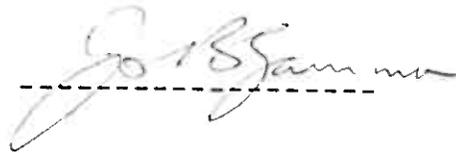


A/S SULFIDMALM
INTER-OFFICE MEMORANDUM

Date: 5th May, 1977
To: Falconbridge Nikkelverk A/S
cc: W. D. Harrison, H. T. Berry, R. Jahnsen, R. B. Band
E. Kreivi, Bergmester Vasshaug
From: J. B. Gammon
Subject:

Rept. No. 409/76/17. Suolojavrrre Grid, Masi.

Please find attached our summary of work carried out on the Suolojavrrre Grid during 1976. This area was selected on the basis of helicopter EM anomalies in an area with scattered geochemical anomalies. Overburden cover severely hampered mapping and prospecting but boulders containing up to 0.4% Cu and 3.9% Zn were discovered. Geophysical anomalies seem to be associated with the graphitic schist horizons of regional extent. Bedrock-till interface geochemistry would be interesting to try in this area should we decide to pursue the search further.



FOR FALCONBRIDGE NIKKELVERK A/S
A/S SULFIDMALM

Project 905-17

Ground surveys at Suolojavrre
in 1976, Masi

By

E. Kreivi

K. Taipale

ADDITIONAL ACTIVITY

OFFSHORE
The offshore area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N. The offshore area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

ABORIGINAL
The aboriginal area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

MARINE RESERVE
The marine reserve area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

CONTINENTAL SHELF
The continental shelf area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

PERMANENT RESERVE
The permanent reserve area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

JANUARY 1968
The January 1968 area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

SYSTEMS
The systems area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

SEA WOODS
The sea woods area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

WATER RESOURCES
The water resources area is defined as the area between the 120°W and 125°W meridians and the 30°N and 35°N parallels. This area is divided into three zones: Zone 1, Zone 2, and Zone 3. Zone 1 is the area between 120°W and 122°W and 30°N and 32°N. Zone 2 is the area between 122°W and 124°W and 30°N and 32°N. Zone 3 is the area between 124°W and 125°W and 30°N and 32°N.

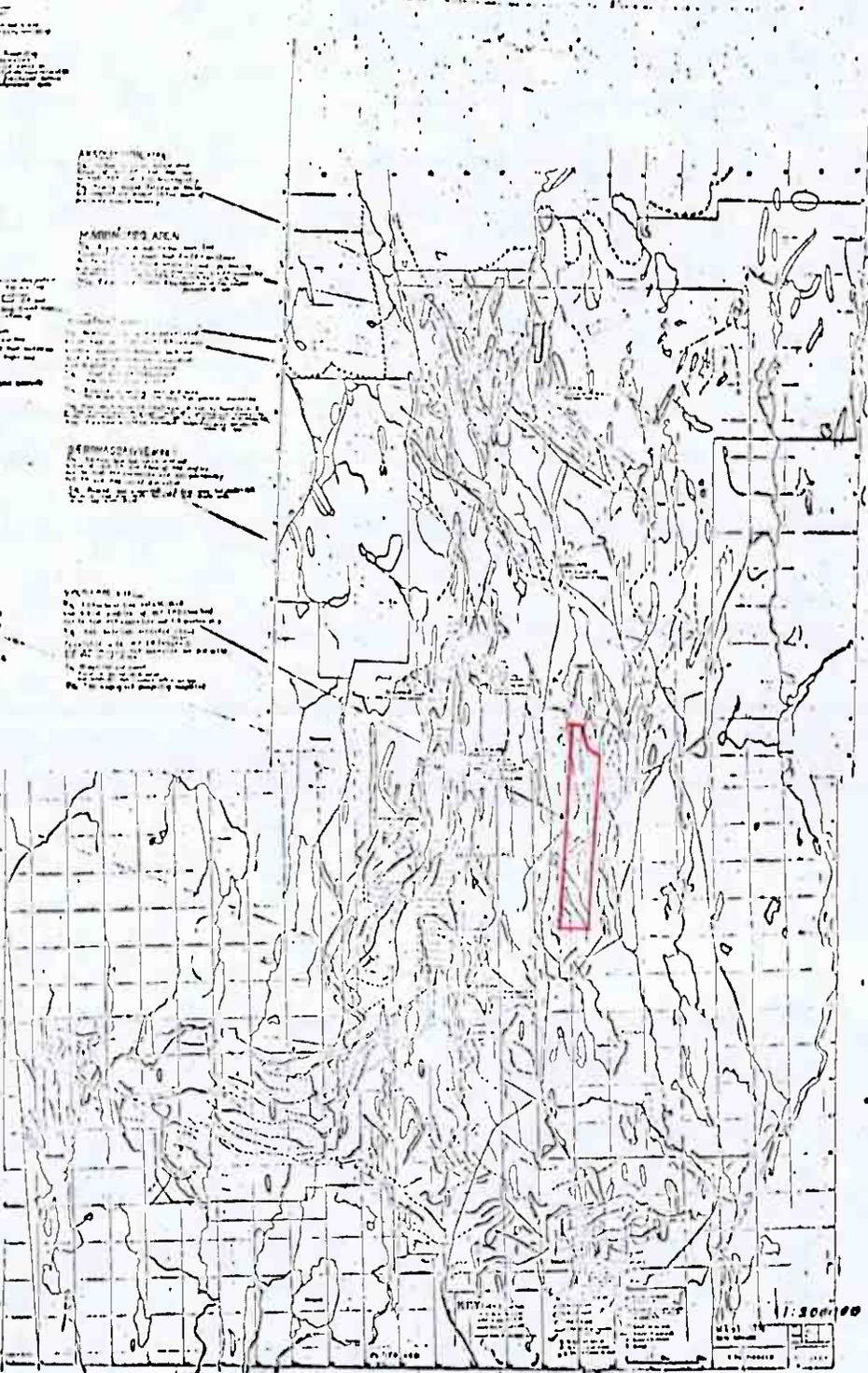


FIG. 1

Introduction (Fig.1)

The Suolojavrrre-grid is situated on the western side of the lake called Stuora Suolojavrrre. The 5.6 kms long base-line starts from 700 ms north of Duolbajavrre, 10 kms south of Suolovuobme. The base-line was set out in the direction of magnetic north and 800 ms long profiles were set out east-wards from the base-line with 100 ms line-spacing. The grid was layed out to locate by VLF-EM- and Mag-survey and mapping the helicopter-anomalies within the geochemically anomalous areas, found by the reconnaissance till sampling of 1974. The area is quite covered by swamps and drift as usual in this district.

Geology by Kalle Taipale (Fig.2)

Petrography

The only rock type that has not been described in the connection of Havggajavrre, Unna Vuovdas and Javrehuosjokka is the skarn. It consists of tramolite and chlorite and possibly some plagioclase. See the sample 191C/KT. This rock type is exposed only in two places and its origin and stratigraphical setting is obscure. The southernmost occurrence of skarn rock (sample 278/KT) contained some pyrrhotite. The nickel anomaly near this place could be explained by this kind of sulphide bearing skarn.

Other rocks like greenstones, mica schist and quartz banded iron ores are similar to the rocks of other areas described before. The greenstone differs a little from the greenstones of Havggajavrre, Unna Vuovdas and Javrehuosjokka, however. It is more gabbroic, more coarse grained than the varieties in other areas. The weak nickel anomalies are probably caused by silicate nickel of these gabbroic greenstones.

Structure

The structure of Suolojavrrre grid is obscure because of poor outcrop. Anyway there is probably a fold structure judging by the coupled occurrence of the sulphide bearing chert-graphite schist horizons. (see the map).

Block searching

Some good boulders with Zn and Pb were found at the beach of lake Suolojavrrre (e.g. 31/MP-75). The occurrence of those elements is very random however. The till at Suolojavrrre grid is mostly very poor in boulders at the surface. So the boulders searching with Proxan apparatus or something like it could bring out "hidden" blocks.

Geophysics (Fig.3)

South of the 600N-profile there seems to be a very weak relief on the VLF-curves. To the north of the profile at least four strong conductor zones are running in a south-north-direction. They seem to conform to the acidvolcanics-beds with some mineralized graphitic beds. The mag-relief is quite low, but there are some anomalies, which are parallel to EM-anomalies and seem to be on the quartz-banded magnetite-formations, found during the detailed mapping.

Conclusions

The geochemical and geophysical anomalies seem to conform to the mineralized graphitic beds in acid volcanics as in the other areas Havggajavrre and Unna Vuovdas.

The mineralization is mainly pyrrhotite and some pyrite with traces of chalcopyrite, occasionally sphalerite (31/M-76).

The best analyses of hand specimens gave:

0.40% Cu in 233/KT/76

3.9% Zn in 31/MP/76

Maas: 1776

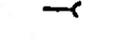
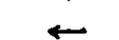
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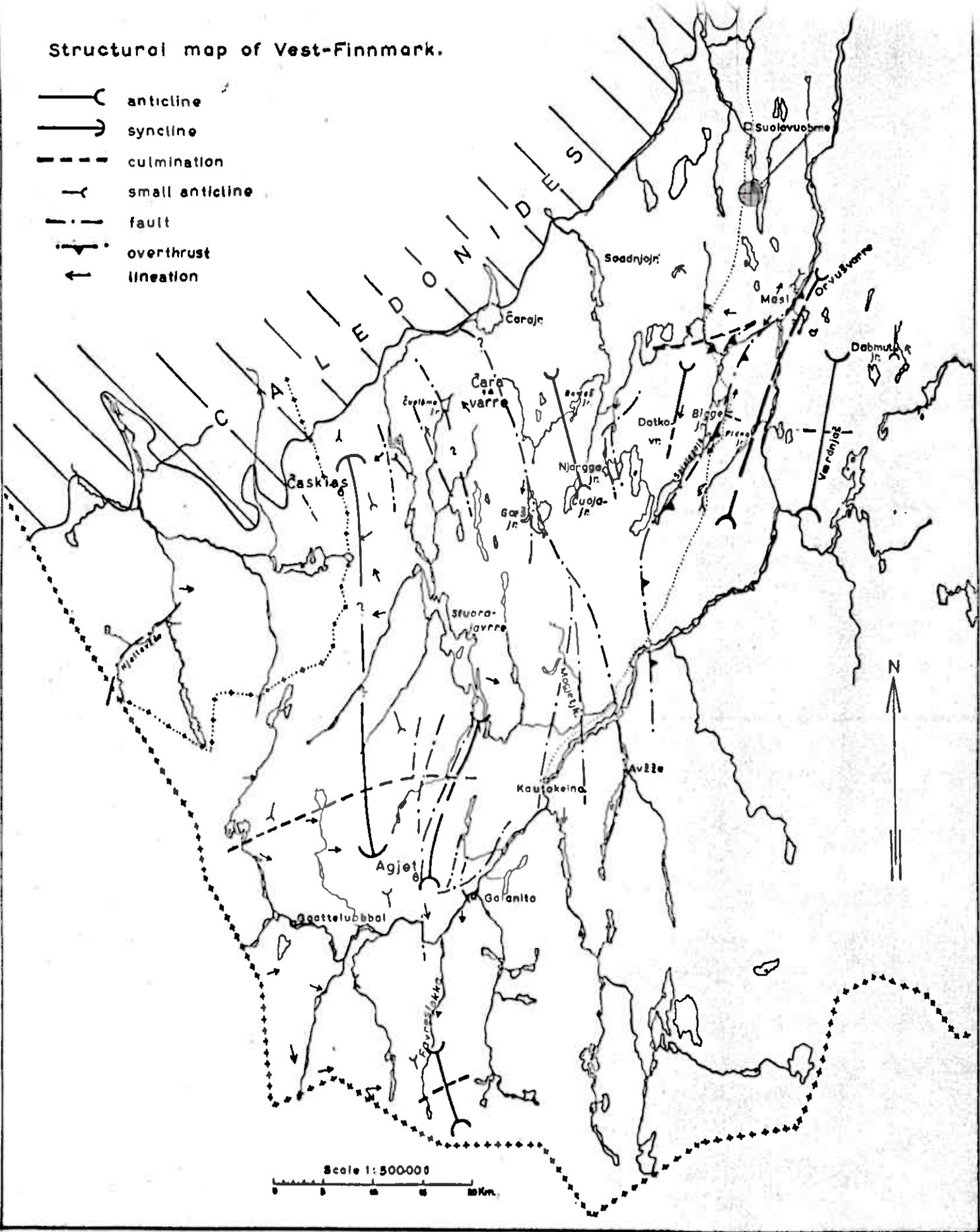
Innsendt av: E. Krovi

No	Kode	Lokalitet	Provetype	Bestnr	Analyse						Bemerk:
					Cu	Zn	Pb	S	Ag	Au	
78	233/KT	Sulojavann	Grub		040	0.012	<0.02				
79	253/KT	---	---		099	0.017	<0.02				
80	253/KT	---	---		019	<0.01	<0.02				
81	43/MP	Silesjavann	---		1.10	<0.01	<0.02				
82	50/MP	---	---		1.21	<0.01	<0.02				
83	37A/EK	Dalmutjavann R. Sulojavann	---		0.06	5.2	0.83		52 ppm		$\Sigma Zn, Pb = 6.03$
84	37B/EK	---	---		0.07	3.6	0.78		51 ppm		$\Sigma Zn, Pb = 4.38$
85	37C/EK	---	---		0.07	2.7	1.05		"		$\Sigma Zn, Pb = 3.75$
86	42A/EK	Raipas	---		290		<0.02		90	20 ppm / ppm	
87	42B/EK	---	---		048		<0.02		"	"	

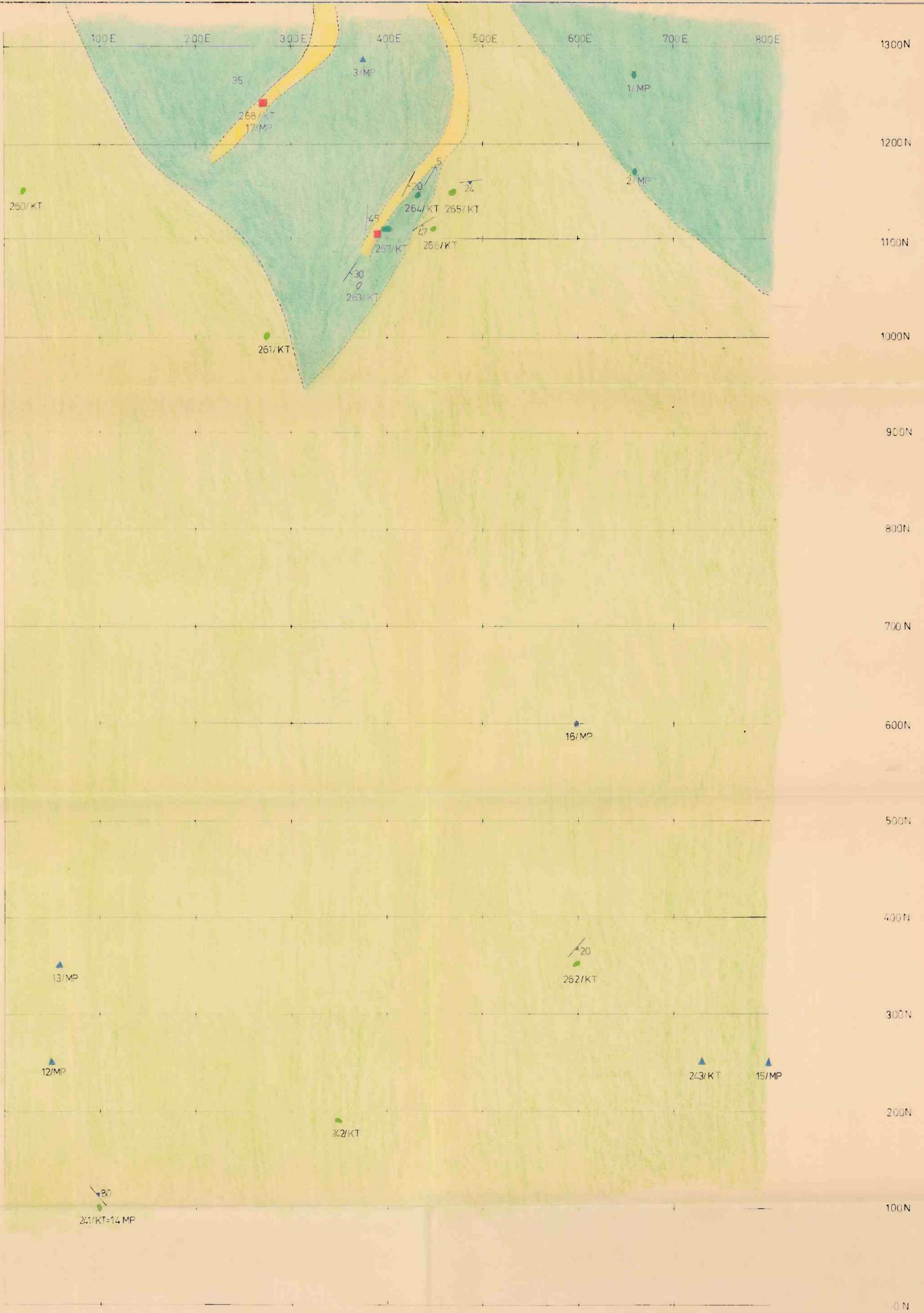
Shipment No. 12/3

Structural map of Vest-Finnmark.

-  anticline
-  syncline
-  culmination
-  small anticline
-  fault
-  overthrust
-  lineation



GEOLOGY



KEY:

- | | |
|----------------------|-----------------------------|
| ACID VOLCANIC, CHERT | MICA SCHIST, GREYWACKE |
| GRAPHITE SCHIST | QUARTZ BANDED MAGNETITE ORE |
| SKARN ROCK | SULPHIDES IN BLOCK |
| GREENSCHIST, -STONE | SULPHIDES IN BEDROCK |



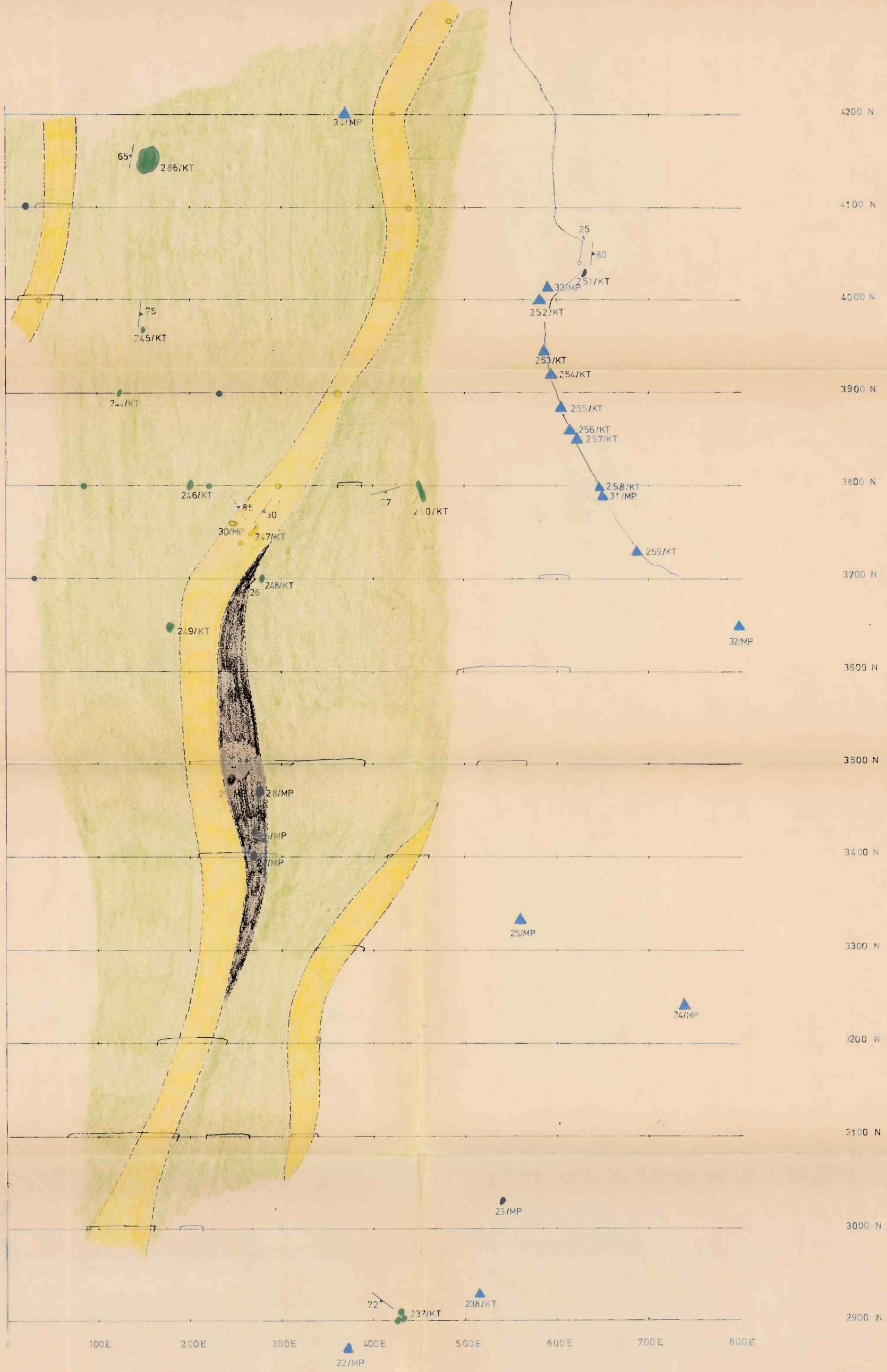
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Art. 1000. 1000. A3. E9 gl. 10-71. Samrun Trykku.



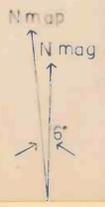
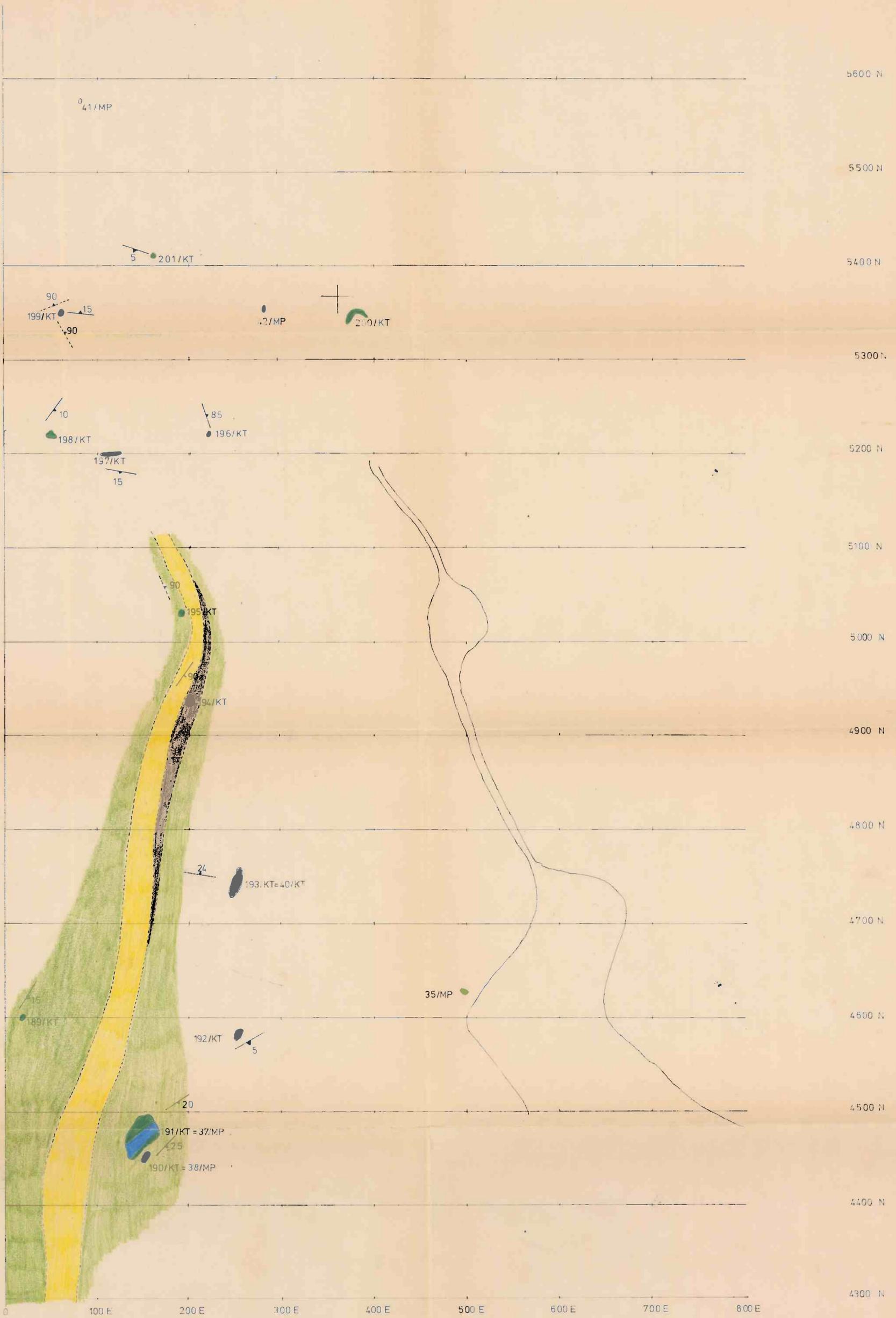
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% SULFIDMALM		409/76/17		
		MAP SHEET		

SUOLOJAVRE MASI 1776 GEOLOGY



SUOLOJAVRE MASI 1776 GEOLOGY	SCALE	OBS. K.T.	8 - 76
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MAP SHEET			

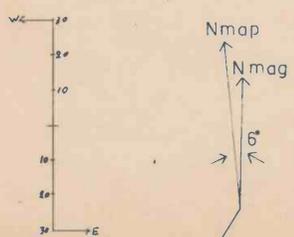
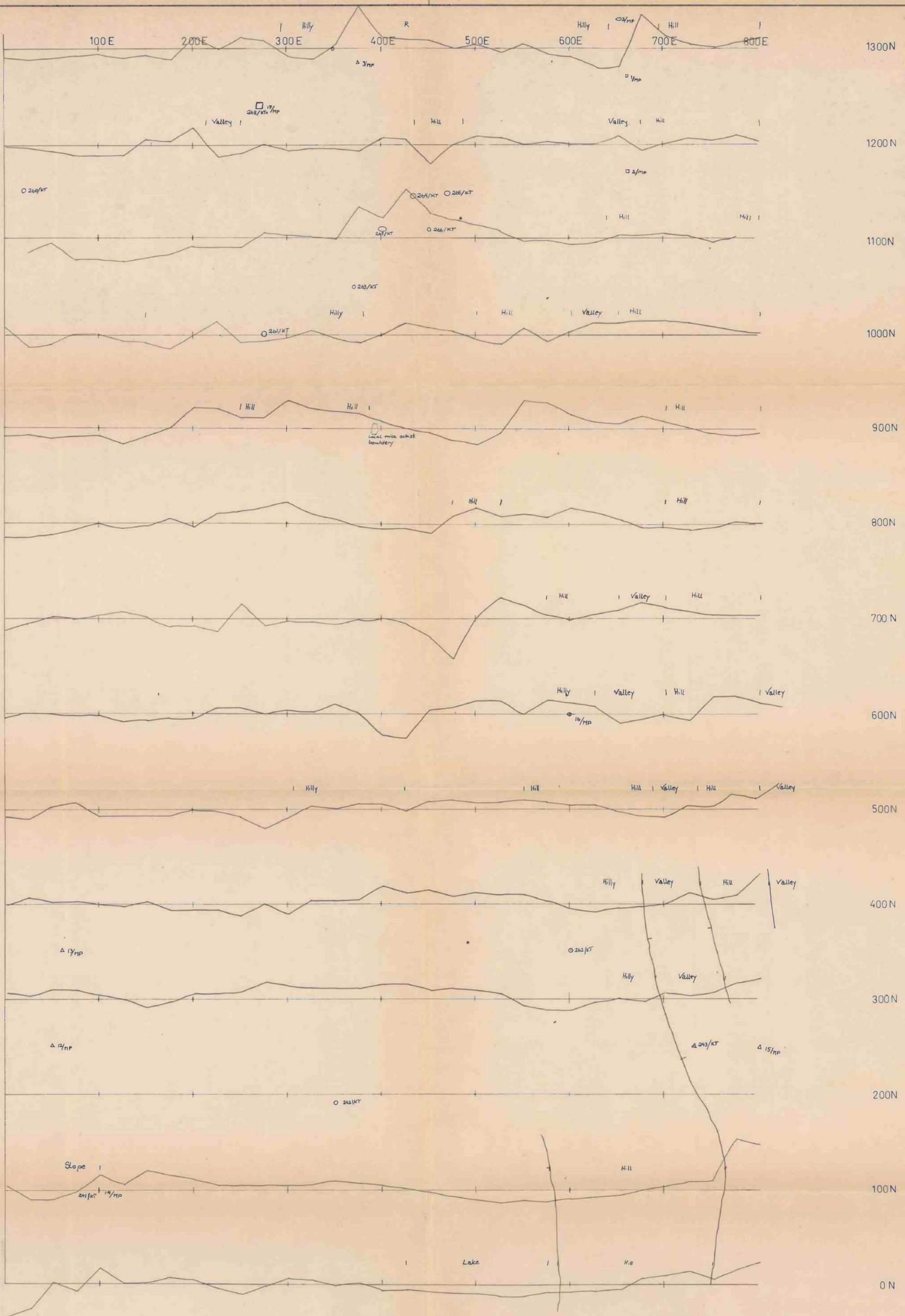
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% SULFIDMALM		MAP NO.	409/76/17

SUOLOJAVRE MASI 1776 GEOLOGY

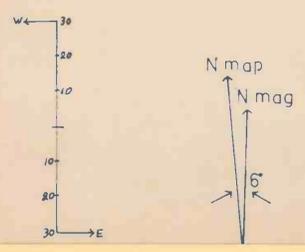
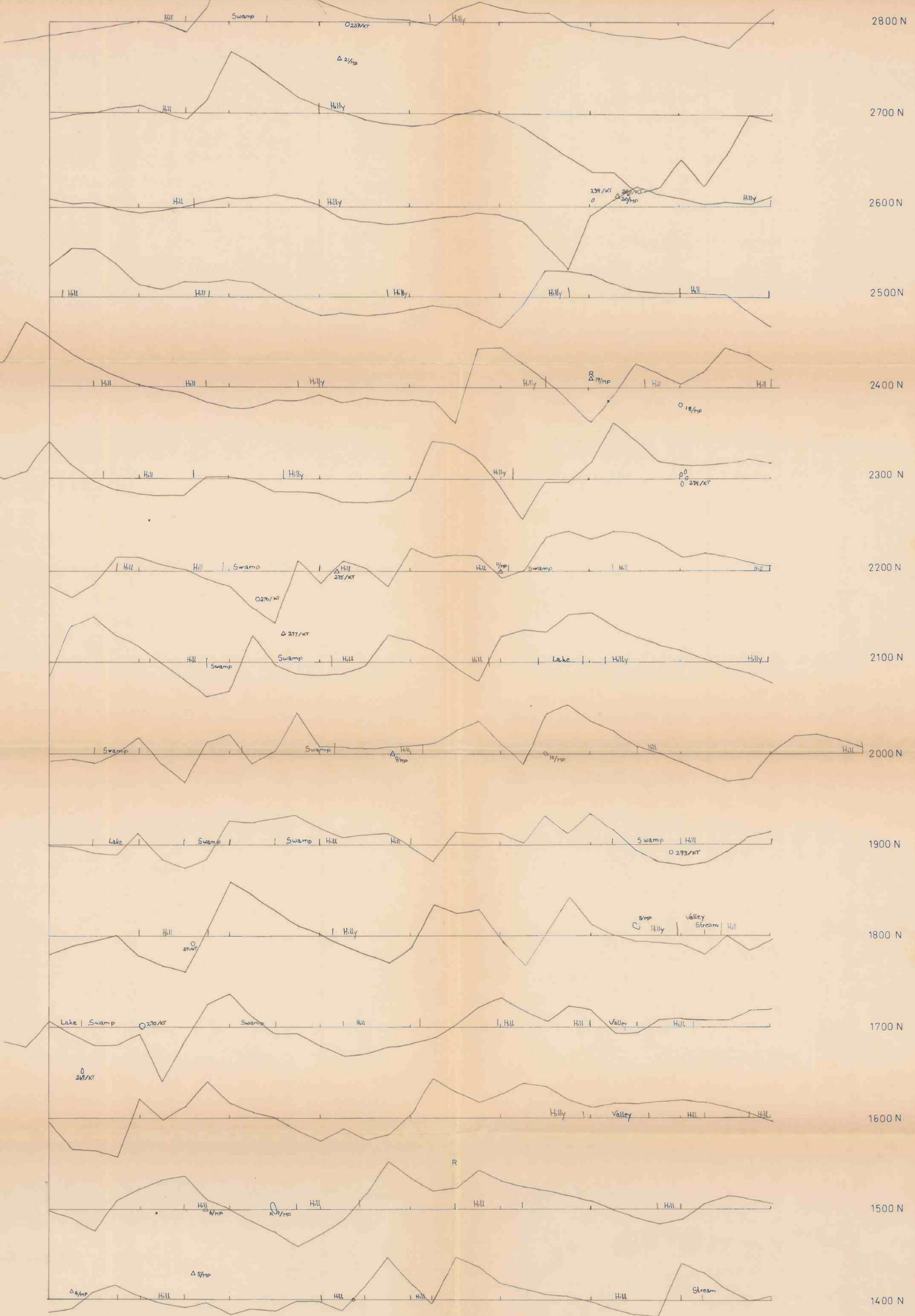
GEOPHYSICS



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SUOLOJAVRRE MASI 1776. Detailed VLF, data Crone Radem FIG.3 sheet 1

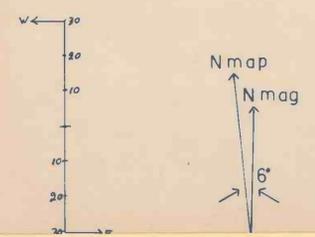
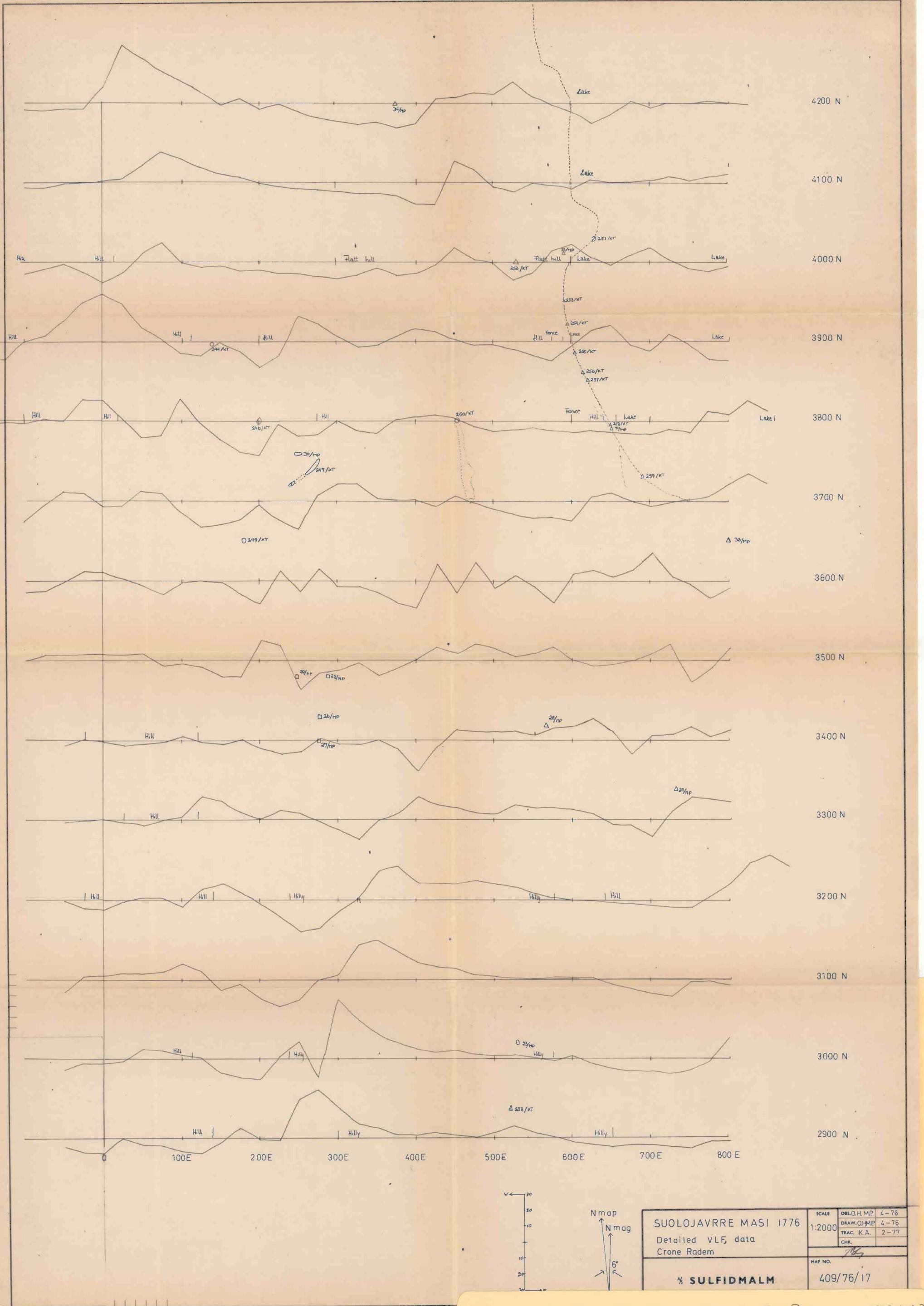
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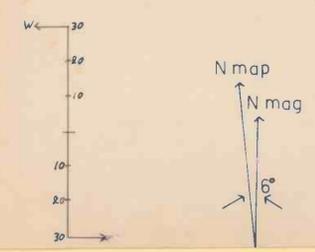
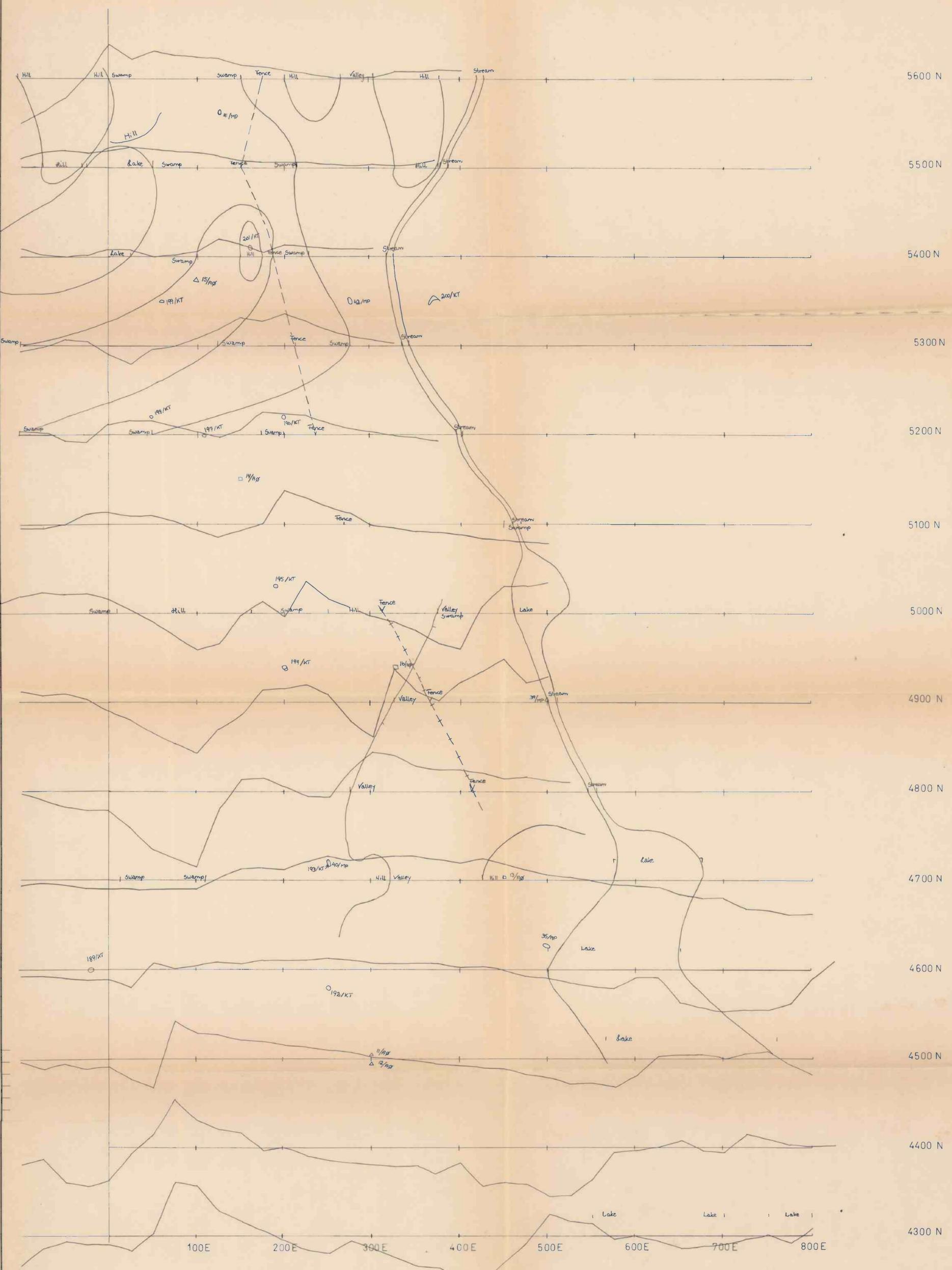
SUOLOJAVRRE MASI 1776, Detailed VLF data Crone Radem FIG. 3 Sheet 2

As Performed, 2000 A.T. 1.8.8. 1976, Suomalainen Yritykset



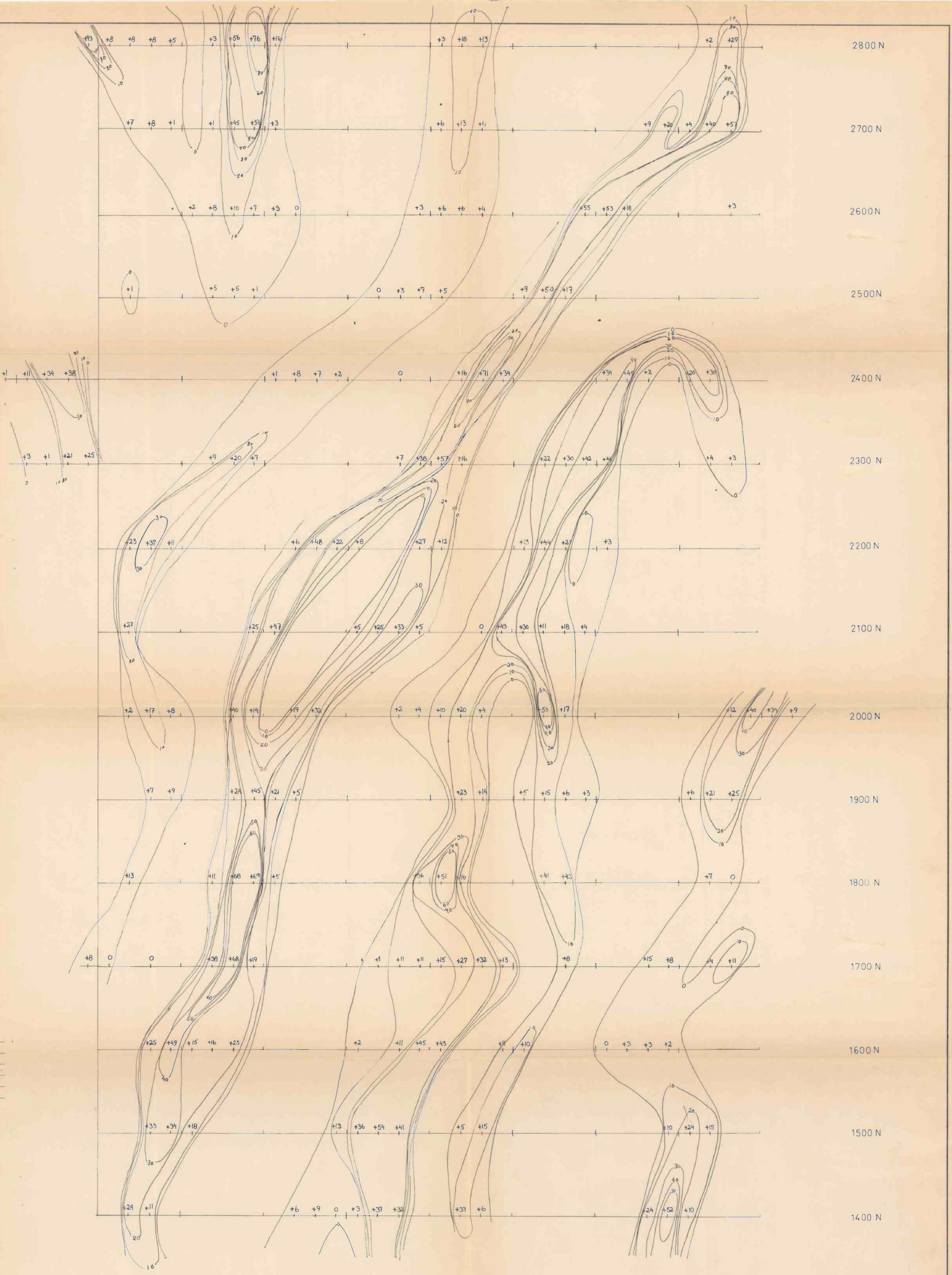
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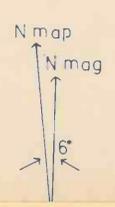


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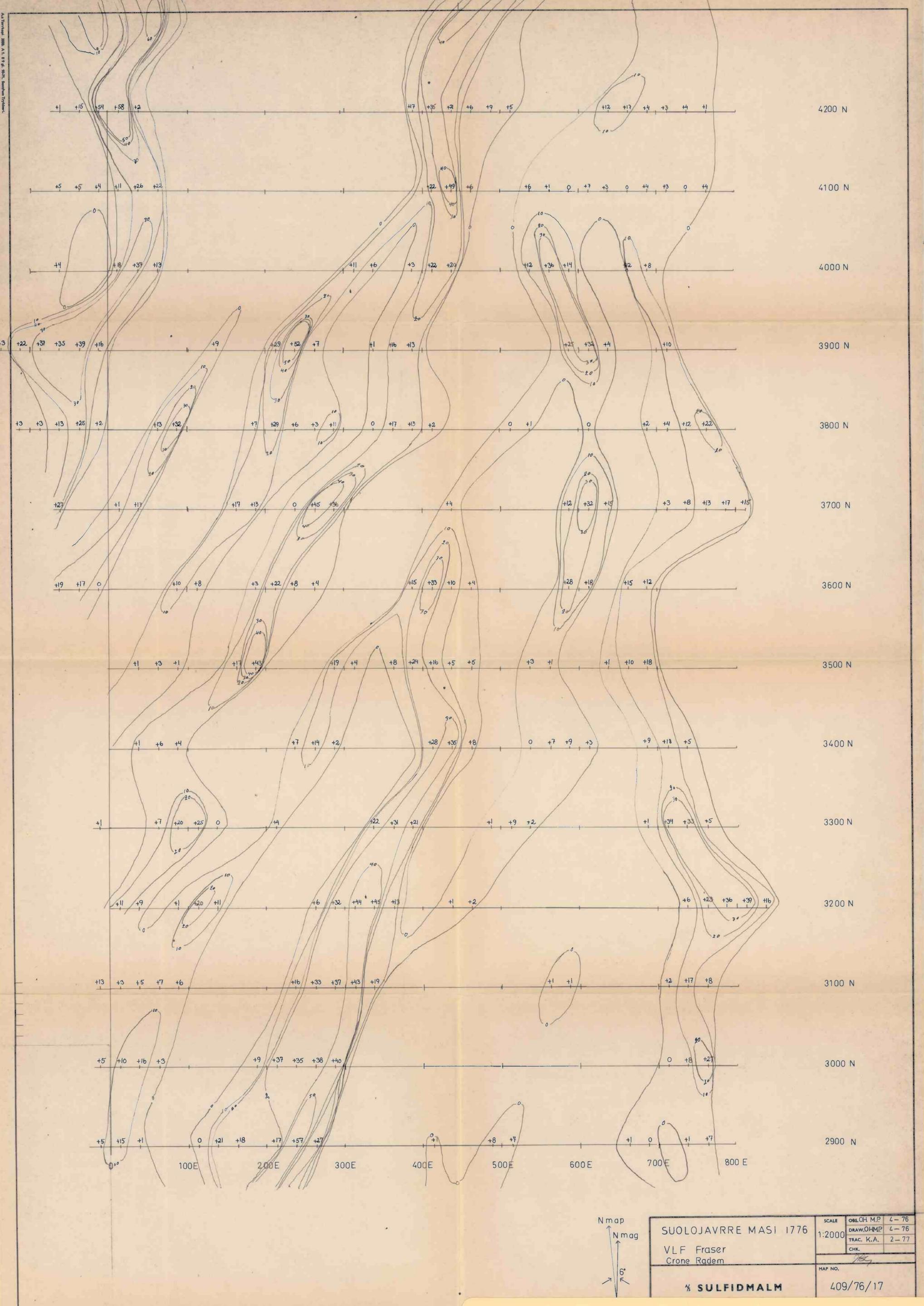
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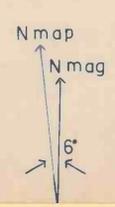


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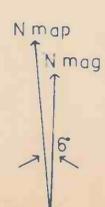
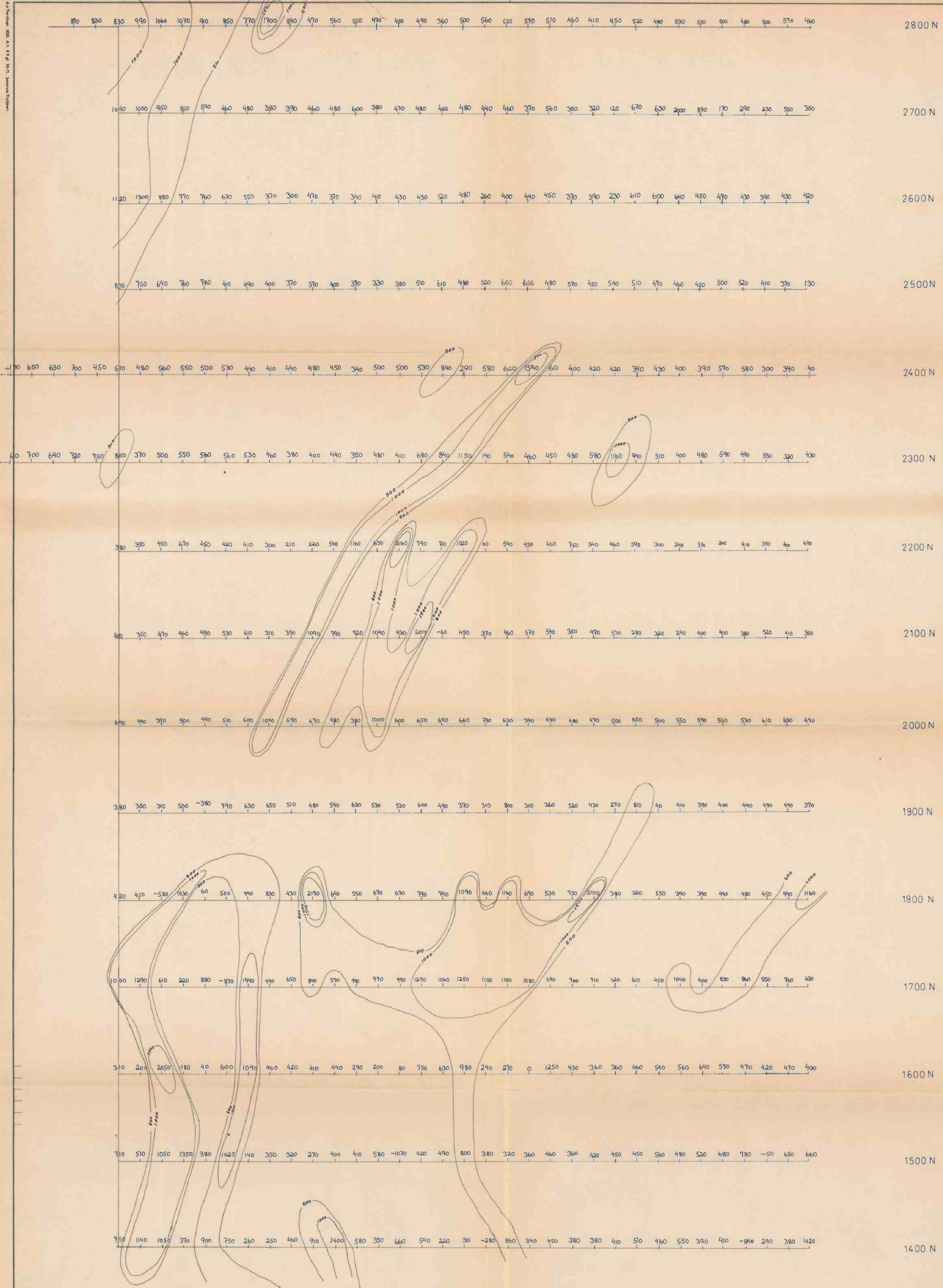
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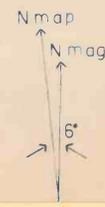
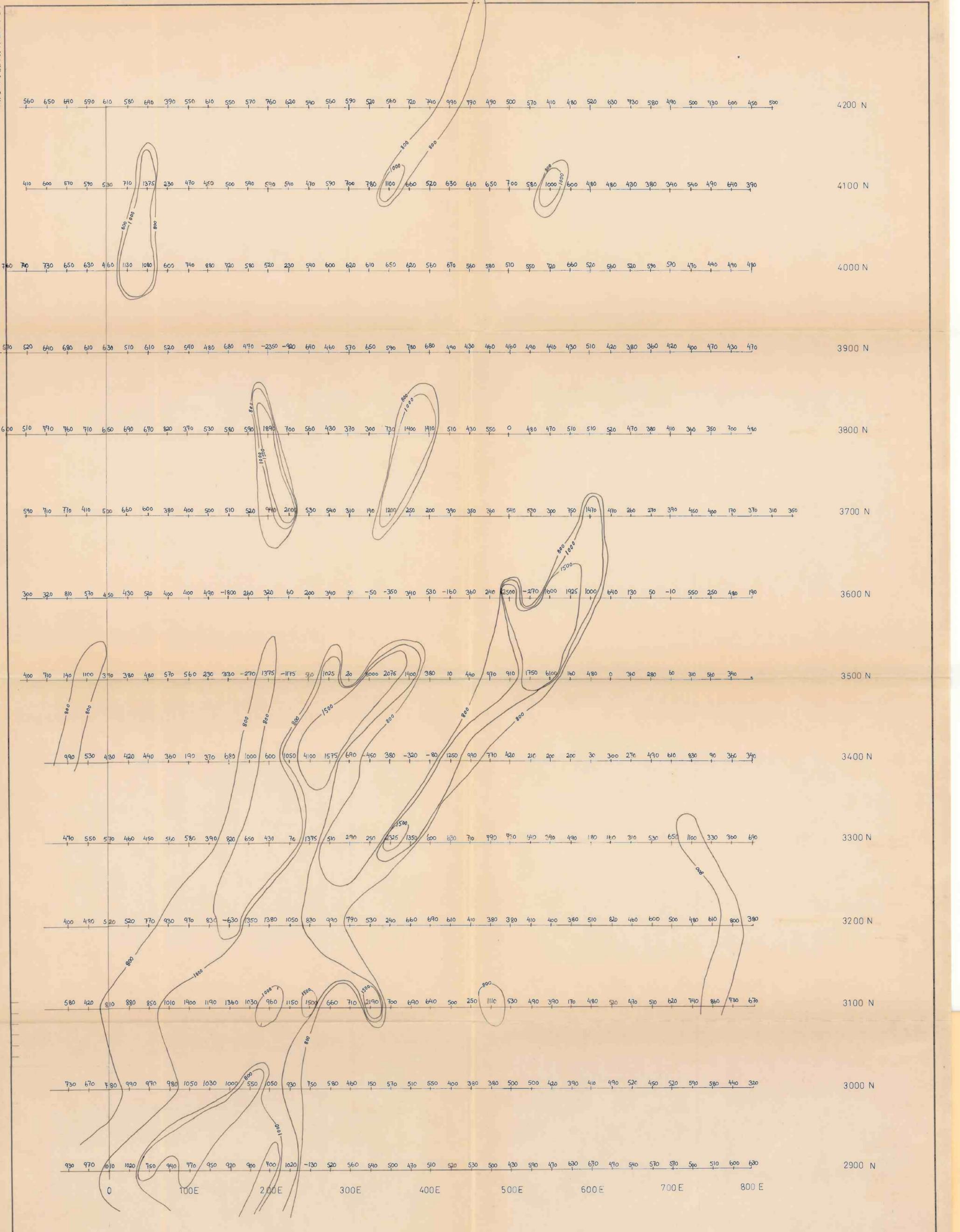
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As of 1980, 2000 A1 134 p. 1001, Suomen Kartta

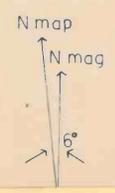
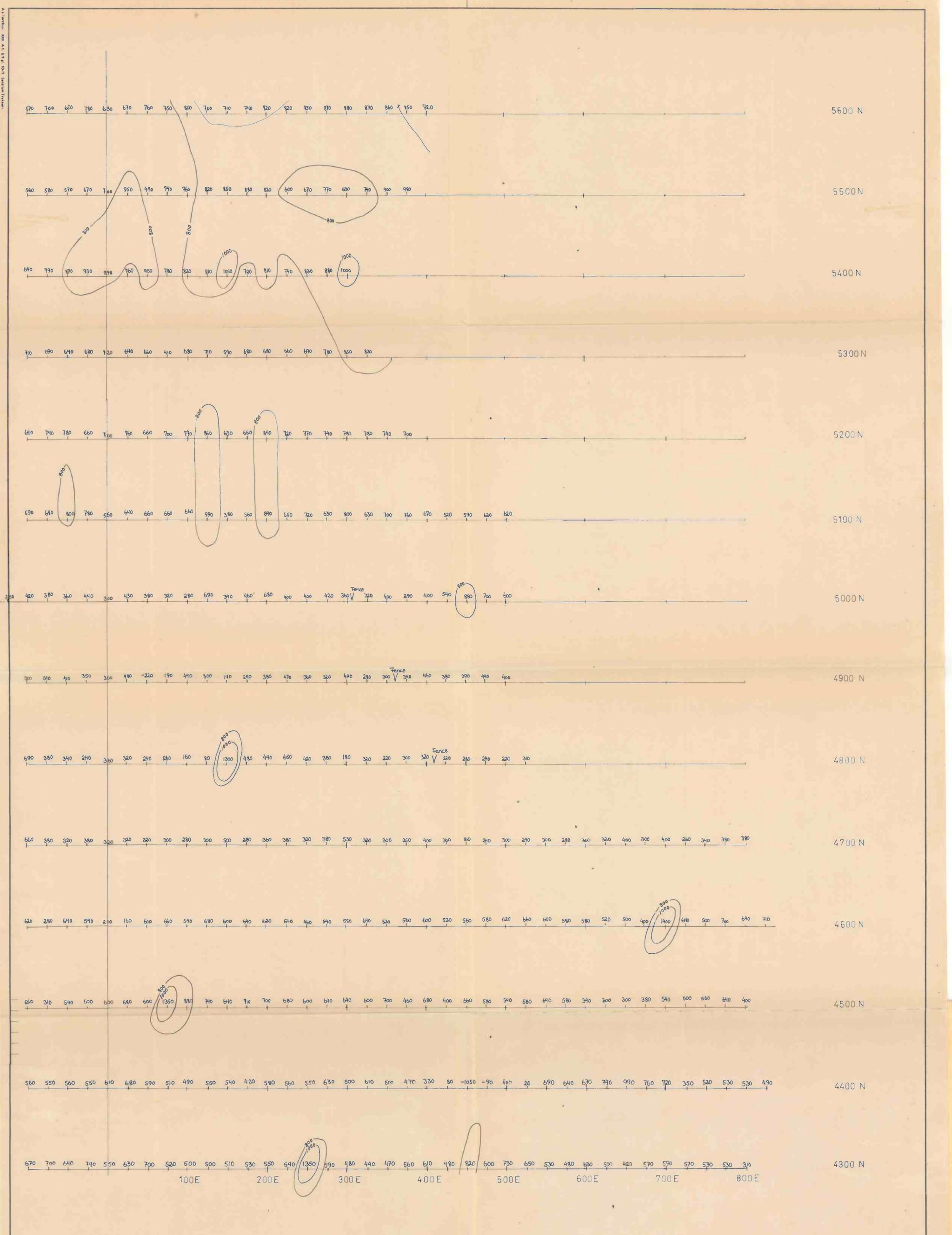


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% SULFIDMALM		409/76 / 17	

SUOLOJAVRRE MASI 1776 Magnetic survey McPhar 700 Fig. 3 sheet 10



SUOLOJAVRRE MASI 1776		
Magnetic survey		
McPhar 700		
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SUOLOJAVRRE MASI 1776		
Magnetic survey		
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