Bergvesenet

Postboks 3021, 7002 Trondheim

Rapportarkivet

Bergvesenet rapport nr	Intern Journal nr	Internt arkiv nr	Rapport lokalisering	Gradering
BV 554			Trondheim	Åpen
Kommer fra ..arkiv	**Ekstern rapport nr**	**Oversendt fra**	**Fortrolig pga**	**Fortrolig fra dato:**
Nordlandske	Sul 513-28-81	Terra Mining A/S		

Tittel

Kolsvik, Bindalen. Diamond Drilling. Geological investigations

Forfatter	Dato	Bedrift
R Sivertsen	11/02 1981	Sulfidmalm A/S

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Bindal	Nordland	Nordlandske	18252	

Fagområde	Dokument type	Forekomster
Geologi Boring		Kolsvik

Råstofftype	Emneord
Malm/metall	Au W As

Sammendrag

Rapporten inneholder informasjon om fastfjellsgull og alluvialt gull. **Sammendrag er ikke skrevet.**

FAGRAPPORT
TECHNICAL REPORT

A/S SULFIDMALM

Dato/Date	Rapport Nr./Report No	Kartblad/Mapsheet	
February 11, 1981.	513.28.1981	1825 I og II	28 sider

Forfatter / Author: R. Sivertsen

10 bilag
24 bertagslaver

Tittel/Title

KOLSVIK -- BINDAL 1980 Diamond Drilling, Geological Investigations.

Resyme/Summary

An evaluation of the total gold potential of the Kolsvik area is at the present time difficult to make, especially because of

a) lack of continous outcrop

and b) the erratic distribution of the gold within the mineralized structures.

A number of facts however are pertinent:

1) If as observations indicate the gold is located to a main SE/NW tectonic zone (zones) the mineralization is found (in varying amounts) at each place the zone outcrops.

2) Where tested by drilling the mineralization has been proven at depth and is still open in this dimension.

3) On the basis of work to date some 280.000 tons of possible potential mineralized rock have been outlined (at F and C) and it is felt that the unexposed and unexplored areas (between F and B) offer good potential for further tonnage.

It is felt that if the gold potential of the area is to be fully developed then some form for bulk sampling must be carried out, however prior to this evaluation stage we feel that the following program must be considered.

1) Detailed tectonic-structural interpretation
   a) to prove or disprove the continuity of the main gold bearing tectonic zone and to interpret the distribution and location of gold within it.
   b) to understand the tectonic setting of peripheral mineralization such as the D area.

2) More detailed surface sampling both to supplement 1) above and to give a better background for further evaluation.

3) Diamond drilling, to test strike and depth extent of F and C and test for mineralization in intervening areas.

Andre relevante rapp
Other relevant reps.

503.28.80.

Kommentarer/Comments

Fordeling
Distribution

- [X] Canada
- [ ] Nikkelverket
- [X] Kristiansand
- [ ] Oslo
- [ ]
- [ ]
- [ ]
- [ ]

E N C L O S U R E S

I.	BINDAL GEOLOGY 1.38 000
II.	KOLSVIK COMPILATION ASSAYS C-AREA 1:200
III.	KOLSVIK GEOLOGY 1:2 000
IV.	KOLSVIK C-AREA, FRACTURE PATTERN/GEOLOGY 1:200
V.	KOLSVIK C-AREA - GEOLOGY
VI.	KOLSVIK, KAFFISTEIN ADIT. GEOLOGY 1:200
VII.	KOLSVIK F-AREA, GEOLOGY - ASSAYS 1:200
VIII.	SECTION DDH 1
IIX.	SECTION DDH 2
IX.	SECTION DDH 3,4.
X.	ALLUVIAL GOLD POTENTIAL KOLSVIK 1:10 000
	Logs.
	Assay results

1. INTRODUCTION

A/S Sulfidmalm started evaluation of gold/arsenopyrite mineralization associated to tectonic zones within the contact zone of the late Silurian Bindal batholith, in 1979.

Several of the gold showings were actively explored during the 1930's, but no production has taken place.

In 1979 Sulfidmalm optioned 62 claims in the Bindal area from the Norwegian State. These together with our own 300 claims in the area cover both known showings, and interesting geology.

Work in 1979 consisted of initial location, mapping and sampling of several areas of gold/Asp mineralization in the region. The Kolsvik showings where evaluation was carried out in the 1930's was considered the most interesting area and the major part of the work was carried out at this property (see report no. 503.28.80).

Work in 1980 has consisted of regional mapping and geochemical sampling of the western contact zone of the granite (150 km^2). At Kolsvik detailed mapping, supplementary sampling, and limited diamond drilling have been carried out.

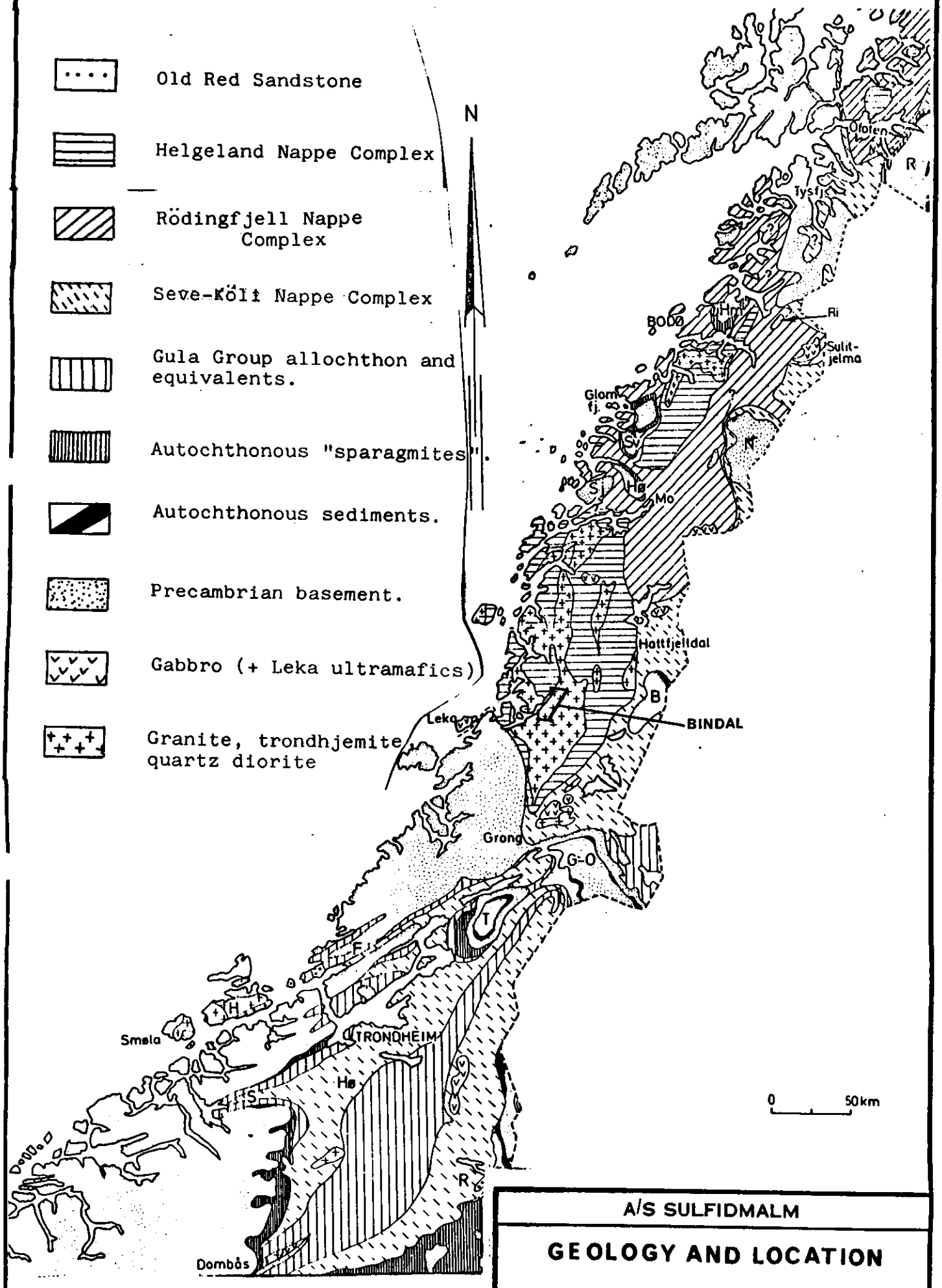
Some detailed investigations have also been carried out at the Reppen Property some 7 km south west of Kolsvik.

2. REGIONAL GEOLOGICAL SETTING

The geology of North-Central Norway where Bindal is situated is dominated by nappes of relative high-grade psammitic, pelitic and calcarous meta sediments with subordinate metavolcanics and intrusives of Caledonian age.

A generally granitoid precambrian basement is exposed in a number of tectonic windows.

In the accompanying table the main geological features and the relative position of the individual nappes are indicated.



A/S SULFIDMALM

GEOLOGY AND LOCATION

CENTRAL NORWAY

SCALE	DRAWN
DATE	TRACED

FIG 1

TABLE 1

N O R T H - C E N T R A L N O R W A Y

TECTONO STRATIGRAPHIC UNITS		MAIN LITHOLOGIES	IGNEOUS ROCKS	AGE	MINERAL
ALLOCHTHONOUS UNIT	HELGELAND NAPPE	PELITIC AND SEMIPELITIC ROCKS LIMESTONES	ULTRAMAFIC VOLCANIC HOR. GRANITE INTRUSIVES (BINDAL)	424 ± 26 Rb/Sr isochron from late stage differentiates of Bindal granite	Asp. Au. Ag. W - granites Cr. Cu. Ni. - ultramafics
	RØDINGFJELL NAPPE	LIMESTONE - DOLOMITE CALCAREOUS PELITIC AND PELITIC SEDS. SED. IRON ORES AMPHIBOLITES	GABBRO GRANITE AND TRONDHJEMITE BODIES		Pb - Zn Fe
	SEVE KÖLI NAPPE	PELITIC AND SEMI PELITIC ROCKS. GREYWACKES VOLCANICS-SEDIMENTS with VOLCANIC DEBRIS	ULTRAMAFICS GABBRO (LARGE) GRANITES		Cu-Zn

2.1. THE BINDAL REGION

The rocks in the Bindal region belong to the Helgeland Nappe which is the highest tectono stratigraphic unit in the northern part of Norway.

The plutonic rocks of the Bindal massif have been emplaced into supracrustals of cambro-silurian age.

The following rock units have been recognized in the area (see table 2).

1. Gabbro-greenstone sequence
2. Metasedimentary sequence
3. Plutonic complex

2.1. i. GABBRO GREENSTONE SEQUENCE

Outcrops of this sequence are rare, mainly being found in the west of the area. The isolated gabbro bodies may contain cumulate layering at places, but normaly are strongly deformed. The greenstone appears to be a deformed pillow lava. The relationship between the gabbro and the deformed pillow-lava is not clear, but it is possible that the gabbro bodies occur at the base of the greenstone. It is suspected that these rocks are fragments of an ophiolite complex.

A complete ophiolite complex occurs some 30 kms to the west of the Bindal Batholith on the island of Leka.

ii. METASEDIMENTARY SEQUENCE

The main components of the metasedimentary sequence are an assemblage of quartzites, phyllites, schists, marbles and calcarous sediments. The sequence is of large areal extent and probably represents an extensive sequence of shelf sediments.

iii. PLUTONIC COMPLEX

The plutonic complex comprises in probable younging order:

1. Diorite
2. Tonalite
3. Fine to medium grained two mica granite
4. Fine to medium grained granite

The relative chronology is derived from host-xenolith relations.
The xenoliths of the metasedimentary rocks within the plutonic complex are of variable sizes from small cm size inclusions up to the scale of large rafts with dimensions of several hundred metres. The calcarous metasediments have developed skarns of variable thickness at their contacts with the rocks of the plutonic complex.

TABLE 2

B I N D A L B A T H O L I T H SIZE 5000 km²

P R O T O L I T H

SHELF SEDMIENTS

- LIMESTONE- MARBLE
- ORTHOQUARTZITES
- SEDIMENTARY AMPHIBOLITES
- MICA SCHISTS

OPHIOLITE COMPLEX

- ULTRAMAFIC
- GABBRO
- PILLOW LAVA

PRE CAMBRIAN MIGMATITES

P L U T O N I C R O C K S

- DIORITE
- MONZONITE
- TONALITE
- FINE GR. GRANITE
- COARSE GR. TWO MICA GRANITE

ASSOCIATED MINERALIZATION

- Asp
- Asp Au
- Asp Au Py (Ag. Bi. Sb. Pb. W.)
- W - granite
  marble
  skarn

2.1. iv STRUCTURE

Structures of at least four deformational phases can be recognized within the metasedimentary and metavolcanic sequences.
The earliest members of the plutonic complex, including the two-mica granite, appear to have been emplaced either in the interkinematic period of the first and the second recognizable deformation, or during the second deformation. Plutonic emplacement is thought to have continued synkinematically with the third deformation.

The fourth generation of structures are well developed joints which within the plutonic complex are sheeted and at places fracture cleavage type. The joint system appears to indicate the last stage brittle deformation responsible for block faulting in the region.

Gold and arsenopyrite mineralization in the Kolsvik area (and other places in the Bindal region) are related to fracture zones and joint sets where late stage hydrothermal fluids have been located. The Au/Asp mineralization usually occur together with quartz veins, and segregations and as matrix fill in brecciated zones. Pyrite, stibnite, galena, silver, Bismuth and scheelite have also been noted.

The mineralized structures have a dominant SE/NW direction. Although the structures have in most cases a regional extent the accompanying mineralization has an irregular occurrence - caused both by early depositional conditions and by later movement and redistribution.

v MINERALIZATION

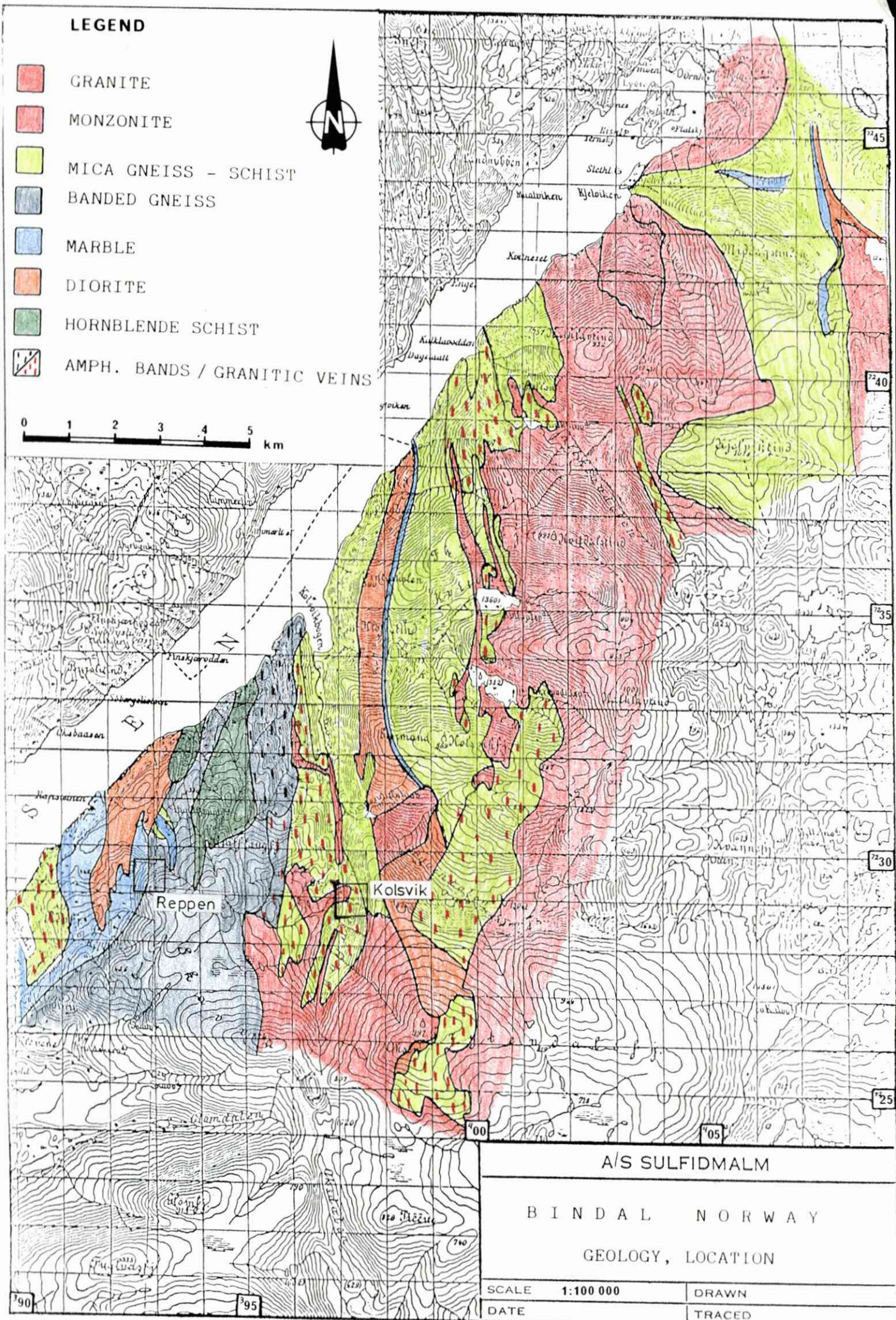
The mineralization in the area is dominantly of two types.

Scheelite

Scheelite is mainly associated with skarns (diopside, garnet + py, Aspy, Cpy) in marble zones where these are enclosed by gneisses. Quartz veins in gneisses and joints and fractures in the granite also contain scheelite in places. Detailed sampling and mapping in selected areas have been carried out. The results of this work is under evaluation and will be reported at a later date.

Gold

Several gold-arsenopyrite showings are known in the Bindal region. These are invariably found in the "contact zone" of the Batholith and



A/S SULFIDMALM

BINDAL NORWAY

GEOLOGY, LOCATION

SCALE 1:100 000	DRAWN
DATE	TRACED

the metamorphic sequence and are associated with the fracture zones.

As mentioned above the mineralization has a somewhat irregular distribution. Arsenopyrite and gold are usually associated with quartz veins and segregations. Pyrite, galena, stilbite & pyrrhotite may also be present. In places more massive veins of arsenopyrite occur as well as thin smearings along joint planes. In several localities arsenopyrite forms the matrix material in heavily fractured/brecciated qtz rich granite.

In polished thin sections from the Kolsvik region coarse blebs of native gold are found both intergrown with masses of arsenopyrite grains and as free grains.

Alteration associated with the mineralization consists usually of a sericite-muscovite-chlorite-carbonate assemblage. It is usually weak and fairly local in extent.

3. DETAILED INVESTIGATIONS

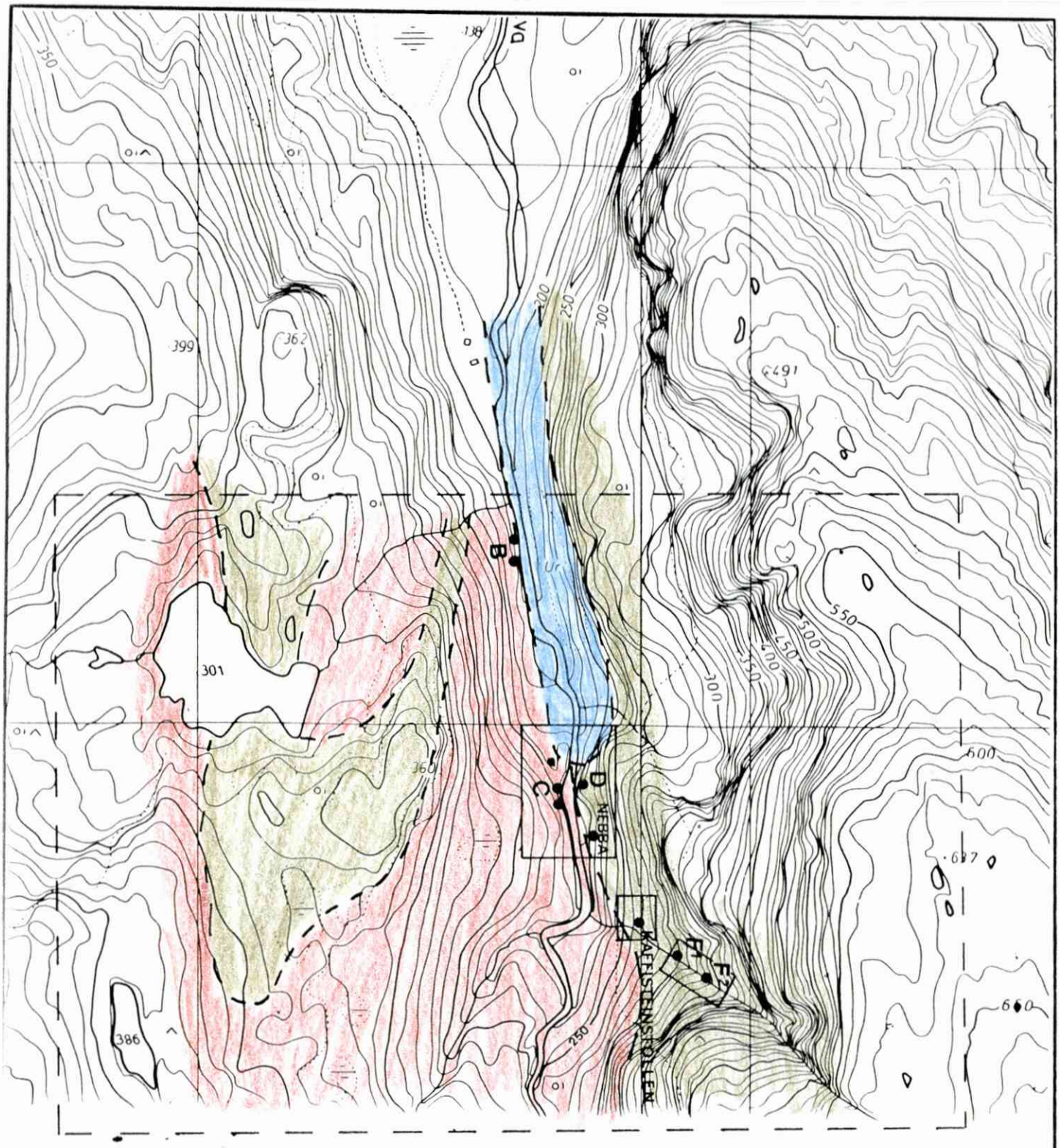
3.1. INTRODUCTION

During the period June - September 1980 a regional geological mapping and stream sediment sampling program was carried out on the eastern side of Tosenfjord (fig. 2).
The area mapped includes the Kolsvik showing where detailed work was carried out in 1980. It also covered the Reppen area and other areas of reported Asp/Au mineralization.

Caledonian supracrustal rocks occur in the SW and NE parts of the mapped area. They form a metamorphic sequence which is cut by a sheetlike intrusion of diorite and granites and monzonites.

The plutonic rocks of the Bindal Batholith in the surveyed area have a granitic to monzonitic composition, are medium grained and light coloured with graditional contacts to each other. Migmatization is developed over a 3-4 km wide contact aureole between the granitic rocks and the metamorphic assemblages.

The diorite seems to have been preferentially intruded along limestone horizons. The main texture is coarse grained and foliated, but fine to medium grained and more massive varieties occur.



GRANITE

BANDED GNEISS (DIORITIC?)

CALCEROUS SEDIMENTS

DETAILED MAP 1:200

MAP 1:2000

A/S SULFIDMALM	
KOLSVIK LOCATION MAP	
SCALE 1:10 000	DRAWN
DATE 2-81	TRACED

The metamorphic sequence includes biotite gneisses and schists, banded gneisses (calc-silicate gneisses), marbles and skarns.

The greater part of the area consists of biotite gneisses and banded gneisses. Major layers of marbles occur throughout the metamorphic sequence, but are most frequent in the schists and biotite gneisses.

Skarns are developed along the marble layers both where they are enclosed by gneisses and where granite is the dominating host rock. Diopside - actinolite - garnet are the most prevailing skarn minerals, but also mineralization of scheelite, po, cpy occurs in some localities.

3.2 THE KOLSVIK AREA

Work in the Kolsvik area has indicated gold-arsenopyrite mineralization irregularly distributed along a 800 m zone (Fig.3.) The mineralization is related to fractures, joints and shears.

To date only two showings have been investigated in some detail by Sulfidmalm with diamond drilling in the F and the C areas.

The Kolsvik area was actively explored during the 1930's by the Norwegian-Canadian owned company Kolsvik Malmfelter and Boliden. Alltogether 259 m of adits were driven, but no production has taken place except for two "samples" from the Seksa and Klondyke showing (20 t each) which were sent to Boliden for assaying

20 t	Seksa	52.1 g Au/t
17 t	Klondyke	50.7 g Au/t

A description of the main showing with information from previous investigations together with our own assays is presented in this report as enclosure II.

3.2.1. GEOLOGY

During 1980 detailed geological mapping, diamond drilling sampling and some trenching were carried out.

The geological survey in the area was based on 1:800 scale with critical areas being detailed on 1:200.

The major lithologies found are:

1. Granite
2. Diorite-dioritic gneiss. Mica gneisses.
3. Marble
4. Amphibolite/mica schist.

Granite

The notable feature of the granite in the Kolsvik area, is its lack of mafic constituents. In many cases its composition being simply quartz and feldspar.

In Kolsvik the granite often shows alteration in the vicinity of tectonic zones and sericite development especially along joints is common. A characteristic pinkish alteration is also common along joints. These joints are often lined with secondary minerals such as Desmin, Laumonite, ankerite and calcite. Disseminated arsenopyrite is frequently seen again in the vicinity of tectonic structures and usually being accompanied by sericite alteration. The gold and arsenopyrite bearing veins and segregations are usually limited to the granite.

The Gneisses

The gneisses found in the Kolsvik area vary in composition and texture ranging from schistose mica gneisses - to banded biotite plagioclase gneisses to dioritic gneisses. For the purpose of the 1:800 scale map all gneisses were grouped as being of an approximate dioritic composition. The contact between dioritic gneiss and other variates is always diffuse - the dioritic gneiss usually being more massive. Definite intrusive diorite is seen at several locations (especially in drill holes) and the bulk of the dioritic gneiss is thought to represent altered-metamorphosed diorite.

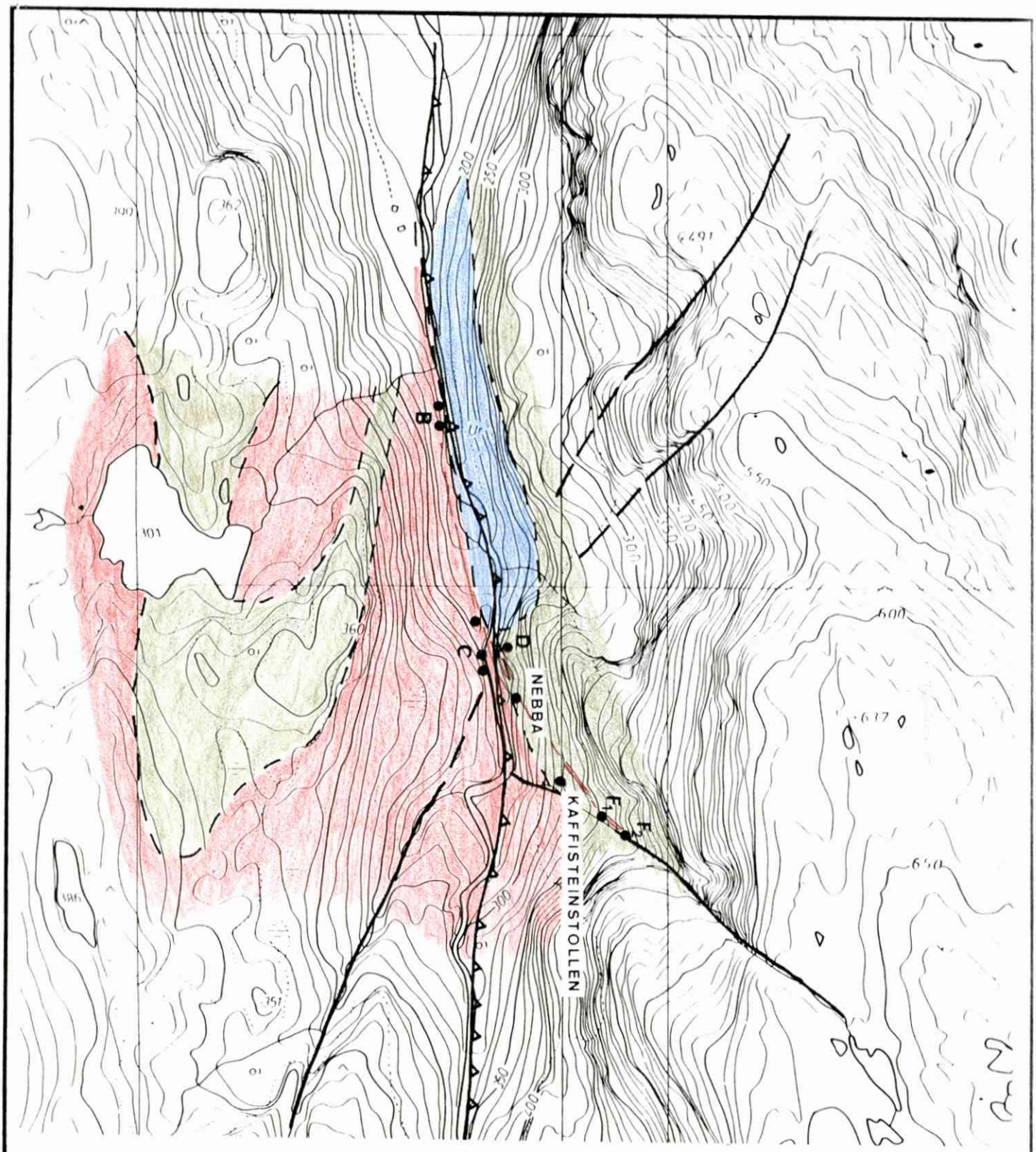
The gneisses are often highly migmatized and at least three phases of granitic veins are noted, the earliest veins being highly deformed.

The Marble

The marbles (dominantly calcite marble) are all highly deformed rocks and in places show alteration to skarn. They are all banded, containing thin bands (2-15 cm) of pelitic composition.

The Amphibolite-Mica Schists

The amphibolite varies from a fine to medium grained rock to a strongly sheared amphibole rich rock found in or ad-



LEGEND

GRANITE

BANDED GNEISS (DIORITIC?)

CALCEROUS SEDIMENTS

FRACTURE - JOINT ZONE

FAULT

TRACE OF MINERALIZED STRUCT:

GOLD SHOWING

0 500 M

N

A/S SULFIDMALM

KOLSVIK
TECTONIC PATTERN

SCALE 1:10000	DRAWN
DATE	TRACED

jacent to several of the shear zones. Especially well developed in the C area.

The distribution of the various rocks is shown on the accompanying maps. As can be seen the granite at Kolsvik occurs as a thin sliver to the west of the main Granitic mass in a area of dioritic and metamorphic assemblages. Gold showings are located near the eastern contact of this granitic sliver. In detail the geological picture is extremely complicated by granitic diking and migmatitic and xenolith phenomena and also the prevailing tectonics.

3.2.2. MINERALIZATION/TECTONIC

The contact zone between the granite and the wall rocks (sediments and dioritic gneiss) in Kolsvik has undergone several episodes of faulting, shearing, jointing and brecciating along different directions.

Four important tectonic zones occur in the Kolsvik area (see fig. 4.).

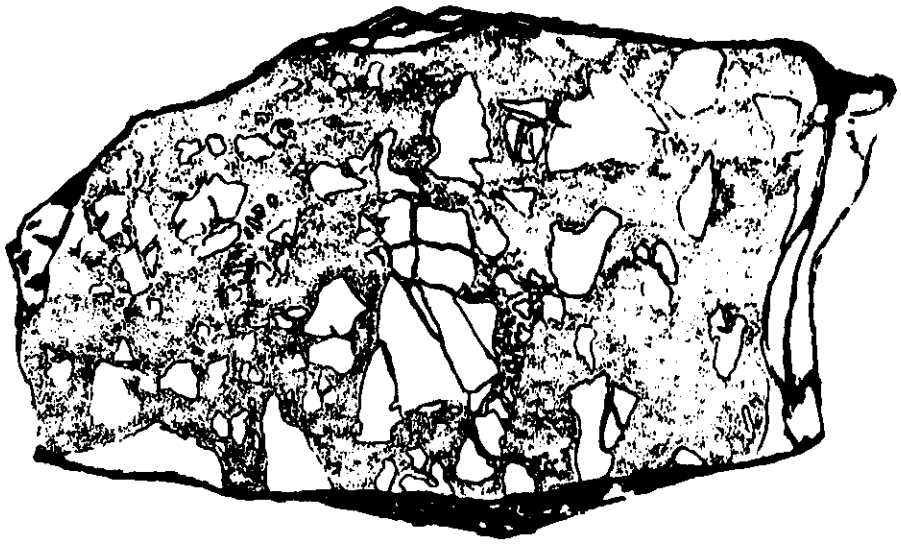
1) The "mineralized zone" running in a NW/SE to NNW/SSE direction.
2) A N/S running major fault zone with associated mylonites and shears. The fault zone is very extensive and can be traced for several kms. This structure cuts across the gold mineralization, but is otherwise unmineralized.
3) A SE/NW striking shear/joint set.
4) A NE/SW striking shear/joint set.

The amount of displacement of these structures and their relative chronology is uncertain. Asp (Au) mineralization seems however to be related to one structural zone in the Kolsvik area (1) above).

This mineralized zone is not a structure that can be traced continually on the ground or is even very discernable from air photos. The reasoning for terming it as an important structure are as follows.

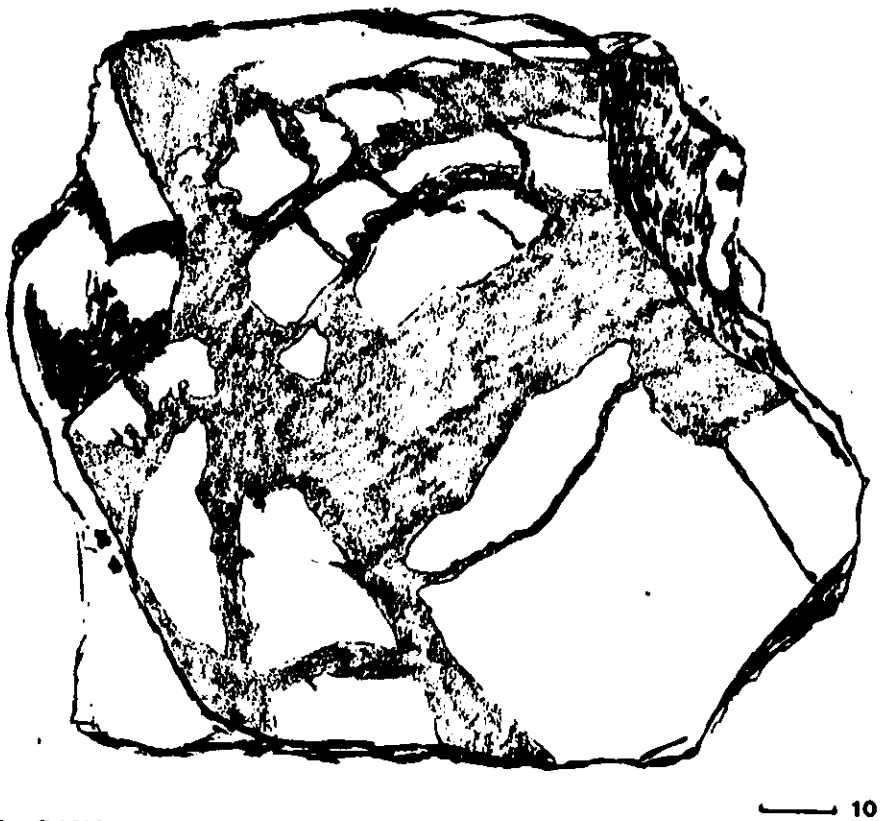
1) Tectonized mineralized outcrops occur along a 800 m NW/SE (NNW/SSE) outcrop pattern.
2) Internal structures of individual outcrops (breccia structure - quartz veining etc.) are similar.
3) The trend of these structures are also similar from outcrop to outcrop and in several cases clearly cross cut the country rock structures.

Later movements seem only to have a subordinate effect on general displacement of mineralization but have been important in local redistribution within the general limits of the zone.



F, SAMPLE

THE F-AREA MINERALIZATION. BRECCIATED GRANITE (WHITE) WITH ASPY AS MATRIX (GREY).



F, SAMPLE

THE F-AREA MINERALIZATION. BRECCIATED GRANITE (WHITE) WITH ASPY AS MATRIX (GREY)

The gold and arsenopyrite mineralization is related to such structures as

1) Quartz vein fillings in fractures, shears and joints.
2) Quartz segregations in or associated to the above mentioned structures.
3) Quartz/Asp matrix fill in breccias.
4) Massive Asp zones in fractures and shears.
5) Joint smearings of Asp.

The zone of influence i.e. shearing-jointing-veining of the mineralized structure can have a width of some 4-10 m, and in certain areas mineralized joints, tension fillings and fracturing may extend for 50 m. Drilling has proved depth extent below surface in two areas to be 90 m (F area) and 50 m (C area).

Gold/Asp mineralization has been found in the following areas along the trace of the zone.
F_2 - F_1 area over 100 m.
Storstein showing

Nebba showing

C area over 125 m

B area

Gold mineralization has also been found some 40 m to the east of the C area.

These individual mineralized areas are separated by areas of extensive blocky scree (between F and C). Special attention has been payed to two areas i.e. F and C.

At F a 4-5 m wide mineralized zone is exposed on surface in the footwall of a well marked fault plane. The zone has a steep dip to the NE and its hanging wall is in part composed of massive arsenopyrite up to 0.5 m.

The granite host rock of the zone has been strongly shattered with arsenopyrite and associated chlorite alteration occurring in the matrix between fragments. The granitic fragments are composed dominantly of coarse interlocking K feldspar and albite grains with lesser interstitial quartz and fracture fillings of secondary quartz.

Fig. 5 shows a typical "breccia" specimen from this location. Later fractures also Asp lined can be seen cutting granite fragments.

The zone is exposed over some 20 m strike and surface chip samples have been given 11.93g/t Au over 4 m (across strike).

The zone was worked by a 40 m adit (now blocked) in the 1930's and good numbers have been reported from these workings.

Some 80 m to the SE of the main outcrop "breccia" ore is found associated with the same structure. Here sampling has returned 6.4 g/t Au over 1.25 m.

The structure has been traced at depth by two holes (DDH 3 & 4 1980) drilled from the same set up immediately to the hanging wall side of the main outcrop (see encl.IX). Drilling in the vicinity is extremely difficult due to lack of set-up possibilities caused by the steep topography and the predominance of boulder scree.

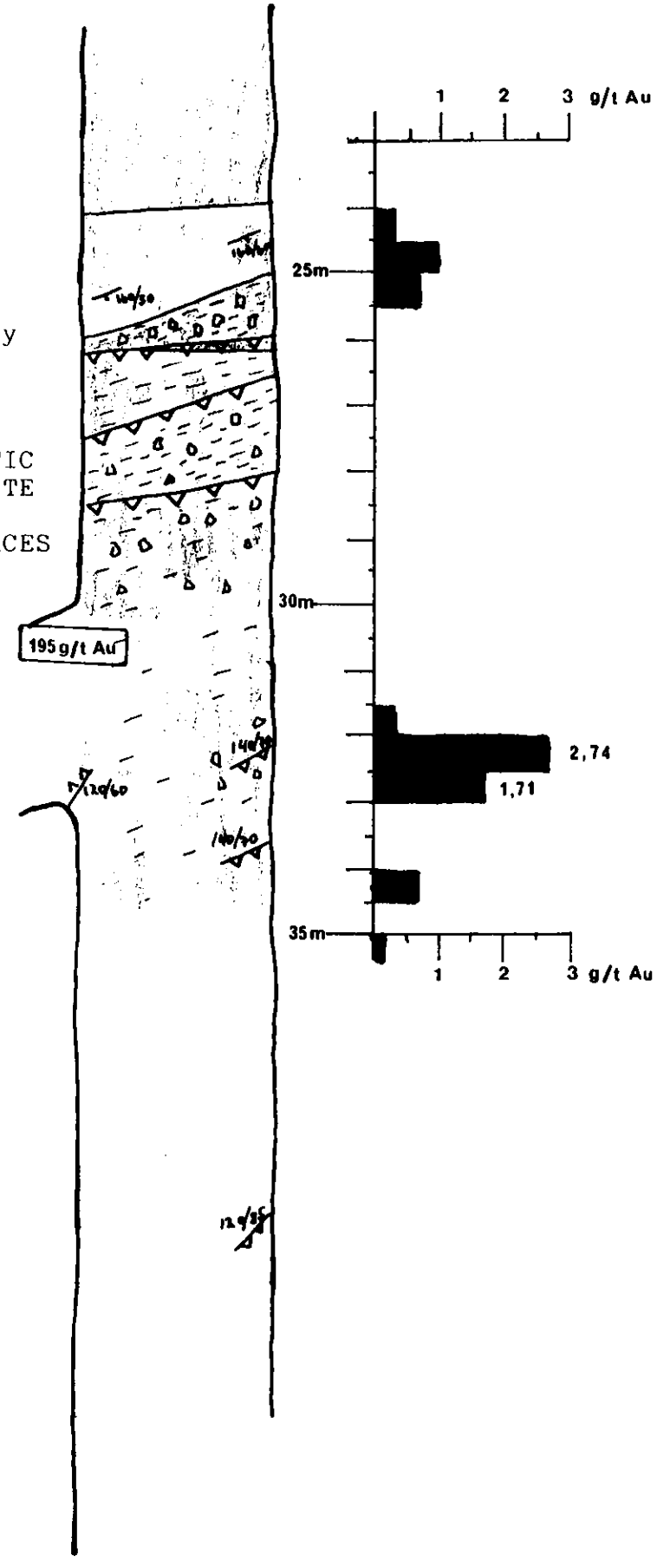
Drill hole 3 drilled vertically intersected a fracture zone including breccia mineralization and quartz veining between 60 and 90 m (no massive zone of Asp as found on surface was intersected).

Asp was found associated as matrix fill in brecciated zones as coarse aggregates in quartz veins, as veins associated with quartz and as smearings in shears joints and fractures in granite. Also gneiss inclusions in the granite were seen to contain Asp in shears. Alteration of the granite was not dominant - usually consisting of chlorite-muscovite-sericite carbonate in association with the mineralization.

It is suspected that the intersection represents a true width of some 8 m.

The zone has been assayed for every 25 cms and returned the following results:

60.00 - 60.25	5.7	g/t Au	
60.25 - 60.50	4.7		
60.50 - 60.75	1.8	60 - 61 m	3.3 g/t
60.75 - 61.00	1.0		
61.00 - 61.25	1		
61.25 - 61.50	1		
61.50 - 61.75	1.4		
61.75 - 62.00	1		
62.00 - 62.25	1.3		
62.25 - 62.50	2.8		
62.50 - 65.25	1		
65.25 - 65.50	10.6		
65.50 - 65.75	3.9		
65.75 - 66.00	2.8		
66.00 - 66.25	5.8	65.25-66.50	4.94 g/t
66.25 - 66.50	1.6		
66.50 - 67.25	1		
67.25 - 67.50	5.3		
67.50 - 68.00	1		
68.00 - 68.25	1.7		
68.25 - 68.50	1.0		
68.50 - 68.75	3.4		
68.75 - 70.00	1		
70.00 - 70.25	1.0		
70.25 - 76.25	1		
76.25 - 76.50	1.0		
76.50 - 77.25	1.7		
77.25 - 79.50	1		
79.50 - 79.75	15	79.50-80.0	15 g/t
79.75 - 80.0	15		
80.0 - 87.50	1		



BRECCIATED GRANITE, Aspy

SHEARED GRANITE, SOME Aspy ALONG FRACTURES

GRANITE, PARTLY MYLONITIC PARTLY BRECCIATED ZEOLITE

SHEARED GRANITE, IN PLACES BRECCIATED Aspy + Py

DECREASING DEFORMATION BRECCIATION ALONG SHEAR PLANE, 20 cm WIDTH. Aspy + Py

WHITE GRANITE

GRANITE

MICA GNEISS

BRECCIA/SHEARS

FAULT. PLANE

195 OLD ASSAY

A/S SULFIDMALM	
KAFFISTEINSTOLLEN	
SCALE 1:100	DRAWN
DATE	TRACED

87.50 - 87.75	3.3	g/t Au		
87.75 - 88.00	2.0			
88.00 - 88.25	37			
88.25 - 88.50	1.9			
88.50 - 88.75	3.5		87.50 - 89.50	8.1 g/t Au
88.75 - 89.0	6.7			
89.0 - 89.25	9.6			
89.25 - 89.50	1.0			

Hole 4 was drilled at an angle of 50°, direction 226° from the same set up as hole 3, both to confirm the dip of the zone and to control for other parallel zones. The hole drilled unexpectedly through 14 m of scree before entering bed rock - where the tectonic zone with typical "breccia"was encountered from subsurface down to 19 m. Sheared and fractured rock continued down to approx. 30 m with sporadic Asp and quartz veins.

The following assays have been returned to date:

14.75 - 15.0	1.0 g/t Au
15.0 - 17.0	1
17.0 - 17.25	1.0
17.25 - 17.50	7.0
17.50 - 17.75	7.4
18.25 - 18.50	1.9
28.75 - 29.0	2.9
29.0 - 29.25	63.0
29.25 - 29.50	1.2

The strike extent of the mineralization in this area is not clear. To the south of F_2 no trace of mineralization has been found. To the north of F, it is suspected that the mineralization may extend to the "Kaffistein" adit some 90 m to the NW.

In the Kaffistein area a branching adit (75 m) was worked in the 1930's. Good numbers have been reported (Encl. VI). The adit starts in a quartz rich granite with specks of aspy. -continues into a dioritic gneiss with strongly deformed dykes of possibly three generations.

Between 20 and 25 m from the opening alternating granitic and gneiss layers are common. Some of the gneiss occurs as xenoliths.

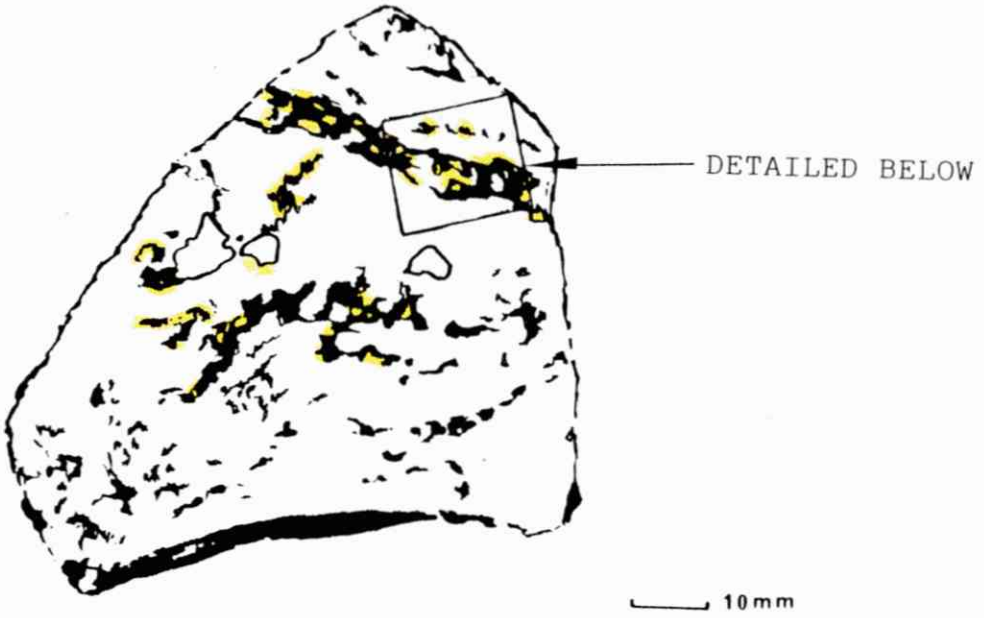
The granite starts at 25 m. The contact zone is strongly deformed which is indicated by shearing and cataclasis from 25 - 35 m. This zone of deformation is very pronounced between 25 - 30 m (Fig. 6).

Accompanying mineralization (aspy, py) is found both as fracture fillings and as matrix in more brecciated sections.

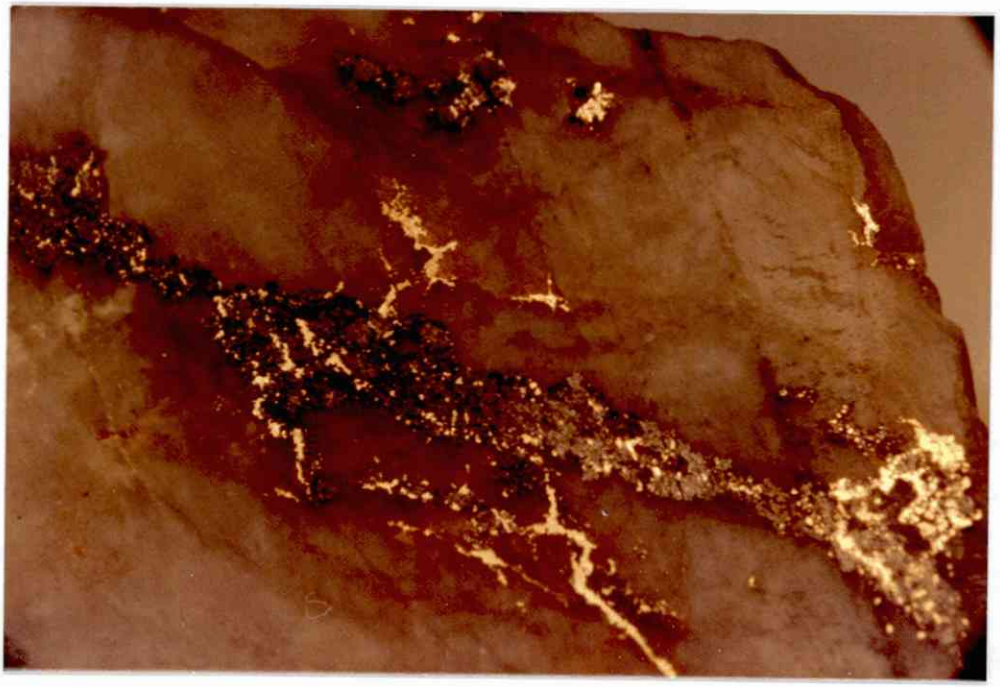
The attitude of the shearplanes and the internal structure indicate that a continuity is possibly found at Storsteinen towards SE and at Nebba towards NW.

The Nebba showings is situated some 150 m NW of the Kaffistein adit. Scree and topography have limited the amount of work carried out here.

A 5- 6 m wide breccia with aspy is the dominating mineralized structure here.



THE C-AREA MINERALIZATION. QUARTZVEIN (WHITE) WITH ASPY (BLACK) AS STRINGERS AND BANDS. Au YELLOW.



Chip samples have returned the following:

2.74	g/t Au	over 1 m
2.06		
1.03		
6.17		
0.17		
0.17		
0.91		

NEBBA 1980

(8,91)? N.V.?

See also enclosure II and V.

The C area is dominated by a sheared fault zone that has a NNW-SSE direction and a steep dip to the east. The fault zone runs very near the contact between granite (on the footwall) and gneisses/marble (on the hanging wall). In the 1930's a number of adits were driven into the granite, these were driven into the footwall and their openings are usually located on the fracture zone.

The fault zone can be traced for some 125 m and its width of influence (tectonized area) can be in the order of 10 m.

Asp mineralization is found associated with quartz veins, quartz filled tension fractures, fractures and joints in granite and as matrix in brecciated granite. The main quartz vein can be traced sporadically along the length of the fracture zone and in places can be seen to be 1.5 m thick.

Free gold is often seen with the naked eye in qtz veins associated to the structure. Dominantly associated with thin 0.5 cm veins of Asp but also as isolated grains in quartz (fig. 7).

Spectacular assay results have been obtained over the zone and are shown on enclosure II.

Polished sections of Asp. Au. bearing gold quartz veins from this structure show masses of euhedral grains, locally intergrown with coarse blebs of native gold, occupying fracture zones within a coarse inter-locking quartz mosaic. Muscovite is the sole alteration mineral associated with the mineralization. Individual quartz grains exhibit undulose, strained extinction and together with arsenopyrite are commonly crisscrossed with microfractures. The latter manifest themselves in the form of thin "tracks" of microcrystalline quartz within the coarser vein quartz and quartz-filled fractures transecting arsenopyrite grains. Very few grains of gold occur completely enclosed in arsenopyrite grains and even then, the latter are invariably strongly fractured.

Other samples are similar but in place of muscovite, an alteration assemblage of carbonate and chlorite/biotite may be found.

Two drill holes have been drilled on the C structure. Both DDH 1 and 2 were drilled from the same location. DDH 1 was drilled at 80° towards 274° and DDH 2 towards 227° at 55°. Both holes were aimed to intersect the C structure at depth.

The holes intersected basically two rock types:

a) amphibolites, mica schists, dioritic gneisses and banded marble

b) granite and diorite

Xenoliths of "sediments" were found both in the granite and diorite. The diorite is seen to predate the granite.

Late quartz and calcite veins are common. The C structure is thought to have been intersected in both drill holes (see section). In DDH 1 as a 8-10 m wide zone of heavily brecciated and sheared marble/schist and fractured and altered granite with several cm wide quartz veins and segregations. No visible gold was noted and only limited Asp was seen as fracture linings and as 1-2 cm aggregations with qtz-carbonate veining in the granite.

In DDH 2 the C zone structure was represented by a zone of highly sheared and fault gouged amphibolite and altered fractured qtz rich granite. Only very minor Asp was noted.

In general the granitic intersections near to the C zone structure and especially on the hanging wall side were quite altered and fractured. At depth the granite becomes less altered.

Sections for assays were taken out at 25 cm intervals. Only two assays in DDH 1 gave interesting numbers

45.75 - 46.00	6.7	g/t Au	in altered fractured granite in the immediate hanging wall of the C zone structure.
61.25 - 61.50	18	g/t Au	Asp.qtz vein in fractured altered granite in foot wall of structure.

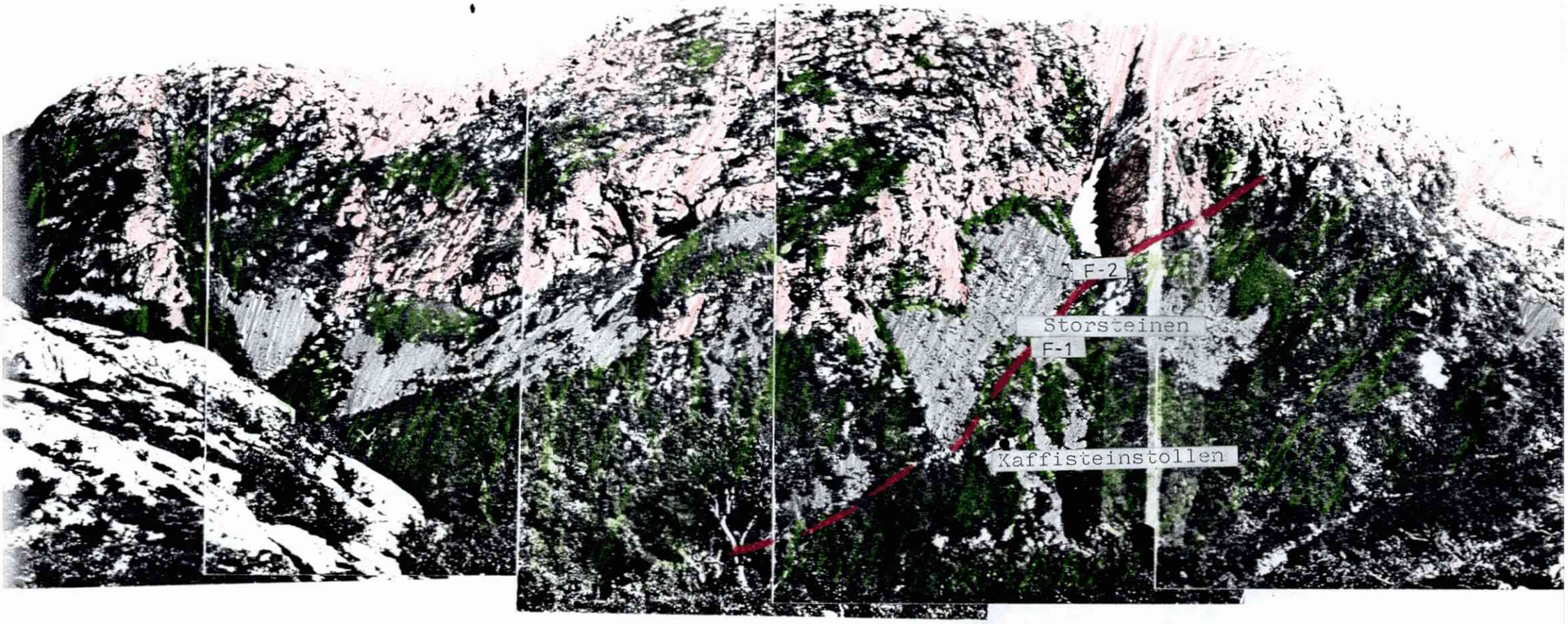
In DDH 2 only one intersection returned over 1 g/t Au between 37.0 and 37.3 m from fractured qtz rich granite in the C zone structure.

Both these holes indicate the continuation of the C zone structure at depth and also the association of Asp and gold mineralization with the structure. However no large qtz veins or heavy Asp concentrations were intersected and this may indicate a somewhat sporadic distribution of these features within the structure.

Further drilling is planned here in 81.

Between the C and the B areas there is a marked lack of exposure and the strike extent of the C mineralization to the north is unknown, no mineralization has been noted before the B area - a distance of some 300 m.

The B area consists of two showings 40 m apart. The separation is supposed to be caused by late faulting either related to the dominating NS fault system or to the NE bending fault joint set.



THE F - KAFFISTEIN AREA SEEN FROM WEST

- TRACE OF F-STRUCTURE
- SCREE
- SHRUB COVERED SCREE & BOULDERS
- BEDROCK

The southernmost of the two showings indicate that the original place of deposition is in the contact zone between granite and amphibolite.

The arsenopyrite occurs partly as bands and stringers in a quartz rich host or as matrix in a brecciated and silicified granite.

The later movement has caused displacement in the mineralized zone. but also certain redistribution of the arsenopyrite especially along the fault planes.

Chip samples indicate 2 - 5 g/t Au over 2 m.

Several isolated "veins" are found on the flanks of the mineralized zone. The most interesting of these is one occurring on the opposite side of Bogelva from the Skarstoll, D zone.

A 0.5 m wide quartz vein rich in aspy is enclosed in the sediments. The vein is boudinaged.

Chip samples across the vein

30.8 g/t Au 0.5 m

14.0 g/t Au 0.5 m

4. DISCUSSION

It is clear from the results presented in this report that the gold mineralization at Kolsvik is very irregular in its distribution. It is confined to tectonic zones where it occurs together with Arsenopyrite in a number of ways. Free gold is often visible and from certain locations spectacular assay values have been obtained.

The erratic and irregular distribution of gold makes it impossible to determine an "average grade" from the surface sampling and limited drilling that has been carried out.

From the results to date the following ideas on potential can be presented.

4.1. THE F AREA (fig 8.)

In the F area a mineralized zone has been traced on surface for a strike distance of 19 m with an average width of 4.5 m. Chip samples on this outcrop have given the following results:

Sample A.	9.72 g/t	over 5 m	Sulfidmalm	1978
B	5.31 g/t	over 5 m	Sulfidmalm	1979
C	10.63 g/t	over 4.5 m	Sulfidmalm	1979
E	87.5 g/t	over 5 m	Kvalheim	1935

Sample	F	20.4	g/t	over	4.5 m	Kvalheim 1935
	G	21.4	g/t	over	4.0 m	Kvalheim 1935

The zone has been explored in 1935 by a 40 m long adit which is reported to have been in mineralization over its entire length. This adds a further 25 m to the strike length of the zone. Drilling in 1980 has added a further 6 m to the strike giving a total proved strike length of 50 m. To the south at a higher elevation (of 40 m) similar mineralization (F_2) has been found at a distance of some 35 m from the end of the adit. Only one chip sample has been taken here, this giving 2.63 g/t over 4 m (6.22 g/t over 1.5 m).

Drilling has proved the depth extent of the zone to at least 90 m below surface.

Thus in this area we have a probable reserve of potential mineralized rock of strike 90 m, depth 90 m, width 4 m - giving a probable tonnage og some 81.000 tons.

The extent of the zone to the south is unknown. to the north it is suspected that the zone has been intersected by the Kaffistein adit where similar tectonic features and mineralization as found at F occur over a 10 m width.
If this is the continuation of the F mineralization, this would add a further 90 m to the strike; - using the same parameters for depth extent and width - this would indicate a possible reserve of some 162.000 tons of potential mineralized rock. The mineralized zone in reality is open both along strike and at depth and may have a much larger potential tonnage than indicated. From the assay data and the irregular nature of the mineralization the average grade of the zone is at present impossible to predict. Surface chip samples from the F_1 area vary between 87 g/t Au and 5.31. g/t Au over 5 m, at F_2 only one sample is available giving 2.63 g/t over 4 m.
Data from the drilling has given individual assays (over 25 cms) of up to 63 g/t, but again it depicts the irregualr nature of the mineralization. Hole 3 intersected the zone at a very steep angle and it gives a very long intersection - between 60 and 90 m. Within this 30 m are individual zones such as 8.1 g/t over 2 m and 15 g/t over 0.5 m.

Drill hole 4 also gave erratic values with best intersections being 3.06 g/t over 1.5 m (from 17 - 18.5 m) and 22.36 g/t over 0.75 m (28.75 - 29.5 m)

Assay results from the Kaffistein adit are low (2.2 g/t over 1 m, but old assays from 1935 have given 195 g/t in grab samples.

4.2. THE C AREA

In the C area a mineralized tectonic zone occurs that has been traced intermittently over 125 m strike length. It has been proved at depth down to 50 m. Along strike to the south the zone disappears under the Bogdalen River and heavy scree but may continue in the Nebba area (20 m higher) some 60 m to the south. To the north the zone is completely open being covered by moraine and scree. The distribution of the mineralization within the zone is erratic, gold and Asp are mainly associated with quartz "veins" and dilation fillings that have en irregular distribution. At places (as between Boliden and Klondyke) the quartz may obtain thickness of some 1.5 m but generally is in the order of 0.2 - 0.5 m. It is of interest to note that at almost every outcrop of the "main quartz zone" along the strike of the structure visible gold can be seen.

On the southern end of the zone where the Boliden and Mannerheim adits have been driven into the footwal granite, the area of influence of the tectonic zone can be seen to extend in some cases up to some 10 m (with quartz veining, tension crack filling fracturing etc.).
At other places along strike extremely sheared, fractured and mineralized rock can be seen for distances of up to 10 m on the hanging wall side of the main zone structure, as for example at Skaret.
Again at other places the area of influence seems to be of limited extent.
Drill holes 1 and 2 indicated an 8-10 m width. -
Thus it would seem that in the C area we are dealing with a mineralized tectonic zone with a proven strike length of some 125 m (+60 if extended to Nebba), with a depth extent of in places at least 50 m and a very variable width from 0.5 - 10-15 m. The structure is open both along strike and

at depth - using the known parameters of depth and an average width of some 5 m, the tonnage of potential mineralized rock is in the order of some 120.000 tons - this can of course be readily increased if depth and strike extent can be proven.

As in the case of the F area the "average grade" is impossible to determine from the surface sampling and drilling to date.

A large amount of visible native gold is associated with the structure. The visible gold is usually situated in very thin Asp (0.5 cm) veinlets and as isolated free grains in quartz.

Visible gold has also been found in quartz veins (2-10 cm) at distances of some 15 m into the footwall granite.

In 1934 Boliden selected some 17.5 tons of ore over a width of 0.5 m in the Klondyke area; this sample assayed 50.2 g/t Au.

In the underground workings carried out in 1934-35 some 650 tons of rock were moved with an average gold content of 2.1 g/t Au. Of this a hand sorted 20 ton sample ran 52.1 g/t.

Our own surface sampling has given varying results (see enclosure II)

Some of these results from south to north are summarized below:

Nebba	3.04	g/t	over 7 m	(8.91 over 1 m)
Mannerheim	2.11	g/t	over 8 m	(4.6 over 1 m)
Boliden	5.06	g/t	over 5 m	(7.2 over 2 m)

Klondyke area vary from 1 to 229 g/t over 1 m, and 886.29 g/t over 0.5 m.

North Skarstol	21	g/t	over 0.5 m
Seksa	24	g/t	over 0.3 m

The two drill holes that intersected the structure at depth illustrate the erratic nature of the mineralization, hole 1 gave two 0.25 m intersections of 6.7 g/t and 18 g/t whereas in hole 2 no assays of importance were found.

5. CONCLUSIONS AND RECOMMANDATIONS

An evaluation of the total gold potential of the Kolsvik area is at the present time difficult to make, especially because of a) the lack of continous outcrop and b) the erratic distribution of the gold within the mineralized structures.

A number of facts however are pertinent.

1). If as observations indicate the gold is located to a main SE/NW tectonic zone (zones) the mineralization is found (in varying amounts) at each place the zone outcrops.

2). Where tested by drilling the mineralization has been proven at depth and is still open in this dimension.

3). On the basis of work to date some 280.000 tons of possible potential mineralized rock have been outlined (at F and C) and it is felt that the unexposed and unexplored areas (between F and B) offer a good potential for further tonnage.

It is felt that if the gold potential of the area is to be fully developed then some form for bulk sampling must be carried out, however prior to this evaluation stage we feel that the following work program be considered

1). Detailed tectonic-structural interpretation.

   a) to prove or disprove the continuity of the main gold bearing tectonic zone and to interpret the distribution and location of gold within it.

   b) to understand the tectonic setting of peripheral mineralization such as the D area.

2). More detailed surface sampling both to supplement 1) above and to give a better background for further evaluation.

3). Diamond drilling, to test strike and depth extent of F and C and test for mineralization in intervening areas.

APPENDIX I

ALLUVIAL GOLD POTENTIAL

The gold showings at Kolsvik are situated some 5 km from the sea in the Buadalen river valley. This is a typical glacial valley that after post glacial uplift has been eroded by the Buadalen River.

Approximately 3 km up valley from the sea there is a large glaciofluvial terrace some 50 m thick built up mainly of fine sand with coarser sand and gravel near the top and to the south.

Down valley from the terrace are deposits of glaciofluvial sand/gravel of some 4-6 m thickness but which in the lower 1.5 km of the valley can reach thicknesses of some 15 m or more.

Some trial sampling has been carried out in the area in 1972 by the Norwegian Geological Survey. Sample locations and results are shown in encl.X. As can be seen the best sample returned 0.2 g/m^3.

No detailed investigations have been carried out on our part but considering the possibilities for alluvial gold accumulation the following should be considered:

1) Gold accumulated in the primary glaciofluvial deposits.
2) Gold re-concentrated from post glacial reworking of 1.
3) Gold accumulated by normal post-galcial river processes.

Types 2 and 3 are likely to be found in the same areas. The distribution of the various types of material are shown on fig. An approximation of the size of the deposits are given in the following table:

Area	m^3	Type
A	937.500	1.
B	2.025.000	1.
C	720.000	1.
D	450.000	1.
E	840.000	2 and 3
F	125.000	2 (some 3)
G	1.275.000	2 and 1
H	4.225.000	2(area of Power station)

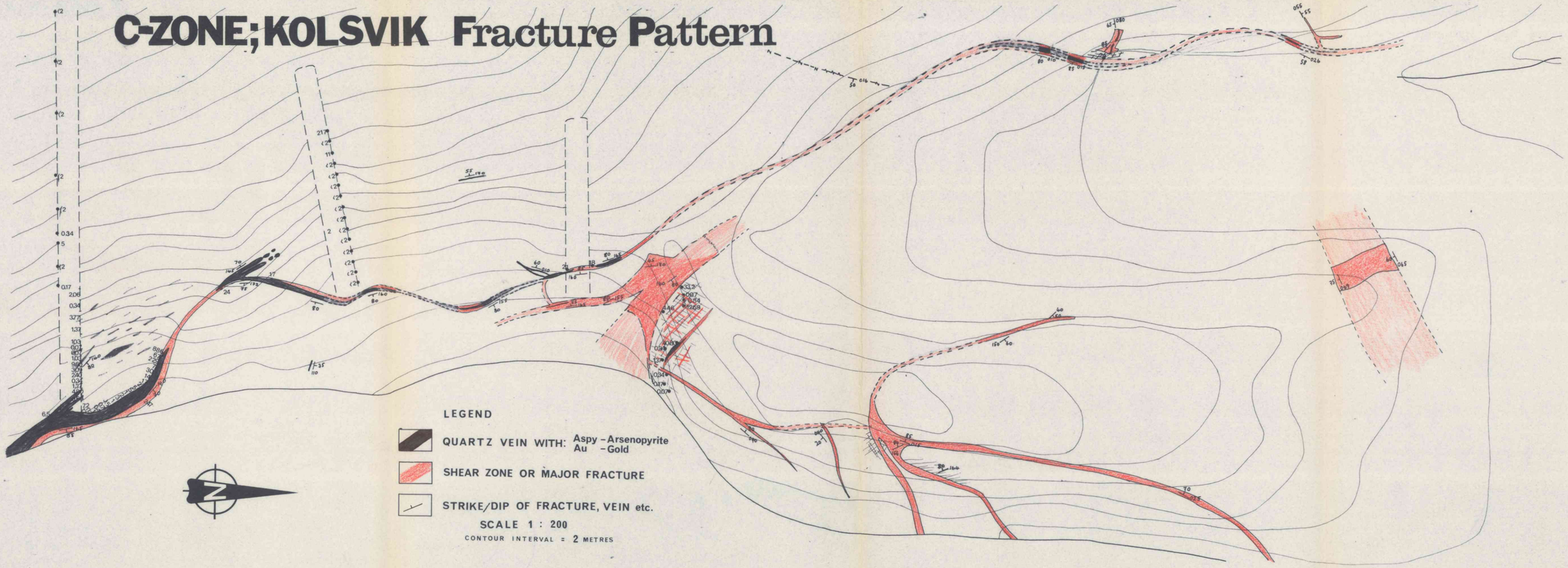
As can be seen from the results of the trial sampling the best results have been obtained from immediately north of the terrace in reworked material. Only very limited sampling has been carried out giving no real basis for conclusions, -it should be noted however that one of the most promising area i.e. E has not been sampled at all.

The question of how much gold has been removed (eroded) from the bedrock in the Kolsvik region is very speculative.

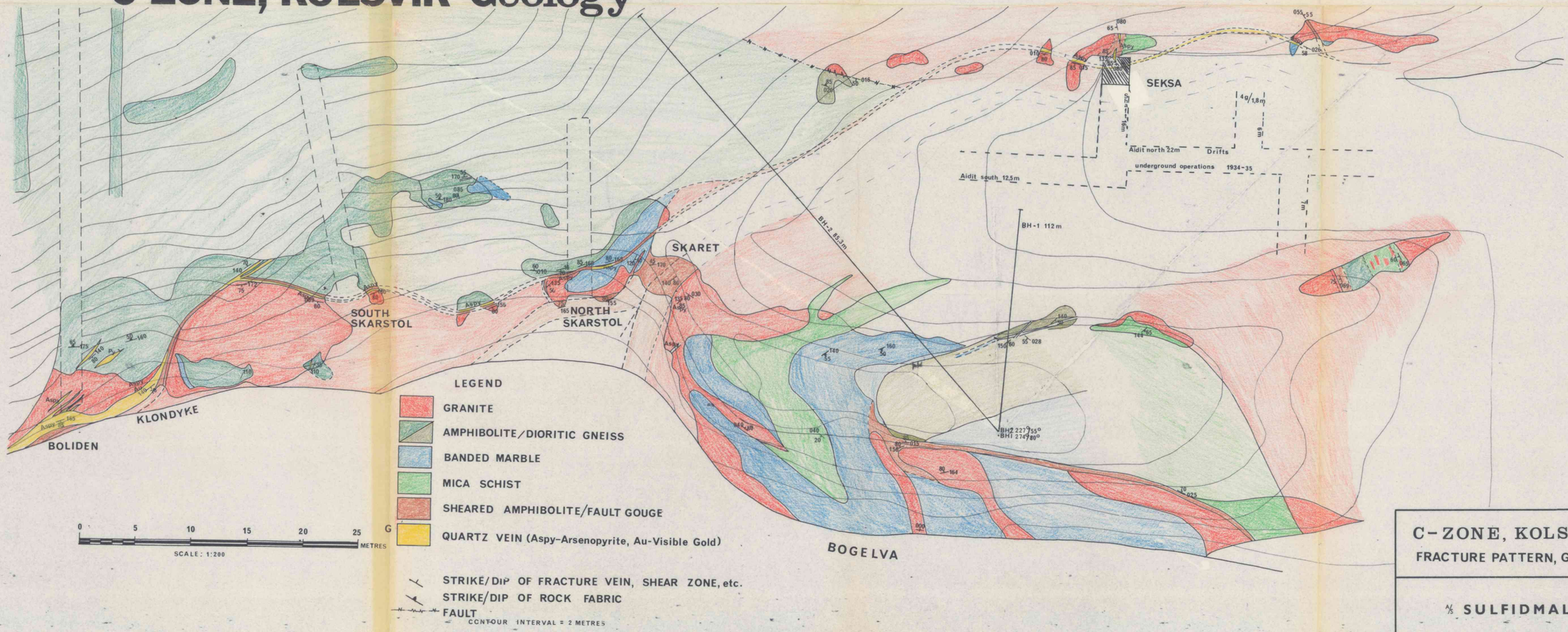
If one considers that the gold deposits in Kolsvik formed a continous zone that has been eroded down to the present topographic level then given a width of some 10 m the total tonnage removed between the F and B areas is some 2.400.000 tons. Given an average of 2 g/t this gives a total of some 4.800.000 gms. These numbers are as mentioned above highly speculative but indicate that the alluvial deposits may contain considerable quantities of gold.


LEGEND
GRANITE
BANDED MARBLE (SED.)
BANDED GNEISS (DIORITIC). MICA-SCHIST-GNEISS/GRANITIC VEINS
AMPHIBOLITE/GREENSTONE
FAULT-SHEAR ZONE
ADIT
SHAFT/ SHOWING
0
100
200 M
N
360
200
250
300
350
400
450
500
550
637
X 7990
SEKSAL
C-SONEN
NEBBA
KAFFISTEIN ADIT
STORSTEINEN
ØVRE-F
KOLSVIK GEOLOGY
A/S SULFIDMALM
SCALE
1:2000
OBS.
DRAW.
TRAC.
CHK.
MAP NO.
MAP SHEET

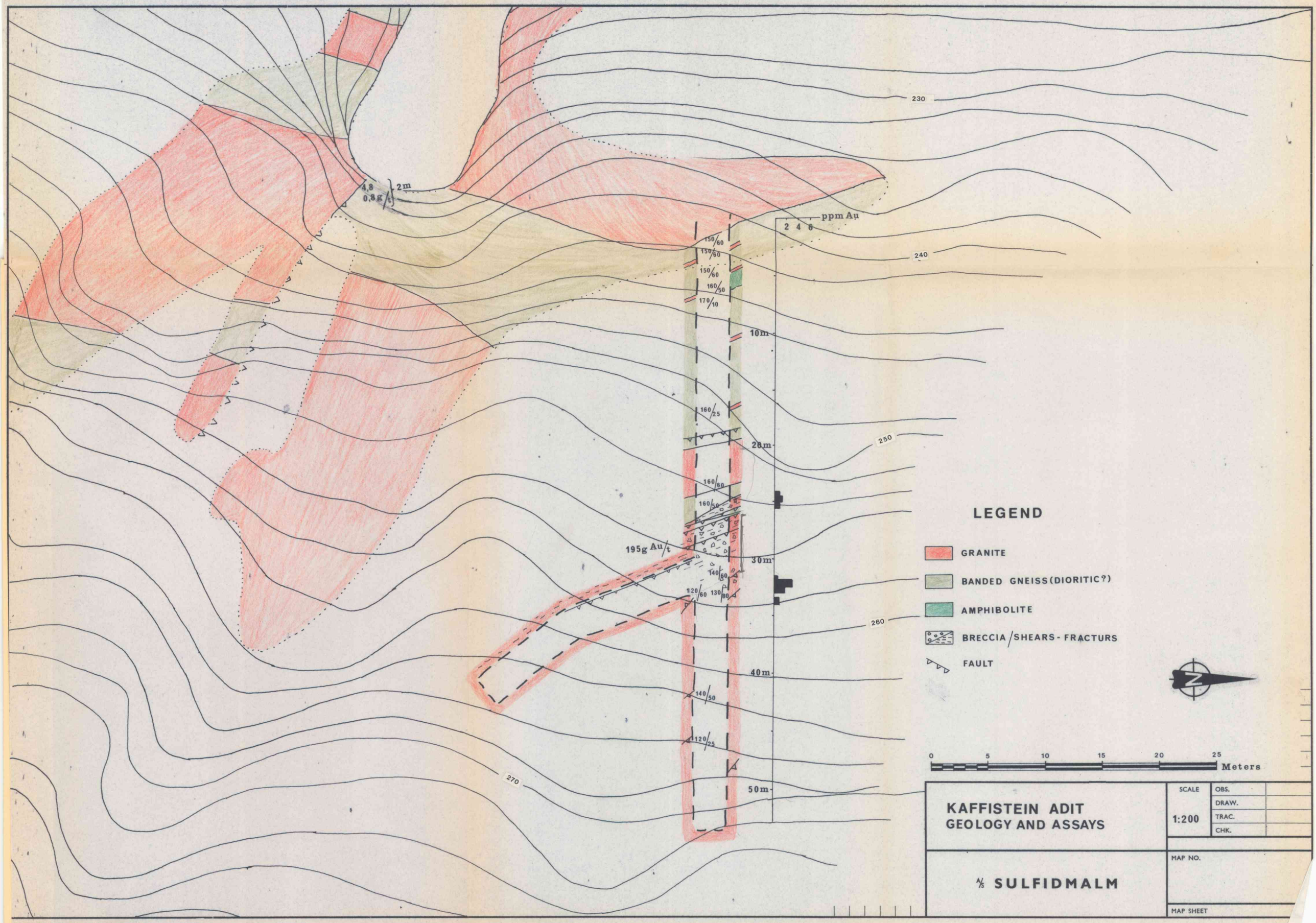
C-ZONE; KOLSVIK Fracture Pattern



C-ZONE; KOLSVIK Geology



C-ZONE, KOLSVIK FRACTURE PATTERN, GEOLOGY	SCALE	OBS.	
	1: 200	DRAW.	
		TRAC.	10-80 AB
		CHK.	
½ SULFIDMALM	MAP NO.	ENCL.IV	
	MAP SHEET		



KAFFISTEIN ADIT
GEOLOGY AND ASSAYS

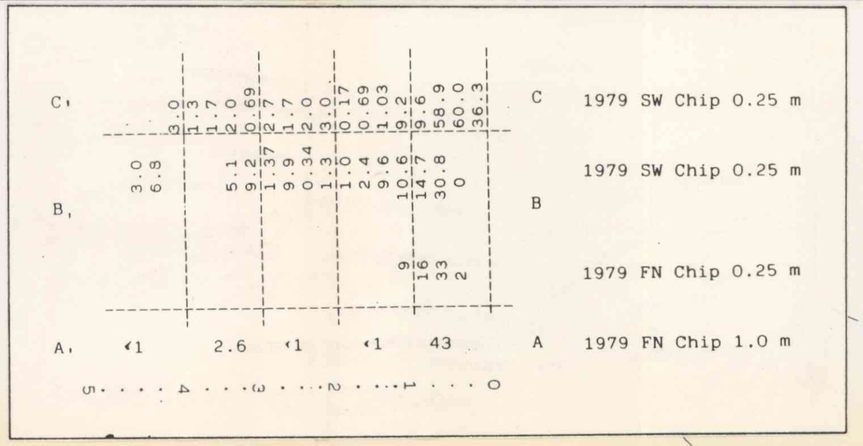
SCALE	OBS.	
1:200	DRAW.	
	TRAC.	
	CHK.	

⅛ SULFIDMALM

MAP NO.

MAP SHEET

...s Tørrkopi. 2000. A 2. E 9 gl. 10-71. Sentrum Trykkeri.



LEGEND

- DIORITE-DIORITIC GNEISS (BIOTITE AUGEN GNEISS) CUT BY GRANITIC VEINS
- FAULT
- JOINTS & MINOR FAULTING
- JOINTED AND BRECCIATED ZONE IN DOMINANTLY QTZ RICH GRANITE: WITH QTZ VEINS AND DIORITE FRAGMENTS. (ASP IN JOINTS AND AS BRECCIA MATRIX).
- MASSIVE ASP.

N

0 5 10 15 20 25 Meters

THE F. AREA
GEOLOGY AND ASSAYS

SCALE	OBS.	
1:200	DRAW.	
	TRAC.	
	CHK.	

MAP NO.

⅛ SULFIDMALM

MAP SHEET

A.s Terrkopi. 2000. A 2. E 9 gl. 10-71. Sentrum Trykkeri.

% SULFIDMALM

MAP SHEET | MAP NO. | SCALE | OBS. | DRAW. | TRAC. | CHK.

KOLSVIK BINDAL
DDH 1 80 274°/80°

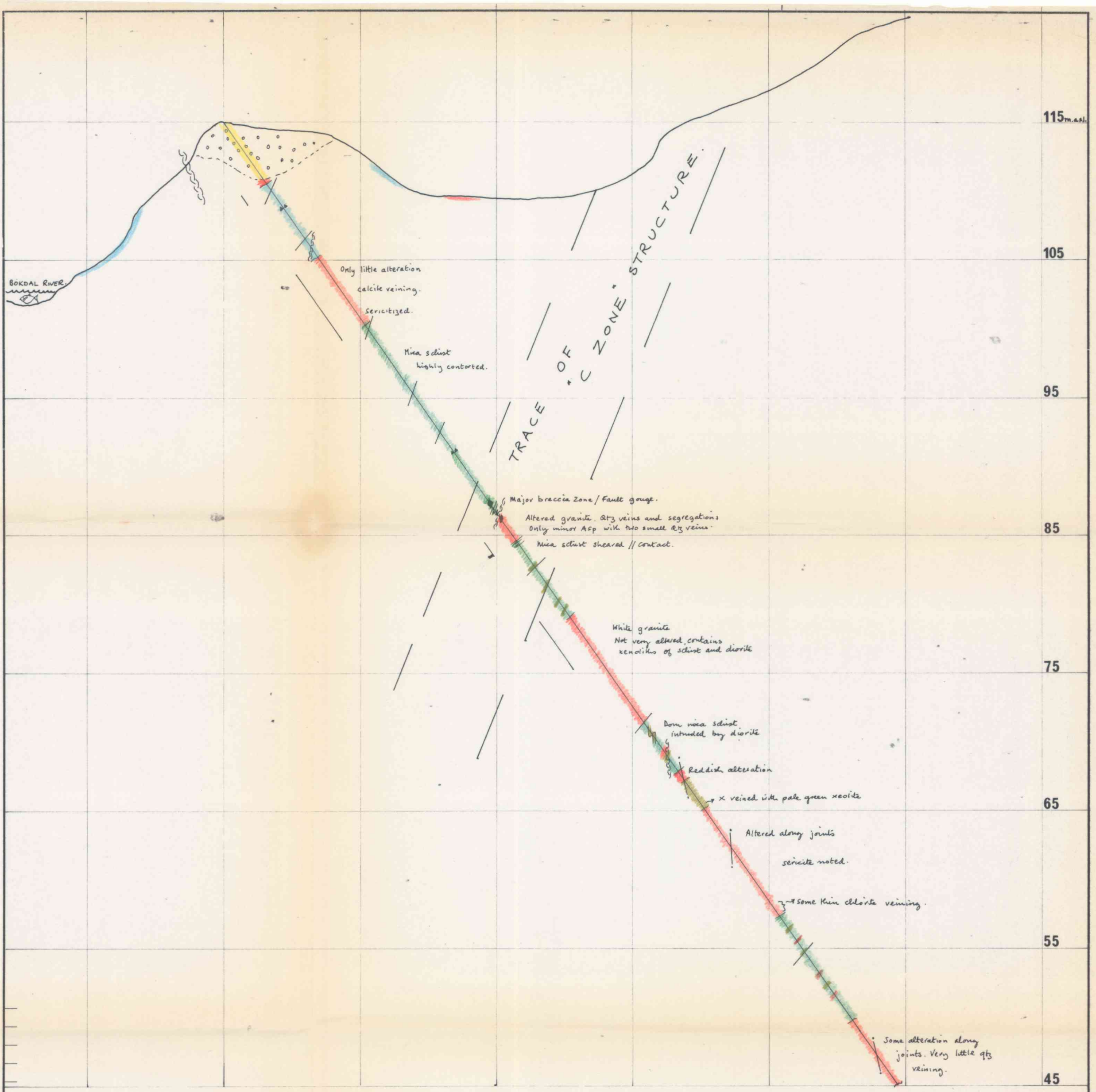
SULFIDMALM

1:200

OBS.	RS.FN 80.
DRAW.	FN. 1.81.
TRACE	FN. 1.81.
CHK.	FN.RS. 1.81.

MAP NO.
28.80.1.
ENCL. VIII
MAP SHEET. 1825 II MAJAKLUMPEN

A.s Terrkopi. 2000. A 2. E 9.gl. 10-71. Sentrum Trykkeri.



OVERBURDEN

MARBLE

AMPHIBOLITE MICA SCHIST DIORITIC GNEISS

DIORITE

GRANITE

▲▲ breccia

fault gouge

planar structure contact

fracture, joint.

shear

strong shearing

% SULFIDMALM

MAP SHEET

MAP NO.

SCALE

OBS. DRAW. TRAC. CHK.

KOLSVIK BINDAL

DDH 2.80 227° 55° 85.3m

SCALE		
1:200	OBS.	RS. FN. 80
	DRAW	FN 81
	TRAC	FN 81
	CHK	FN RS. 81.

A/S SULFIDMALM

MAP NO

28 80 D2

MAP SHEET 1825 II MAJÅKLUMPEN

Smp. 9. 6.1 mg/m

Smp. 8. 2.6 mg/m

Bogelva

Smp. 12. 58.3 mg/m

Smp. 6. 0.6 mg/m Smp. 7. 35 mg/m

Smp. 1. 153 mg/m Smp. 11. 200 mg/m

Smp. 5. 3.5 mg/m

Smp. 2. 32 mg/m Smp. 3. 13 mg/m

Smp. 4. 7 mg/m

Bogelva

Smp. 10. 50.4 mg/m

ALLUVIAL GOLD POTENTIAL
KOLSVIK M 1:10.000

PRIMARY GLACIOFLUVIAL MATERIAL

REWORKED GLACIOFLUVIAL MATERIAL

GOLD SHOWINGS

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 274° DIP: 80 HOLE NO: 1.80. SHEET NO: 1.
LOGGED BY: RS FN STARTED: 3.6.80 PROPERTY Kolsvik C-zone
CASING: 3.50 FINISHED: 12.6.80 Bindal
CORE SIZE: TESTS (CORRECTED):

From	To		Description
0	3.0		Overburden
3.0	8.30		Sequence of dominantly mica schist with calc-silicate bands. A zone of marble between 6.40-7.00. The sequence is broken and fractured with quartz and carbonate veins and veinlets running in all directions. 7.00 - 7.10 Granitic vein with some Asp on thin fractures. 7.45 - 7.70 Coarse gr. diorite 8.20 - 8.30 Skarn developed against underlying marble. Garnets diopside and a few specks of pyrite.
8.30	11.45		Dominantly banded marble - well foliated. No dominant fractures or vein fillings. Over last 20 cms some intermixing of other sediments.
11.45	13.55		Mica schist/amphibolite rock with some calc-silicate bands. Cut by thin 0.5-1 cm granitic and carbonate veins. 11.45 - 11.75 Carbonate breccia.
13.55	26.60		Granite Altered with both greenish colouring (sericite) and a pink alteration associated with thin carbonate lined joints. 20.50 1 cm qtz vein with py specks. 25.10 - 26.30 Fault zone - granite broken brecciated and riddled with carbonate veins. 30 cms clay faults gouge zone. Some Asp seen on joint surfaces.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-Zone BEARING: 274° DIP: 80 HOLE NO: 1.80 SHEET NO: 2
LOGGED BY: RS FN STARTED: 2.6.80 PROPERTY Kolsvik C-zone
CASING: 3.50 FINISHED: Bindal
CORE SIZE: 42 cms TESTS (CORRECTED):

From	To		Description
26.60	28.90		Highly contorted dioritic gneiss with carbonate veining. 28.0 - 28.90 Qtz and granitic veining with pyrite in the gneiss as isolated specks and also as fracture fillings. Only 1-2%.
28.90	29.30		Reddish altered granite with carbonate and xeolite lined fractures.
29.30	32.45		Mica schist with an even foliation cut by thin carbonate filled joints. 30.75 - 31.25 Brecciated and altered granite cut by small shear zones that postdate breccia. From 31.80 - 32.40 the schist becomes highly altered and brecciated. X cut by carbonate veins. Graphite noted on joint (foliation) planes at 31.80.
32.45	33.25		Fractured and altered granite.
33.25	34.35		Mica schist cut by granite and carbonate veins. 34.00 - 34.35 Marble.
34.35	35.50		Granite. Still cut by carbonate veining but not as prominant as previous section. Granite is dominantly grey white in colour with no obvious alteration colours.
35.50	40.00		Marble. Somewhat fractured in places.
40.00	41.90		Mica schist cut by several granitic veins. Some py on fractures especially around 41 m.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone
BEARING: 274° DIP: 80 HOLE NO: 1.80 SHEET NO: 3
LOGGED BY: RS FN
STARTED: 2.6.80 PROPERTY Kolsvik C-zone
CASING: 3.50
FINISHED: Bindal
CORE SIZE: 42 mm
TESTS (CORRECTED):

From	To		Description
			40.10 Graphite on joint planes
			41.30 - 41.50 Altered sericite rich granite sheared from 41.00 - 41.50
41.90	48.85		Granite. Dominantly med. grained white in colour. Sericite development in places. Cut by several vein types.
			Quartz veins - whitish blue 0.5 - 2 cm.
			These are cut by thin carbonate and chlorite lined joints which run in a x cross pattern.
			Most quartz veining between 44 and 47 m
			43.60 - 44.00 Mica schist
			45.50 - 46.00 Spread grains of Asp.
			Quartz veining has a fairly constant angle to drill core - whereas the carbonate and chlorite lined joints give the rock a somewhat brecciated appearance. especially over the last 2 m.
48.85	55.80		Extremely sheared and broken mica schist/amphibolite and marble (dominant)
			50.00 51.00 5% pyrite
55.90	69.30		Granite. Dominantly white in colour as above has some pink alteration associated to joints. Some sericite alteration also noted.
			Cut by several small qtz veins and segregations especially over first 10 m.
			57.55 Thin fracture zone lined with Asp.
			60.10 - 60.25 Asp as thin vein and 1-2 m aggregates associated with qtz veining.
			60.35 - 61.00 Amphibolite
			61.25 Thin 1 cm Asp vein.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 274° DIP: 80 HOLE NO: 1.80 SHEET NO: 4

LOGGED BY: RS FN STARTED: 2.6.80. PROPERTY Kolsvik C-zone

CASING: 3.50 FINISHED: Bindal

CORE SIZE: 42 mm TESTS (CORRECTED):

From	To		Description
69.30	72.15		Mica schist - sheared contact with granite. Contains some calc-silicate bands. Some quartz veining parallel to shearing in upper contact over 1-2 cm. Otherwise fairly uniform - cut by small carbonate veins.
72.15	76.80		White even med.gr. granite. Fairly unaltered. Upper contact slightly sheared with 2 cm quartz vein.
76.80	80.90		Diorite, med. grained with some limited quartz veining.
80.90	82.90		Granite, dominantly light coloured with inclusions of a darker more granodiorite rock. Some slight alteration noted but granite is generally massive not showing many fractures.
82.90	86.60		Dominantly mica schist/amphibolitic rocks cut irregularly by even gr. diorite. Also cut by a 15 cm vein of granite which contains assimilated fragments of diorite.
86.80	103.60		Granite. Dominantly massive with no major shear or fracture zones. Some thin carbonate lined fractures. Somewhat altered between 88 and 90 m. Contains assimilated diorite. 91.00 - 91.50 Mica schist 92.40 - 92.85 Carbonate breccia 97.50 - 99.00 Med. gr. diorite gneiss.
103.60	104.00		Amphibolite

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone
BEARING: 274° DIP: 80 HOLE NO: 1.80. SHEET NO: 5
LOGGED BY: Rs FN
STARTED: 2.6.80. PROPERTY Kolsvik C-zone
CASING: 3.50
FINISHED: Bindal
CORE SIZE: 42
TESTS (CORRECTED):

From	To		Description
104.00	104.40		Granite med. gr. veined with a green xeolite mineral?
104.40	104.80		Sheared amphibolite with carbonate veins.
104.80	110.50		Granite. 104.80 -105.10 Med. gr. unaltered. 105.10 - 106.90 Quartz segregations and veins, no Asp. Granite also contains qtz segregations between 108.20 and 110.50.
110.50	111.85		Mica schist, quite fractured especially near contacts where it contains granite inclusions.
111.85	112.50		Qtz rich granite
112.50	113.00		Carbonate breccia and consolidated fault gauge and thin mylonitic quartz veins.
113.00	115.60		Granite. Down to 114.20 extremely qtz rich - mylonitic and recrystallized from 113.00 - 113.40.
	115.60		End of hole.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone
BEARING: 274° DIP: 80° HOLE NO: 1.80 SHEET NO: 6
LOGGED BY: RS FN
STARTED: 2.6.80 PROPERTY Kolsvik C-zone
CASING: 3.50
FINISHED: Bindal
CORE SIZE: 42 mm
TESTS (CORRECTED):

From	To		Description

Core angles *NB 0=parallel core

meterage	Angle*	Type
6.60	55	foliation
7.25	70	"
9.40	55	"
13.40	50	shear
20.0	15	joint
26.60	60	contact
30.0	55	foliation
29.50	15	joint
31.0	55	fracture
33.50	20	fracture
41.60	45	shear
41.90	0	contact
48.70	35	shear
48.85	55	contact
52.25	50	shearing
49.80	70	"
56.40	45	Qtz vein
60.10	10	Asp lined joint
57.55	20	- " -
69.30	45	Sheared contact
72.15	50	- " - - " -
82.90	45	contact
98.50	35	shear
104.50	30	shear
109.00	50	fracture
110.50	25	fractured contact
111.60	60	shearing

Hole was drilled to intersect gold bearing C-zone structure at depth. On surface this zone consists of gold/Asp bearing quartz veins associated with sheared and fractured sediments and granite.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 274° DIP: 80 HOLE NO: 1.80 SHEET NO: 7

LOGGED BY: RS FN STARTED: 2.6.80 PROPERTY Kolsvik C-zone

CASING: 3.50 FINISHED: Bindal

CORE SIZE: 42 mm TESTS (CORRECTED):

From	To		Description
			The hole intersected this zone between ca. 46 m - 62 m. at a vertical depth of some 50 m giving a true width of some 10 m. Only limited Asp mineralization was noted and only two significant assays were returned from the zone, these being
			45.75 - 46.00 5.7 g/t Au
			61.25 - 61.50 18 g/t Au

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 227° DIP: 55 HOLE NO: 2.80 SHEET NO: 1

LOGGED BY: RS FN STARTED: 13.6.80 PROPERTY Kolsvik C-zone

CASING: 5.50 FINISHED: 17.8-80 Bindal

CORE SIZE: 42 mm TESTS (CORRECTED):

From	To		Description
0	5.25		Overburden
5.25	5.50		Granite, white in colour, coarse gr. unaltered.
5.50	12.0		Dominantly marble with thin zones of more mica|amphibole rich supracrustals. Cut in places by a few thin carbonat veins. Near upper contact with granite a few thin 1-2 cm qtz veins and segregations. Marble is banded and well foliated. 7.60 - 7.75 Breccia zone with granite fragments, cut by later thin carbonate vein.
12.00	18.00		Granite. Dominantly med. gr. some limited alteration along joints. Very few qtz veins or segregations. No dominant structures.
18.00	33.70		Dominantly mica schist with amphibolitic bands. Cut by and contain "fragments" of diorite. Also cut by a few granitic veins. 29.15 - 29.35 Brecciated zone.
33.70	35.45		Breccia/Fault gauge zone. Mylonitic in places. Several generations of movement.
35.45	37.30		Qtz rich (veins & segregrations) altered granite. Qtz veins in order 0.5 - 2 cm randomly orientated. Only a very weak Asp min. found associated with two small quartz veins around 37.10 - 15.0
37.30	53.30		Granite, dominantly white in colour and not very altered. Contains some small xenoliths of schist and diorite especially between 48-49 m. Only a few fractures.

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 227° DIP: 55 HOLE NO: 2.80 SHEET NO: 2

LOGGED BY: RS FN STARTED: 13.6.80 PROPERTY Kolsvik C-zone Bindal

CASING: 5.50 FINISHED:

CORE SIZE: 42 mm TESTS (CORRECTED):

From	To		Description
53.30	57.70		Dominantly mica schist/amphibolite with some diorite veins.
			54.90 - 55.40 Granite white & unaltered
			56.40 - 56.50 Granite vein with some sheared contacts.
			Small 2-5 cm veinlets of granite especially over last 2 m.
57.70	58.50		Granite
			58.00 - 58.50 Reddish alteration along joints.
58.50	60.80		Med. gr. diorite with small intrusions of granite.
			60.00 - 60.40 heavily X cross veined with thin veinlets of green xeolite? mineral.
60.80	70.25		Granite. Altered along joints-reddish. Also a little sericite noted.
			Carbonate on some joint planes.
			Some thin chlorite veining from 69.50 - 69.70
			Lower contact is somewhat fractured.
70.25	79.60		Dom. mica schist with granite veins up to 50 cm.
			Some diorite fragments noted.
79.60	85.30		Granite. Dom. med. even grained. Some alteration along joints. Very little quartz.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: C-zone BEARING: 227° DIP: 55 HOLE NO: 2.80 SHEET NO 3

LOGGED BY: RS FN STARTED: 13.6.80 PROPERTY Kolsvik, C-zone

CASING: 5.50 FINISHED: 17.8.80 BIndal

CORE SIZE: 42 mm TESTS (CORRECTED):

From	To		Description
			Core angles O=parallel core
			Meterage Angle Type
			10.50 75 foliation
			6.20 60 foliation
			11.15 40 shear
			18.50 55 foliation
			24.10 55 foliation
			27.40 60 foliation
			35.10 50 breccia band
			35.30 45 shear plane
			37.50 90 foliation-shearing
			39.70 75 foliation
			40.80 80 foliation
			53.30 75 contact
			56.40 25 sheared qtz vein
			58.10 20 joint
			65.00 30 joint
			73.50 75 foliation
			80.00 20 joint
			Hole was drilled to intersect gold bearing C-zone structure at depth. On surface this zone consists of gold / Asp bearing quartz veins associated with sheare and fractured sediments and granite. The hole intersected this zone between ca. 32 - 40 m giving a true width of some 6-7 m at a vertical depth of some 30 m. Only very limited Asp mineralization was noted and only one assay over 0.25 cms from the zone returned over 1 g/t Au (1.9g/t).

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: Kolsvik, F zone BEARING: ____ DIP: 90 HOLE NO: 3 80 SHEET NO: 1.

LOGGED BY: JH FN KK STARTED: 22.8. PROPERTY Kolsvik

CASING: 3.50 FINISHED: 7.9. Bindal

CORE SIZE: ____ TESTS (CORRECTED): ____

From	To		Description
0	3,20		Overburden
3.20	20.0		Diorite, even grained, dominantly coarse grained. Cut by a number of small 2-3 cm qtz veins and granite veins. Foliation is noticable but can be seen to be folded. Dominant jointing is vertical-subvertical and several joints are seen to be lined by Asp and pyrite.
			4.45 - 4.60 Granite vein-subvertical joints lined with muscovite & carbonate.
			5.00 - 5.50 Qtz rich granite with subvertical fractures.
			9.00 - 10.00 Weak pyrite impregnation.
			9.95 -0.5 cm Asp veinlet.
			10.60 - 11.15 Asp on subvertical veinlets and joint fillings. Also some secondary quartz introduced.
			18.80 - 19.20 Asp lined joints.
20.00	23.10		Pegmatite extremely quartz rich granite-sericite bearing (on joints). Some little Asp noted on joints.
23.10	27.70		Diorite extremely shattered and sheared breaking down along numerous joints. A little py and Asp noted.
27.70	28.50		Quartz vein, cut by chlorite lined joints that x cross and start brecciating the rock - extremely thin joints however, some py noted.
28.50	31.20		Diorite-dioritic gneiss still tectonized and fractured down to 30.20. From 30 m get a development of feldspar augens and rock becomes a biotite augen gneiss. The augens are irregular and no foliation can be measured. Small Asp disseminations and grains often lie around the augens. Asp is also present as thin stringers.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: Kolsvik F zone BEARING: ____ DIP: 90 HOLE NO: 3 80 SHEET NO: 2

LOGGED BY: JH FN KK STARTED: ____ PROPERTY Kolsvik

CASING: 3.50 FINISHED: ____ Bindal

CORE SIZE: ____ TESTS (CORRECTED): ____

From	To		Description
31.20	31.60		Biotite schist well foliated.
31.60	38.10		Dominantly augen-dioritic gneiss
			31.60 - 33.50 No augen development and rock is mica rich.
			33.60 - 33.80 Granitic vein.
38.10	40.15		Quartz vein with coarse granular aggregates of Asp - up to 3 cm across, especially well developed between 38.0 - 39.50. A few thin joints are lined with chlorit Qtz vein is creamy white in colour and does not appear to have undergone much deformation.
40.15	45.25		Dioritic gneiss - extremely muscovite rich (with some sericite). Cut in part by pure cream white quartz veins that have no sulphides and few fractures.
			41.65 - 42.50 Qtz vein
			43.50 - 43.90 Qtz veining
			45.00 - 45.25 Qtz rich
45.25	45.50		White granitic vein extremely quartz rich.
45.50	50.15		Dominantly fine-medium gr. biotite gneiss. Seems to be cut through by both diorite and between 45.50 - 50.00 a network of quartz veins. Xenolith relationships are complex.
			49.40 - 49.90 Sheared zone.
50.15	50.80		Granite-greenish grey in colour but by a couple of 1 cm qtz veins.
50.80	54.30		Mixture of biotite schist and dioritic gneiss.
			52.40 - 54.30 Extremely sheared and fractured, riddled with qtz veins from 53.25 - 53.70.
54.30	84.25		White quartz rich granite
			54.45 - 57.40 Coarser grained granite with many small fractures containing Asp.
			57.40 - 61.45 Brecciated granite with Asp matrix and mm size stringers. Granite is altered. Brecciation increases with depth.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: Kolsvik F zone BEARING: ..... DIP: 90 HOLE NO: 3 80 SHEET NO: 3

LOGGED BY: JH FN KK STARTED: 22.8. PROPERTY Kolsvik

CASING: 3.50 FINISHED: 7.9. Bindal

CORE SIZE: ..... TESTS (CORRECTED): .....

From	To		Description
			61.45 - 61.9 Sheared amphibolitic rock. Granite is highly brecciated and mineralized proximal to shear.
			61.90 - 70.65 Fractured granite with a little Asp as stringers.
			70.65 - 74.5 White fine-med. gr. feldspar rich granite.
			74.5 - 75.15
			76.0 - 76.1 Asp mineralization on fractures
			76.65 - 77.65
			78.85 - 78.95 Small shear
			78.95 - 79.95 Brecciated granite with py at shear zone contact and Asp as fill and stringers.
			79.95 - 82.9 Unfractured granite
			82.9 - 83.0 Small shear zone
			83.75 - 83.8 Small shear zone.
84.25	87.30		Dioritic gneiss (biotite augen gneiss) quite a lot of Asp 0.5 - 1 % as stringers, joint linings and isolated disseminations.
87.30	87.65		Granitic vein with xenoliths of dioritic gneiss and thin chlorite lined fractures.
87.65	91.20		Dominantly dioritic gneiss cut by later quartz and granitic veins. Down to 90 m sheared and brecciated. Between 88-89 m rich in quartz - with arsenopyrite veins and chlorite veins.
			90.0 - 90.40 Thin 5 m vertical zone of Asp mineralization running though diorite into granite (90.40-90.70). Granite is cut by qtz veins 0.5 cm - 1 cm in which one grain of free gold was seen.
			91.10 - 91.35 Granite x cross cut by chlorite veins.

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: Kolsvik, F-zone BEARING: ____ DIP: 90 HOLE NO: 3 80 SHEET NO: 4

LOGGED BY: JH FN KK STARTED: 22.8. PROPERTY Kolsvik

CASING: 3.50 FINISHED: 7.9. Bindal

CORE SIZE: ____ TESTS (CORRECTED): ____

From	To		Description
			Core angles
			0 = parallel core
			Meterage — Angle — Type
			4.20 — 56 — foliation
			16.50 — 49 — foliation
			27.50 — 15 — shear
			44.25 — 35 — foliation
			49.50 — 35 — shear
			52.25 — 37 — foliation
			52.70 — 37 — shearing
			88.90 — 12 — shear
			92.30 — 43 — sheared foliation

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: F-zone | BEARING: 226 | DIP: 50 | HOLE NO: 4 80 | SHEET NO: 1

LOGGED BY: JH FN KK | STARTED: 8.9. | PROPERTY Kolsvik

CASING: 15.00 | FINISHED: 15.9. | BIndal

CORE SIZE: 36 mm | TESTS (CORRECTED):

From	To	Description
0	13.75	Overburden
13.75	13.85	Dioritic gneiss
13.85	19.45	Granite with dominant pink colour in upper portions. Cut by quartz veins which have often Asp concentrations in contacts. Asp is also present in thin veinlets without quartz - in certain cases approaching breccia structure. Most Asp concentrations between 17.25 and 17.85 where coarse aggregates in association with quartz approach 2 cm in size.
19.45	32.15	Dominantly dioritic gneiss with typical augen structur 20.0 - 21.0 Qtz rich 24.0 - 25.0 Thin granitic vein parallel to core 26.0 - 26.40 Quartz rich granitic vein. 26.40 - 27.75 Dark med.gr. amphibolitic rock. 27.70 - 28.0 Fractured. 28.25 - 28.35 Quartz rich granite with thin vein of Asp 29.10 - 29.40 Quartz rich granite with typical Asp breccia mineralization.
32.15	61.40	Granite 32.15 - 36.95 Dominantly white and massive. 36.95 - 37.15 Fine gr. biotite/amphibole rock. 40.5 - 40.55 Unmineralized shear zone. 55.1 - 55.7 Subvertical fracture with a little Asp and muscovite. Granite is dominantly white in colour with few xenoliths and only limited fracturing and veining.
61.40	62.5	Biotite augen gneiss (dioritic).
62.50	62.90	White granitic vein
62.90	63.20	Biotite augen gneiss
63.20	63.75	White granitic vein
63.75	65.35	Biotite augen gneiss
65.35	65.55	Fine gr. biotite-amphibole rock
65.55	67.90	Biotite augen gneiss
67.90	68.55	Brecciated granite and gneiss in a chlorite rich matrix with thin quartz veins.

E. H. A.s 5000 5 73

A/s SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: F-zone BEARING: 226 DIP: 50 HOLE NO: 4 80 SHEET NO: 2

LOGGED BY: JH FN KK STARTED: 8.9.80 PROPERTY Kolsvik

CASING: 15.0 FINISHED: 15.9.80 Bindal

CORE SIZE: 36 mm TESTS (CORRECTED):

From	To		Description
68.55	70.9		Granite which in lower portions is quite gneissic.
70.90	85.65		Dominantly dioritic gneiss
			70.95 - 71.35 white granitic vein
			75.00 - 76.25 med.gr. biotite amphibole feldspar gneiss
			78.15 - 78.95 white granite with pyrite
			79.95 - 80.15 brecciated with secondary xeolithe minerals.
			80.15 - 83.1 grey granite
85.65	91.3		White granite
91.3	91.45		Qtz vein with brecciated contact.
91.45	91.70		White granite with quartz veining
91.70	92.70		Biotite-feldspar, chlorite granitic gneiss.
92.70	93.05		White granite

Core Angles

0 = parallel core

Meterage	Angle	Type
13.80	33	foliation
19.25	46	foliation
23.40	49	foliation
28.50	50	shearing
30.30	65	foliation
56.80	47	foliation
61.35	36	contact/foliation
63.75	43	sheared contact
66.40	42	foliation
68.60	47	shearing
69.50	46	foliation

A/S SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: F zone BEARING: 226 DIP: 50 HOLE NO: 4 80 SHEET NO: 3

LOGGED BY: JH FN KK STARTED: 8.9.80 PROPERTY Kolsvik

CASING: 15.0 FINISHED: 15.9.80 Bindal

CORE SIZE: 36 mm TESTS (CORRECTED):

From	To		Description
			Core Angles
			Meterage — Angle — Type
			71.35 — 56 — contact
			78.95 — 37 — contact
			88.90 — 18 — foliation
			88.35 — sub-horizontal to core contact
			91.70 — 15 — contact
			92.70 — 15 — contact

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 1 - 1980

From	To	Assay
13.5	13.75	< 0.4
13.75	14.00	< 0.3
14.00	14.25	< 0.3
14.25	14.50	< 0.5
14.50	14.75	< 0.5
14.75	15.00	< 0.4
15.00	15.25	< 0.4
15.25	15.50	< 0.4
15.50	15.75	< 0.3
15.75	16.00	< 0.4
28.00	28.35	< 0.5
28.25	28.50	< 0.4
28.50	28.75	< 0.3
28.75	29.00	< 0.5
42.00	42.25	< 0.4
42.25	42.50	< 0.4
42.50	42.75	< 0.4
42.75	43.00	< 0.4
43.00	43.25	< 0.4
43.25	43.50	< 0.4
43.50	43.75	< 0.3
43.75	44.00	1.4
44.00	44.25	< 0.5
44.25	44.50	< 0.4
44.50	44.75	< 0.4
44.75	45.00	< 0.4
45.00	45.50	< 0.4
45.50	45.75	< 0.4
45.75	46.00	6.7
46.00	46.25	< 0.4
46.25	46.50	< 0.5
46.50	46.75	< 0.3
46.75	47.00	< 0.4
47.00	47.25	< 0.5
47.25	47.50	< 0.4
47.50	47.75	< 0.4
47.75	48.00	< 0.4
49.00	49.25	< 0.4
49.25	49.50	< 0.4
49.50	49.75	< 0.5
50.00	50.25	< 0.4
50.25	50.50	< 0.3
50.50	50.75	< 0.4
50.75	51.00	< 0.5
51.00	51.25	< 0.3
51.25	51.50	< 0.4
51.50	51.75	< 0.3
51.75	52.00	< 0.3
55.50	55.75	< 0.5
55.75	56.00	< 0.3
56.00	56.25	< 0.3
56.25	56.50	< 0.5
56.50	56.75	< 0.5
56.75	57.00	< 0.4
57.00	57.25	< 0.4
57.25	57.50	< 0.4
57.50	57.75	< 0.4
57.75	58.00	< 0.3
58.00	58.25	< 0.3
58.25	58.50	< 0.3
58.50	58.75	< 0.4
58.75	59.00	< 0.3
59.00	59.25	< 0.5
59.25	59.50	< 0.3
59.50	59.75	< 0.3
59.75	60.00	< 0.3
60.00	60.25	0.8
60.25	60.50	< 0.4
60.50	60.75	< 0.4
60.75	61.00	< 0.4
61.00	61.25	0.5
61.25	61.50	18.0
61.50	61.75	< 0.5

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 1 - 1980

From	To	Assay	From	To	Assay
61.75	62.00	< 0.3			
62.00	62.25	< 0.4			
62.25	62.50	< 0.4			
62.50	62.75	< 0.4			
62.75	63.00	< 0.3			
63.00	63.25	< 0.4			
63.25	63.50	< 0.3			
63.50	63.75	< 0.3			
63.75	64.00	< 0.3			
64.00	64.25	< 0.4			
64.25	64.50	< 0.4			
64.50	64.75	< 0.4			
64.75	65.00	< 0.5			
65.00	65.25	< 0.4			
65.25	65.50	< 0.5			
65.50	65.75	< 0.4			
65.75	66.00	< 0.5			
66.00	66.25	< 0.4			
66.25	66.50	< 0.3			
66.50	66.75	< 0.4			
66.75	67.00	< 0.4			
67.00	67.25	< 0.5			
67.25	67.50	< 0.4			
67.50	67.75	< 0.3			
67.75	68.00	< 0.3			
68.00	68.25	< 0.5			
68.25	68.50	< 0.4			
68.50	68.75	< 0.3			
68.75	69.00	< 0.3			
69.00	69.20	< 0.5			
94.00	94.25	< 0.3			
94.25	94.50	< 0.4			
94.50	94.75	< 0.4			
94.75	95.00	< 0.5			
112.00	112.25	< 0.4			
112.25	112.50	< 0.5			

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 2 - 1980

From	To	Assay	From	To	Assay
5.20	5.50	< 0.3	44.75	45.00	< 0.4
5.50	5.75	< 0.4	45.00	45.25	< 0.3
5.75	6.00	< 0.4	45.25	45.50	< 0.4
12.00	12.25	< 0.4	45.50	45.75	< 0.4
12.25	12.50	< 0.3	45.75	46.00	< 0.3
12.50	12.75	< 0.4	46.00	46.25	< 0.4
12.75	13.00	< 0.3	46.25	46.50	< 0.4
13.00	13.25	< 0.3	46.50	46.75	< 0.3
13.25	13.50	< 0.4	46.75	47.00	< 0.4
13.50	13.75	< 0.3	47.00	47.25	< 0.4
13.75	14.00	< 0.5	47.25	47.50	< 0.4
14.00	14.25	< 0.3	47.50	47.75	< 0.3
14.25	14.50	< 0.4	47.75	48.00	< 0.4
14.50	14.75	< 0.5			
14.75	15.00	< 0.4			
15.00	15.25	< 0.4			
15.25	15.50	< 0.3			
15.50	15.75	< 0.4			
15.75	16.00	< 0.4			
16.00	16.25	< 0.4			
16.25	16.50	< 0.5			
16.50	16.75	< 0.4			
16.75	17.00	< 0.3			
17.00	17.25	< 0.4			
17.25	17.50	< 0.4			
17.50	17.75	< 0.4			
17.75	18.00	< 0.4			
35.75	36.00	< 0.3			
36.00	36.25	< 0.3			
36.25	36.50	< 0.3			
36.50	36.75	< 0.5			
36.75	37.00	< 0.3			
37.00	37.30	1.9			
44.00	44.25	< 0.4			
44.25	44.50	< 0.3			
44.50	44.75	< 0.4			

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 3 - 1980

From	To	Assay Au
8.00	8.25	< 0.3
8.25	8.50	< 0.4
8.50	8.75	< 0.4
8.75	9.00	< 0.5
9.00	9.25	< 0.4
9.25	9.50	< 0.5
9.50	9.75	< 0.5
9.75	10.0	< 0.7
10.00	10.25	< 0.7
10.25	10.50	< 0.4
10.50	10.75	< 0.3
10.75	11.00	< 0.3
11.00	11.25	< 0.4
11.25	11.50	< 0.5
11.50	11.75	< 0.5
11.75	12.00	< 0.4
18.00	18.25	< 0.6
18.25	18.50	< 0.4
18.50	18.75	< 0.3
18.75	19.00	< 0.4
20.00	20.25	< 0.4
20.25	20.50	< 0.5
20.50	20.75	< 0.5
20.75	21.00	< 0.6
21.00	21.25	< 0.4
21.25	21.50	< 0.4
21.50	21.75	< 0.5
21.75	22.00	< 0.4
22.00	22.25	< 0.4
22.25	22.50	< 0.4
22.50	22.75	2.7
22.75	23.00	2.2
23.00	23.25	< 0.4
23.25	23.50	< 0.5
23.50	23.75	0.7
23.75	24.00	< 0.5
24.00	24.25	< 0.4
24.25	24.50	< 0.5
24.50	24.75	< 0.5
24.75	25.00	< 0.5
25.00	25.25	< 0.5
25.25	25.50	< 0.5
25.50	25.75	< 0.4
25.75	26.00	< 0.4
26.00	26.25	< 0.4
26.25	26.50	< 0.8
26.50	26.75	< 0.4
26.75	27.00	< 0.3
27.00	27.25	< 0.3
27.25	27.50	< 0.3
27.50	27.75	0.2
27.75	28.00	< 0.4
28.00	28.25	< 0.3
28.25	28.50	< 0.4
28.50	28.75	0.5
28.75	29.00	< 0.5
29.00	29.25	< 0.3
29.25	29.50	< 0.4
29.50	29.75	< 0.5
29.75	30.00	0.5
34.00	34.25	< 0.4
34.25	34.50	< 0.4
34.50	34.75	< 0.4
34.75	35.00	< 0.4
35.00	35.25	< 0.3
35.25	35.50	< 0.3
35.50	35.75	< 0.4
35.75	36.00	< 0.5
36.00	36.25	< 0.4
36.25	36.50	< 0.4

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 3 - 1980

From	To	Assay Au
36.50	36.75	< 0.4
36.75	37.00	< 0.4
37.00	37.25	< 0.3
37.25	37.50	< 0.5
37.50	37.75	< 0.3
37.75	38.00	< 0.4
38.00	38.25	0.3
38.25	38,50	1.6
38.50	38.75	1.2
38.75	39.00	0.6
39.00	39.25	< 0.4
39.25	39.50	0.6
39.50	39.75	< 0.4
39.75	40.00	< 0.4
40.00	40.25	< 0.4
40.25	40.50	< 0.5
40.50	40.75	< 0.4
40.75	41.00	< 0.4
53.00	53.25	< 0.4
53.25	53.50	< 0.5
53.50	53.75	< 0.4
53.75	54.00	0.5
54.00	54.25	< 0.4
54.25	54.50	< 0.4
54.50	54.75	< 0.4
54.75	55.00	< 0.4
55.00	55.25	< 0.5
55.25	55.50	< 0.6
55.50	55.75	< 0.6
55.75	56.00	< 0.5
56.00	56.25	< 0.4
56.25	56.50	< 0.4
56.50	56.75	< 0.4
56.75	58.00	< 0.5
58.00	58.25	< 0.3
58.25	58.50	< 0.4
58.50	58.75	< 0.3
58.75	59.00	< 0.4
60.00	60.25	5.7
60.25	60.50	4.7
60.50	60.75	1.8
60.75	61.00	1.0
61.00	61.25	0.6
61.25	61.50	< 0.4
61.50	61.75	1.4
61.75	62.00	< 0.4
62.00	62.25	1.3
62.25	62.50	2.8
62.50	62.75	< 0.4
62.75	63.00	0.6
63.00	63.25	0.9
63.25	63.50	0.4
63.50	63.75	0.6
63.75	64.00	< 0.5
64.00	64.25	< 0.3
64.25	64.50	< 0.6
64.50	64.75	0.6
64.75	65.00	0.5
65.00	65.25	0.7
65.25	65.50	10.6
65.50	65.75	3.9
65.75	66.00	2.8
66.00	66.25	5.5
66.25	66.50	1.6
66.50	66.75	< 0.4
66.75	67.00	< 0.4
67.00	67.25	< 0.6
67.25	67.50	5.3
67.50	67.75	0.6

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 3 - 1980

From	To	Assay Au
67.75	68.00	< 0.4
68.00	68.25	1.7
68.25	68.50	1.0
68.50	68.75	3.4
68.75	69.00	0.6
69.00	69.25	0.8
69.25	69.50	< 0.4
69.50	69.75	< 0.3
69.75	70.00	< 0.5
70.00	70.25	1.0
70.25	70.50	< 0.4
70.50	70.75	< 0.3
70.75	71.00	< 0.3
71.00	71.25	< 0.4
71.25	71.50	< 0.4
71.50	71.75	< 0.3
71.75	72.00	< 0.4
72.00	72.25	< 0.3
72.25	72.50	< 0.3
72.50	72.75	< 0.4
72.75	73.00	< 0.4
73.00	73.25	< 0.3
73.25	73.50	< 0.4
73.50	73.75	< 0.4
73.75	74.00	< 0.3
74.00	74.25	< 0.5
74.25	74.50	< 0.3
74.50	74.75	< 0.3
74.75	75.00	< 0.4
75.00	75.25	< 0.4
75.25	75.50	< 0.3
75.50	75.75	< 0.4
75.75	76.00	< 0.5
76.00	76.25	< 0.5
76.25	76.50	1.0
76.50	76.75	0.6
76.75	77.00	< 0.3
77.00	77.25	< 0.5
77.25	77.50	1.7
77.50	77.75	0.8
77.75	78.00	< 0.7
78.00	78.25	< 0.6
78.25	78.50	< 0.4
78.50	78.75	< 0.4
78.75	79.00	< 0.5
79.00	79.25	< 0.5
79.25	79.50	< 0.4
79.50	79.75	15.0
79.75	80.00	15.0
80.00	80.25	< 0.4
80.25	80.50	< 0.4
80.50	80.75	< 0.4
80.75	81.00	< 0.3
81.00	81.25	< 0.3
81.25	81.50	< 0.4
81.50	81.75	< 0.4
81.75	82.00	< 0.3
82.00	82.25	< 0.3
82.25	82.50	< 0.3
82.50	82.75	< 0.4
82.75	83.00	< 0.5
83.00	83.25	< 0.4
83.25	83.50	< 0.3
83.50	83.75	< 0.3
83.75	84.00	< 0.3
84.00	84.25	< 0.4
84.25	84.50	< 0.3
84.50	84.75	< 0.3
84.75	85.00	< 0.4
85.00	85.25	< 0.5
85.25	85.50	< 0.3

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 3 - 1980

From	To	Assay	From	To	Assay
		Au			Au
85.50	85.75	< 0.3			
85.75	86.00	< 0.3			
86.00	86.25	< 0.5			
86.25	86.50	< 0.4			
86.50	86.75	< 0.4			
86.75	87.00	< 0.3			
87.00	87.25	< 0.3			
87.25	87.50	< 0.3			
87.50	87.75	3.3			
87.75	88.00	2.0			
88.00	88.25	37.0			
88.25	88.50	1.9			
88.50	88.75	3.5			
88.75	89.00	6.7			
89.00	89.25	9.6			
89.25	89.50	0.9			
89.50	89.75	< 0.5			
89.75	90.00	0.4			
90.00	90.25				
90.25	90.50				
90.50	90.75				
90.75	91.00				
91.00	91.25				
91.25	91.50				
91.50	91.75				
91.75	92.00				

SULFIDMALM

Date:

PROPERTY: Kolsvik

HOLE NO: 4 - 1980

From	To	Assay	From	To	Assay
		Au			Au
13.75	14.00	< 0.3	22.75	23.00	< 0.3
14.00	14.25	< 0.3	23.00	23.25	< 0.4
14.25	14.50	< 0.4	23.25	23.50	< 0.3
14.50	14.75	0.6	23.50	23.75	< 0.4
14.75	15.00	1.0	23.75	24.00	< 0.4
15.00	15.25	< 0.3	24.00	24.25	< 0.4
15.25	15.50	0.6	24.25	24.50	< 0.3
15.50	15.75	< 0.3	24.50	24.75	< 0.5
15.75	16.00	< 0.3	24.75	25.00	< 0.4
16.00	16.25	< 0.3	25.00	25.25	< 0.3
16.25	16.50	< 0.3	25.25	25.50	< 0.3
16.50	16.75	< 0.3	25.50	25.75	< 0.4
16.75	17.00	< 0.3	25.75	26.00	< 0.4
17.00	17.25	1.0	26.00	26.25	< 0.4
17.25	17.50	7.0	26.25	26.50	0.3
17.50	17.75	7.4	26.50	26.75	< 0.3
17.75	18.00	0.8	26.75	27.00	< 0.4
18.00	18.25	< 0.3	27.00	27.25	< 0.4
18.25	18.50	1.9	27.25	27.50	< 0.3
18.50	18.75	< 0.4	27.50	27.75	< 0.4
18.75	19.00	< 0.4	27.75	28.00	< 0.4
19.00	19.25	< 0.5	28.00	28.25	< 0.5
19.25	19.50	< 0.3	28.25	28.50	< 0.3
19.50	19.75	< 0.4	28.50	28.75	< 0.3
19.75	20.00	< 0.5	28.75	29.00	2.9
20.00	20.25	0.3	29.00	29.25	63
20.25	20.50	< 0.4	29.25	29.50	1.2
20.50	20.75	< 0.3	29.50	29.75	< 0.4
20.75	21.00	< 0.5	29.75	30.00	< 0.3
21.00	21.25	< 0.4			
21.25	21.50	< 0.3			
21.50	21.75	< 0.4			
21.75	22.00	< 0.3			
22.00	22.25	< 0.3			
22.25	22.50	< 0.3			
22.50	22.75	< 0.3			