



# Bergvesenet

Postboks 3021, N-7441 Trondheim

## Rapportarkivet

Innlegging av nye rapporter ved: Børre

Bergvesenet rapport nr	Intern Journal nr	Internt arkiv nr	Rapport lokalisering	Gradering
5210				
Kommer fra arkiv	Ekstern rapport nr	Oversendt fra	Fortrolig pga	Fortrolig fra dato
USB		Sulfidmalm a.s.		

Titel

Reppen

Forfatter	Dato	Ar	Bedrift (oppdragsgiver og/eller oppdragstaker)

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Bindal	Nordland	Nordlandske	18253	Mosjøen

Fagområde	Dokument type	Forekomster (forekomst, gruvefelt, undersøkelsesfelt)
		Reppen
Råstoffgruppe	Råstofftype	
Malm/metall	Au	

Sammendrag, innholdsfortegnelse eller innholdsbeskrivelse

Rapporten er udatert og ikke underskrevet.

Rapporten omhandler beskrivelse av blant annet diamantboringer og geologi. Til rapporten er det vedlagt analyseresultater fra Sulfidmalm og andre, geologisk kart og profiler av borhull.

## Reppen.

Området har vært gjenstand for undersøkelse i form av kartlegging og prøvetaking i flere perioder. Analyseresultatene har vært noe variable, men flere sett med store prøver (30 kg) innsamlet i 1983 indikerer gull gehalter i størrelse 5 - 7 g/t over mektigheter 4 - 5 m. Prøver innsamlet av tidligere leitere bekrefter dette bildet. På tross av store uregelmessigheter var også den største delen av analysene i området 5 - 10 g Au/t. Diamantboring utført i 1983 indikerer tilsvarende mektigheter og gehalter.

Totalt ble det boret ca. 500 m fordelt på 5 hull. Gull - arsenkis mineralisering ble påtruffet i alle hull, den dypeste skjæring var 150 m fra blotning.

Basert på data fra borhull og overflate så er det indikert et geologisk potentiale på ca. 1.0 mill. t. i Reppen området. Det undersøkte området er åpent både langs strøk og mot dypet.

Som de andre kjente gull-arsenkis mineraliseringer i Bindalsområdet så er også mineraliseringen ved Reppen nært knyttet til kontaktsonen mellom Bindalsgranitten og omliggende b.a..

Det undersøkte området på Reppen er en del av en tektonisk struktur som kan følges ca. 2 km, ca. 400 m er undersøkt i detalj. Den mineraliserte struktur faller 30 - 40° mot øst. Både terrengforholdene og mineraliseringens strøk og fall gjør at undersøkelsene på Reppen er teknisk enklere (dia-borring) å gjennomføre et forhold som er avgjørende for utgiftssiden ved de videre undersøkelser.

Diamantboringen på Reppen har også påvist en skarn sone tektono-stratigrafisk under gull mineraliseringen. Skarn sonen er bare gjennomskåret av et borhull, men den er på grunn av sitt innhold av magnetkis indikert ved geofysikk (CP-målinger) over en strøk lengde på 250 - 300 m samt i alle borhull.

Skarnsonen har i tillegg til granat, pyroksen, magnetkis også scheelitt og gull. Også denne sonen vil bli gjenstand for undersøkelser (geofysikk/diaboring) i 1984.

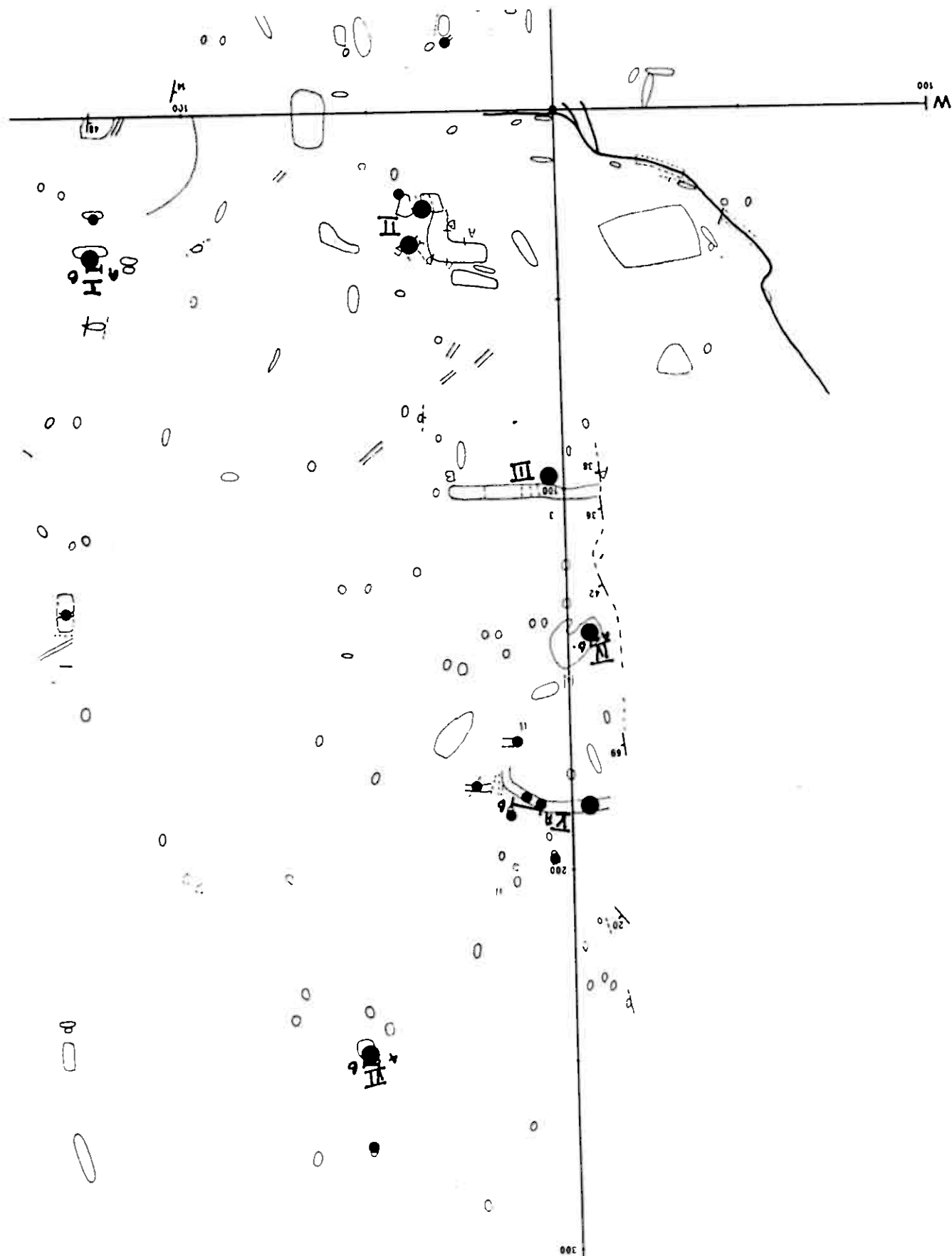




Sulfidmalms analyser fra 1981 (Au i ppm)

m	Røsk I	Røsk II	Røsk III	Røsk IV	Røsk V	Røsk VI
0-1	1.6 <u>A</u>	0.6 <u>A</u>	< 0.4 <sup>A</sup>	0.61	0.2	0.7
1-2	{ 1.7 0.7	< 0.3	< 0.3		1.1	2.0
2-3	1.6	< 0.3 <u>B</u>			2.6	
3-4	{ 0.4 <u>B</u>	< 0.4 <sup>C</sup>			4.2	
4-5		0.6			5.2	
5-6		{ < 0.4 <sup>D</sup> 3.3 <sup>E</sup>			4.3	
6-7		{ 0.5 1.2	< 0.3		6.9	
7-8		{ 2.3 < 0.3	< 0.3		1.9	
8-9		{ 0.6 0.7	< 0.5			
9-10		{ 6.1 1.0	< 0.4			
10-11		{ 4.7 0.4 <sup>F</sup>	< 0.4			
11-12			< 0.3			
13-14			0.5			
14-15			< 0.4			
15-16			< 0.4			
16-17			< 0.4			
17-18			< 0.3			
19-19			< 0.4			
19-20			< 0.4			
20-21			< 0.4			
21-22			< 0.4			
22-23			< 0.4			
23-24			0.5			
24-25			< 0.5			
25-26			B			

# TRØVEPUNKTER SOLFIDMALMS 1981-TRØVER



PRØVER FRA REPPEN, SULFIDMALM 1983

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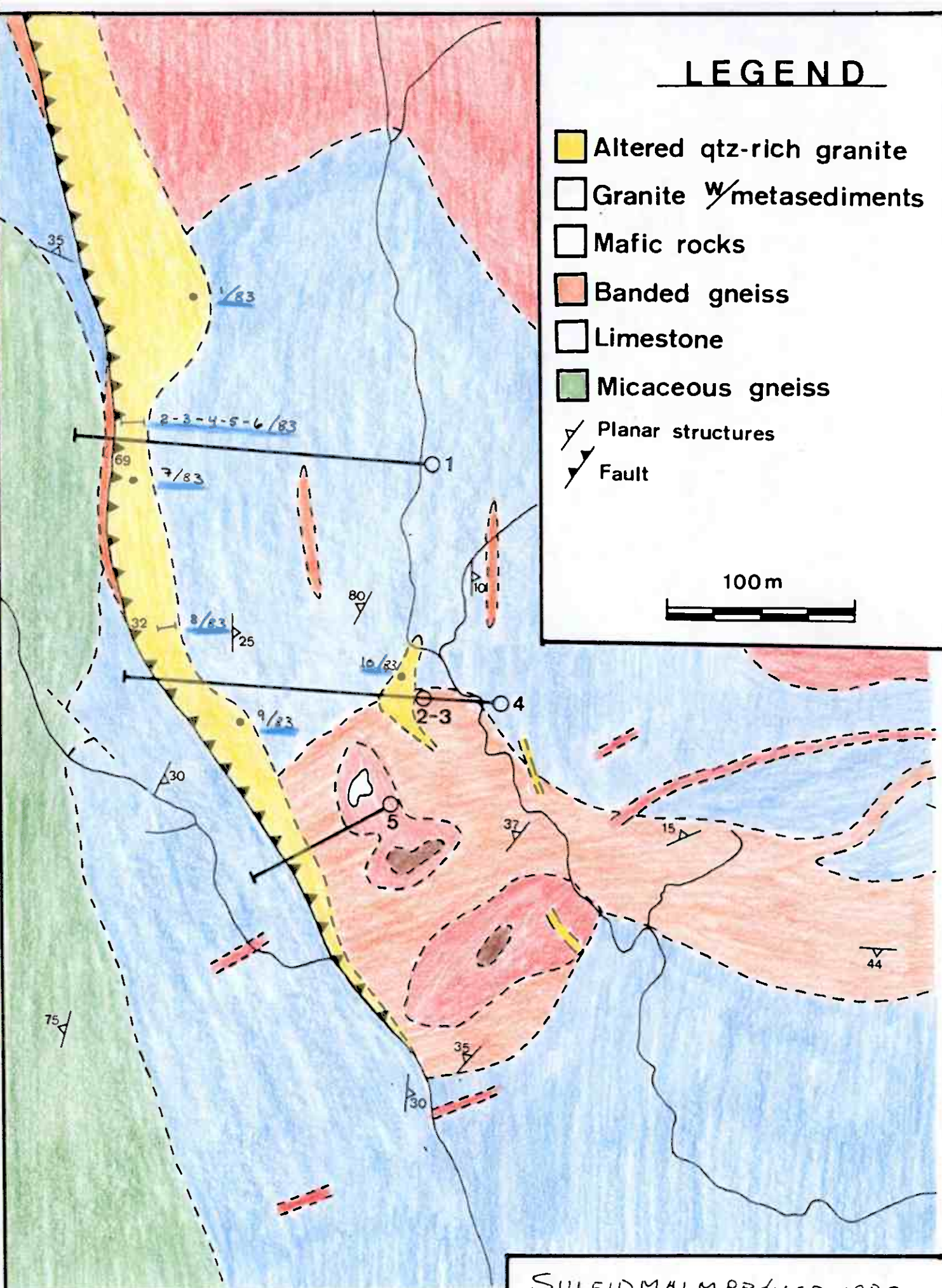
		<u>Au</u>
1/83	1 prøve over ca. 2 m	1.17 g/t
2-3-4-5-6/83	Prøvene er tatt i det 10 m lange røsket, hver prøve antatt å være representativ for 2 m. Prøvene er tatt suksessivt fra vest mot øst.	
2/83		0.58
3/83		3.67
4/83		5.35
5/83		6.17
6/83		11.59
7/83	1 pose fra den nordlige toppen av Rundhaugen	0.72
8/83	1 pose fra den sydlige toppen av Rundhaugen (ca. 3 m skjæring)	1.87
9/83	Hovedskjerpet i bakken syd for toppen av Rundhaugen. Tippshaugen regnes for å være representativ for en mektighet på ca. 4 m	5.07
10/83	Svovelkisskjerpet	2.06



# LEGEND

- Altered qtz-rich granite
- Granite w/metasediments
- Mafic rocks
- Banded gneiss
- Limestone
- Micaceous gneiss
- Planar structures
- Fault

100m



SULFIDMALMPRØVER 1983

Se også beskrivelse

## Eldre analyseresultater fra Reppen

### I) Torgesen 1923 (Fra NGU-rapport nr. 2420)

	As	Au
Hovedgang:	36 %	3 ppm
Andre prøver:	10 % (antatt)	8 ppm
	15 % ( " )	4 ppm
	15 % ( " )	2.5 ppm

### II) Marstrander 1924 (Fra NGU-rapport nr. 726)

An I: Finknust 150 g: 27 ppm Au

II: Grovknust 200 g: 26 ppm Au

### III) Eldre analyser, 1899 (Fra NGU-rapport nr. 726)

1) Prøve E:       $\text{As}_2\text{O}_3$ : 27.66 %  
                     S : 8.208 %  
                     Au : 11.72 ppm

2) Prøve nr. 33: Au: 29 ppm

3) Prøve nr. 5:    Ars: 30 %  
                     Zn: 4.5 %  
                     Pb: 0  
                     Cu: 0  
                     Ag: Spor  
                     Au: 40 ppm

4) Prøve I        Ag: 0  
                     Au: 25 ppm

5) Prøve II:      Ag: 50 ppm  
                     Au: 15 ppm



## A/s SULFIDMALM

## DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 30° HOLE NO: DDH 1 SHEET NO: 1  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
0	3.55	Overburden
3.55	6.30	Limestone
6.30	35.20	Granite. Partly well foliated. Some py in joints. Contact with limestone at 35.2 m 39°.
35.20	36.60	Limestone foliation at 35.8 m 36°
36.60	39.30	Granite
39.30	40.0	Quartz No mineralization
40.0	41.6	Gneiss Contact at 41.6° 45° Dark, rich in biotite.
41.6	42.8	Limestone
42.8	46.45	Granite Some dark band with mineralization
46.45	50.5	Limestone Contact at 50.5 m 50°
50.5	50.8	Gneiss
50.8	54.9	Limestone With dark bands, rich in py.
54.9	57.1	Granite
57.1	105.6	Limestone & quartz This zone is commonly brecciated and mineralized, containing most of the aspy and py in the hole.
		From 57.1 to 60 massive limestone
		From 60. to 64.5 partly brecciated and mylonitized with
		crushed "quartz-agen". Mainly py as grains and in joints
		From 64.5 to 66.5 brecciated limestone, with numerous quartzveins, giving py and aspy in joints and as disseminated grains.
		From 66.5 to 69.2 brecciated and mylonitized limestone, as from 60 to 64.5.
		After a 10 cm quartz band to 69.3 - a new zone with brecciated and mylonitized limestone to 78.5. The amount of quartz veins decreases to the contact with pure quartz at 78.5. This quartz is fairly homogenous and contains only minor mineralization, goes to 79.8.
		From 79.8 brecciated limestone up to 86.4, where a new zone with homogenous, poorly mineralized quartz comes in. This zone goes to 89.4. From 89.4 to 91.4 limestone with some mineralization.
		From 91.4 to 91.9 quartz. From 91.9 to 94.2 limestone. From 94.2 to 105.6 homogeneous quartz containing only minor mineralization.
		Generally, most mineralization is in the zones with brecciated or brecciated & mylonitized limestone. Py is the commonest sulfide, but aspy is locally well developed, in joints and as disseminated grains.

# DIAMOND DRILL RECORD

From	To	Description
105.6	132.3	Granite Mainly granite, but also some limestone and biotite gneiss.
132.3	132.5	Quartz No important mineralization
132.5	150.2	Granite Mainly granite, some biotite-gneiss and limestone.
150.2	151.55	Limestone
151.55	155.48	Granite
155.48	156.7	Quartz Quartz, with much pyrrhotite (po) - approximately 80% po and 20% quartz.
156.7	157.4	Gneiss
157.4	158.3	Pyrrhotite Massive band of po and green matrix (altered gneiss ?) - approximately 50% po.
158.3	158.6	Limestone
158.6	159.5	Pyrrhotite As 157.4 - 158.3 plus quartz
159.5	181.5	Gneiss Mainly biotite rich dark gneiss
181.5	190.	(End of hole) Granite
		Due to lack of experience this hole has not been properly logged and therefore should be relogged.

# A/s SULFIDMALM

## DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 30° HOLE NO: 2 SHEET NO: 1  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
0	4.32	Overburden
4.32	4.88	Quartz With extensive massive mineralization. Aproximately 5% aspy and 15% pyrite of total volume. Contact at 4.88 m 68°
4.88	5.15	Gneiss Dark biotite gneiss, well foliated.
5.15	5.38	Quartz Some aspy and pyrite
5.38	7.35	Gneiss Dark biotite gneiss.
7.35	15.10	Granite Granite, rich in dark mica, some pyrite in joints and some aspy as disseminated grains. Contact at 15.10 m 32°.
15.10	16.73	Gneiss Dark biotite gneiss
16.73	19.30	Granite Granite, rich in mica, cut by quartz veins giving som py and aspy.
19.30	23.30	Gneiss Dark biotite gneiss, getting gradually lighter against the contact with granite at 23.30.
23.30	26.90	Granite Gneissic appearance, cut by quartz veins, giving mainly py-mineralization.
26.90	28.60	Gneiss Dark biotite gneiss
28.60	30.00	Granite Some mica rich dark bands, mainly quartz and feldspar.
30.00	31.00	Gneiss Dark biotite gneiss
31.00	35.30	Granite Some py
35.30	37.20	Gneiss Dark biotite gneiss
37.20	38.80	Granite Some py
38.80	40.00	Gneiss Dark biotite gneiss, with band of pure, non-mineralized quartz from 39.5 to 39.6.
40.00	41.60	Granite With band of quartz, 10 cm, at 40.10.
41.60	42.50	Gneiss Dark fine-grained, some brown mica and dominantly grey mica, probably altered. Some bands with crushed quartz. Contact at 42.50 m 62°.
42.50	43.20	Granite Hardly no mineralization.
43.20	45.35	Gneiss Greyish mica-gneiss, some mineralized quartz veins being crushed, and some brecciation, with mineralized quartz veins penetrating the gneiss. Foliation at 43,9 m 20°. The gneiss gets richer in quartz, until 44.5 m where the gneiss has less quartz and gets brecciated by quartz veins. Mostly pyrite, and fairly good aspy, as filling in joints or massive. Mineralization/brecciation stops at 44.8 m from where the gneiss is massive. Foliation 17° at 44.9 m. Contact at 45.35 m 22°.



# A/s SULFIDMALM

## DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 30° HOLE NO: 2 SHEET NO: 2  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
45.35	46.06	Granite Light green in colour, different from previously described granite. Coarse grained, partly pegmatitic against contact at 45.35, and getting medium/fine grained against 46.06. Some py in joints between 55° and 60°. Some quartz veins.
46.00	51.30	Quartz Starts with 15 cm quartz-band, with thin dark bands of fine grained aspy, 50°. Then brecciated zone to 47.22. The matrix in this zone is dark, very fine-grained material, of unknown origin. The quartz filling in this zone is netveined by aspy-bearing joints, with diameter from approximately 0.1 to 1.5 mm. Aspy is also appearing as massive aggregates with size up to 2 x 3 cm. Py is more randomly distributed, forming subhedral grains up to 3 mm. The breccia gets fine grained against 47.22, with quartz grains less than 2 mm, and generally darker. Much fine grained py, and probably aspy, too small to be distinguished from the py. At 47.22 an uneven contact, approx. at 90°, against mylonitized limestone. Contains numerous quartz-"augen", with similarity to to feldspar-augen in augen-gneiss. Aspy appears as finegrained bands around the augens, generally with a rounded appearance. This gives the impression together with the quartz-augens, that the mineralization predates the (last) phase of mylonitization. The foliation is approx. 70°. From 47.55 to 47.70 a zone of quartz-breccia, having a light appearance due to lack of dark, fine grained matrix. Aspy in fractures and as small grains. Both contacts against limestone are gradual. From 47.70 approx. 1 m of limestone variably mylonitized and mineralized. From 48.60 to 49 is a zone of fairly homogeneous quartz, with bands up to 1 cm of massive, medium grained aspy, 40°. This quartz is cut by late, non-mineralized joints, with minor displacement, going at right angles to the mineral bands. From 49.0 limestone, decreasing mylonitized to contact at 51.30. Some mineralized quartz-veins. Generally small, varying amounts of pyrrhotite.
51.30	51.70	Granite Light green, as at 45.35
51.70	53.90	Limestone Fairly pure limestone, homogeneous and medium/coarse grained. Some mineralized quartz-veins at 52.4. Contact at 53.90 m 60°.

## DIAMOND DRILL RECORD

From	To	Description
53.90	54.50	Granite Light grey, as most of previously described granite.
54.50	80.4	Limestone Light, mostly non-mineralized. At 54.9 and 59.32 appearance of a fibrous metal in joints, having a hardness approx. 4. From 59.60 to 59.90 a zone of brecciated quartz with good aspy-mineralization, and coarse grained non-mineralized quartz. Contact coarse grained quartz/limestone at 59.90 is 60°. From 59.90 limestone, weakly mylonitized to 64.1, where there is a 20 cm non-min. quartz band. From 64.3 variably mylonitized limestone up to 70 m. Some quartz band and dark, mica rich fragments from ca. 65 to 67 m. Between 70 and 80 m mainly homogeneous, light limestone, with some thin (5-20 cm) dark bands. Increasing amount of disseminated brilliant metal grains, partly fibrous, besides py, up to 80 m.
80.4	80.7	Granite
80.7	150.0	Limestone Light, homogeneous, cut by granite 86.15 - 87, contact 40°. Some pyrrhotite and above mentioned brilliant metal grains. From 90 - 150, gneiss and granite and limestone, no important mineralization.
		End of hole at 150.

## A/s SULFIDMALM

## DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 60° HOLE NO: 3 SHEET NO: 1  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
0	3.20	Overburden
3.20	4.10	Quartz With py, aspy and po, mostly along joints (76°, 74°, 64°). Py and aspy in joints, po in irregular aggregates, less than 2 cm, most often occurring together with py.
4.10	11.1	Gneiss Biotite rich. Py in joints 70°, 67°. Granitic band 8.13-8.50. Contacts approximately 50°.
11.1	12.93	Granite Some py and po in joints. Some thin mica-rich bands. Contact at 12.93 m 30°.
12.93	24.16	Gneiss Biotite rich. Cut by 5 cm quartz band at 14.35 m with some massive py and aspy. Brecciated zone at 16.30-16.50, with quartz. Mainly py, some aspy in joints 30°. Foliation 24° at 19.9, 30° at 22.6
24.16	26.20	Granite Py in joints, 45° at 24.30, 79° at 24.93. Contact at 26.20 56°.
26.20	34.40	Gneiss Biotite rich, cut by granite veins, less than 20 cm. Po as joint fill, 42° at 27.5. Py as joint fill 50° at 27.81.
34.40	39.50	Gneiss Light, with greyish mica and more than usual of quartz. Some brecciation and crushing. A thin, 2 cm quartz band at 34.8 with py. Also some po in joints. Seemingly increasing alteration against 39.50 with development of light blue-green 5 cm bands.
39.50	43.9	Quartz Begins with apparently brecciated greyish coarse grained mica-gneiss. Bands of massive aspy, 62° and 75°, 5-20 mm thick, around 39.8. Also some py. From 40.0 to 40.70 fairly homogeneous quartz, with aspy and py in band (jointfill) thickness less than 2 mm, 80° and 75°. From 40.70 to 40.78 massive aspy, coarse grained. Further to 41.1 to 41.68 altered greyish mica-gneiss, with mainly py as grains and as jointfill 70° and 60°. At 41.61 contact with massive quartz 54°, with good aspy and py. Gradual change to a dark, fine grained breccia, with very good aspy and py. From 42.34 mylonitic limestone. Aspy appears as fine grains around quartz-augens and -band, py as fine grains in the limestone.
43.9	47.25	Limestone From 43.9 decreasing mylonitization and mineralization to 45.0 then increasing mylonitization up to the contact, 65°, with a light green granite, massive and calcite bearing, at 47.25.
47.25	48.8	Light green granite
48.8	52.3	Limestone From 48.8 to 52.3, a massive, pyre with no mineralization.



# DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 60° HOLE NO: 3 SHEET NO: 2  
LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY Reppen  
CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
52.3	56.61	Limestone Variably mylonitized. Some grains of py and aspy from 52.3-54.55. From 54.55-54.70 a zone with quartz-band augens giving good aspy. From 55.15 to 55.25 massive quartz with aspy as joint fill, in joints 30° and 50°. From 55.25 to 56.61 mylonitic limestone without important mineralization.
56.61	58.25	Granite Fairly dark and well foliated, having a gneissic appearance. Irregular contact at 56.61, about 80° at 58.25.
58.25	82.1	Limestone Pure, massive, with some fragments of dark mica-gneiss the first meters. Up to 82.7 mainly pure limestone, but some bands and veins of mica-gneiss and granite, less than 0.5 m in thickness. Some py and po, both as grains and as joint fills.
		End of hole 82.7 m

## A/s SULFIDMALM

## DIAMOND DRILL RECORD

LOCATION: \_\_\_\_\_ BEARING: 270° DIP: 60° HOLE NO: 4 SHEET NO: 1  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
0	1.90	Overburden
1.90	2.00	Quartz With py and aspy as jointfill, 50°, and as disseminated grains.
2.00	11.43	Gneiss Greyish mica-gneiss, cut by some granitic bands. Mineralization as jointfill and massive bands. 5 cm massive py at 5.20, po in joint 35° at 6.40, aspy + py 1 cm 50° at 7.90. Contact at 11.43 70°.
11.43	13.80	Quartz Massive without important mineralization up to 13.40, then 20 cm loss of core, from 13.60 to 13.80 brecciated mica gneiss. Good py, but only minor aspy, some po.
13.80	15.90	Granite A zone of good disseminated py at 16.84 - 17.00.
15.90	17.75	Gneiss Greyish green, micaceous.
17.75	18.63	Granite 2 mm py-joint-fill at 18.58. Contact at 18.63, 58°.
18.63	54.9	Gneiss Greyish mica-gneiss, cut by many granite bands. From 24.5 mainly granitic material, up to 30 m. From 30 to 54.9 mainly greyish mica-gneiss, with 20-40% granite. Mineralization occurs up to 32.0 as jointfill and band with thickness less than 1 - 2 cm. Py + aspy cm 48° at 21.55, py 1 cm 36° at 23.43, po 0.3 cm 35° at 26.9. Foliation in gneiss 50° at 43.5, 55° at 49.4.
54.9	56.15	Granite Grey, contact at 54.9, 38°.
56.15	57.05	Gneiss Greyish green, some brecciation and mineralization.
57.05	58.55	Quartz First 5 cm of massive quartz, with good massive aspy. From 58.55 alternating mylonitized limestone and quartz bands with thickness 10 - 20 cm, having good massive aspy and py-bands. Contacts limestone-quartz bands 62° at 57.03, 70° at 57.55, 50° at 58.15 - the mineralization is parallel to those.
67.70	68.70	Gneiss Dark micaceous, having good po as irregular bands and joint fill.
68.70	83.4	Limestone Variably mylonitized, but generally decreasing mylonitization against 83.4. Zone of brecciated and massive mica-gneiss from 74.2 to 75.2. Good po as disseminated grains around 73.7. Py as spread grains. No aspy.
		End of hole at 83.4.

# A/s SULFIDMALM

## DIAMOND DRILL RECORD

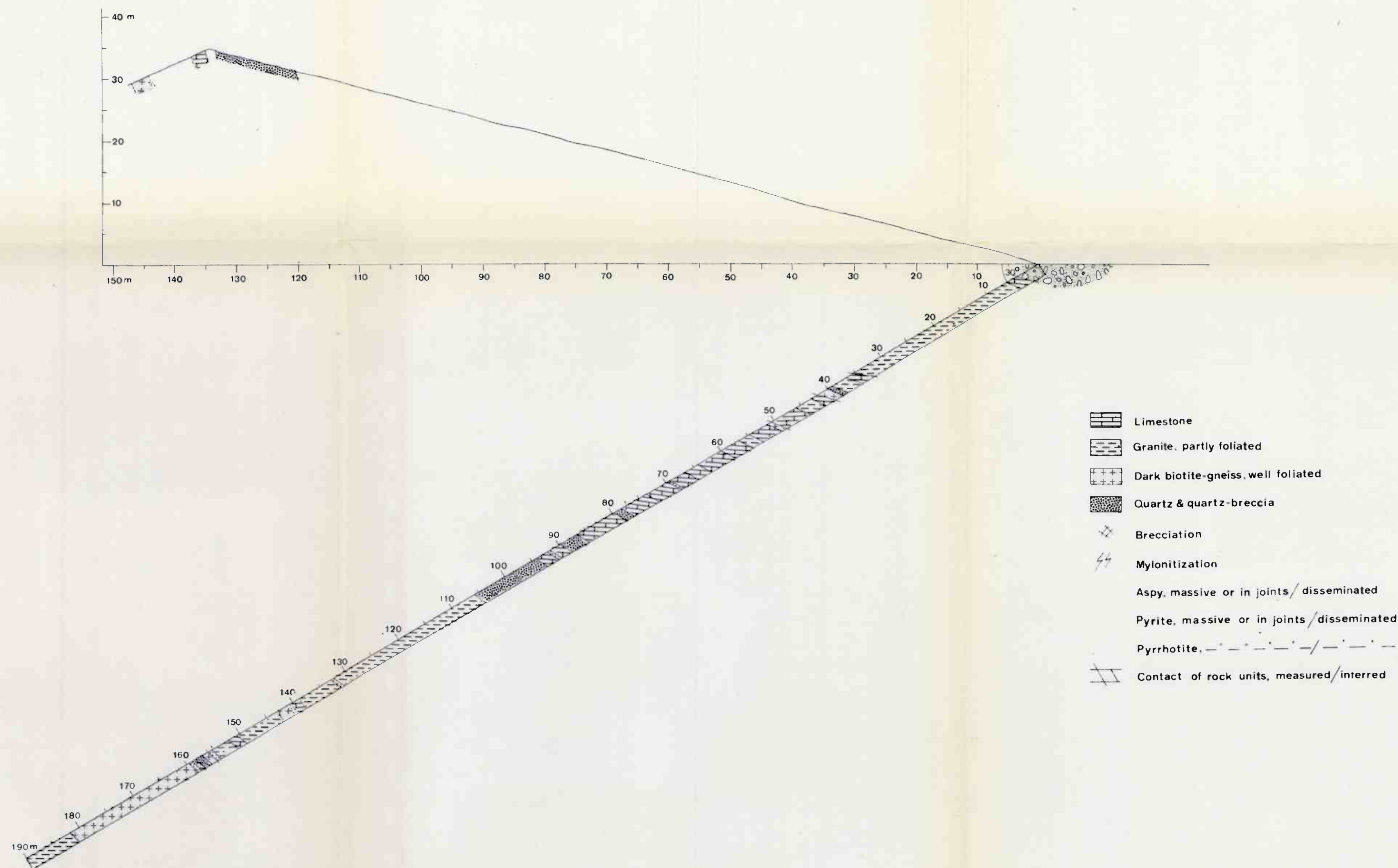
LOCATION: \_\_\_\_\_ BEARING: 220° DIP: 50° HOLE NO: 5 SHEET NO: 1  
 LOGGED BY: \_\_\_\_\_ STARTED: \_\_\_\_\_ PROPERTY: Reppen  
 CASING: \_\_\_\_\_ FINISHED: \_\_\_\_\_  
 CORE SIZE: \_\_\_\_\_ TESTS (CORRECTED): \_\_\_\_\_

From	To	Description
0	3.06	Overburden
3.06	18.40	Gneiss Dark micaceous. Some granitic bands. Pegmatitic quartz band 5 cm 75° at 7.9 giving py and some aspy. Also some "calcite pegmatites" giving massive aggregates of py, especially between 15.5 - 15.8. Calcite veins 55° at 17.5, 65° at 15.4. Irregular contact at 18.40.
18.40	21.90	Granite Partly well foliated in mica rich parts. 2 cm calcite bands at 18.41 with some massive py. Also some disseminated aspy. Contact at 21.90, 58°.
21.90	24.93	Gneiss Greyish green mica gneiss, cut by 1 - 5 cm quartz-calcite veins with good py. Orientation 72° at 22.4, 52° at 23.22, 70° at 23.30. Granitic band at 23.75 - 24.15. The contact gneiss/granite is cut by the quartz-calcite veins. Contact at 24.93, 60°.
24.93	29.94	Granite With some mica rich bands 10 - 15 cm thick. Numerous 1 cm veins of calcite, light brown, with locally good py in massive bands - 58° at 26.40. 87° at 26.6, 80° at 27.5. Up to 29.94 increasing number of 5 - 10 cm quartz bands, giving some mineralization.
29.94	30.15	Gneiss Grey green, micaceous.
30.15		Quartz Starts with brecciated greyish green mica gneiss, with approx. 20 - 30% quartz-veins. Mainly py. From 31.5 to 32.0 approx. 70% quartz, 30% gneiss. From 32.0 to 33.11 a medium grained breccia with dark appearance. Good py as irregular aggregates with diameter 1 - 5 cm, but seldom as jointfills. Aspy fairly good, as disseminated euhedral grains, 1 - 2 mm. This breccia differs from the breccias in the other holes by the presence of calcite, as veins and euhedral grains, accounting for 20 - 30% of total volume. This calcite rich breccia is followed by 15 cm hydrothermal calcite at 33.11 - 33.26. From 33.26 to 34.05 a zone of weakly brecciated quartz without py, po or calcite, but with good aspy as fine grains along dark bands and as massive thin bands. From 34.05 - 34.23 a new zone of hydrothermal calcite.
34.23	44.40	Limestone Variably mylonitized and with fragments of dark mica-gneiss. From 38.45 - 39.20 dark mica-gneiss with good py as irregular aggregates less than 3 cm. Foliation 34.24 80°, 38.45 50°.



# DIAMOND DRILL RECORD

[illegible]



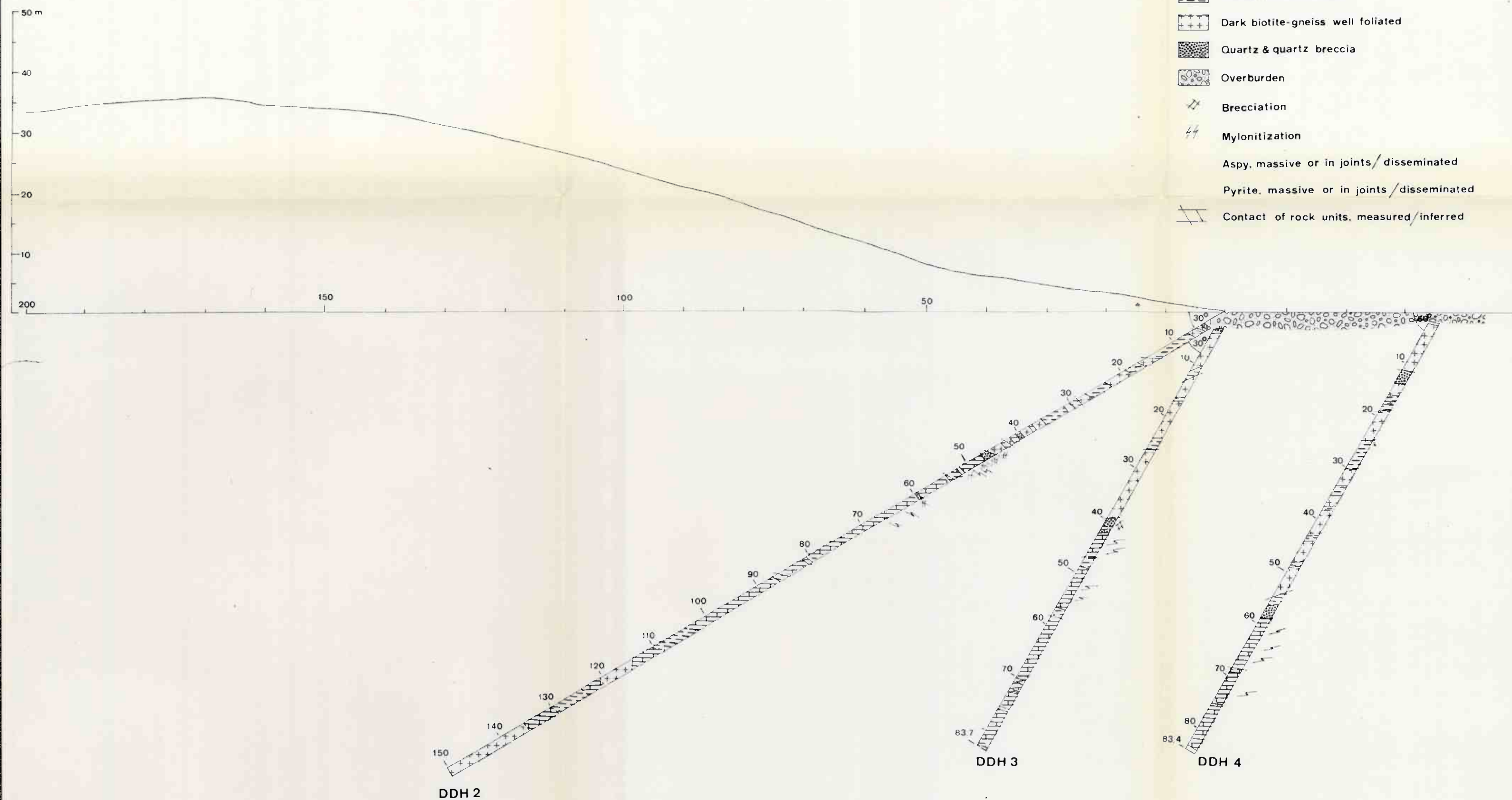
DDH 1 REPPEN PROPERTY  
BINDAL AREA NORWAY

1/3 SULFIDMALM

SCALE	OBS.	
1:500	DRAW.	
	TRAC.	AKB
	CHK.	

MAP NO.  
35-83-D2 7D/64

MAP SHEET



DDH 2,3,4. REPPEN PROPERTY  
BINDAL AREA NORWAY

1/2 SULFIDMALM

SCALE	OBS.	
1:500	DRAW.	
	TRAC.	AKB
	CHK.	

MAP NO.  
35-83-D3 7D/65

MAP SHEET



