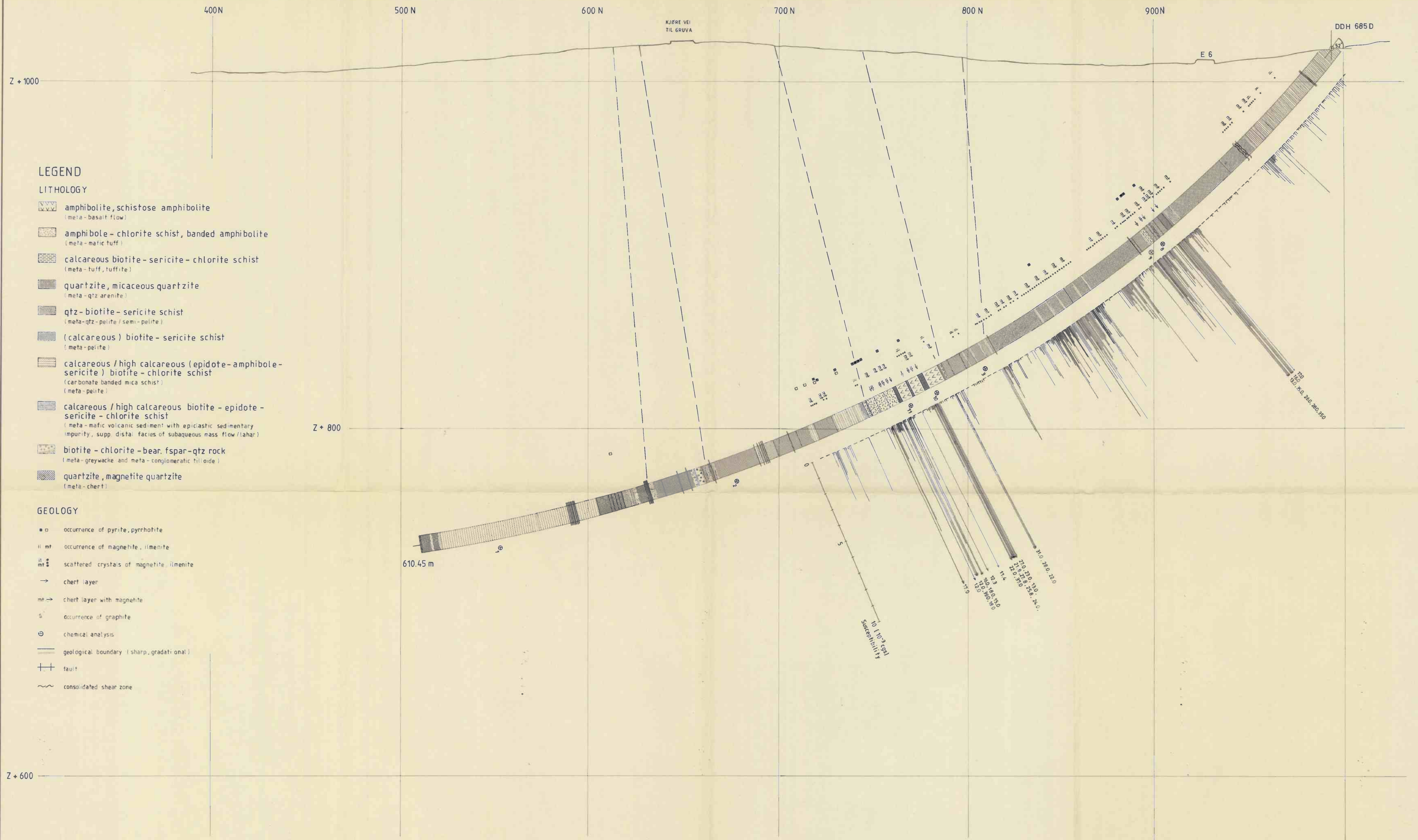


Tversfjellet
Brendhoia



LEGEND

LITHOLOGY

- amphibolite, schistose amphibolite
(meta-basalt flow)
- amphibole-chlorite schist, banded amphibolite
(meta-mafic tuff)
- calcareous biotite-sericite-chlorite schist
(meta-tuff, tuffite)
- quartzite, micaceous quartzite
(meta-qtz arenite)
- qtz-biotite-sericite schist
(meta-qtz-pelite / semi-pelite)
- (calcareous) biotite-sericite schist
(meta-pelite)
- calcareous / high calcareous (epidote-amphibole-sericite) biotite-chlorite schist
(carbonate banded mica schist)
(meta-pelite)
- calcareous / high calcareous biotite-epidote-sericite-chlorite schist
(meta-mafic volcanic sediment with epiclastic sedimentary impurity, supp. distal facies of subaqueous mass flow / lahar)
- biotite-chlorite-bear-fspar-qtz rock
(meta-greywacke and meta-conglomeratic tuffoid)
- quartzite, magnetite quartzite
(meta-chert)

GEOLOGY

- occurrence of pyrite, pyrrhotite
- occurrence of magnetite, ilmenite
- scattered crystals of magnetite, ilmenite
- chert layer
- chert layer with magnetite
- occurrence of graphite
- chemical analysis
- geological boundary (sharp, gradational)
- fault
- consolidated shear zone

FOLLDAL VERK A/S

HJERKINN-PROSJEKT

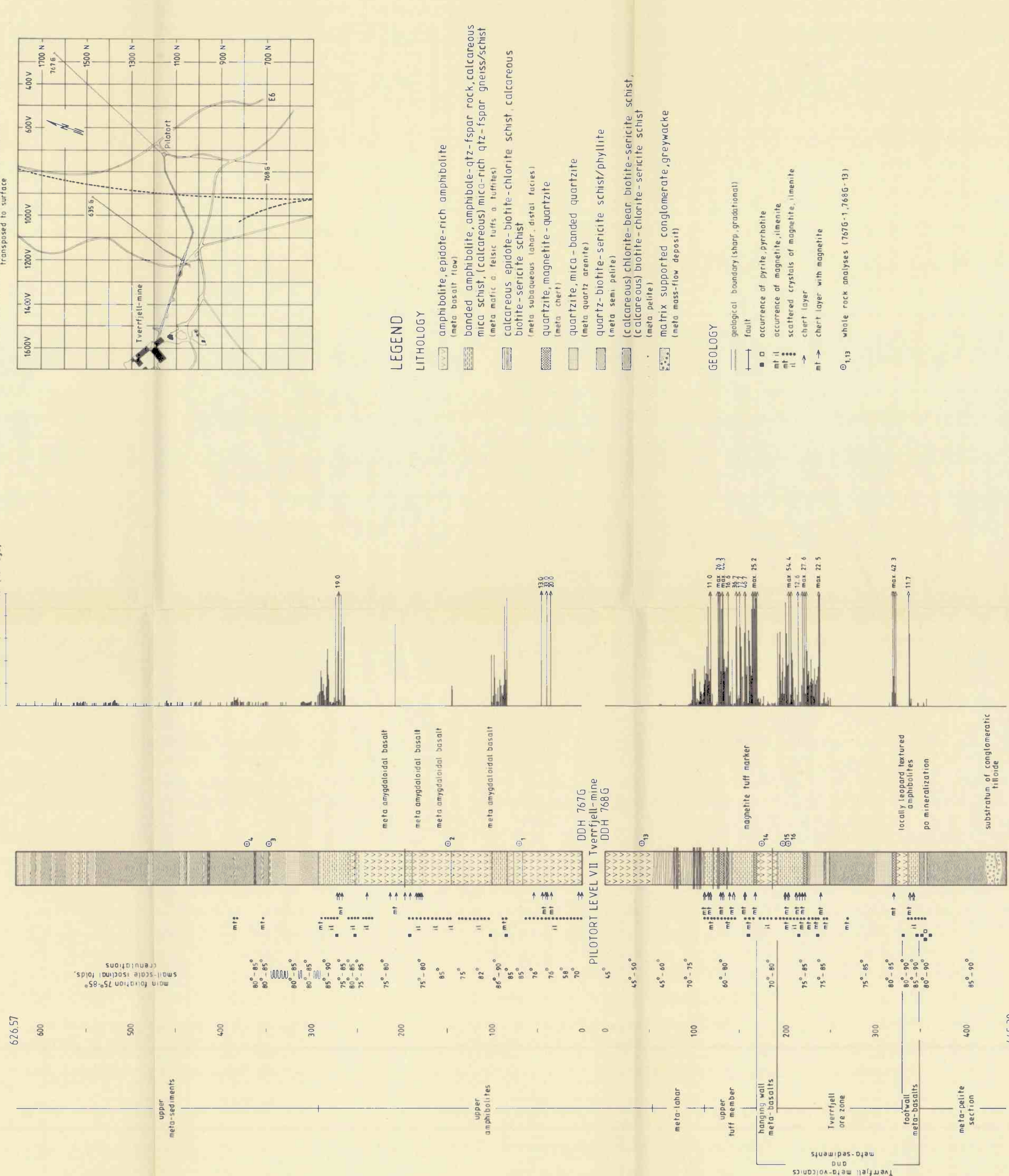
TVERRFJELLET

PROFIL LANGS BH 685 D

Susceptibility (sintrix SM-5)
0 2 4 6 8 10 (10^{-3} cgs)

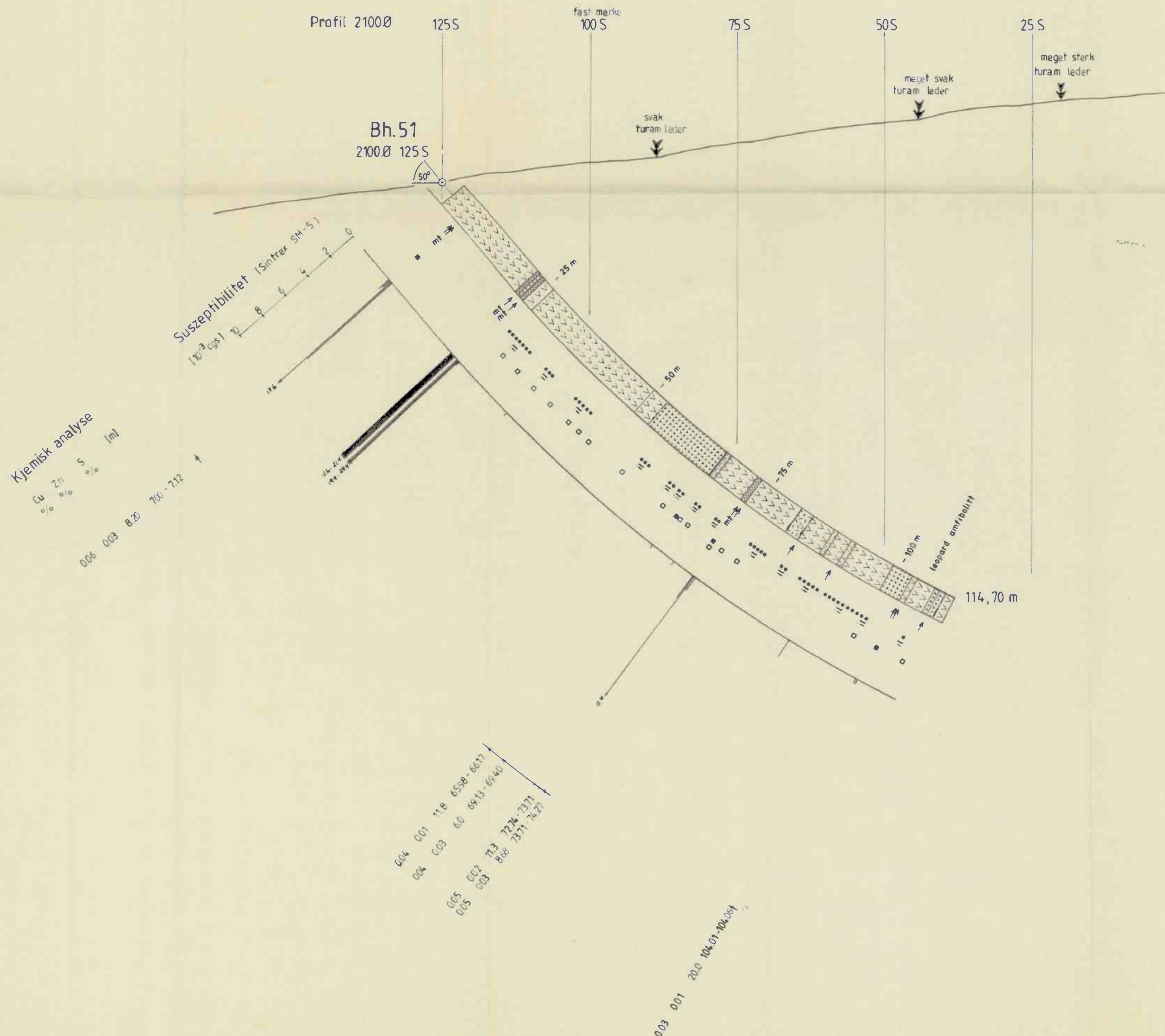
N

[m]



FOLLDAL VERK A/S
HJERKINN - PROJECT

LITHOLOGICAL PROFILES
DDH 767G a. DDH 768G



TEGNFORKLARING

- amfibol skifer, kloritt-amfibol skifer
(meta basaltisk lava)
- (karbonat-rik) epidot-biotitt-kloritt
fyllitt / skifer
(meta mafisk vulkanitt)
- (karbonat-rik) biotitt-kloritt skifer, biotitt-
serisitt skifer, glimmerrik kvarts-feldspat
felser
(meta - tuffer, - tuffitter)
- båndet amfibolitt
(meta mafisk tuff)
- sulfid anrikning
- kvartsitt, magnetitt kvartsitt
(meta ekshalitt)
- bergartsgrense (skarp, uskarp)
- mineralisering av pyritt, pyrrhotitt
- mt il mineralisering av magnetitt, ilmenitt
- il • spredte krystaller av ilmenitt
- chert horisont
- mt → chert horisont med magnetitt

FOLLDAL VERK A/S

HJERKINN PROSJEKT

LITOLOGISK PROFIL

Bh. 51

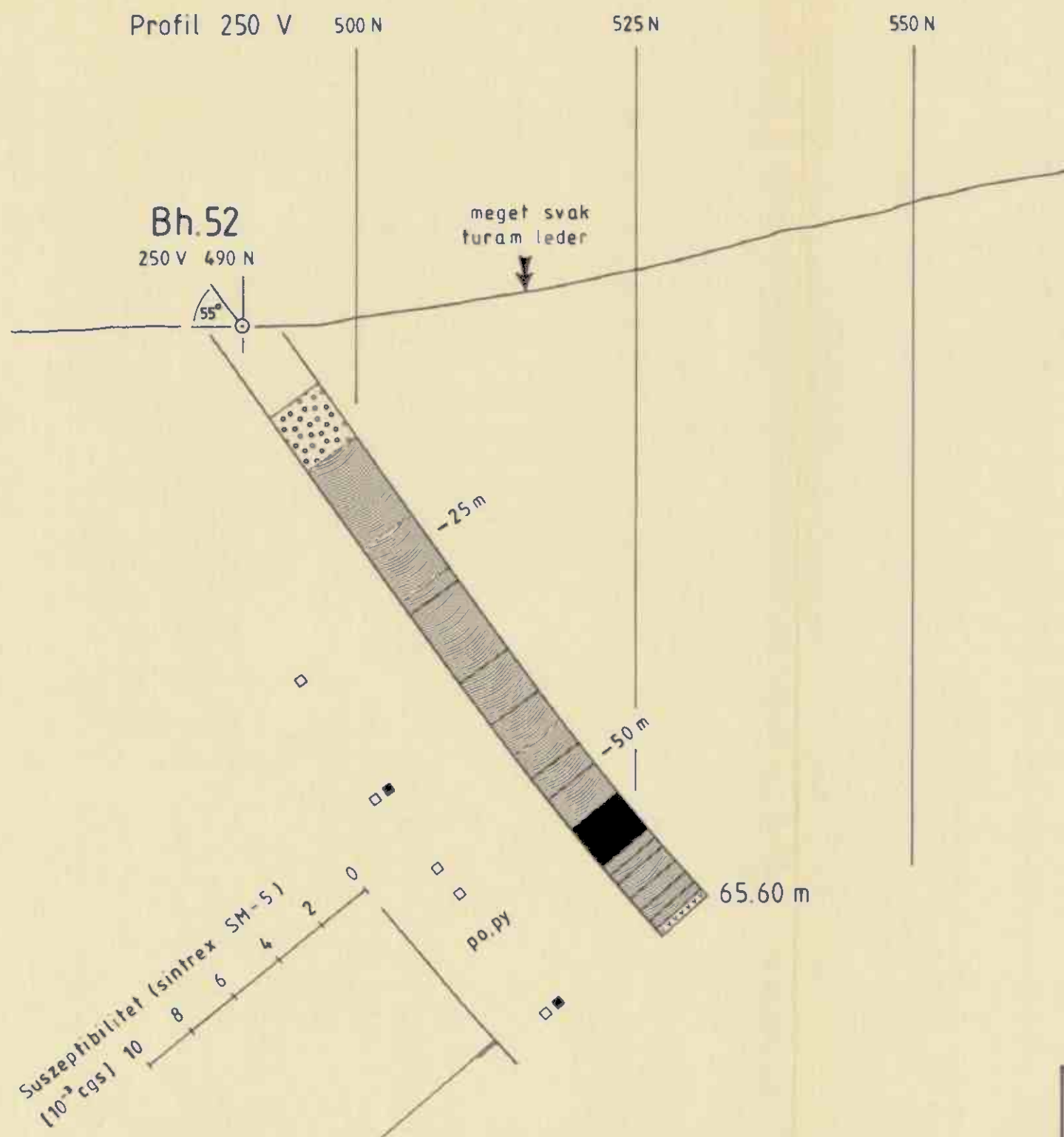
2100 Ø 125 S

(øst for storforkastningen)

Date Jan 1987

Scale: 1: 500

Hesmann



Tegnforklaring

- (karbonat-rik) klorittskifer
(meta mafisk vulkanitt)
- biotitt-serisittskifer
(meta-pelitt)
- kvarts-biotitt-serisittskifer
(meta konglomeratisk slamstein)
- sulfid-mineralisering
(ekshalative jernsulfider)
- bergartsgrense (skarp, uskarp)
- mineralisering av pyritt, pyrrhotitt

FOLLDAL VERK A/S

HJERKINN - PROSJEKTET

LITOLOGISK PROFIL

Bh. 52

250 V 490 N

(øst for storforkastningen)

Date Des. 1986

Scale: 1: 500

Riesmann

Kjemisk analyse [m]
Cu % 0.01 19 5290-5750
Zn % 5
S % 19

Profil 1200 Ø

75N

100N

125N

150N

175N

200N

svak
turam leder

Bh.75
1200 Ø 70 N

gamle
kongever

ca 1055 m

Suszeptibilitet (Scintrex SM-5)
(10⁻³gs)

Kjemisk analyse
Cu % Zn % S %

0.04	0.02	4.63	670 - 7.25
0.03	0.02	2.01	25.88 - 26.88
0.03	0.02	2.77	28.88 - 28.90
0.03	0.02	0.35	29.00 - 29.20
0.03	0.02	0.89	30.32 - 30.91
0.03	0.02	0.28	32.85 - 32.84
0.03	0.02	0.48	34.83 - 34.11
0.03	0.02	0.75	42.58 - 42.84
0.03	0.02	0.04	43.88 - 43.92
0.03	0.02	0.04	44.67 - 44.67
0.03	0.02	0.04	45.91 - 45.91
0.03	0.02	0.04	46.86 - 46.23
0.03	0.02	0.04	48.01 - 48.27
0.03	0.02	0.04	48.24 - 48.78
0.03	0.02	0.04	49.71 - 50.71
0.03	0.02	0.04	50.86 - 50.73
0.03	0.02	0.04	51.74 - 51.31
0.03	0.02	0.04	51.43 - 50.07
0.03	0.02	0.04	51.43 - 60.20
0.03	0.02	0.04	61.43 - 62.00
0.03	0.02	0.04	62.23 - 62.32
0.03	0.02	0.04	62.48 - 62.64
0.03	0.02	0.04	62.70 - 63.11

TEGNFORKLARING

- amfibol skifer, kloritt-amfibol skifer
(meta basaltisk lava)
- (karbonat-rik) epidot-biotitt- kloritt
fyllitt / skifer
(meta mafisk vulkanitt)
- (karbonat-rik) biotitt- kloritt skifer,
biotitt- serisitt skifer, glimmerrik
kvarts-feldspat felser
(meta- tuffer, - tuffitter)
- kvartsitt, magnetitt- kvartsitt
(meta ekshalitt)
- kvartsitt, glimmerrik kvartsitt
(meta kvarts sandstein)
- (karbonat-førende) biotitt- serisitt skifer
(meta pelitisk sediment)
- bergartsgrense (skarp, uskarp)
- forkastning
- mineralisering av pyritt, pyrrhotitt
- mineralisering av magnetitt, ilmenitt
- spredte krystaller av ilmenitt, magnetitt
- chert horisont
- chert horisont med magnetitt
- prøver, tynnsip

FOLLDAL VERK A/S

HJERKINN - PROSJEKT

LITOLOGISK PROFIL

Bh. 75

1200 Ø 70 N

(øst for storforkastningen)

Date Des. 86

Scale: 1: 500

FDPriesemann

Profil 2600 Ø

225 S

200 S

175 S

150 S

125 S

100 S

Bh. 76

2600 Ø 200 S

svak
turam leder

meget sterk
turam leder

meget sterk
turam leder

meget sterk
turam leder

Suszeptibilitet (sintrex SM-5)
[10⁻³ cgs] 10 8 6 4 2 0

310

16.0

170

67.42 m

Tegnforklaring

- amfibolitt, kloritt-rik amfibolitt
(meta basaltisk lava)
- karbonat-rik klorittskifer
(meta mafisk vulkanitt)
- karbonat-rik biotittskifer
(meta-tuff)
- kvartsitt, mt-kvartsitt
(meta-chert)

- bergartsgrense (skarp, uskarp)
- mineralisering av pyritt, pyrrhotitt
- spredte krystaller av magnetitt, ilmenitt
- lag av meta-chert (magnetitt)

A/C hydrotermal omvandling, karbonatisering

Kjemisk analyse
Cu % Zn % S %
0.05 0.04 241 50.72-51.72
0.03 0.01 239 52.48-52.59
0.03 0.02 261 56.05-56.65
0.03 0.01 302 62.07-62.17

FOLLDAL VERK A/S

HJERKINN-PROSJEKTET

LITOLOGISK PROFIL

Bh. 76

2600 Ø 200 S

(øst for storforkastningen)

Date Des 1986

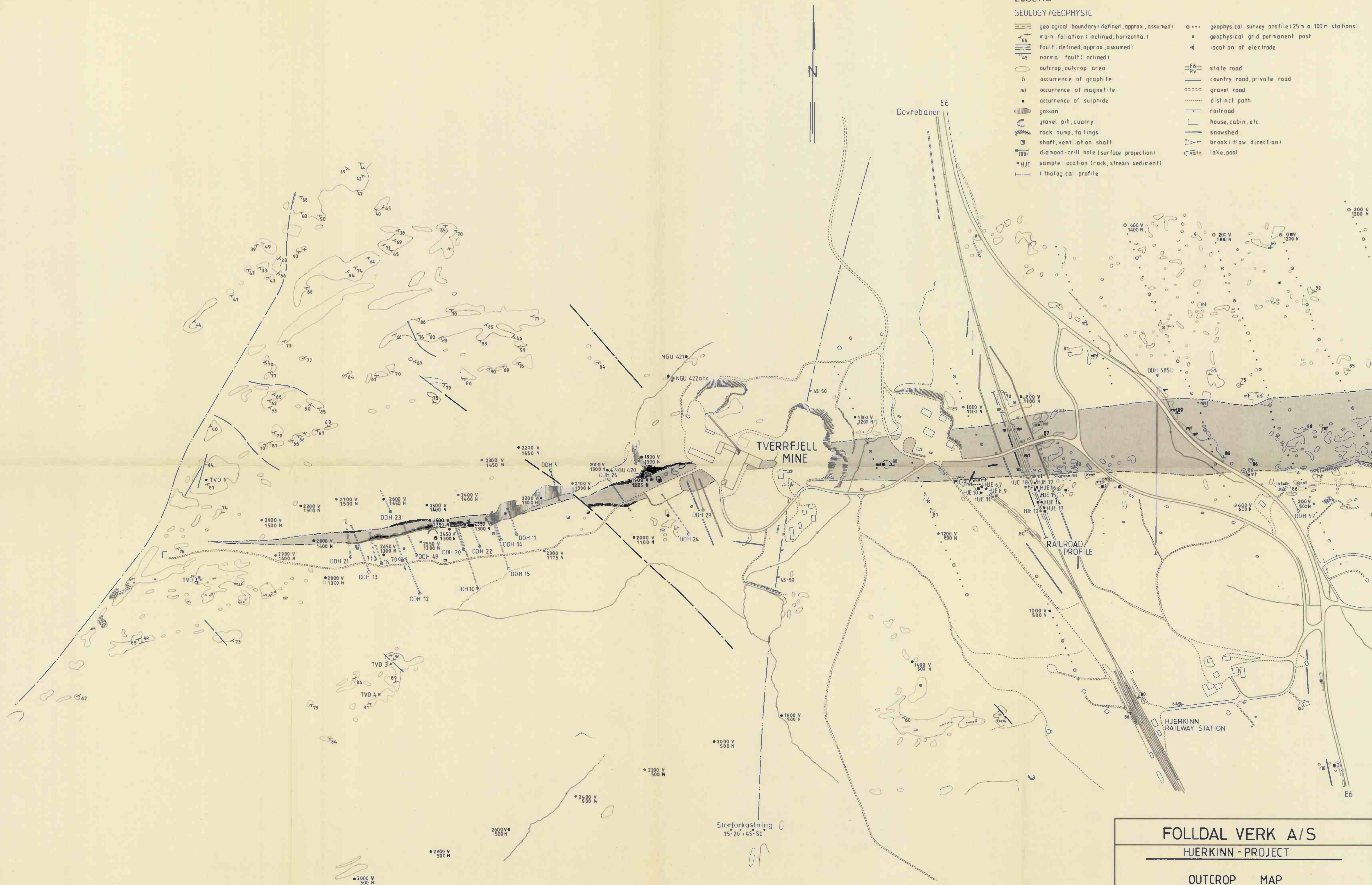
Scale: 1:500

Presemann

LEGEND

GEOLOGY / GEOPHYSIC

- | | |
|---|---|
| — geological boundary (defined, approx., assumed) | ○— geophysical survey profile (25 m a 100 m stations) |
| — main foliation (inclined, horizontal) | ● geophysical grid permanent post |
| — fault (defined, approx., assumed) | — location of electrode |
| — normal fault (inclined) | |
| ○ outcrop, outcrop area | — state road |
| G occurrence of graphite | — country road, private road |
| mt occurrence of magnetite | — gravel road |
| ■ occurrence of sulphide | — distinct path |
| gossan | — railroad |
| gravel pit, quarry | □ house, cabin, etc. |
| rock dump, tailings | — snowshed |
| shaft, ventilation shaft | — brook (flow direction) |
| ○ DDH diamond-drill hole (surface projection) | ○ vatn lake, pool |
| ■ HJE sample location (rock, stream sediment) | |
| — lithological profile | |



FOLLDAL VERK A/S

HJERKINN - PROJECT

OUTCROP MAP
TVERRFJELLET - HJERKINN AREA

Position of Tverrfjell ore zone

Jan. 1987

Scale 1:5000

PRIESEMAN

LEGEND

LITHOLOGY

- TVERRFJELL ORE ZONE
calcareous mica schist, banded amphibolite, biotite-sericite schist,
quartz-mica schist, amphibolite, quartzite, magnetite quartzite,
ribbon chert, qtz-keratophyre, matrix-supported conglomerate,
vasskis, sulphide ore
- quartzite, magnetite quartzite
(meta chert)
- sulphide ore
(meta stratabound sulphide)
- matrix supported conglomerate, greywacke
(meta mass-flow deposit)
- qtz-keratophyr
(meta felsic volcanic)



FOLLDAL VERK A/S

HJERKINN - PROJECT

OUTCROP MAP
HJERKINN - BRENDHØIN

Position of Tverrfjell ore zone

Jan. 1987

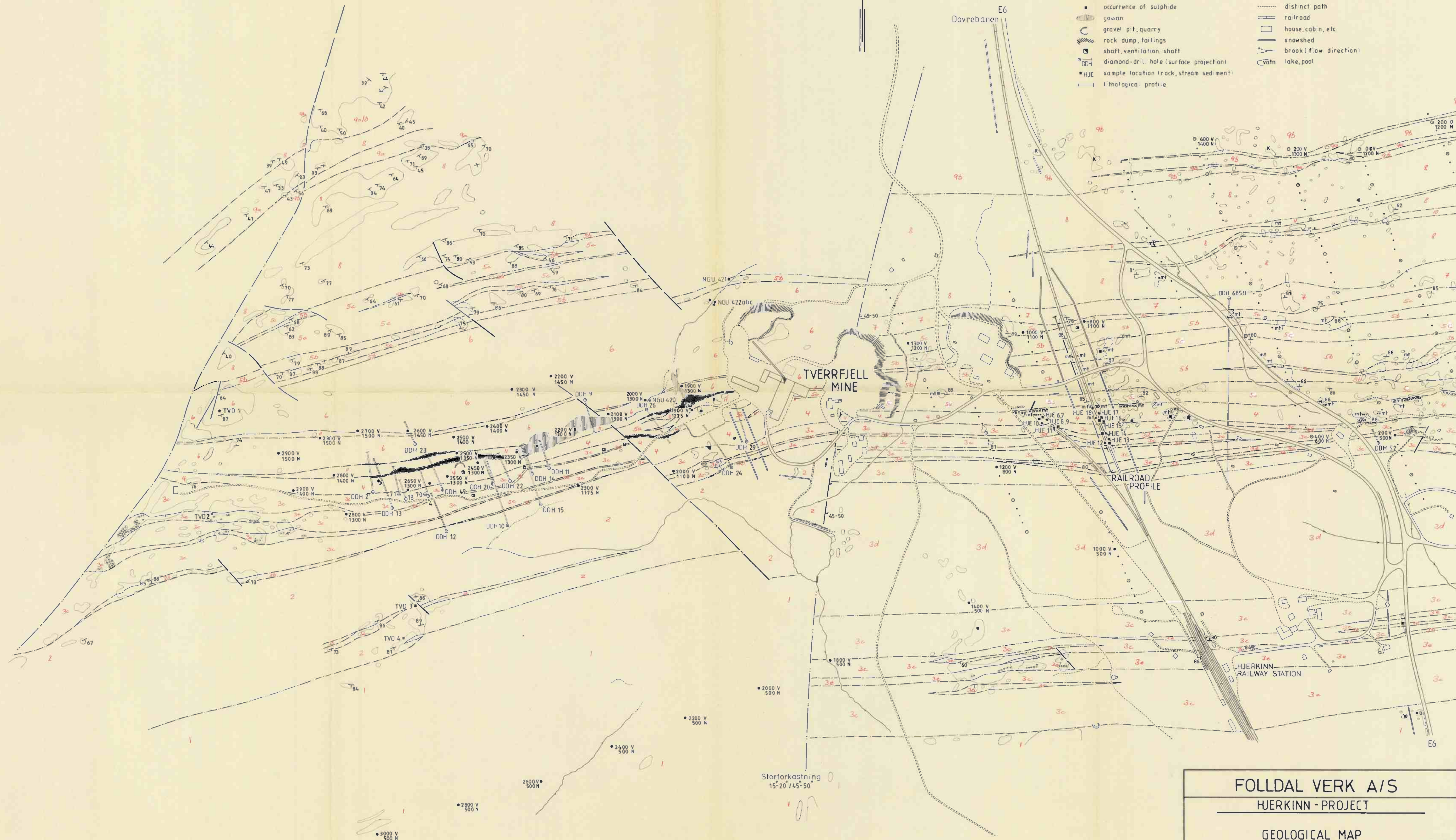
Scale 1:5000

PRIESEMANN

LEGEND

GEOLOGY / GEOPHYSIC

- | | |
|---|--|
| geological boundary (defined, approx., assumed) | geophysical survey profile (25 m a 100 m stations) |
| main foliation (inclined, horizontal) | geophysical grid permanent post |
| fault (defined, approx., assumed) | location of electrode |
| normal fault (inclined) | |
| outcrop, outcrop area | state road |
| occurrence of graphite | country road, private road |
| occurrence of magnetite | gravel road |
| occurrence of sulphide | distinct path |
| gossan | railroad |
| gravel pit, quarry | house, cabin, etc. |
| rock dump, tailings | snowshed |
| shaft, ventilation shaft | brook (flow direction) |
| diamond-drill hole (surface projection) | lake, pool |
| sample location (rock, stream sediment) | |
| lithological profile | |



FOLLDAL VERK A/S

HJERKINN - PROJECT

GEOLOGICAL MAP
TVERRFJELLET - HJERKINN AREA

Jan. 1987

Scale 1:5000

PRIESEMANN

LEGEND

LITHOLOGY

- | | | |
|--|--|--|
| 8 UPPER AMPHIBOLITES
amphibolite, porphyric amphibolite, epidote-rich amphibolite,
epidote-biotite-chlorite schist,
biotite-qtz-fspar gneiss | 5a UPPER TUFF MEMBER
TVERRFJELL ORE ZONE
amphibolite
(meta basalt flow) | 10 plagioclase amphibolite
(silt-type meta gabbro/diorite) |
| 6 HANGING WALL META-BASALTS
amphibolite, porphyric amphibolite, banded amphibolite | 5b quartzite, mica-banded quartzite
(meta qtz arenite) | 11 banded amphibolite, amphibole-qtz-fspar rock,
calcareous mica schist,
calcareous mica-rich qtz-fspar gneiss/schist
(meta mafic a felsic tuff a tuffite) |
| 4 FOOTWALL META-BASALTS
amphibolite, leopard-textured amphibolite,
banded amphibolite, calcareous chlorite schist, exhalites | 5c quartz phyllite
± calcareous chlorite-bear biotite-sericite schist
(meta siltstone, meta pelite) | 12 quartzite, magnetite-quartzite
(meta chert) |
| 2 LOWER AMPHIBOLITES
amphibolite, leopard-textured amphibolite,
banded amphibolite | 5d matrix supported conglomerate, greywacke
(meta mass-flow deposit) | 13 sulphide ore
(meta stratabound sulphide) |
| 7 META-LAHAR
calcareous biotite-chlorite schist,
calcareous chlorite-bear biotite-sericite schist | 3a amphibolite
(meta basalt flow) | K qtz-keratophyr
(meta felsic volcanic) |
| UPPER META-SEDIMENTS | 3b quartzite, mica-banded quartzite
(meta qtz arenite) | 12 quartzite, banded quartzite
(meta qtz arenite) |
| 9a quartzite, mica-banded quartzite
(meta qtz arenite) | 3c quartz phyllite
± calcareous chlorite-bear, ± garnet-biotite-sericite schist
(meta siltstone, meta pelite) | 13 biotite-sericite schist
(meta pelite) |
| 7b ± calcareous biotite-sericite schist,
± calcareous biotite-sericite-chlorite schist
(meta pelite) | 3d carbonate-banded biotite-chlorite schist
(meta limestone-pelite alternation) | |
| 1 LOWER META-SEDIMENTS
quartz phyllite, phyllite, mica schist, garbenschist | 5e matrix supported conglomerate, greywacke
(meta mass-flow deposit) | |



FOLLDAL VERK A/S

HJERKINN-PROJECT

GEOLOGICAL MAP
HJERKINN- BRENDHØIN

Jan 1987

Scale 1:5000

PRIESEMAN

Gauhi

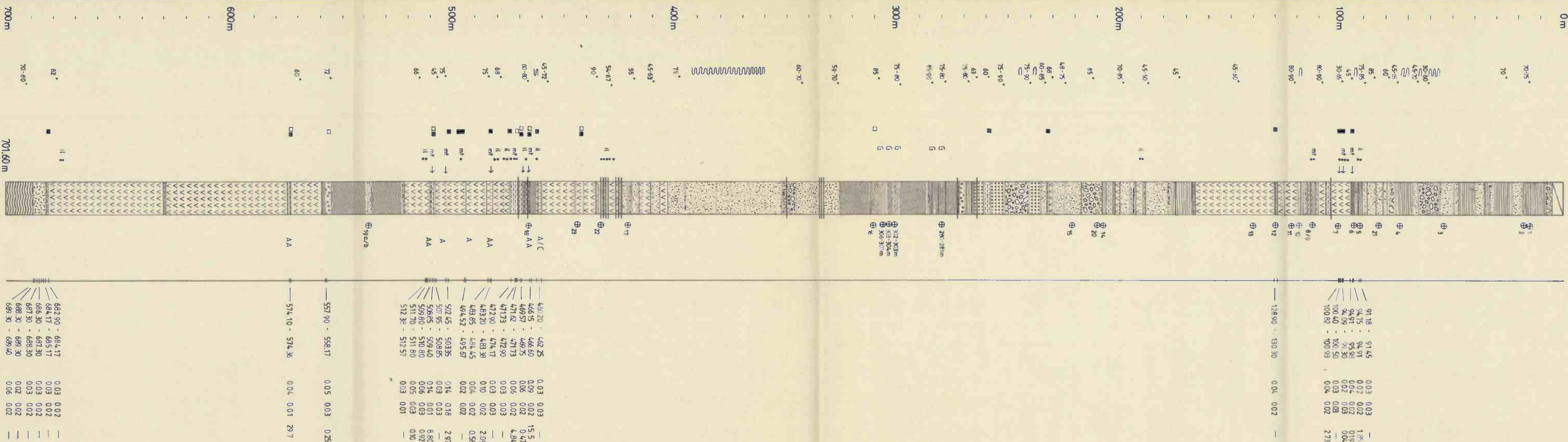
[m] Cu Zn S
% % %

0 1000 5000 10000 15000 Fall (2 m)

0 2 4 6 8 10 (10⁻³ Tgs)

FOLLDAL VERK A/S
HJERKINN - PROSJEKT

GÅVÅLISETER
BH 2000 D



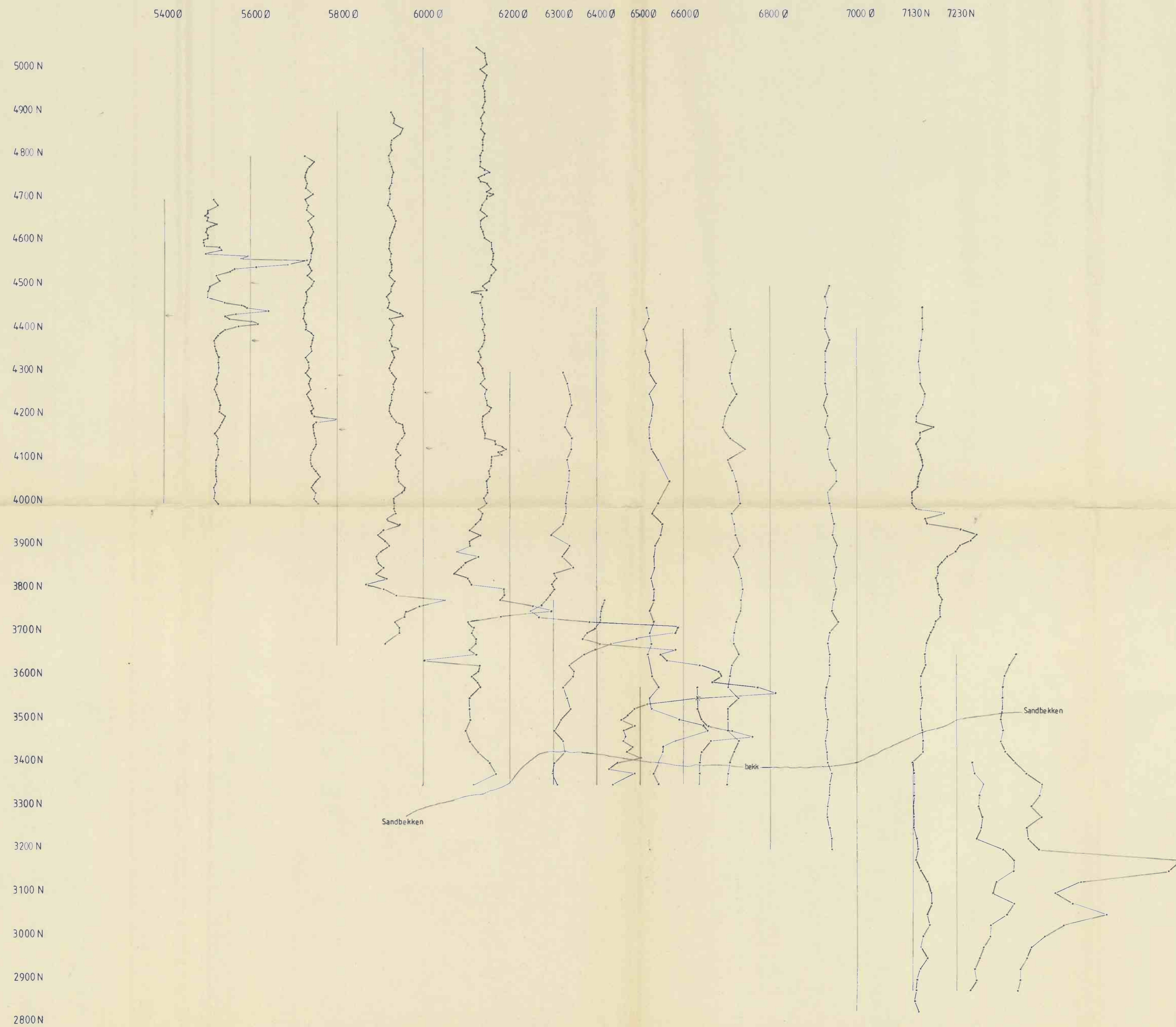
LEGEND

LITHOLOGY

- amphibolite, plagioclase amphibolite (meta-basalt flow)
- micro-rich epidote amphibolite (meta basic pyroclastic)
- bander amphibolite (meta mafic tuff)
- bander amphibolite (meta mafic tuff)
- calcareous mica schist, amphibole-qtz-fspar rock, calcareous mica schist, calcareous mica-rich qtz-fspar gneiss/schist (meta mafic a felsic tuffs, tuffites a epiclastic sediments)
- amphibole gneiss/schist (meta pelite)
- quartzite, magnetite quartzite (meta-chert)
- micaceous quartzite (meta qtz arenite)
- qtz-biotite-sericite schist/pyyllite (meta semi-pelite)
- chlorite-bear biotite-sericite schist/pyyllite, amphibole gneiss/schist (meta pelite)
- calcareous mica schist, amphibole-bear mica schist (meta subaqueous lahar a meta-greywacke)
- quartz pyyllite, biotite-sericite schist (meta semi-pelite or pelite)
- (calcareous) amphibole-biotite-chlorite schist (meta subaqueous lahar with fragments of cobble and boulder size)
- calcareous amphibole-bear biotite-chlorite schist (meta subaqueous lahar with fragments of gravel and sand size)
- calcareous biotite-chlorite schist (meta subaqueous lahar without any visible fragments)

GEOLOGY

- geological boundary (sharp, gradational)
- fault
- occurrence of pyrite, pyrrhotite
- occurrence of magnetite, ilmenite
- scattered crystals of ilmenite, magnetite
- chert layer
- chert layer with magnetite
- occurrence of graphite
- sample
- carbonatization
- altered rock
- strongly altered rock



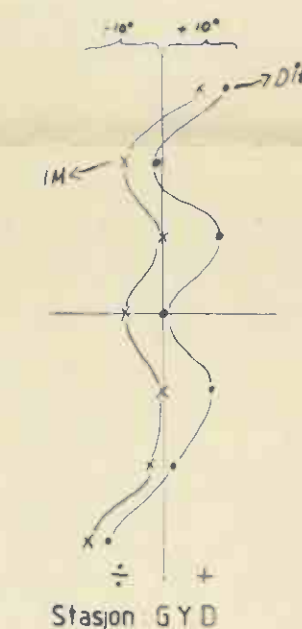
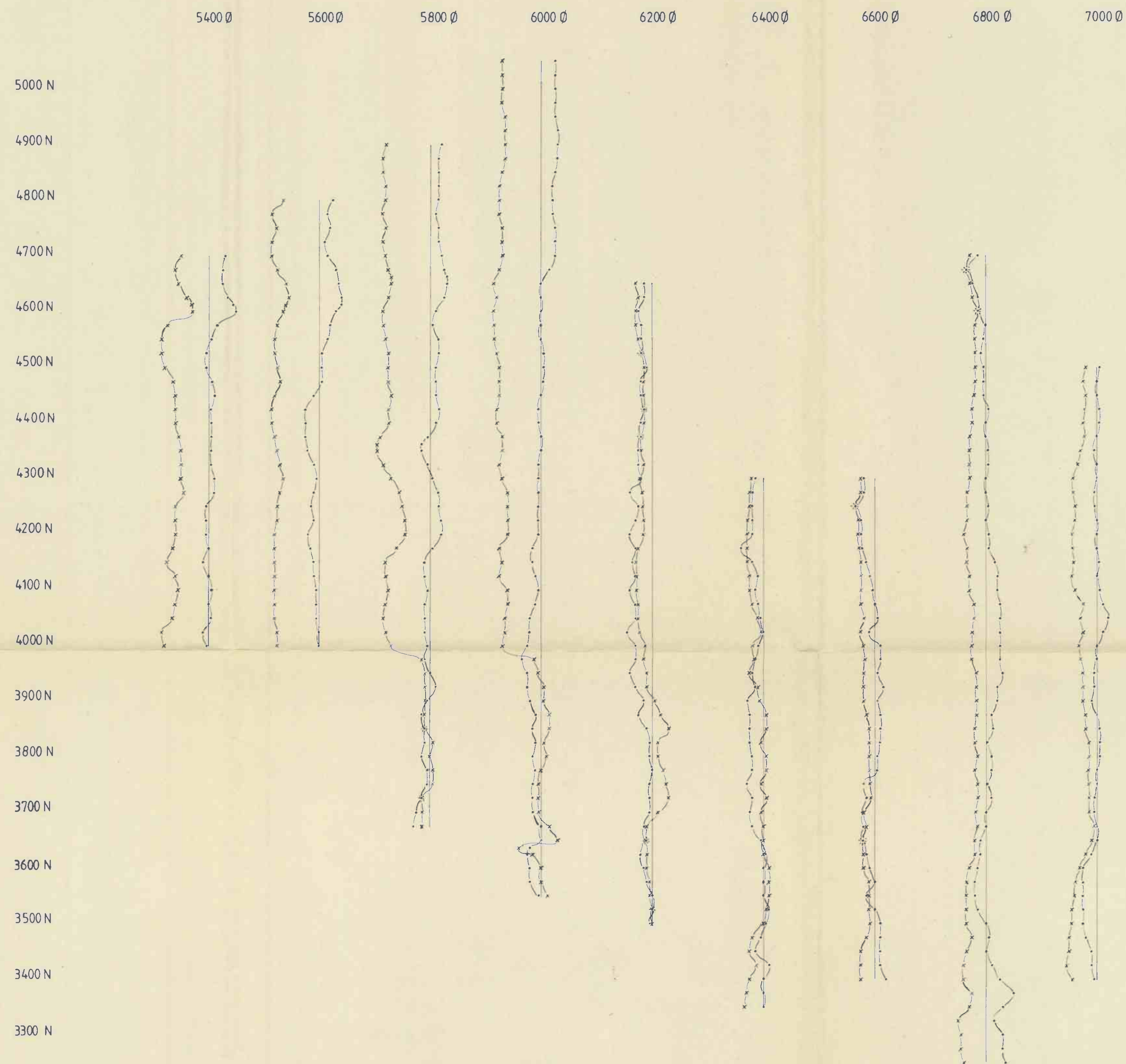
5000 50200 50400 50600 50800 51000 51200 [x]

FOLLDAL VERK A/S
HJERKINN PROSJEKT

GÅVÅLISETER
MAG

5400 Ø - 7000 Ø

Date 23/9 1986	Scale: 1: 5000	T.Dahlen
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FOLLDAL VERK A/S

HJERKINN PROSJEKT

GÅVÅLISETER

VLF

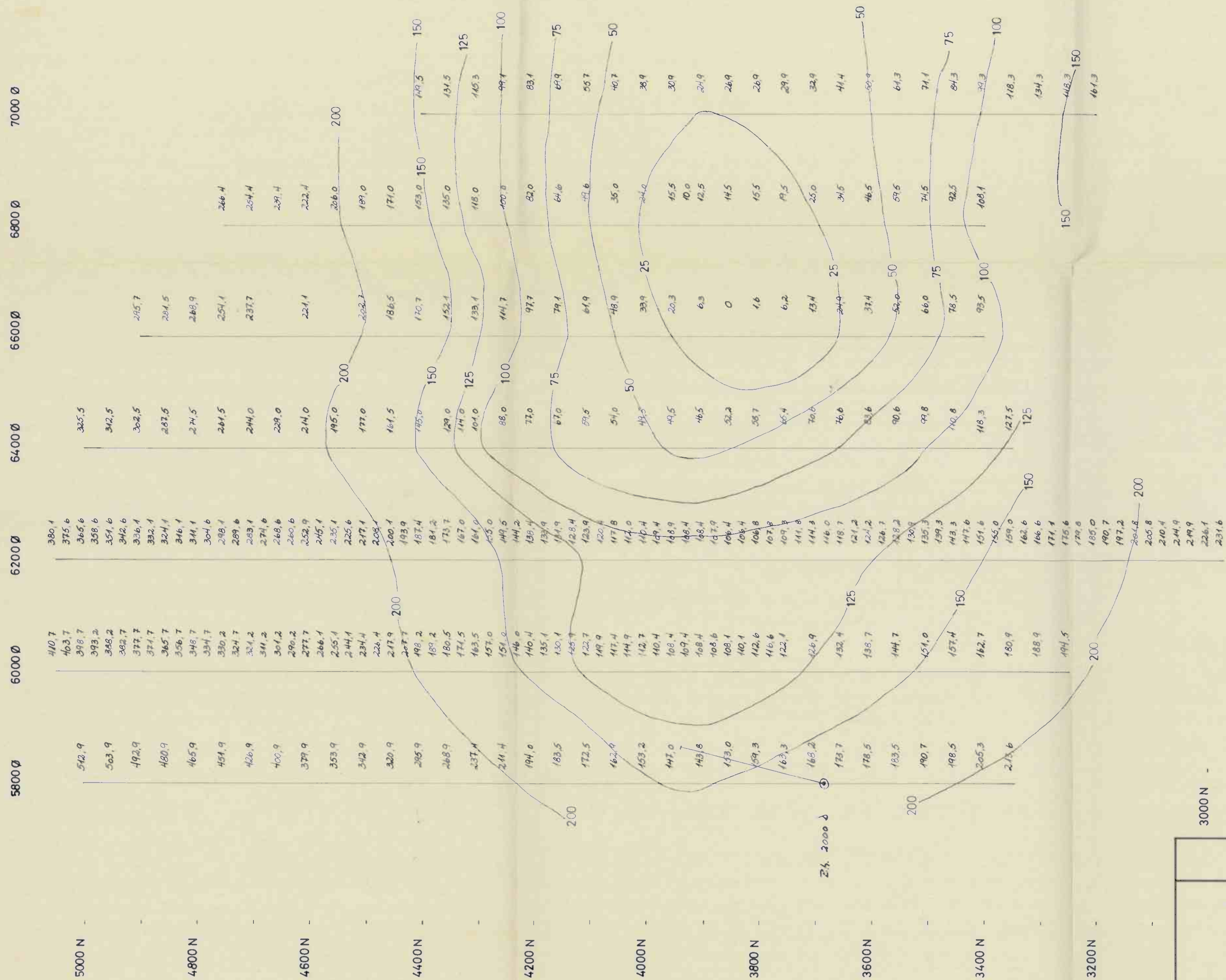
Date 23 / 9 1986

Scale: 1: 5 000

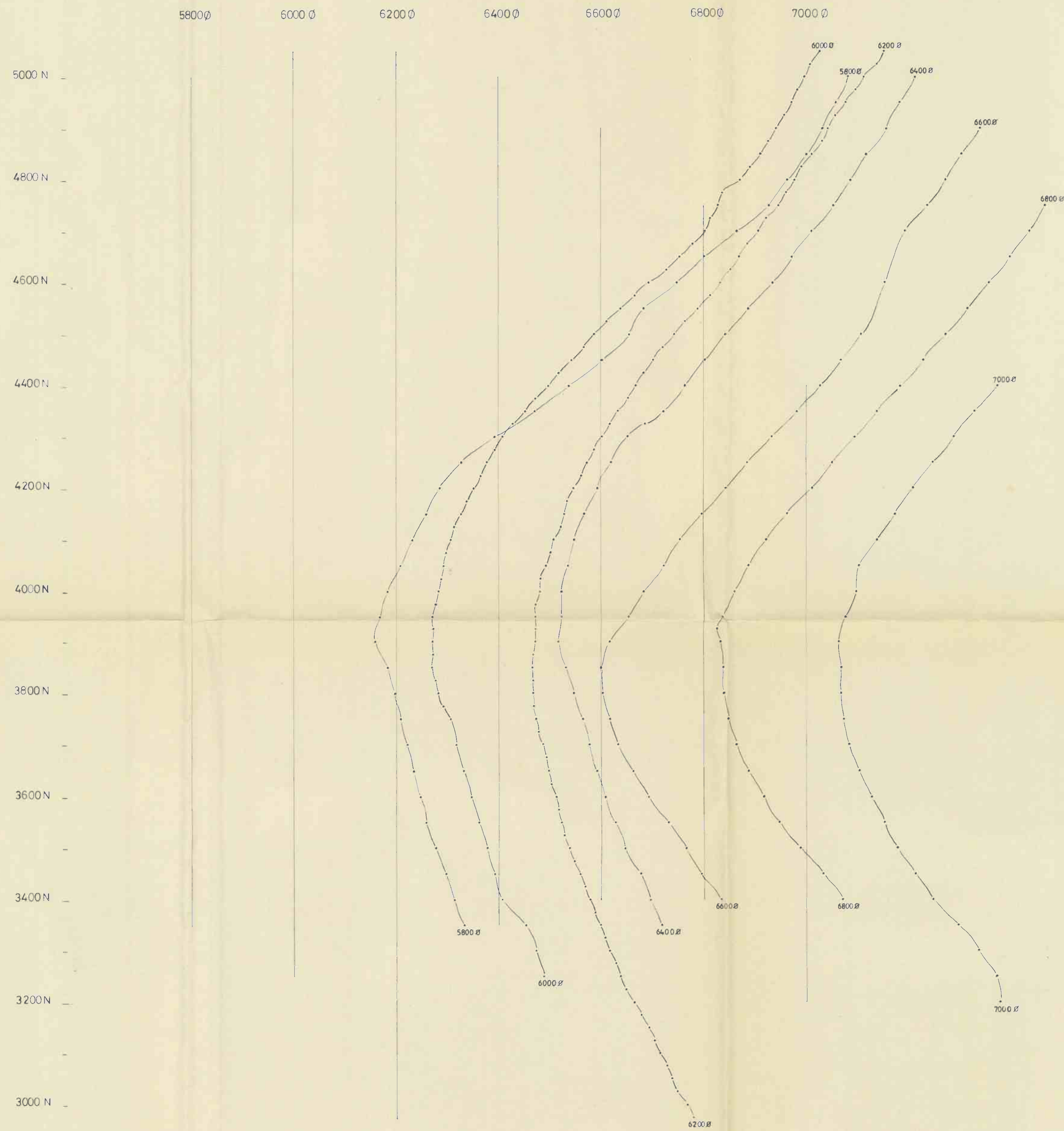
5400 Ø - 7000 Ø

Tove Dahlen

A S TORRHOPI



FOLLDAL VERK A/S		
HJERKINN PROSJEKT		
GÁVÁLI CP		
I = 0.6 A ± i bh. 2000 D v/ 574m		
Date 05 09 1986	Scale: 1: 5000	Tove Dahlen



FOLLDAL VERK A/S

HJERKINN PROSJEKT

GÅVÅLI
CP-MÅLING

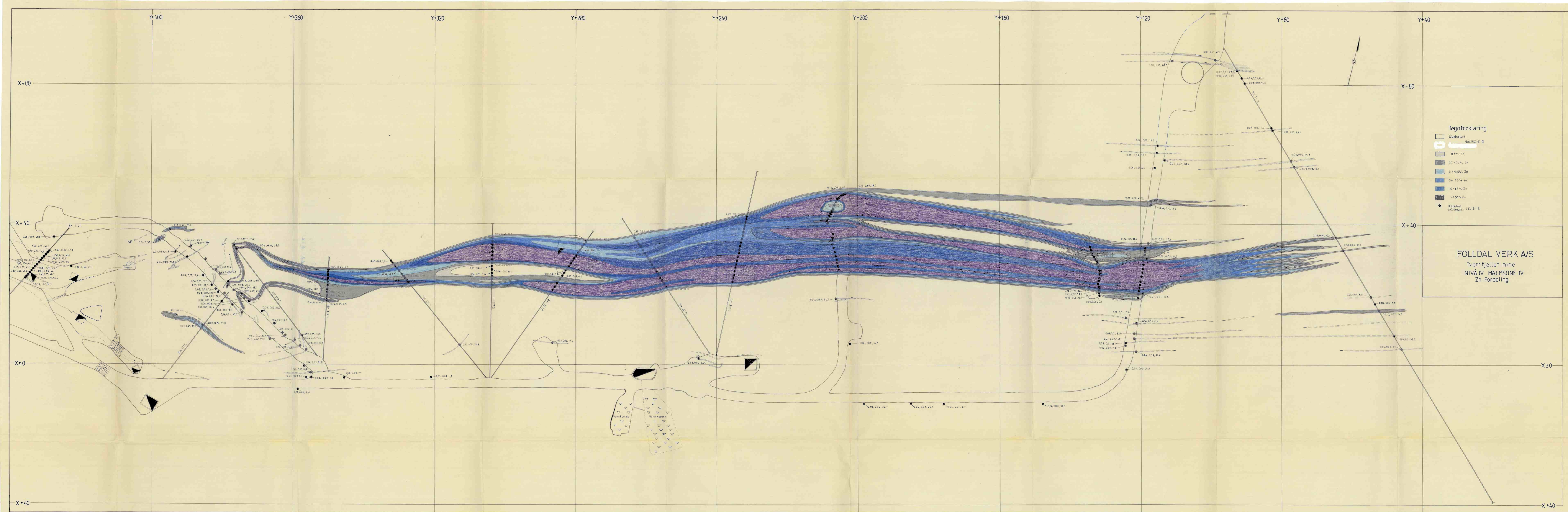
5800Ø - 7000Ø

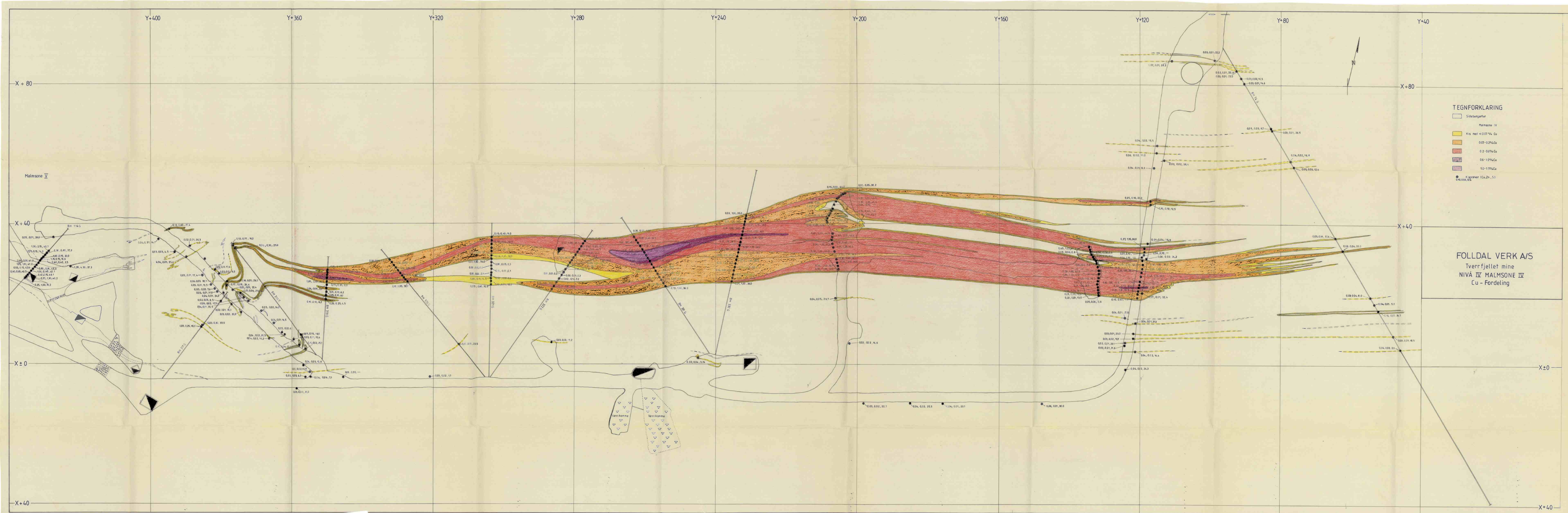
Date 04.09.1986

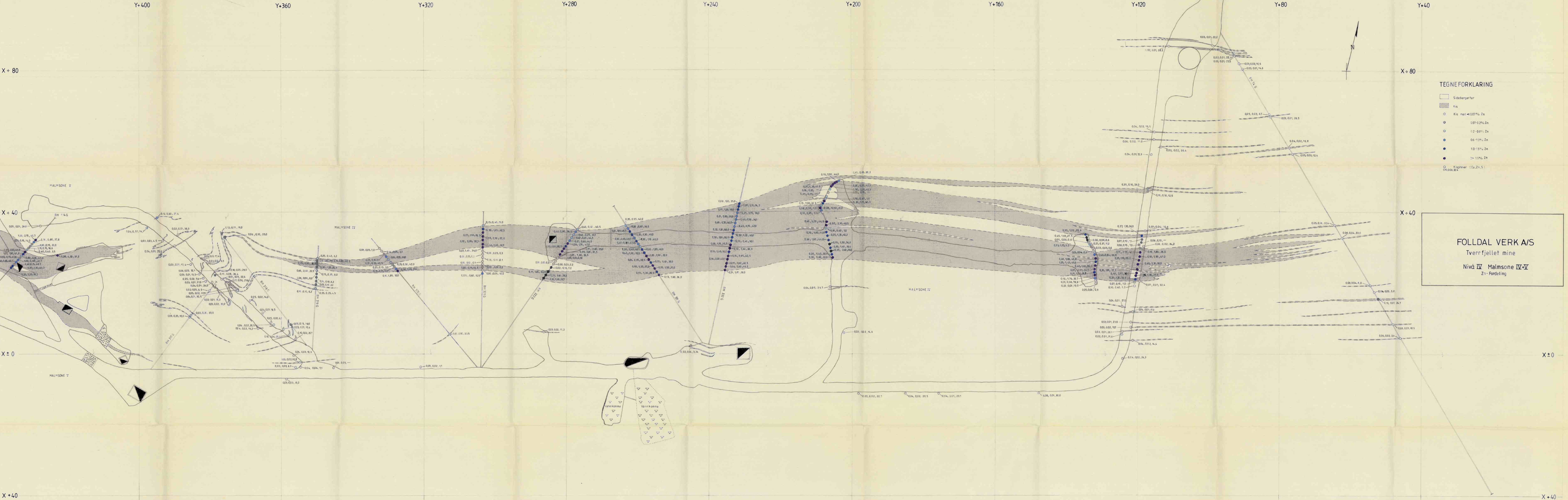
Scale: 1:5000

TD

JERRY JELLEY



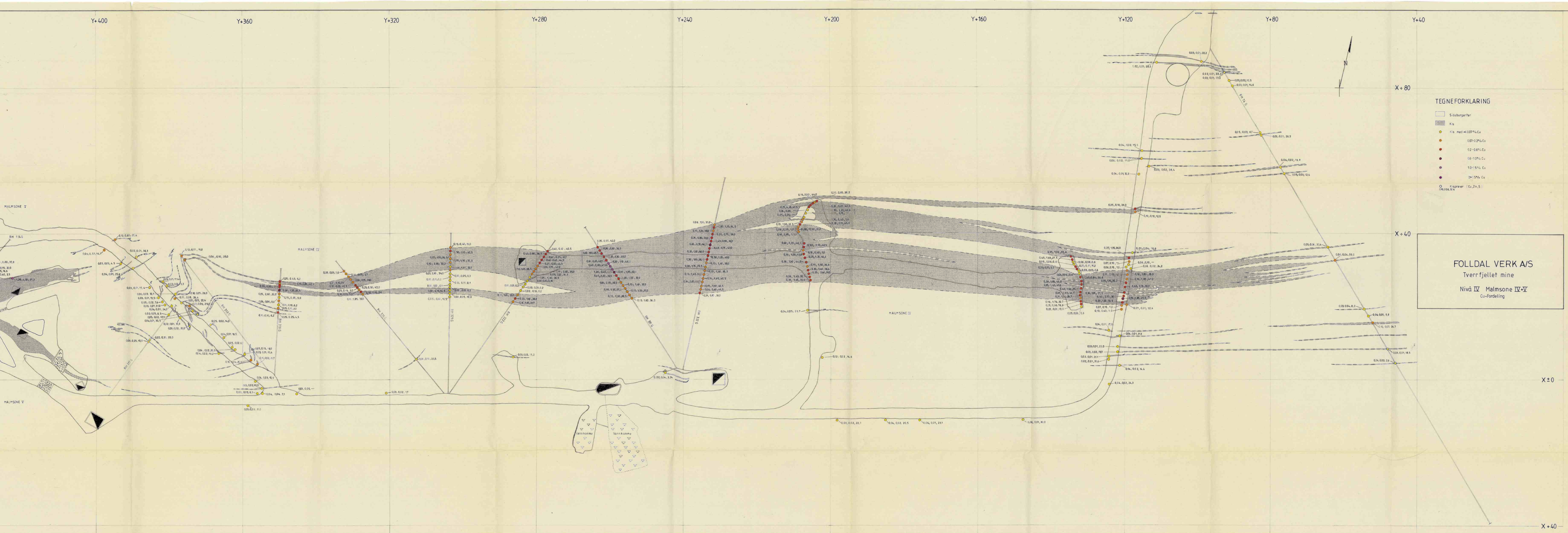


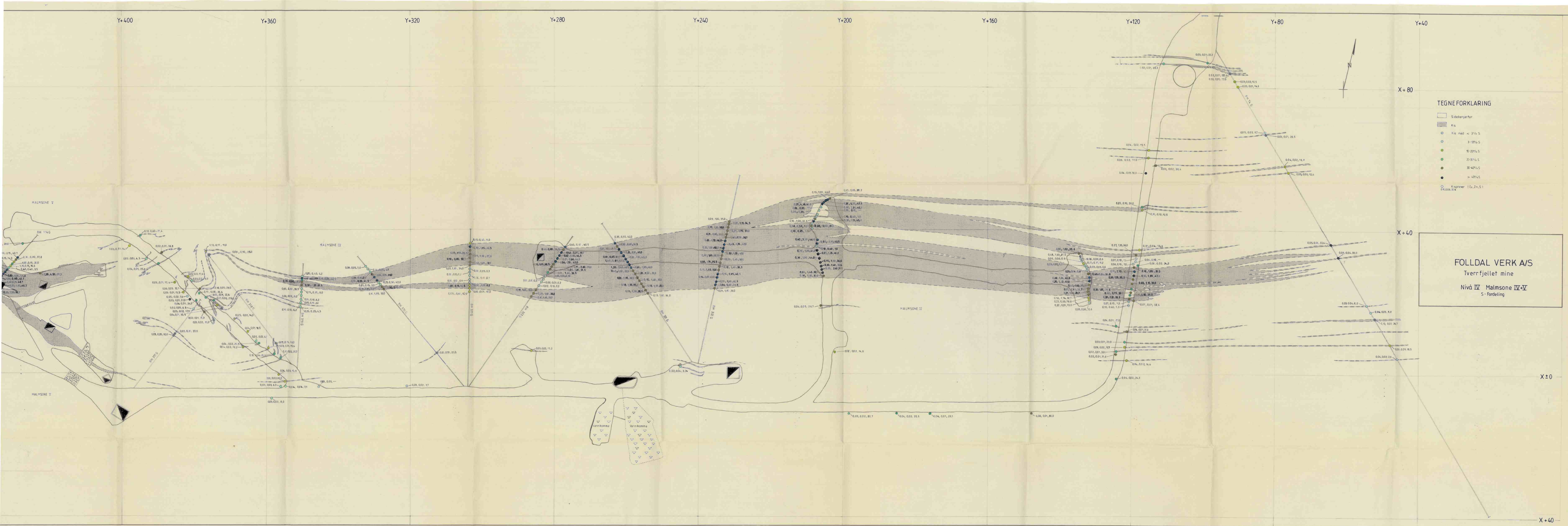


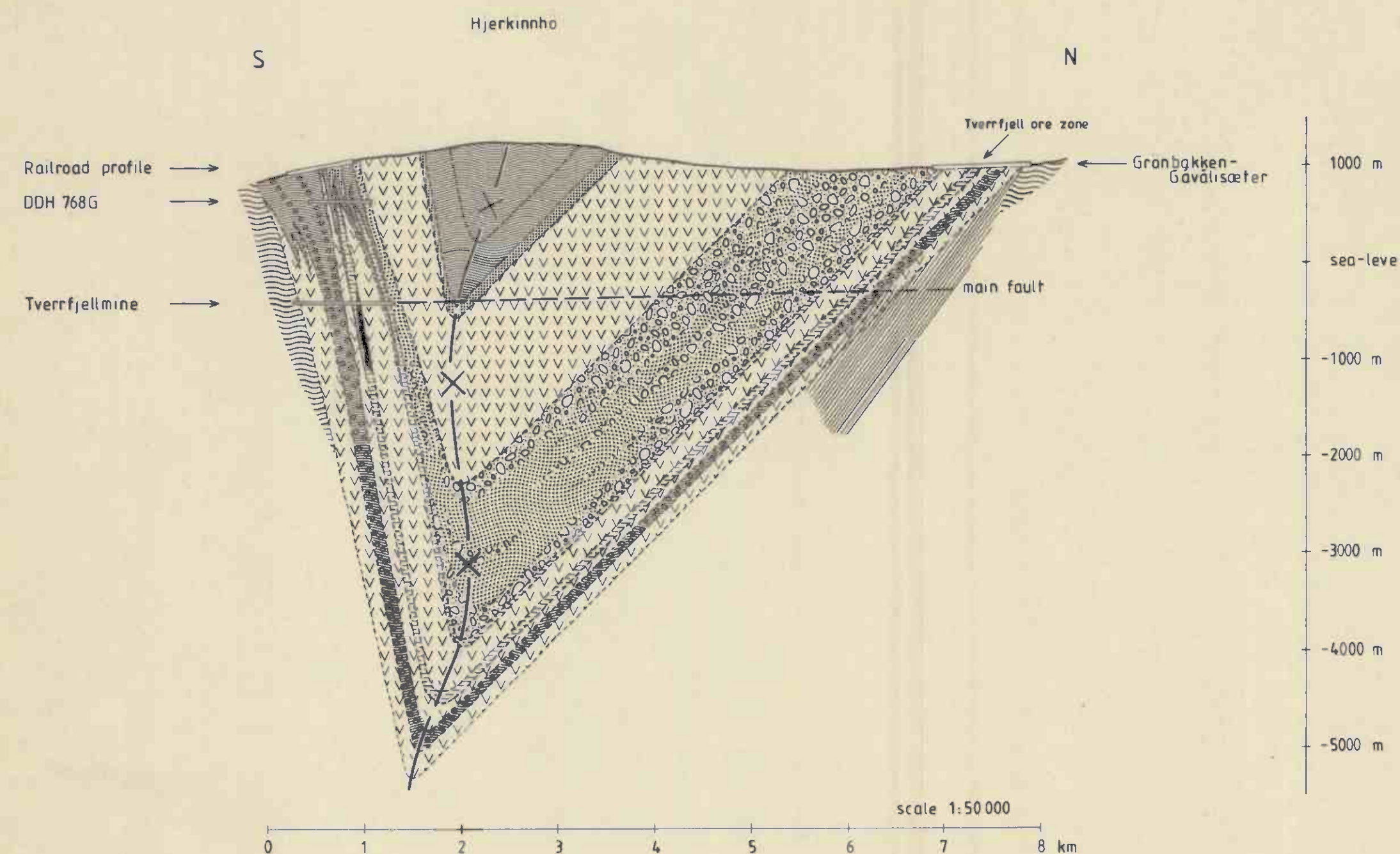
TEGNEFORKLARING

- Sidebergsarter
- Kis
- Kis med $<0.07\%$ Zn
- $0.07-0.29\%$ Zn
- $0.2-0.6\%$ Zn
- $0.6-1.0\%$ Zn
- $1.0-1.5\%$ Zn
- $>1.5\%$ Zn
- Kisprøver (Cu, Zn, S)
0.000.22.4

FOLLIDAL VERK A/S
Tverrfjellet mine
Nivå IV Malmstone IV-V
Zn-Fordeling







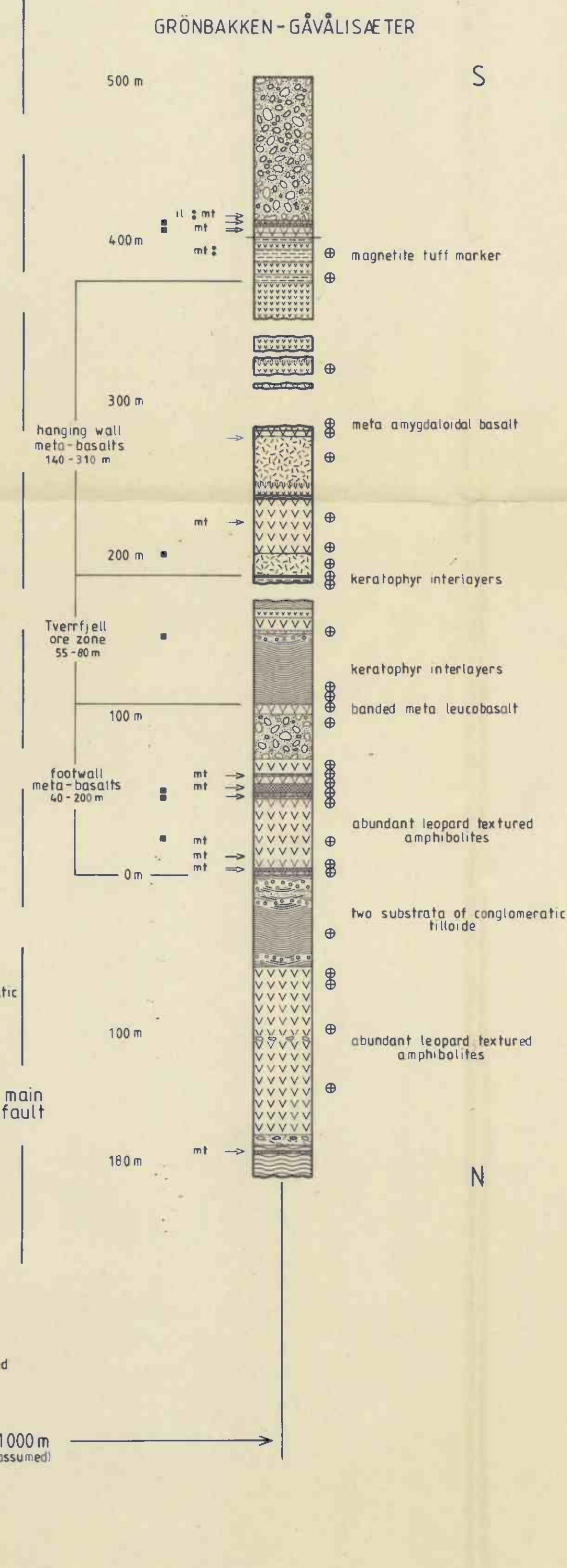
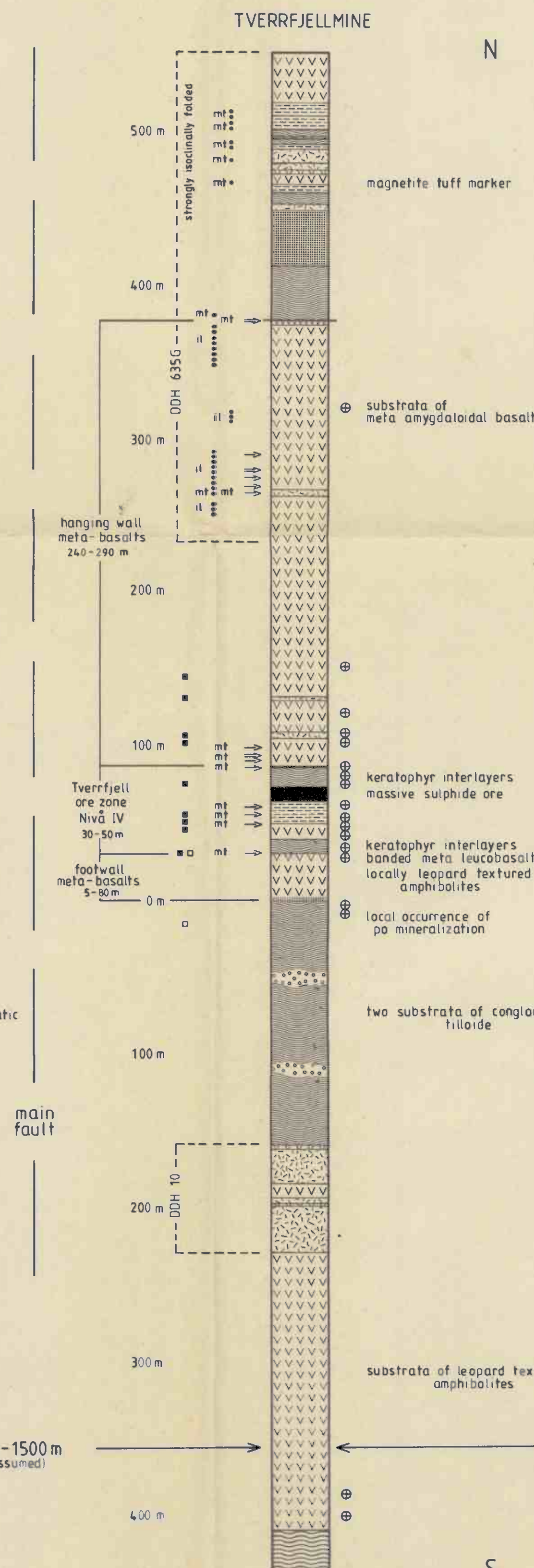
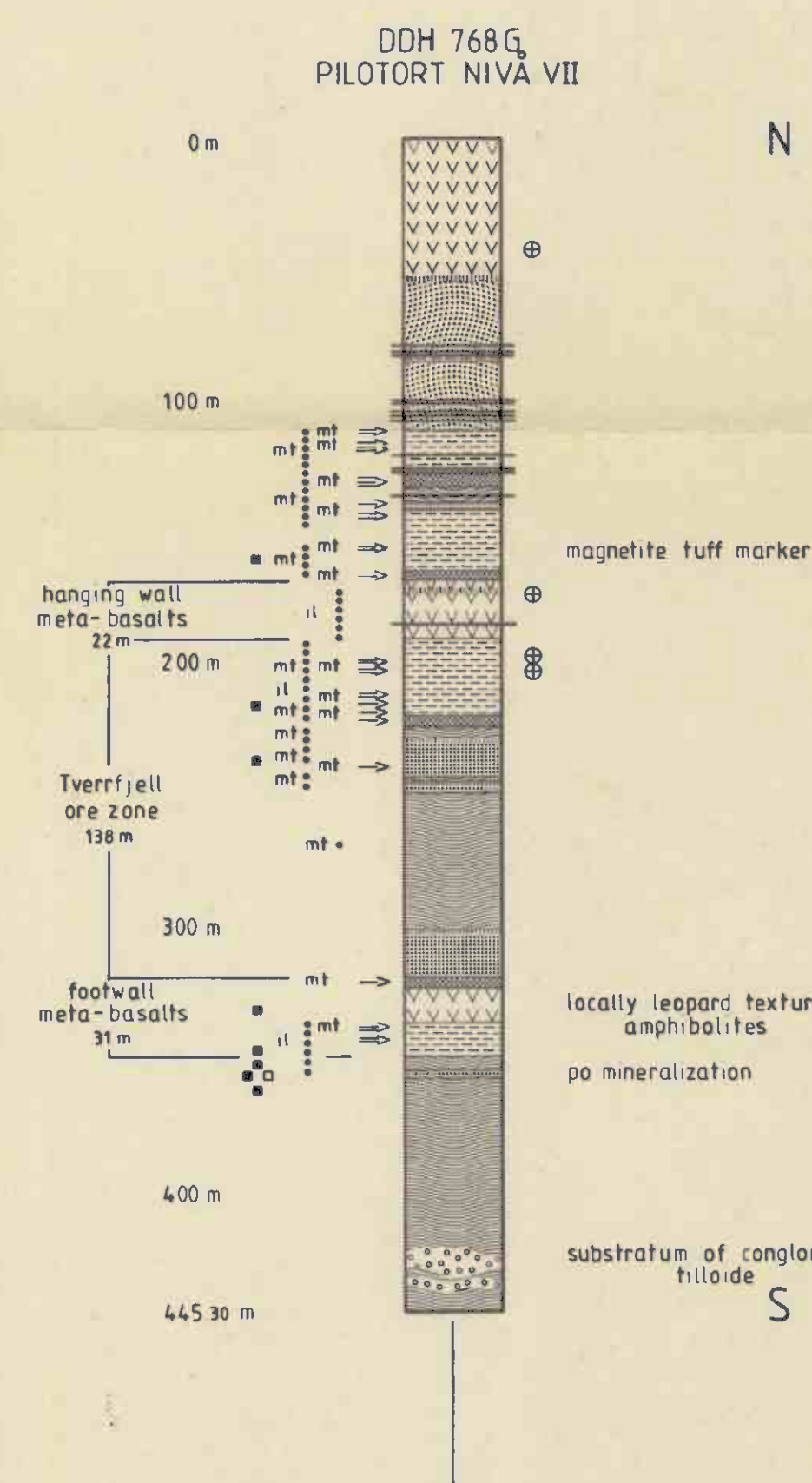
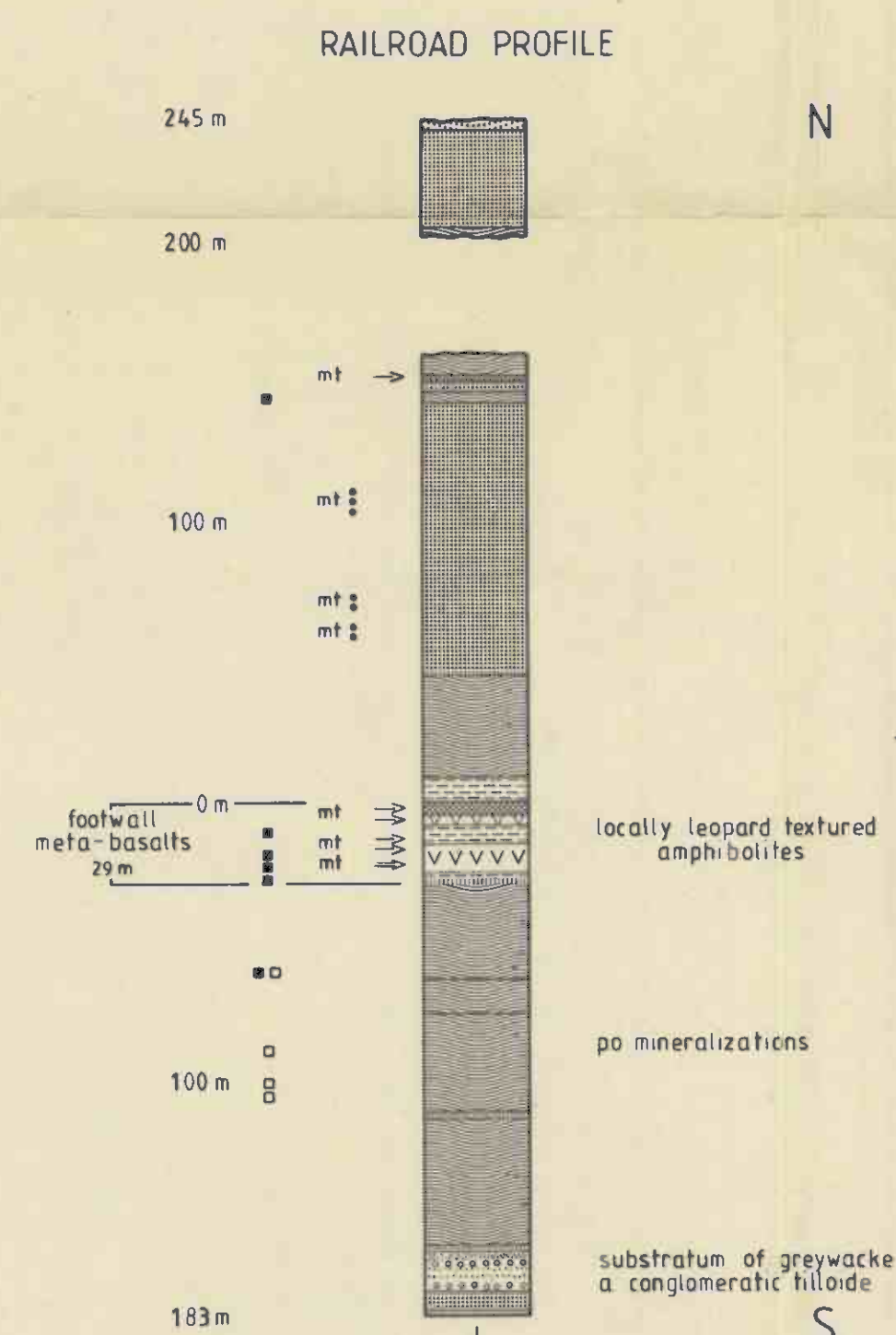
LEGEND

LITHOLOGY

- amphibolite, plagioclase amphibolite (meta basalt flow)
- mica-bearing amphibolite, plagioclase amphibolite fragmental volcanic rock (supp meta basic lapilli tuff a agglomerate)
- mica-rich epidote amphibolite fragmental volcanic rock (meta hyaloclastite)
- banded amphibolite (meta mafic tuff)
- banded amphibolite, amphibole-qtz-fspar rock, calcareous mica schist, calcareous mica-rich qtz-fspar gneiss/schist (meta mafic a felsic tuffs, tuffites a epiclastic sediments)
- (calcareous) biotite-chlorite schist fragmental rock, clasts of amphibolite, vesiculated amphibolite a amphibole-qtz-fspar rock (supp meta subaqueous lahar of dominantly volcanic-derived material)
- calcareous epidote-biotite-chlorite schist, calcareous epidote-biotite-sericite schist (meta mafic volcanic sediment with epiclastic sedimentary impurity, supp distal facies of subaqueous debris flow/lahar)
- quartzite, magnetite quartzite (meta chert)
- quartzite, mica-banded quartzite (meta quartz arenite, supp related to turbidity currents)
- chlorite-bearing biotite-sericite schist, amphibole gabbroschist (meta pelitic sediment)
- calcareous mica schist, amphibole-bearing mica schist (meta conglomeratic tillaide a meta greywacke)
- quartz phyllite, biotite-sericite schist (meta pelitic sediment)

GEOLOGY

- geological boundary (sharp, gradational)
- fault
- occurrence of pyrite, pyrrhotite
- occurrence of magnetite, ilmenite
- scattered crystals of magnetite, ilmenite
- chert layer
- chert layer with magnetite
- occurrence of graphite
- chemical analysis



FOLLDAL VERK A/S

HJERKINN PROJECT

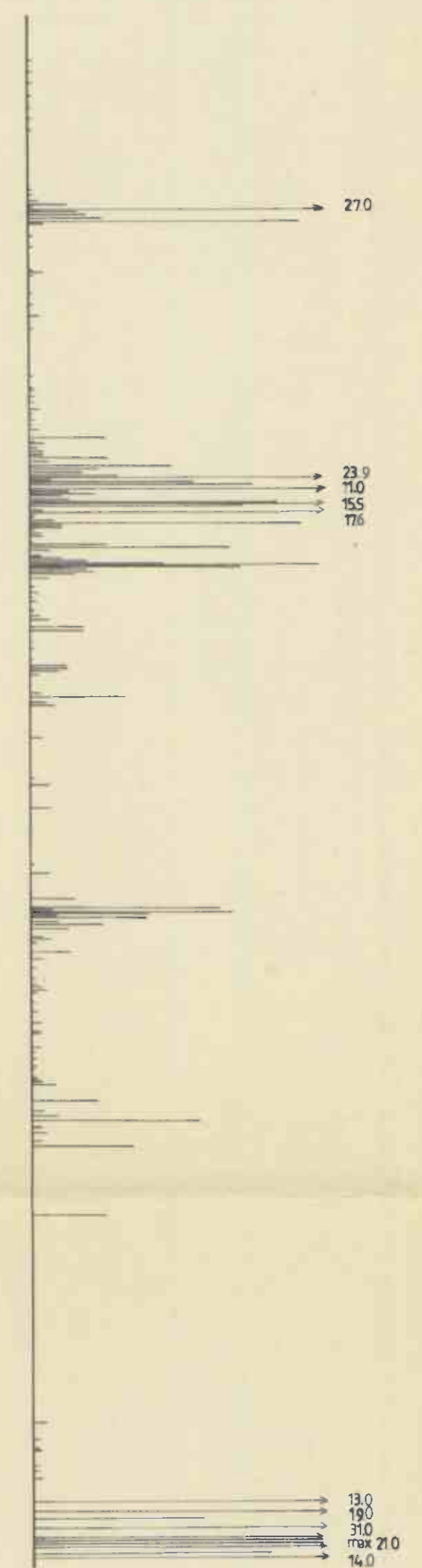
CORRELATION OF LITHOLOGICAL PROFILES
FROM WEST AND EAST
OF THE MAIN FAULT

Kjemisk analyse

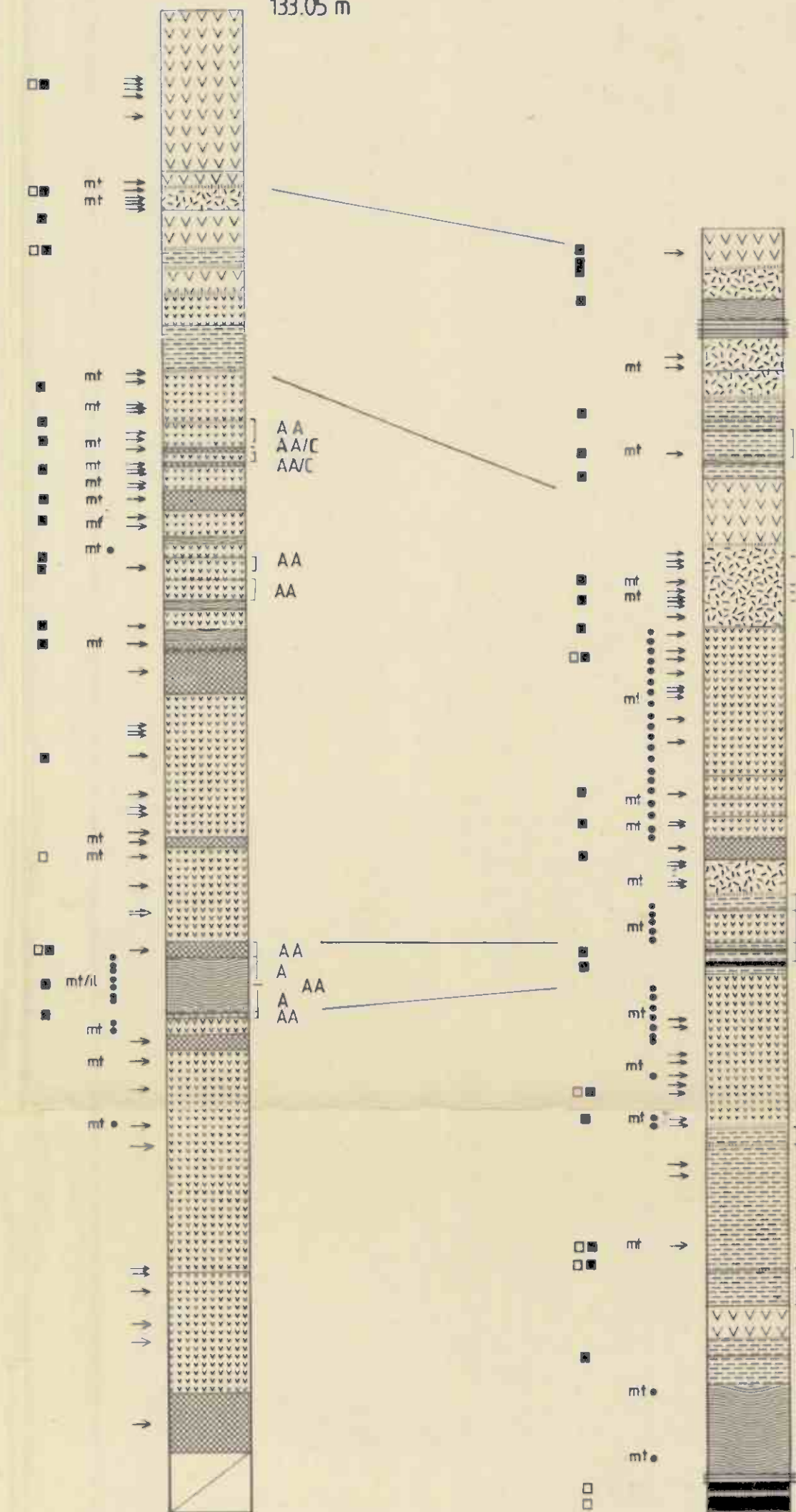
[m]	Cu ‰	Zn ‰	S ‰
126.30 - 126.35	0.18	0.01	5.50
125.05 - 125.15	0.20	0.01	8.01
116.56 - 116.71	0.05	0.02	5.19
116.16 - 116.27	0.04	0.02	15.7
114.06 - 114.12	0.06	0.47	32.5
110.96 - 111.15	0.13	0.07	5.50
110.73 - 110.85	0.11	0.04	2.10
109.56 - 110.00	0.03	0.03	1.42
98.37 - 98.40	0.03	0.29	6.69
94.67 - 95.27	0.05	0.04	7.91
93.26 - 93.68	0.03	0.03	5.59
91.92 - 92.00	0.03	0.05	4.38
90.77 - 90.84	0.03	0.02	5.23
89.98 - 90.50	0.02	0.02	6.78
89.52 - 89.74	0.00	0.05	1.10
88.93 - 89.17	0.03	0.03	6.76
87.35 - 87.61	0.02	0.03	6.54
85.67 - 85.85	0.04	0.03	6.98
82.65 - 82.88	0.05	0.05	3.42
81.91 - 81.97	0.01	0.03	6.61
77.08 - 77.37	0.01	0.04	2.72
76.74 - 77.08	0.02	0.04	6.88
76.39 - 76.74	0.01	0.04	2.26
74.42 - 74.64	0.06	0.03	1.99
73.90 - 74.20	0.04	0.05	2.69

45.70 - 47.10	0.34	0.08	9.49
44.10 - 45.70	0.07	0.15	2.46
43.10 - 44.10	0.03	0.15	1.73
42.10 - 43.10	0.02	0.16	0.60

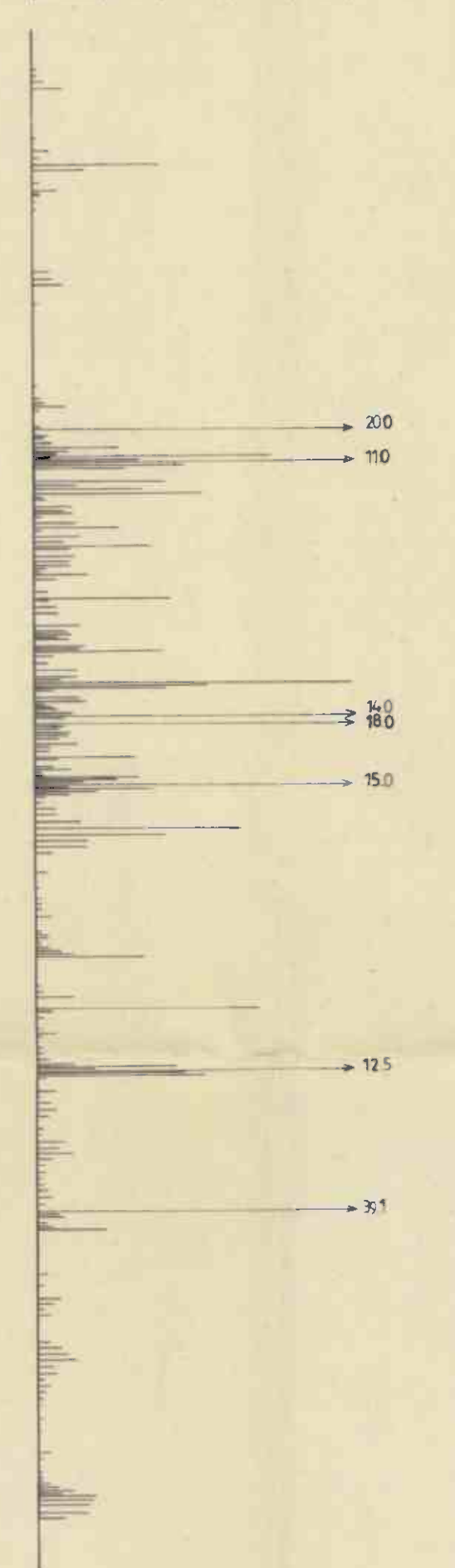
Suszeptibilitet (scintrex SM-5)

0 2 4 6 8 10 [10^{-3} cgs]

133.05 m

1330 N - 2725 V
Bh.21

Suszeptibilitet (scintrex SM-5)

0 2 4 6 8 10 [10^{-3} cgs]

1280 N - 2700 V

Bh.13

Kjemisk analyse

[m]	Cu ‰	Zn ‰	S ‰
188.23 - 188.69	0.06	0.03	15.1
174.32 - 174.43	0.04	0.02	9.34
171.44 - 171.52	0.03	0.02	12.1
169.30 - 169.68	0.13	0.22	3.80
140.00 - 140.35	0.04	0.02	7.10
135.60 - 136.17	0.04	0.03	0.26
135.09 - 135.39	0.03	0.05	2.02
134.65 - 135.09	0.03	0.03	6.32
124.66 - 125.15	0.47	0.11	124
124.25 - 124.66	0.63	0.81	257
76.00 - 76.80	0.02	0.04	12.2
75.00 - 76.00	0.02	0.02	19.3
74.00 - 75.00	0.02	0.02	20.0

TEGNFORKLARING

LITOLOGI

- amfibolitt, amfibol skifer
(meta basaltisk lavastrom)
- båndet amfibolitt
(meta mafisk tuff)
- amfibol-kloritt skifer, biotitt-kloritt skifer
(meta basaltisk vulkanitt)
- karbonat-rik biotitt-serisitt skifer, karbonat-rik biotitt-serisitt-kloritt skifer
(meta tuff, -tuffitter)
- (karbonat-rik) biotitt-serisitt skifer
(meta pelitisk sediment)
- amfibol-serisitt skifer
(garbenskifer)
(meta pelitisk sediment)
- kvartsitt, magnetitt-kvartsitt
(meta ekshalitt)
- sulfidisk malm

GEOLOGI

- bergartsgrense (skarp, uskarp)
- forkastning
- mineralisering av pyritt, pyrrhotitt
- mineralisering av magnetitt, ilmenitt
- spredte krystaller av ilmenitt, magnetitt
- chert horisont
- chert horisont med magnetitt
- svak hydrotermal omvandling
- sterk hydrotermal omvandling
- karbonahsering

FOLLDAL VERK A/S

HJERKINN - PROSJEKT

TVERRFJELLET GRUVE

LITOLOGISKE PROFILER

Borhull 13 og 21

Utgående av malmen i vest

Date: 24.11.1986

Scale:

FD. Priesemann

Mellomort, horisontalsnitt
målestokk 1:500