates are based on an assumed continuity beyond measured and(or) indicated resources, for which there is geologic evidence. Inferred resources may or may not be supported by samples or measurements.

Reserves: That part of the reserve base which could be economically extracted or produced at the time of determination. The term reserves need not signify that extraction facilities are in place and operative.

Marginal Reserves: That part of the reserve base which, at the time of determination, borders on being economically producible. Its essential characteristic is economic uncertainty. Included are resources that would be producible, given postulated changes in economic or technological factors.

Economic: This term implies that profitable extraction or production under defined investment assumptions has been established, analytically demonstrated, or assumed with reasonable certainty.

Subeconomic Resources: The part of identified resources that does not meet the economic criteria of reserves and marginal reserves.

Undiscovered Resources: Resources, the existence of which are only postulated, comprising deposits that are separate from identified resources. Undiscovered resources may be postulated in deposits of such grade and physical location as to render them economic, marginally economic, or subeconomic. To reflect varying degrees of geologic certainty, undiscovered resources may be divided into two parts.

Hypothetical Resources: Undiscovered resources that are similar to known mineral bodies and that may be reasonably expected to exist in the same producing district or region under analogous geologic conditions. If exploration confirms their existence and reveals enough

information about their quality, grade, and quantity, they will be reclassified as identified resources.

Speculative Resources: Undiscovered resources that may occur either in known types of deposits in favourable geologic settings where mineral discoveries have not been made, or in types of deposits as yet unrecognised for their economic potential. If exploration confirms their existence and reveals enough information about their quantity, grade, and quality, they will be reclassified as identified resources.

2. Geology

2.1 Geological framework and accessibility

The Mofjellet deposit is located 1 km south of the town Mo i Rana in the county of Nordland at a latitude 66° 17' N (Fig.1).

Figure 2: Geological map of the Mofjellet mining area. Orange, green and yellow colours are various gneisses while brown colour is amphibolite. The yellow frame marks the extent of the ore body, and the white stippled line, the railroad tunnel. Fig. 2 from Bjerkgård et al (2001).

It is hosted by assumed Late Precambrian gneissic rocks of the Mofjellet Group in the Rödingsfjellet Nappe Complex of the Uppermost Allochton in the Scandinavian Caledonides.

The Mofjellet deposit is accessible through the former tunnels and workings from the mining period, which are mainly intact, but partly flooded. Some of the workings are used today for storage purposes. An abandoned, but still intact, two kilometres long railway tunnel (Fig.2) cuts the ore zone along strike and is an excellent starting point for further investigations.

2.2 Lithologies

The hosting lithologies of the Mofjellet deposit is dominated by quite massive grey gneisses (two-mica-gneisses) with persistent layers of amphibolites and aluminous biotite and muscovite gneisses. For detailed descriptions of the lithologies, see Marker (1983).

The rocks of the mining area are the same as those in the rest of Mofjellet with one exception: Hornblende gneisses, grading into biotite gneisses, are specific for the ore bearing horizon though they usually do not host the actual ore. The pyrite-bearing hornblende and hornblende-biotite gneisses, containing subordinate garnet, staurolite and kyanite, have been suggested to represent tuffic or mixed sedimentary and tuffic material. There is also a possibility that they represent lithological levels affected by fluid activity. Likewise, pyrite-bearing muscovite or muscovite-biotite gneisses adjacent to the hornblende-bearing gneisses often host the more massive ores.

There also seems to be some differences between the host rocks surrounding Lens I, Omleggssonen, AKP and Lens II compared to those which surround Lens III and Nasa. The rocks in the first ore structures are often paler and more muscovite rich while rocks in the second structures are darker and richer in biotite.

2.3 Structural geology

The Mofjellet deposit has a lateral extent of nearly 4 kilometres in east-west direction, outcropping at surface in the far west where the ore was discovered as early as in 1688.

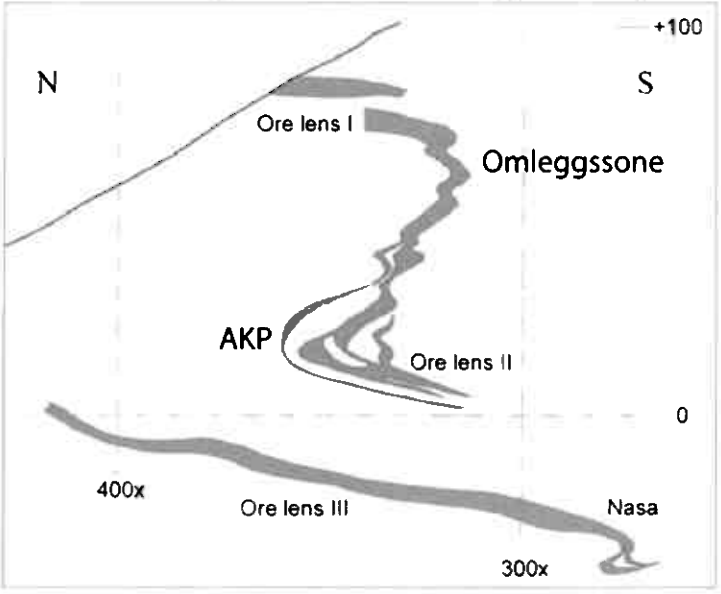

Figure 3: Schematic N-S profile from the western part of the deposit, showing the general structure and division of the deposit into different ore lenses. The grid is 100 x 100 m.

The deposit consists of three ruler shaped ore lenses situated more ore less on top of each other (Fig. 3). The ore lenses have a maximum width of about 100 metres. The two upper lenses (Lens I and II) are connected through a tight fold structure. The lower, north facing part of the structure is known as the AKP, while the upper, south facing fold hinge is known as the Omleggssone. The ore in the upper part of the structure, including Lens I, gradually disappears eastwards while ore in AKP-structure can be followed along the entire length of the ore body. Lens III forms a separate ore lens on the lower limb of this major north facing fold structure and carries ore along its entire length. Based on the lithological succession the ore lenses occur in, it is likely that the separation of Lens III from the Lens I-II structure is a primary feature, though it has been proposed that Lens III was disrupted from the Lens I-II ore horizon by early thrust faulting. A slightly deeper ore lens structure at the southern

continuation of lens III, known as the Nasa structure, was mined in the central 500 metres of the ore body in the last years before the mine was closed. The lateral extent and shape of the ore rich Nasa structure has largely been unknown, but it seems to be basically a tight fold structure on the southernmost known part of Lens III. On the basis of structural construction from surface mapping, a major south-facing fold closure exists at depth, and since the ore body has not been delimited in the south, it could be that important concentrations of ore are present in this major closure. This was the target for the deep hole drilling program mentioned above.

Profiles prepared for the NGU-report in 2001 (Bjerkgård et al., 2001) show that the ore forming fold structure is more open in the west (e.g. in profile 41 500 Y), with a clear separation of Lens I-AKP-Lens II and Lens III with ore in all levels. In the central parts of the deposits (e.g. in profile 44 130 Y), Lens II and Lens III are still separated, but close-lying. Their increasing closeness eastwards may be a primary feature in the ore distribution, but several quite extensive movement zones, expressed as biotite-rich rocks (biotitites) with secondary ore mineralizations occur here at the top of Lens III. These movement zones are best interpreted as adjustments during folding, but more extensive early shear movements cannot be excluded. The Nasa structure is prominent in the southernmost part of lens III in this part of the deposit. In the eastern part of the deposit, Lens II and III have coalesced and cannot really be distinguished from each other. Ore in the east is concentrated in Lens II / III and in the AKP structure, while the upper part of the structure is poor in ore.

There is thus a clear trend as to structure and ore distribution from west to east: The lower part of the ore-bearing structure gets tighter eastwards, and Lens II and Lens III approach each other and coalesce in about profile 44 500 Y with development of movement zones in the area between them. At the same time the ore content decreases gradually towards the east in the upper part of the ore-bearing structure.

The altitude of the ore lenses is generally somewhat lower when moving from west to east. This is due to a fold interference pattern between the dominant E-W recumbent folding, which concentrated ore in tight fold structures, and overprinting gentle NE-SW cross-folding which show a weak synformal depression in the mine area (Marker, 1983).

Within the Z fold in the eastern part of the mine, ore is present on the flank (like the Omleggssone ore in the west). This ore seems to be mobilized within lenses that may be fold generated. In the area between 43 900 Y and 44 900 Y, a tunnel called the AKP has been drifted. Structurally, the drift seems to be climbing the Z-fold flank when moving towards the west. Projecting the drift towards west, it ends up in a position further north and up in the profiles and may correspond to what have been mentioned as lens 0.

2.4 Ore descriptions

The ore deposit consists of alternating semi-massive ore layers, layers of sulphide disseminations and layers of wall rock lacking base metals at a metre scale or less. The ore layers rarely contain as much as 50 % sulphide. The most important ore minerals are pyrite and sphalerite, while galena, chalcopyrite and pyrrhotite occur in subordinate amounts. Various sulphosalts, arsenopyrite, native antimony and gold-silver alloys are found in variable, but generally accessory amounts. Important gauge minerals include quartz, biotite,

muscovite, calcsilicates (epidote, amphibole, diopside, garnet), calcite, plagioclase and magnetite.

In many cases, coarse sulphides form disseminations and semi-massive veins, overprinting the more fine grained sulphide layers or injected into layers of wall rock. These coarse sulphides have much higher contents of galena, chalcopyrite and sulphosalts, and commonly lower contents of sphalerite and pyrite, than the ordinary layers and where apparently formed by remobilization of sulphides from the original layers.

An average ore sample contains about 3 % Zn, 0,3 % Pb, 0,3 % Cu, 10 ppm Ag and 0,3 ppm Au. Based on the character of the ore deposit, including structure, mineralogy and associated lithologies, the Mofjellet deposit most probably represent a syngenetic, exhalative hydrothermal mineralization, formed at or near the seafloor in the late Precambrian (Bjerkgård et al 2006).

Gold in the ore zones seems to be related to Pb, Cu and Ag. It often appears at the margin of the mineralized zone, and does not correlate very well with Zn.

The ore density has been measured, in order to be able to calculate the tonnages of ore. 61 measurements of specific weight was done on presumed economical ore, yielding an average density of 3,67. The samples measured come from Nasa, Lens III and Omleggssone ore. As the density changes according to the percentage of ore in the different locations, 3,5 will be used as an average in the following calculations.

2.5 Block definitions

The Mofjellet deposit is divided into different blocks in order to make resource estimates easier to calculate, but also because different levels of the ore structure has been taken out at different times during the history of the mine.

The westernmost part of the deposit, west of profile 41 700 Y until ore intersection with the surface, makes up block 1. Block 2 is defined as the interval between profiles 41 700 Y and 43 000 Y. It makes up a sector of the deposit from where little data exists. Most of the railway tunnel cuts through the Mofjellet deposit within block 2, and thus forms a good starting point for further drilling investigation. Further to the east, the lower levels of the deposit has been worked until about profile 45 000 Y. On this basis, block 3 is defined as the interval between profile 43 000 Y and 45 000 Y. This is the division into ore blocks as they are defined now. Discussions about the borders of the blocks follow in chapter 6.3.

3. Results from 2006

The results from the diamond drilling in 2006 are presented in eight profiles in the back cover of the report. The profiles are constructed on the basis of both the 2006 holes and older data. However, the ore structure in profile 43 600 Y to 43 670 Y are constructed on the basis of old data only.

3.1 Block 1

Profile 41 600

Profile 41 600 Y is the type profile worked out in great detail by Chief Geologist Aart Kruse, Bergversekskapet Nord-Norge A/S, during the period when the mine was in operation. It was based on a large number of drill holes and observations from the mining, and represents one of the most detailed and precise interpretations of the ore structure that exists. 41 600 Y is the westernmost profile drilled in 2006. Four holes (0601 M, 0602 M, 0609 M and 0622 M) were drilled in order to further verify the ore potential in the area. The profile with contents of base metals, Au and Ag is presented in the appendix.

The AKP-Omleggssone fold structure connecting Lens I and Lens II ores is well defined in this profile, covering a vertical distance of about 60-70 metres. The ore in this fold structure is present in two main levels, separated by a 2-10 metres wide zone of mainly barren grey gneiss. The ore in the fold structure and Lens I and II is mainly hosted by biotite-muscovite gneiss, but partly also by a thick unit of hornblende gneiss present in the core of the fold.

Ore Lens III was not intersected by the holes drilled in 2006, but is well-established from old drill holes and maps showing the old mine workings. It is separated from Lens II by a 20-30 metres thick layer of grey gneiss. The ore in Lens III is hosted by a more biotite-rich gneiss than in the other lenses. Below Lens III occurs a thick layer of hornblende gneiss.

The Omleggssone exists from approximately profile 41 435 Y (outcrop at surface), where the old drill holes 207 A and 207 B was drilled, and further towards east. Lens III lies deeper and is drilled as far west as profile 41 035 Y with drill holes 113 and 114.

3.1.1 Resource estimation for block 1

A resource estimation for the Omleggssone and lens III in block 1 is in the making by Steinar Ellefmo.

The estimation from Ellefmos report includes an ore potential of 1 700 000 tons mineral resources in ore Lens I, AKP, Omleggssonen and Lens II. The ore Lens III has a resource potential of between 800 000 and 1 500 000 tons of mineral resources. The resources in block 1 have all been classified as inferred resources.

Only a few profiles of Omleggssonen in the west are based on ample information. As mentioned above, profile 41 600 Y is one of the most reliable that has been interpreted geologically (see appendix). Profiles farther west, however, are fewer in number and placed too far from each other to give sufficiently detailed information. It is core drilling made earlier in the area together with the interpreted profile 41 600 Y that gives the basis for estimating the mineral resources in Omleggssonen.

It is also vital for a calculation of the ore potential in Omleggssonen that information about mine workings for the tunnels and ore that has been taken out is incorporated into the estimations.

3.2 Block 2

Profile 41 800 Y

In profile 41 800 Y, drill hole 0610 M was drilled downwards from the railway tunnel towards the possible continuation of the Lens III and the Nasa structure southwards. Mineralizations were confirmed in the drill hole at a depth that can be correlated with Lens III and the Nasa structure, but their thicknesses and metal contents were rather restricted (see Appendix).

No holes were drilled this year in the upper part of the deposit in this profile, and the geology and structures have been constructed on the basis of old drill hole data. The profile has many similarities with the structure in profile 41 600 Y. The fold structure defined as the AKP-Omleggssone is well defined with ore mainly in biotite-muscovite gneiss. The fold structure is here slightly tighter and placed at a lower level since ore Lens I lies approximately 20 metres deeper and ore Lens II about 10 metres deeper than in profile 41 600 Y. The grey gneiss layer between Lens II and Lens III is ca. 5 metres thinner than in profile 41 600 Y. Lens III is again hosted by biotite-dominated gneiss (see Appendix).

The content of base metals is calculated as 3,1 % Zn, 0,5 % Pb and 0,4 % Cu in a section area of 779 m^2 covering the ore in Lens I, Lens II and the AKP-Omleggssone fold structure. None of the old drill holes in this profile have been analyzed for Au and Ag. These numbers are partly based on data from adjoining drill holes, adding some uncertainty to the numbers.

The method for calculating the Omleggssone mineralization includes calculation of all the known ore in a profile. Any ore that has been mined out earlier is then subtracted. However, as maps on mine workings are incomplete for the area, we are not able to include also what is mined out in the resource calculation and then subtract the total in the end. In this specific profile, 41 800 Y, the outline of the old mine workings indicates that most of the Omleggssone ore is already mined out.

The Lens III ore mineralization is presumed to be intact in profile 41 800 Y. The mineral resources has been mapped from four old drill holes: 115, 1050, 1049 and 1048. In a section area of 39 m^2, Lens III contains 7,4 % Zn, 0,9 Pb and 0,8 % Cu.

Profile 42 400 Y

In profile 42 400 Y drill hole 0611 M, 0612 M and 0613 M were drilled from the railway tunnel to investigate the structures of the AKP-Omleggssone fold and the ore lenses II and III. Drill holes 0611 M and 0612 M intersected the level of Lens II, while hole 0612 M intersected both the Lens II and Lens III levels.

The diamond drilling this year has resulted in a reinterpretation of the geology in this part of the deposit, as shown in the appendix. However, more data is needed on the AKP-Omleggssone structure, especially regarding contents on Au and Ag. The fold structure has the same shape as further west, but the folds that build it up are considerably more open. Lens III lies 10 to 15 metres deeper than in profile 41 800 Y, while Lens II lies some 25-30 metres

deeper. The north-facing AKP fold closure has moved 30 to 40 metres northwards as compared to the 41 800 Y profile.

Mineralization connected to the Lens II level was only intersected in hole 0613 M, while the other two holes drilled further to the south contained only small amounts of sulphide in the Lens II level. This means that ore Lens II probably does not continue further south than about 925 360 X in this profile. Very little data exist on the AKP-Omleggssone structure in this profile, and no ore calculation has therefore been carried out.

The size and content of the Lens III ore mineralization has been mapped and calculated from three drill holes, 859, 860 and 0612 M. Covering a section area of 136 m^2, Lens III contains 3,8 % Zn, 0,6 Pb and 0,2 % Cu. Since Au and Ag only are known from drill hole 0612 M (best section 0,2 ppm Au, 34 ppm Ag in 40 cm), these elements have not been included in the ore calculation.

We have not been able to include also what is mined out in the resource calculation and then subtract the total in the end, which is the better method. We can only conclude that the calculation of the mineralization in profile 42 400 Y is inaccurate, as half of the ore (northern part) interpreted may have been mined out. We cannot from the available data give an accurate estimate of what is left, also because maps on mine workings are incomplete for the area.

Profile 42 600 Y

Drill holes 0614 M and 0615 M were placed in profile 42 600 Y in order to investigate the continuation of ore lenses II and III southwards. Both holes were again drilled from the railway tunnel. By including three old holes placed in profile 42 706 Y, there is information enough to give a rough interpretation about the AKP-Omleggssone fold structure and the positions of the ore lenses (see Appendix).

The tightness (amplitude) of the fold structure in profile 42 600 Y is more or less the same as profile 42 400 Y. The ore lenses have possibly dropped a bit in altitude, but less than 5 metres. The north-facing AKP fold closure is located about 20 metres further to the north than in profile 42 400 Y. A thin layer of grey gneiss between the Lens II ore and the layers of muscovite gneiss and hornblende gneiss that was present in the western profiles, has disappeared in this profile.

The drill holes 0614 M and 0615 M intersected only poor and thin mineralizations related to ore Lens II (1 meter with 0,65 % and 1,2 metre with 0,85 % base metals, respectively) in profile 42 600 Y, showing that Lens II thins out to the south from about 925 380 X. A thin ore Lens III was intersected in hole 0615 M, containing 4,5 % base metals in a 1 m interval, while hole 0614 M did not reach the Lens III ore level at all.

The size and content of ore in the Lens III mineralization has been calculated from four drill holes, including 557, 558 and 560 from profile 42 706 Y, and 0615 M in this profile. In a section area of 130 m^2, Lens III contains 2,7 % Zn, 0,6 Pb and 0,4 % Cu. This part of the deposit has not been mined. Contents of Au and Ag have only been analyzed in hole 0615 M, and are low.

Profile 42 800 Y

In this profile, drill holes 0616 M, 0617 M and 0618 M were drilled from the railway tunnel in order to investigate the AKP-Omleggssone fold structure, the continuation of Lens II and III southwards as well as the existence of a possible lens 0 above Lens I in the fold structure. The interpretation (see Appendix) shows that the tightness and shape of the AKP-Omleggssone fold structure has not changed much from the 42 600 Y profile, and that the AKP fold closure has the same position in N-S direction. The grey gneiss between Lens II and III is reduced in thickness with about 5 metres and is now between 10 and 15 metres thick. Lens II has dropped ca 15 metres in altitude, while Lens III occurs ca 10 metres lower than in profile 42 600 Y. The Lens III level is not mined in this profile.

The mineralization in Lens III has been interpreted as divided into two lenses along strike, as drill hole 0616 M did not intersect any ore at the Lens III level. The northern lens is defined from intersections in the old drill holes 270 and 271. In a section area of 104 m^2 there is 3,6 % Zn, 0,7 % Pb and 0,4 % Cu. The southern lens with a cross section of 62,5 m^2 also contains 13 ppm Ag and 0,2 ppm Au.

Drill hole 0618 M intersected two mineralised intervals above lens I (in "lens 0"). The richest interval, close to the boundary between muscovite gneiss and hornblende gneiss contains 3,2 % base metals, 18 ppb Ag and 0,1 ppm Au calculated over 1,9 metres. An alternative calculation yields 1,2 % base metals, 13 ppm Ag and 0,1 ppm Au over 10,3 metres (including some intervals not analyzed and set to zero). The second interval is 14-15 metres further away from the base of the hole in the tunnel and contains 1,2 % base metals, 8 ppm Ag and 0,6 ppm Au over 2,0 metres.

Profile 43 000 Y

Two drill holes, 0620 M and 0621 M, were drilled from the railway tunnel in profile 43 000 Y to investigate the possible ore in a "lens 0" above Lens I. Drill hole 0620 M intersected mainly hornblende gneisses, and was apparently drilled with a too low angle (should have been close to vertical) to intersect the ore level. Drill hole 0621 M was drilled in the northern continuation of Lens I and intersected rather weak mineralizations in several intervals throughout its length. The best section, close to the start of the hole was more than 7 metres thick with up to 4,3 % base metals, 0,6 ppm Au and 48 ppm Ag over 0,6 metres. The other intervals had less than 1 % base metals, except for a 1 m interval with up to 2,2 % base metals and 31 ppm Ag. Close to the end of the hole was a 0,7 metre long interval with 1,5 ppm Au and 26 ppm Ag in very weak sulphide impregnation (0,3 % base metals).

A basic interpretation of the AKP-Omleggssone fold structure and Lens III has been made on the basis of the new drill holes 0620 M, 0621 M and the old drill holes 439, 443, 555 and 556 (in Appendix). The tightness of the fold structure is about the same as in the profiles 42600Y and 42800Y to the west. The AKP ore structure has possibly moved a few metres further to the south when compared to profile 42 800 Y. The ore hosting muscovite gneiss layer is about 5-7 metres thinner than in previous profiles further west. The thickness of the grey gneiss layer between Lens II and III is about the same as in profile 42 800 Y (approximately 15 metres). Lens III seems to be discontinuous towards the north, but due to insufficient and old data, this observation is uncertain.

The Lens III mineralization has been interpreted from four drill holes, 439, 443, 555 and 556, which all are old holes in profiles 42 950 Y and 42 954 Y. In a section area of 22,5 m², Lens III contains 2,5 % Zn, 0,6 % Pb and 0,3 % Cu. Au and Ag has only been analyzed in hole 556, making any estimation of the potential meaningless. Lens III ore has not been mined in this area.

3.2.1 Resource estimation for block 2

In block 1, an estimation was made for the Omleggssone and lens III ores. In block 2 it is only possible to make an estimation of the ore content in Lens III. The AKP-Omleggssone fold structure also extends into block 2, and profile 41 800 Y shows the fold structure as it is interpreted in this profile. An estimation of the amount of Omleggssone ore in block 2 is not possible to make from the present knowledge. The reason for this is not least that most of the ore already seems to have been mined when looking at the map of mine workings for this area. Considering the ore potential in the Omleggssone fold structure further east, this has not yet been drilled and mapped. A structural interpretation based on core drilling in several profiles is needed. Comments on this issue are made in chapter 6.

In profile 41 800 Y the mineral resources in the remaining, non-mined part of Lens III has been calculated (Table 1).

From	To	Contents	Area	Tonnage
41 700	41 900	7,4% Zn, 0,9% Pb, 0,8% Cu	39 m² - pr.41800Y	27 300

Table 1: Possible ore in the Lens III in the section 41700 Y to 41900 Y based on profile 41800 Y.

The sector between profiles 41 800 Y and 42 400 Y was not investigated during the 2006 drilling program. This is partly due to difficult logistics for drilling short holes, partly because most of the ore already seems to have been mined out as shown by maps of mine workings. Resource estimates have therefore not been carried out for this sector, but is continued further east from profile 42 300 Y (Table 2).

From	To	Contents	Area	Tonnage
42 300	42 500	3,8% Zn, 0,6% Pb, 0,2% Cu	136 m² - pr.42400Y	95 200
42 500	42 750	2,7% Zn, 0,6% Pb, 0,4% Cu	130 m² - pr.42600Y	91 000
42 750	42 900	3,6% Zn, 0,7% Pb, 0,4% Cu	104 m² - pr.42800Y	72 800
42 900	43 100	2,5% Zn, 0,6% Pb, 0,3% Cu	25 m² - pr.43000Y	17 500

Table 2: Estimates of total ore resources for Lens III in block 2.

In profile 42 400 Y, the map of the mine workings indicates that most of Lens III is intact in the area where the ore estimation has been made. The map only shows some mining in the northern part of Lens III. It is therefore possible that only half of the ore totally estimated in Table 2 for profile 42 400 Y is still present in the mine, i.e. 47000 tons. With respect to the section eastwards from profile 42 400 Y until 43 000 Y no mining has been carried out in Lens III.

From the information available from block 2 at this moment, it is estimated that Lens III has a total reserve of 303 800 tons of mineral resources (Table 1 and 2). This comprises an estimation for the area between profiles 41 700 Y to 41 900 Y and between profiles 42 300 Y

to 43 100 Y. Since the distance between the profiles are so large, the resource estimates are very uncertain. Furthermore, quite large volumes have already been mined, and most likely the best ore, meaning that the contents of base metals probably are lower than calculated. The ore resource in lens III based upon the profiles describe above should be classified as an inferred resource, according to the scheme in Figure 1.

3.3 Block 3

Profile 43445 Y

In profile 43 445 Y, drill holes 0604 M and 0605 M were placed to investigate a possible ore in a deep-lying, major fold closure in the south. However, especially 0605 M intersected several intervals with quite rich mineralizations, interpreted to be parts of the Nasa ore structure. Together with the old drill holes 993, 994 and 995 in profile 43 433 Y, the new holes provide basis for a geological interpretation of the Nasa structure as a fold structure at the southern margin of Lens III (see figures in the Appendix).

The structure of Lens II is interpreted mainly from the old mine workings and drill holes. It is hosted by a muscovite gneiss. A possible remaining resource in the AKP fold structure was explored by the old drill holes 615, 616, 617 and 618, and was found around coordinates -40 Z and 925 420 X. The mine workings in Lens II and III are sub-parallel and the lenses seems not to have been disturbed by folding. The grey gneiss between ore II and III is between 10 and 15 metres thick, quite similar to what was seen in profile 43 000 Y.

Lens III is also interpreted to be hosted by a muscovite gneiss in this profile. To the south of Lens III, between 925 300 X and 925 320 X, is a minor fold structure that contain ore, which probably represents the Nasa ore structure in this profile. Rocks beneath the Nasa structure is a thin hornblende gneiss layer and beneath that amphibolite layers alternating with horizons of grey gneiss. The whole package is folded.

An estimate for the ore potential in the Nasa structure is calculated to 5,8 % Zn, 0,9 % Pb and 0,7 % Cu in a section area of 63 m^2. Gold and silver have not been taken into account because data for these elements only exists for the two holes drilled in 2006. However, one interval in hole 0605 M contains 0,6 ppm Au,17 ppm Ag and 11,1 % base metals over 2,7 metres.

Profile 43 600 Y and 43 670 Y

No holes was drilled in the Nasa structure between profiles 43 600 Y and 43 670 Y in 2006. This is because the Nasa structure is difficult to access from the mine in this interval. Some old drill hole data exists from the profiles 43 600 Y and 43 670 Y and gives an idea on how the Nasa structure looks like in this intervals (see appendix).

Information about content of base metals and Au and Ag in the Nasa structure in this interval is very limited. Hole 374 intersects the northern part of the structure in profile 43 600 Y and contains a 7,6 metres interval with 2,6 % Zn, 0,7 % Pb, 0,2 % Cu and 8 ppm Ag. Using the geology as a basis for interpreting the Nasa structure, it seems to cover a section area of ca 60 m^2 in profile 43 600 Y.

Profile 43 800 Y

In profile 43 800 Y, two holes (01-05 and 02-05) were drilled in 2005 to investigate the Nasa ore structure. In 2006, additionally three holes were drilled to continue these investigations. Drill holes 0606 M, 0607 M and 0608 M completed a fan of holes towards the south from the southernmost workings at Lens III (coordinates are 925 350 X and -82 Z). The interpreted profile is based upon the holes from 2005, 2006 and the old drill holes 598 and 599 in profile 43 790 Y.

The ore structures in this profile are quite similar to those in the profiles further west. Ore lenses II and III occur in sub-parallel horizons separated by a 10-15 metres thick layer of grey gneiss (see Appendix). However, there is a thin discontinuous horizon of muscovite gneiss within the grey gneiss level, variably and occasionally rich in sulphides.

The Nasa structure in this profile is quite small and not very rich in ore. The ore is limited to a tight fold closure, with a section area of about 21 m^2 containing 1,8 % Zn, 0,5 % Pb and 0,2 % Cu. Drill hole 0607 M intersected the core of this fold structure, and was the only hole with elevated contents of gold and silver (up to 0,5 meter with 1 ppm Au and 0,4 meter with 40 ppm Ag).

3.3.1 Resource estimation for the Nasa structure

No mining has been carried out in the Nasa structure to the east of profile 43 445 Y, meaning that the ore is still present in the ground.

From	To	Contents	Area	Tonnage
43 445	43 575	5,8% Zn, 0,9% Pb, 0,2% Cu	63 m^2 - pr.43445Y	16 538
43 575	43 735	2,6% Zn, 0,7% Pb, 0,2% Cu	60 m^2 - pr.43600Y	37 800
43 735	43 865	1,8% Zn, 0,5% Pb, 0,2% Cu	21 m^2 - pr.43800Y	11 025

Table 3: Overview of the calculated mineral resources in the Nasa structure between 43445 Y and 43865 Y.

Calculated from only two drilled profiles and some intermittent data assembled in a profile, the resource in the Nasa structure consists of 65 363 tons with 3,3 % Zn, 0,7 % Pb, and 0,3 % Cu (table 3). It is not enough data regarding the contents of Au and Ag to include these data in the calculation of resource potential, and especially Au shows a very erratic distribution, not showing any correlation with the base metal content. On the basis of two reasonably well investigated profiles in a 420 metres long section, and a few intermittent data, the resources should at the best be classified as inferred.

3.4 Total resource potential

Drilling in 2005 and 2006 has increased our understanding about the geology and structures in the Mofjellet deposit and we have gained more information about the ore potential in specific parts of the deposit. However, there are still too few holes and too far between the profiles.

The estimation done by Steinar Ellefmo includes a total ore potential of between 1 700 000 tons of mineral resources in ore lens I, II and AKP in addition to an average of 1 150 000 tons mineral resources in ore lens III, giving a total of between 2 500 000 and 3 200 000 tons (total

average 2 850 000 tons) mineral resources in block 1 (see table 4). The resources in block 1 have all been classified as inferred resources.

Ore structure	Contents	Tonnage	
Lens I, II AKP Block 1	1,8% Zn, 0,3% Pb, 0,25 % Cu	1 700 000	
Lens III Block 1	3,2% Zn, 0,4% Pb, 0,3% Cu	1 150 000	average
	Total	2 850 000	

Table 4: The table shows the estimated total amount of mineral resources estimated in block 1. On lens III, however, the amount is given in average, resources here are estimated to be between 800 000 and 1 500 000 tons.

In the resource estimation for block 2 and 3, 369 163 tons of ore has been found (see table 5), and is classified as inferred resources according to the scheme in Figure 1. Error sources to this calculation was discussed in chapters 3.1 and 3.2.

Ore structure	Contents	Tonnage
Lens III 41700-41900Y	3,1% Zn, 0,5% Pb, 0,3% Cu	27 300
Lens III 42300-43100Y	3,9% Zn, 0,7% Pb, 0,4% Cu	276 500
Nasa structure 43445-43850Y	3,3% Zn, 0,7% Pb, 0,3% Cu	65 363
	Total	369 163

Table 5: The table shows the total amount of mineral resources estimated with contents of base metals from the profiles drilled in 2006.

4 Other inferred and hypothetical resources

4.1 Block 1

Nasa may be an additional resource in this area. The final report on block 1 from Steinar Ellefmo will contain profiles that shows what has been included in the resource estimation towards the south, and what may be left as a hypothetical resource in this area.

4.2 Block 2

AKP workings projected and ore lens I

The AKP workings projected westwards (from east of 43 900 Y) has a large resource potential. Profile 42 474 Y (1060 E) include drill holes 254, 255 and 258, where holes 254 and 255 intersect Lens I, while 258 ends up higher in the fold, upwards and north of ore lens I. This position may be a possible continuation of the AKP structure. This is an interesting profile that should be investigated further, if possible with drill holes from the surface. From approximately 42 400 Y the workings in ore lens I level stop. From this area and further east, we therefore have a resource potential for lens I. As it is now, we have not enough information about these ore lenses to make an assumption about tonnage and grades.

Omleggssonen

What has been mined under the name "loft C" seems to correspond to the Omleggssone ore. The mining is indicated to have stopped in profile 42 494 Y (1080 E). From approximately this position and further east in block 2, we therefore have potential for ore in the

Omleggssone structure. The section was intersected in profile 42 534 Y (1120 Ø) (figure 4) and yielded an average of 1,7 % Zn, 0,4 % Pb and 0,4 % Cu. Further west, in drill hole 260 in profile 42 655 Y (1240 Ø), 3,3 m was intersected in the Omleggssone structure, with 5,8 % Zn, 1,5 % Pg and 0,3 % Cu. An inferred resource may be presumed.

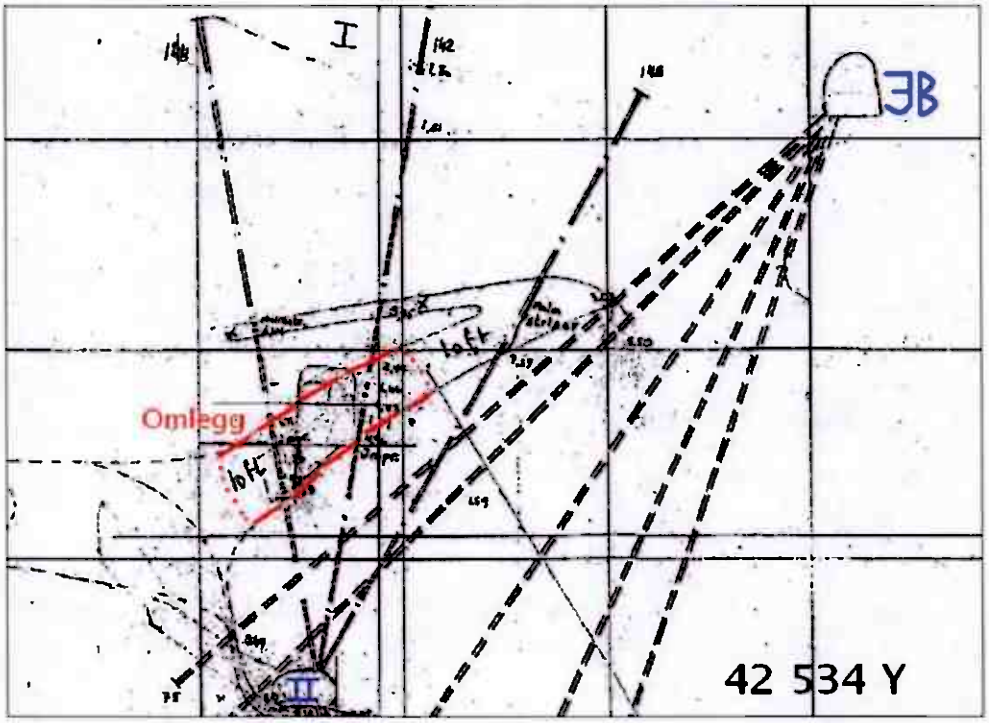

Figure 4: This shows drill holes in profile 42 534 Y. Two holes based in the lens II workings intersect the Omleggssone section, marked in red color.

Nasa

Nasa west has been included in the lens III calculation, but we do not know the extent of the structure. We do however know about Nasa in block 1 and in block 3 (figure 5), and can therefore assume that it continues. More drill holes are needed on this prospect.

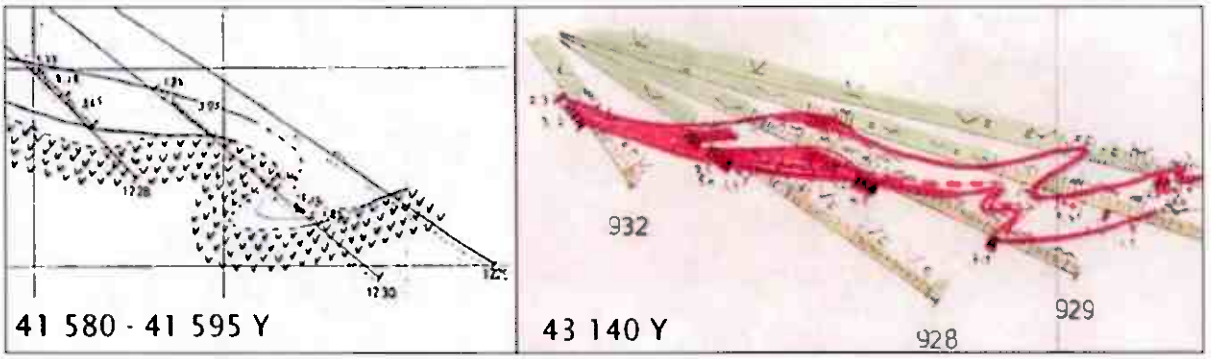

Figure 5: The Nasa structure as it has been interpreted in profiles close to block 2.

Ore lens III

An area we know from maps that has not been mined is a section of lens III approximately between 42 200 and 42 300 Y (see figure 6). In this area we have few old drill holes that

intersect the ore lens. Four holes yield a rough estimate of 54 600 tons with an average of 3,4 % Zn, 0,6 % Pb and 0,3 % Cu.

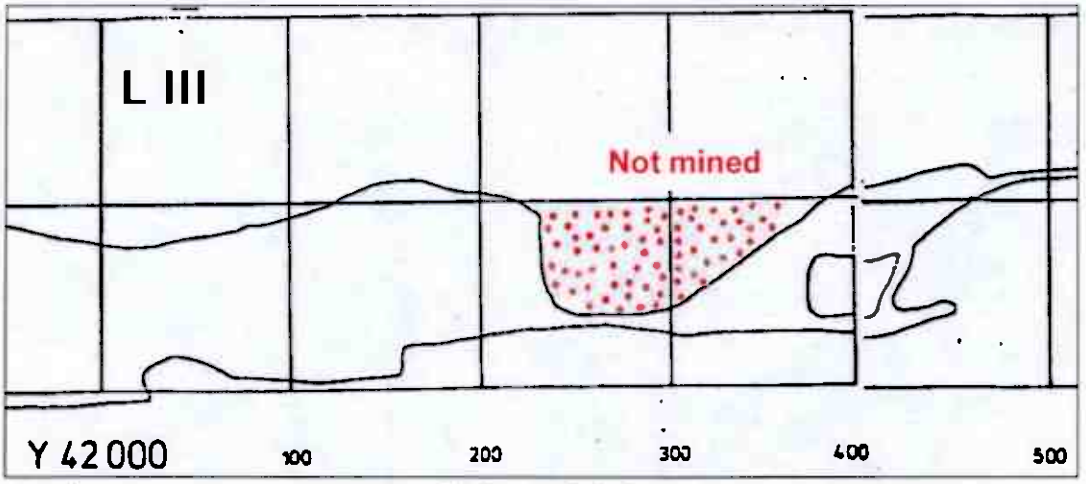

Figure 6: A map of showing the ore lens III section between 42 200 Y and 42 400 Y not mined (marked with red color).

4.2 Block 3

Ore lens II south

We know from earlier resource maps that ore is left in the south wall of lens II (see figure 7). A wall rock sample from the area shows quite high grades of base metals with 3,6 % Zn, 2,0 % Pb, 0,6 % Cu, 0,89 Au and 38 ppm Ag. Further investigations should be made in these profiles.

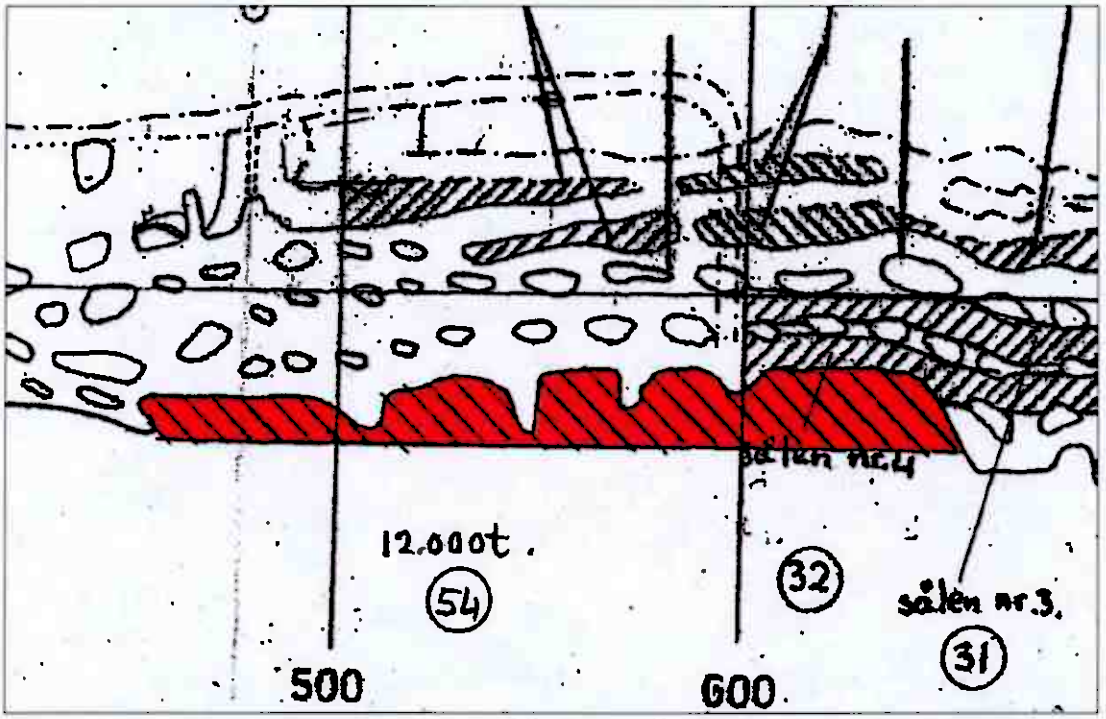

Figure 7: A small section of a map (horizontal projection) showing ore lens II between 43 450 Y and 43 650 Y and 925 360 and 925 380 X. The area marked in red has not been mined.

The AKP structure and its extension

The AKP structure has been mined for one km from 43 900 Y to 44 900 Y. Structurally, the workings in AKP is following the best quality of an ore body. The AKP working therefore possibly climb the folded structure along strike towards west. Ore is present in the entire folded structure, and we may have an ore potential up to the N and down to the S of the AKP drift (see figure 8). The kilometer along the mine workings should therefore be mapped better, as a potential for additional mining may lie here. To get base metal grades for this area, it is recommended to investigate old AKP profiles with drill hole data. West of the AKP drift, ore has been found in several profiles up to the north of ore lens II. For instance in profile 43 480 Y (drill hole 09-05 has 1,9 % Zn, 0,5 % Pb, 0,3 % Cu, 55 ppm Ag and 2,5 ppm Au over 4,98 metres), 43 310 Y (in drill hole 367 9,35 metres has values of 1,9 % Zn, 0,6 % Pb and 0,5 % Cu, gold and silver values are not known) and 43 070 Y (drill hole 311 has 1,3 % Zn, 0,7 % Pb and 0,5 % Cu over an interval of 6,5 metres. Unfortunately, we don't have values for gold an silver in this drill hole, these grades may be high due to the Zink-Copper rate). The ore lies in a position that may correlate to the AKP structure (see figure 9). A rough estimation show that in profile 43 480 Y it is possible to mine a total area of 50 m^2 (along the strike, extending the old workings). The intersection in drill hole 09-05 show an ore with 1,9 % Zn, 0,5 % Pb, 0,3 % Cu, 2,5 ppm Au and 54,8 ppm Ag, as a basis for an inferred resource (Table 6).

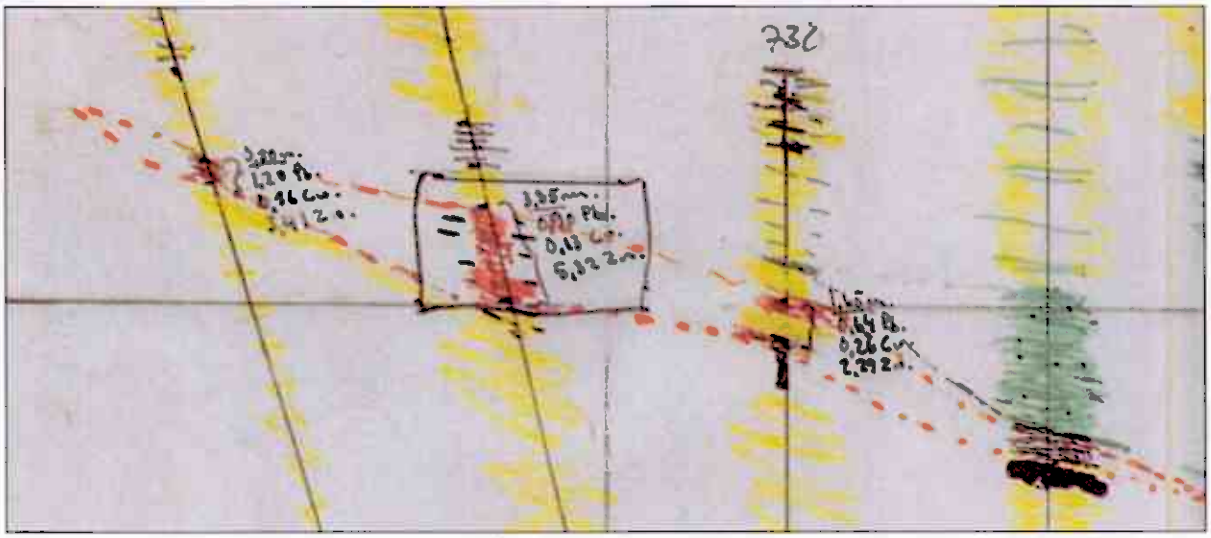

Figure 8: We see a profile drawing with interpretation, profile 44 570 Y. The AKP drift is marked with a black rectangle, while the extent of the ore body, as defined by 4 drill holes, is marked in a reddish brown color. The interpreted ore body is marked by a stippled line.

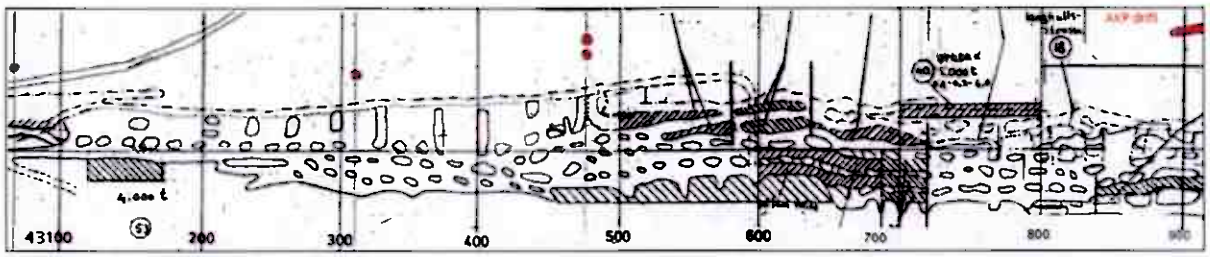

Figure 9: Map of ore lens II, between 43100Y and 43900Y, showing the westernmost end of the AKP drift to the right (marked in red). Three profiles show ore found up to the north in a position that may correlate to the AKP structure (marked with red dots).

4.3 Block 4

Extension of the AKP structure

Considering block 4, we know the mining in the AKP structure extends to 44 900 Y in the west. There is a possibility that a continuation of this ore lens does exist moving towards the east. Drill holes from the lens III level in profile 44 985 Y does in fact hit the AKP area, and show ore grades that can be mined here. Moving further east to 45 270 Y, several holes intersect the AKP structure (figure 10). Drill hole 8004 holds 1,7 % Zn, 0,6 % Pb, 0,2 % Cu and 20 ppm Ag in an interval of 5,3 metres. We can presume from these profiles that the AKP structure does exist, but we do not know whether it is coherent the entire 370 metres beyond where the old mines drift stops. This is considered a hypothetical resource.

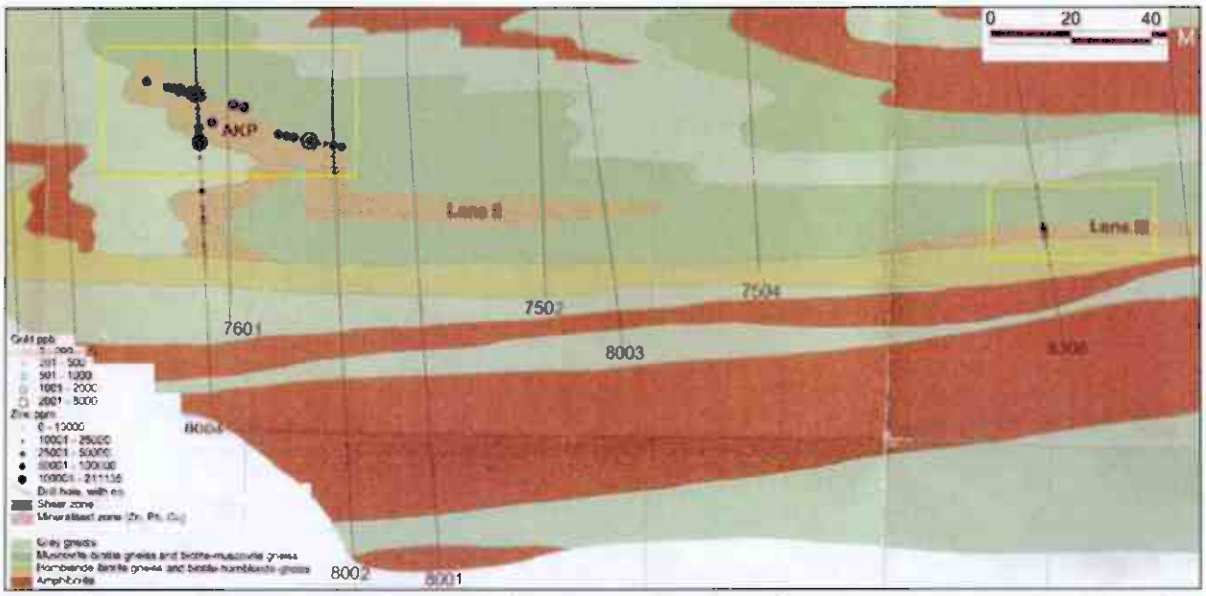

Figure 9: Profile 45 270 Y from Bjerkgård et al. 2001. The possible AKP structure and Lens III are marked with yellow.

Nasa

In the same profile, 45 270 Y, drill hole 8306 penetrates a small ore body (see figure 9). This may be the lens III ore body as the position of the ore lens corresponds to Nasa in profiles further to the west. Drill hole 8306 holds 2,1 % Zn, 0,6 % Pb, 0,2 % Cu, 15 ppm Ag and 0,3 ppm Au oven an interval of 1,2 metres. The observation in drill hole 8306 stands as a single observation. We do not know anything about a continuation of the possible mineralizations, and are not able to make assumptions on extent.

4.4 Other areas

In 2005 and 2006 it was drilled at a possible deep ore lens. Together with a hypothetical ore lens 4, thought to lie at the continuation of the lens III and Nasa structure to the south, these are prospects that still need a lot of work.

5. Total resource potential

Table 6 is a summary of the resource potential in the different blocks defined in the Mofjellet deposit. Only block 1 contains mineral resources which is classified as indicated resources, while block 2 and 3 contain mineral resources classified as inferred and block 4 contains hypothetical resources. Some minor volumes in block 2 and 3 may be classified as indicated resources, but overall the data are too erratic.

RESOURCE POTENTIAL
THE MOFJELLET DEPOSIT, December 2006

Area	Resource	From	To	Length	Width	Thick	Volume	Tonnage	Contents
BLOCK 1		**41 000**	**41 700**						
Omleggssonen	*Indicated*	41 000	41 700	See Ellefmo 2007				1 700 000	1,8% Zn, 0,3% Pb, 0,25 % Cu
Lens III	*Indicated*	41 535	41 700	See Ellefmo 2007				1 150 000	3,2% Zn, 0,4% Pb, 0,3% Cu
								2 850 000	
BLOCK 2		**41 700**	**43 000**						
AKP, lens I	*Inferred*	?	?					?	?
Omleggssonen	*Inferred*	42 494	43 000	506	5	5	12650	44 275	3,0% Zn, 0,8% Pb, 0,4% Cu
Lens III	*Inferred*	41 700	41 900	See chapter 3.2.1				27 300	7,4% Zn, 0,9% Pb, 0,8% Cu
Lens III	*Inferred*	42 200	42 300	100	60	2,6	15600	54 600	3,4% Zn, 0,6% Pb, 0,3% Cu
Lens III	*Inferred*	42 300	43 100	See chapter 3.2.1				276 500	3,9% Zn, 0,7% Pb, 0,4% Cu
Nasa	*Inferred*	42 025	43 000	975	4	3	11700	40 950	?
								443 625	
BLOCK 3		**43 000**	**45 000**						
Nasa E	*Inferred*	43 445	43 865	See chapter 3.3.1				65 363	3,3% Zn, 0,7% Pb, 0,3% Cu
Lens II S	*Inferred*	43 450	43 650	200	6	3	3600	12 600	3,6% Zn, 2,0% Pb, 0,6% Cu
AKP	*Inferred*	43 000	43 900	900	10	5	45000	157 500	1,9% Zn, 0,5% Pb, 0,3% Cu
AKP	*Inferred*	43 900	44 900	1000	5	5	25000	87 500	?
								322 963	
BLOCK 4		**> 45 000**							
AKP	*Hypothetical*	44 900	45 300	400	5	5	10000	35 000	1,7% Zn, 0,6% Pb, 0,2% Cu
Nasa	*Hypothetical*	?	?					?	?
								35 000	
				Total ore potential within the mine				3 651 588	

Table 6: The table gives an overview over the total resource potential in Mofjellet. The contents are given with grey color where few analyses stand for a too large area to be representative and more work is needed. Mark that numbers for block 1 is preliminary.

6. Implications for further work

6.1 Improving the resource estimates

The resources in Mofjellet are classified as hypothetical, inferred or indicated resources. In order to improve the ore classification, more work is needed in most profiles. The profiles discussed in this report are generally 200 metres apart or more, which is far too much. The profile density should ideally be 50 metres or less.

To increase the profile density, more drilling could be necessary. However, using the old data to construct or use already existing intermediate profiles is a necessary first step before more drilling is planned. This is possible especially in the western part of the deposit (in the area 41 250 Y to 42 400Y), where lots of data exist from old drill holes.

There are not enough data regarding the contents of gold and silver to include these elements in the resource estimates, except in very restricted parts of the deposit. For some parts of the deposit, crushed samples still exists from the old drill holes, and it is very important to get all of these analyzed, to get a better coverage with respect to especially gold and silver.

Some questions remain regarding the profiles covered by drillings this year, which could be solved by more work, including drilling. In the following are questions and recommendations concerning these profiles presented.

41 600 Y

This profile is reasonable well covered with respect to drill holes, but more data on gold and silver could perhaps be gained by reanalyzing old drill hole samples.

41 800 Y

The Omleggssone ore is possibly mined in this profile. No analyzes on gold or silver exist from the lens I – II – AKP – Omleggssone in this profile. Some data could perhaps be gained by reanalyzing old drill hole samples.

The continuation of lens II towards the south in the profile has not been investigated. This may be done with holes upwards from lens III or possibly with long holes from the railroad tunnel.

The Nasa structure has not been investigated in this profile. Borehole 0610 M shows that a weak mineralization continues to the south of the Nasa structure. Nasa should be found around coordinates 925 290 X and -50 Z, and could perhaps be reached from lens III with a number of short holes. It could also be done from the railway tunnel with holes between 90 and 100 metres.

42 400 Y

The Omleggssone is not known, and should be investigated by drill holes from the railway tunnel. The first drill hole (50 metres long) in this profile could intersect the fold structure twice. The direction of a second hole will be determined by the results of the first.

Extension of drill hole 0611 M should be made to investigate lens III. 0611 M will most likely intersect lens III in a position where no ore has been mined, this will give grounds for a better estimation of lens III ore that is left.

This profile gives an interesting opportunity to investigate the continuation of lens III towards south beyond where drill hole 0612 M intersects. The Nasa structure should be investigated by drilling from the railway tunnel.

42 600 Y

Omleggssonen and lens I has not been mined in this area. Here one could to set a fan of approximately five holes from the railroad tunnel towards north with holes ranging from 25 to 75 metres. In profile 42 575 Y, four old drill holes are drilled from the surface. They indicate ore at a possible lens 0 level. This should be examined better before positions of drill holes are determined by taking neighbouring profiles into consideration.

Lens II and AKP has been mined (height -10 to + 20) and no ore is probably left of these ore lenses in the profile.

Little has been done on lens III in this profile, we only have intersection of 1 meter ore in drill hole 0615 M. It is recommended to elongate drill hole 0614 M with approximately 20 metres, and another hole should be drilled to intersect lens III further north (around coordinate 925 400 X)

The Nasa structure is unknown in this profile, and should be investigated. Two holes of ca 170 metres from the railway tunnel is recommended, if results from holes in profile 42 400 Y is positive.

42 800 Y

More work in this profile should be concentrated to the Omleggssonen and lens I structure and the possible continuation upwards towards a lens 0. Hole 0618 M intersected very interesting mineralizations in this part of the deposit. 5-6 holes of 25 to 40 metres are recommended set in a fan to further investigate the mineralization.

Further investigations on lens III in this profile will only be carried out if neighbouring profiles shows an improvement in the ore potential after drilling. What we know of lens III in this profile today, is that rather poor and little ore has been found. However, if neighbouring profiles prove to be better, more drilling could be carried out towards its central and northern part from the lens II level in the mine.

Nasa is in this profile unknown, and would require long holes (140-150 metres) if one were to reach it from the railway tunnel. Drilling towards Nasa from lens II would probably be difficult as the angle is low. Any drill program here would be dependant on results from neighbouring profiles, such as 42 600 Y.

43 000 Y

More work should be concentrated to Lens I and the Omleggssone, which not have been mined in this area. Drilling several holes from the railway tunnel with drill holes down towards Omleggssonen and AKP (50-60 metres) as well as up towards lens 0 (30 metres) is recommended. The old drill hole 67, drilled from the railway tunnel should be used to restrict the drill hole positions.

Considering Nasa, it is not possible to drill from the railroad tunnel, but it is known from holes in profile 43140 Y. Some more work could also be done on lens III. A study of old profiles is recommended before any new holes are planned on Nasa and lens III here.

Nasa

For the study of Nasa, several profiles between 43 445 Y and 43 865 Y is recommended drilled. East of this, Nasa appears poorer, and old drill holes should first be examined before deciding to drill here.

New profiles

We may add the Verkstedsprofilet in 42 400 Y. This profile may be good for investigating the possible continuation of ore lens I, which ends to the west of the profile. In Verkstedsprofilet, we have drill hole 258 that intersects ore in a high level. Considering the AKP workings in the west, a continuation of this zone may end up where hole 258 intersects. An additional hole towards this area should be made about 80 m up to the north. This hole could also be drilled even longer to determine if a fold hinge exists up to the north past the possible AKP zone. A few more holes should be set when we know the outcome of the first one.

The eastern part of the railway tunnels makes a good place for intersecting the possible continuation of the AKP structure, for instance from profile 43 165 Y. Here we have the old holes 62, 63 64, 65 and 66. We should add another 5 short holes, two down to the south to investigate a possible fold hinge (as hole 67 at profile 43 054 Y) and three upwards to investigate an other possible fold hinge and Lens I.

Some more work could be done on the possible continuation of the AKP structure around the profile 43 480 Y, where it was intersected by drill holes in 2005.

6.2 Gold distribution

Gold and silver are also economically important in the Mofjellet deposit. It is therefore very significant to find out the distribution of these elements in the different ore lenses. In a previous report by Bjerkgård et al. (2001), it was shown that gold and silver to some extent are correlated with each other. Silver shows quite good correlation with lead and, to some extent also with copper and zinc. Gold is often associated with enrichments of copper, lead and silver, relative to zinc (i.e. high (Cu+Pb)/(Cu+Pb+Zn)-ratios). Copper and lead are together with gold and silver easily mobilised during deformation and metamorphism, which was found in the report mentioned above.

The drill holes from 2005 and 2006 have provided a number of new analyses of both base metals, gold and silver, which can be used to investigate the relationships between these elements further.

Most data exist from the western part of the deposit, and therefore the investigation of gold and silver distribution is concentrated to the section to the west of coordinate 43100Y. It is also interesting to find out if there are any differences with respect to gold and silver contents in Lens III compared to the Lens I – Lens II complex.

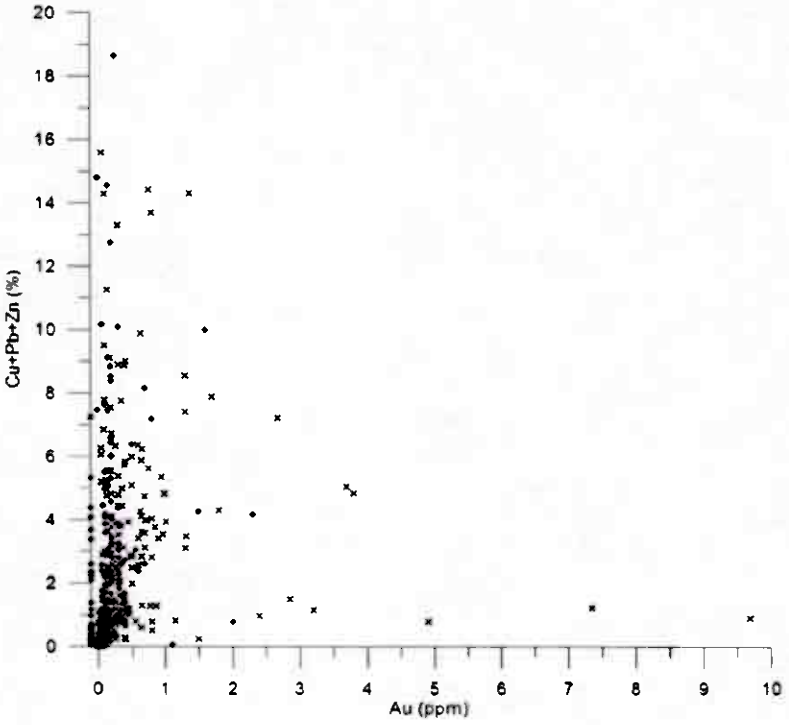

Figure 11: A plot showing the relationships between gold content and content of the major base metals. Solid dots are from Lens III and crosses from the Lens I – Lens II complex.

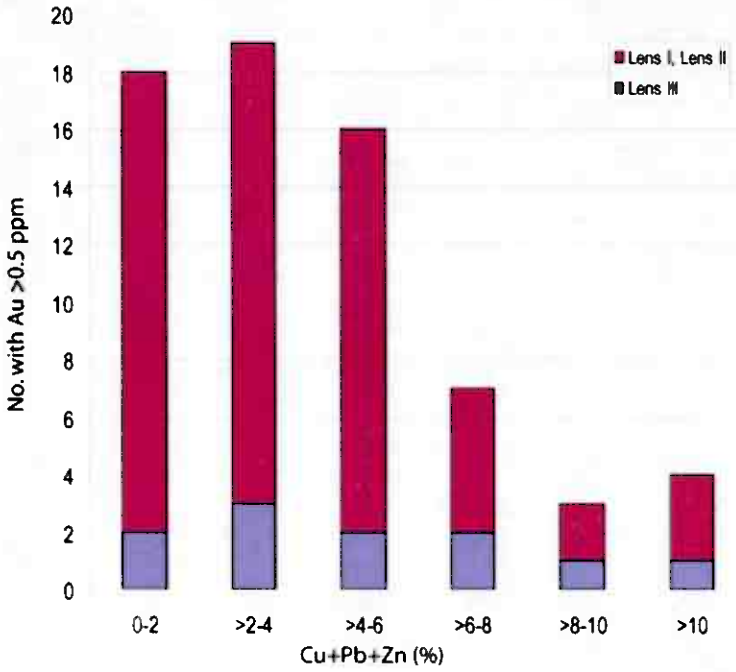

Figure 12: Number of gold analyses with grades > 0.5 ppm in 2% intervals of total base metals. Data for lens I – Lens II and lens III are separated.

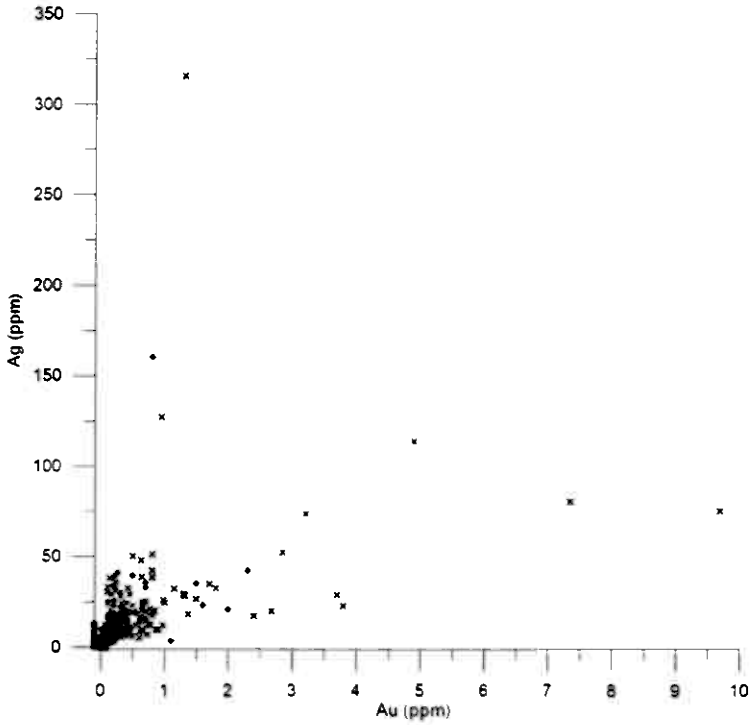

Figure 13: Plot showing the relationship between gold and silver. Solid dots are from Lens III and crosses from the Lens I – Lens II complex.

The data from the western part of the mine (i.e. westwards from 43100Y) and displayed in Figures 11 and 12, shows that the highest gold grades are found beside the richest mineralizations, i.e. where the content of base metals (Cu+Pb+Zn) is less than 6%. Grades above 4 ppm Au is only present where the base metal grades are less than 2%.

Gold and silver are fairly well correlated up to about 0.5 ppm Au and 25 ppm Ag (Figure 13). Higher grades of both elements are not correlated.

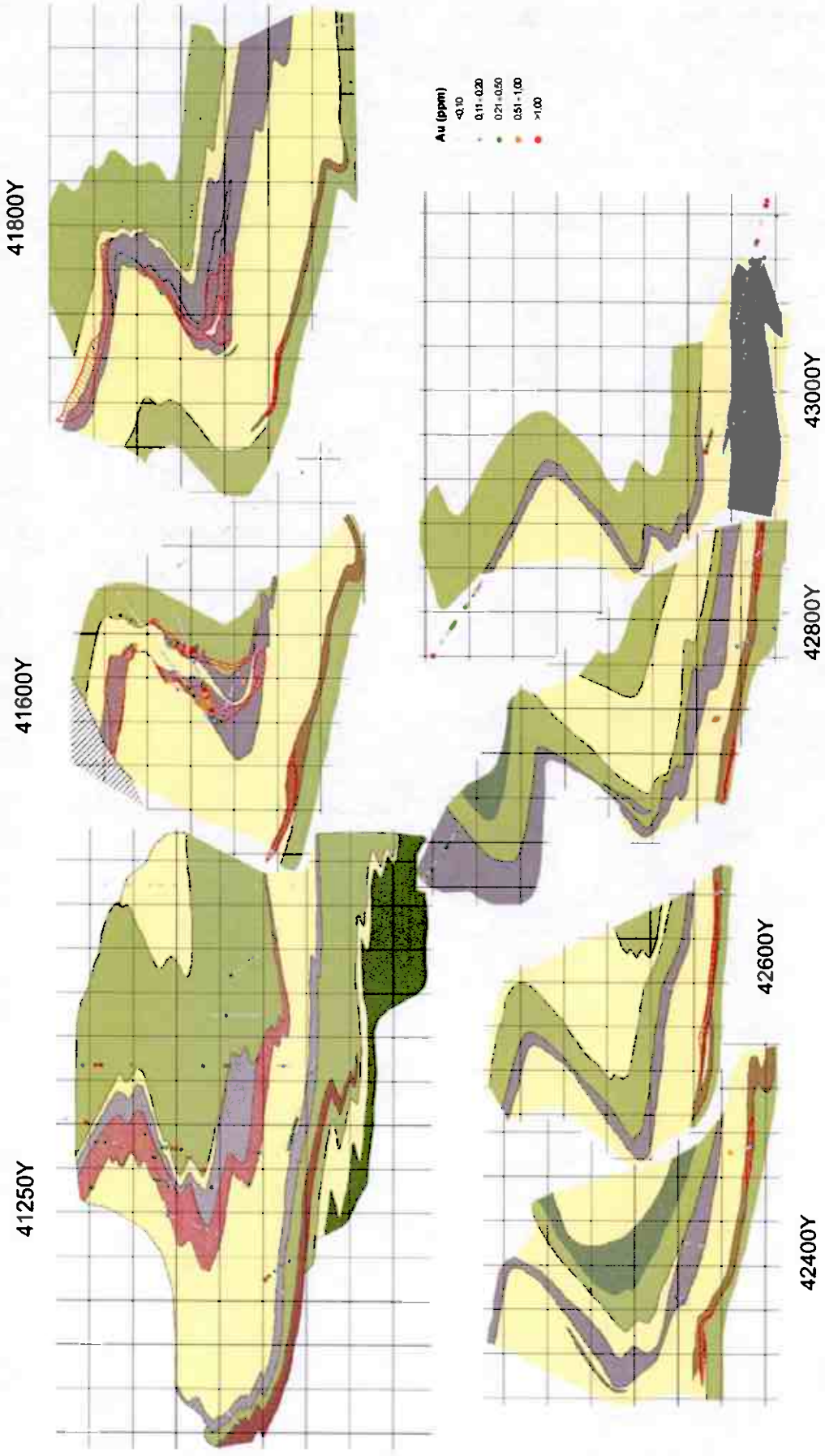

Figure 14: Existing gold data for the western part of the Mofjellet deposit.

Figure 14 shows the distribution of gold data in the various profiles in the western part of the Mofjellet deposit. The figure demonstrate that the amount of data regarding gold content is very low, especially in the section to the east of 41600Y. It also show that the highest gold grades in the westernmost part of the deposit are related to the AKP-Omleggssone fold structure.

6.3 Discussion on block definitions

So far the division of the ore blocks has been made vertically, with boundaries between blocks placed according to drilling accessibility from especially the railway tunnel. Looking at the divisions from a resource estimation point of view, a better solution is to divide it according to the different ore lenses, and where the potential lies.

On this basis, block 1 would be the lens I-II and the AKP-Omleggssone fold structure from its outcrop in the west eastwards until 43 100 Y, where more extensive mining has been done. Block 2 could be lens III westwards from 43 250 Y (mined further east), and including the Nasa structure. Block 3 and possibly 4 could be the same structures in the eastern half of the mine.

7. References

Marker, M., 1983: *Caledonian and pre-Caledonian geology of the Mofjell area, Nordland.* Ph.D. thesis, University of Copenhagen, Denmark, 153 pp.

Bjerkgård, T., Marker, M., Gagama, M.V., 2006: *The Mofjellet Mine: Results of diamond drilling 2005.* NGU report, 31 pp.

Bjerkgård, T., Marker, M., Sandstad, J.S., Cook, N.J., Sørdahl, T., 2001: *Ore potential with emphasis on gold in the Mofjellet deposit, Rana, Nordland, Norway.* NGU report, 27 pp.

Appendix

Profiles and logs of drill holes from 2006.