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Rapportarkivet

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Troms & Finnmark	Sydv 1368			

Tittel

Vuolmasjavri Cu-anomaly

Forfatter	Dato	Bedrift
Hagen, Ragnar	20.02 1983	Sydvaranger A/S

Kommune	Fylke	Bergdistrikt	1: 50 000 kartblad	1: 250 000 kartblad
Kautokeino	Finnmark	Troms og Finnmark	18332	

Fagområde	Dokument type	Forekomster
Geokjemi Geofysikk		
Råstofftype	**Emneord**	
Malm/metall	Cu	

Sammendrag

In 1982 the area was investigated by deep till sampling and a VLF and Mag. survey.
The main copper anomaly is caused by disseminated chalcopyrite in greenstones. Anomalies are picked up by shallow depth till sampling only where till thickness is small.

Nr. 605 Fm. 668/83 FB 14/11-83

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INTERN RAPPORT.

DATO: 20.02.83	RAPPORT NR: 1368	KARTBLAD 1833 II	Antall sider —»— bilag

SAKSBEARBEIDER Ragnar Hagen, geologist

RAPPORT VEDRØRENDE:

VUOLMASJAVRI Cu-ANOMALY.

FORDELING
OSLO:

KIRKENES:

ANDRE:

RESYMÉ:

Vuolmasjavri is situated 15 km northwest of Kautokeino. Earlier work by NGU and A/S Sulfidmalm has outlined copper anomalies in till samples in the area. The most interesting anomaly-zone ended, up ice at some weak EM anomalies.

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KOMMENTAR:

KONFIDENSIELL

RH/bs

INTRODUCTION.

The Vuolmasjavri area is situated about 15 km northwest of Kautokeino to the east of the lake Stuorajavri (javri = lake). The area is partly within the joint venture area between Norwegian Gulf Exploration Co. A/S and A/S Sydvaranger, and partly within the joint venture area between A/S Sulfidmalm and A/S Sydvaranger (Fig. 1).

The Vuolmasjavri anomaly was discovered by a group from the Geological Survey of Norway (NGU) during follow-up work of EM anomalies from the fixed wing airborne geophysical survey of 1959. The work of NGU was succeded by A/S Sulfidmalm in the period 1972-1974. A summary of the work is presented in Fig. 1. Slingram surveys indicate northsouth striking conductors. Till geochemistry outlines copper anomalies striking approximately northeast to southwest. The most interesting copper anomaly is an extensive zone which ends , up ice at some weak Slingram anomalies. These anomalies were decided to be a drilling target by A/S Sulfidmalm in 1974 (report no. 905. 2M).

No further exploration was done until 1982 when A/S Sydvaranger staked claims and made the surveys as described in this report.

GEOLOGY.

The Vuolmasjavri area is situated just east of the highly magnetic basalt at the eastern shores of Stuorajavri. The few outcrops in the area consist of basic tuff, basalt and diabase. The northsouth striking EM-conductors (Fig. 1) probably represent graphitic shales.

Disseminated chalcopyrite is found in basalt 500 m to the west of the main anomaly zone. No other mineralization has been observed in the area.

DEEP TILL GEOCHEMICAL SURVEY.

Instead of diamond drilling it was decided to check the copper anomalies with a deep till geochemical survey. The old till sampling was done at depths of 0,5 - 1,0 m. With A/S Sydvaranger's Muskeg-mounted rotary hammer drill, till samples can be collected at depths exceeding 20 m. Also dust samples of the bedrock may be collected.

Profiles 5200 N and 5300 N were sampled between 2200 W and 2400 W. Profile 5400 N was sampled between 2100 W and 2400 W. To check the eastern anomaly zones, profile 5800 N was sampled between 875 W and 1300 W and profile 6000 N was sampled between 900 W and 1300 W. The distance between sampling points was 25 m. Samples were collected every 2 m down-hole and bedrock was sampled by a dust sample. The total number of samples was 332.

The work was done between middle of April and middle of May on snowcovered ground. The samples were analysed for Cu, Ni, Co, Zn and Pb by Mercury Analytical Ltd. Ireland. The results are plotted on sections along profile lines in Figs. 2 and 3.

The lower limits of half coloured and coloured numbers in Figs. 2 and 3 are respectively medium value plus one standard deviation and median value plus two standard deviations for each element as estimated from a large number of NGU-till samples from the Kautokeino region. The same colouring code is uncorrectly used also for the bedrock dust samples (bottom sample in each hole).

The results from profiles 5200 N, 5300 N and 5400 N are presented in Fig. 2. The copper content of the bedrock dust samples is often over 100 ppm. Where the till thickness is small the copper content of the bedrock seems to be reflected in the upper parts of the till. Only one of the deep holes (5400 N, 2375 W) has got a high copper content at all depths. The long anomaly zone in Fig. 1 is probably caused by a bedrock ridge where the over-burden is thin. Under these conditions the copper content of bedrock may be picked up by ordinary till sampling. The deep till sampling indicates that the bedrock ridge ends between profiles N 5200 and N 5300, which is where the anomaly ends.

High copper in bedrock is usually followed by some nickel and cobolt. Only two of the bedrock samples have got a highly anomalous copper content, 5400 N, 2100 W (746 ppm) and 5400 N, 2250 W (562 ppm). The bedrock is assumed to be greenstones.

The results from profiles 5800 N and 6000 N are presented in Fig. 3. In these sections a high copper content usually correlates with a high content of Ni, Co, Pb and Zn. The anomalies in the western parts of the profiles are probably caused by metal enrichment in graphitic shales. This is

indicated by the polymetallic character of these anomalies and by the EM anomalies in these zones (Fig. 1). The same type of anomalies occur also at the eastern part of the profiles. This area is not surveyed by Slingram, but the origin of the anomalies is believed to be graphic shales.

GEOPHYSICAL SURVEY.

Four profiles (5100 N - 5400 N) were surveyed with VLF-EM and magnetics. Fig. 4 is a contoured magnetic total field supplied with VLF-anomalies. Fraser filtering has been used to interpret the VLF data. Since the results of the deep till geochemical survey seems clear, the VLF and Mag. surveys will not be discussed in detail. A major conductor is indicated between 1500 W and 1575 W. There is a gap in the old Slingram surveys in this area and the conductor is not confirmed by Slingram. The magnetic anomalies probably represent variation in magnetite content of the different greenstone units.

CONCLUSIONS.

The geochemical anomalies are explained by the deep till sampling. The anomalies are caused by disseminated sulphides in greenstone and graphitic shale. No indications of economic mineralization have been found. If the deep till sampling equipment should be close, some samples should be collected near the points 5400 N, 2400 W and 5400 N, 2250 W to check the high copper content of the bedrock. The metal enrichment in the zone of graphitic shale should be kept in mind when exploration is done in the extention of this zone.

Stabekk, 20.02.2983

Ragnar Hagen

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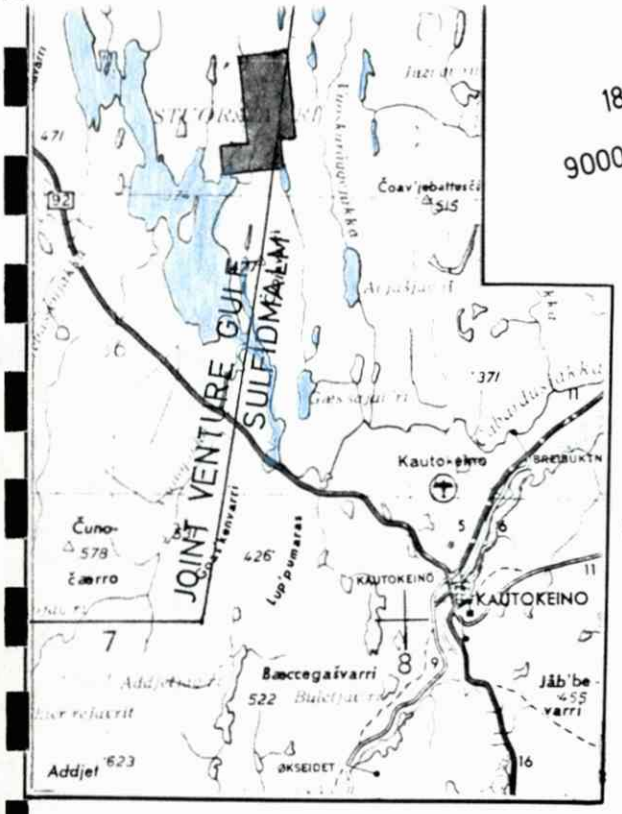


LEGEND

- Very strong EM-anomaly
- Strong
- Weak
- Very weak

60ppm Cu / 100ppm Cu Till geochemistry anomaly

Deep till survey 1982.

VLF and Mag. survey 1982

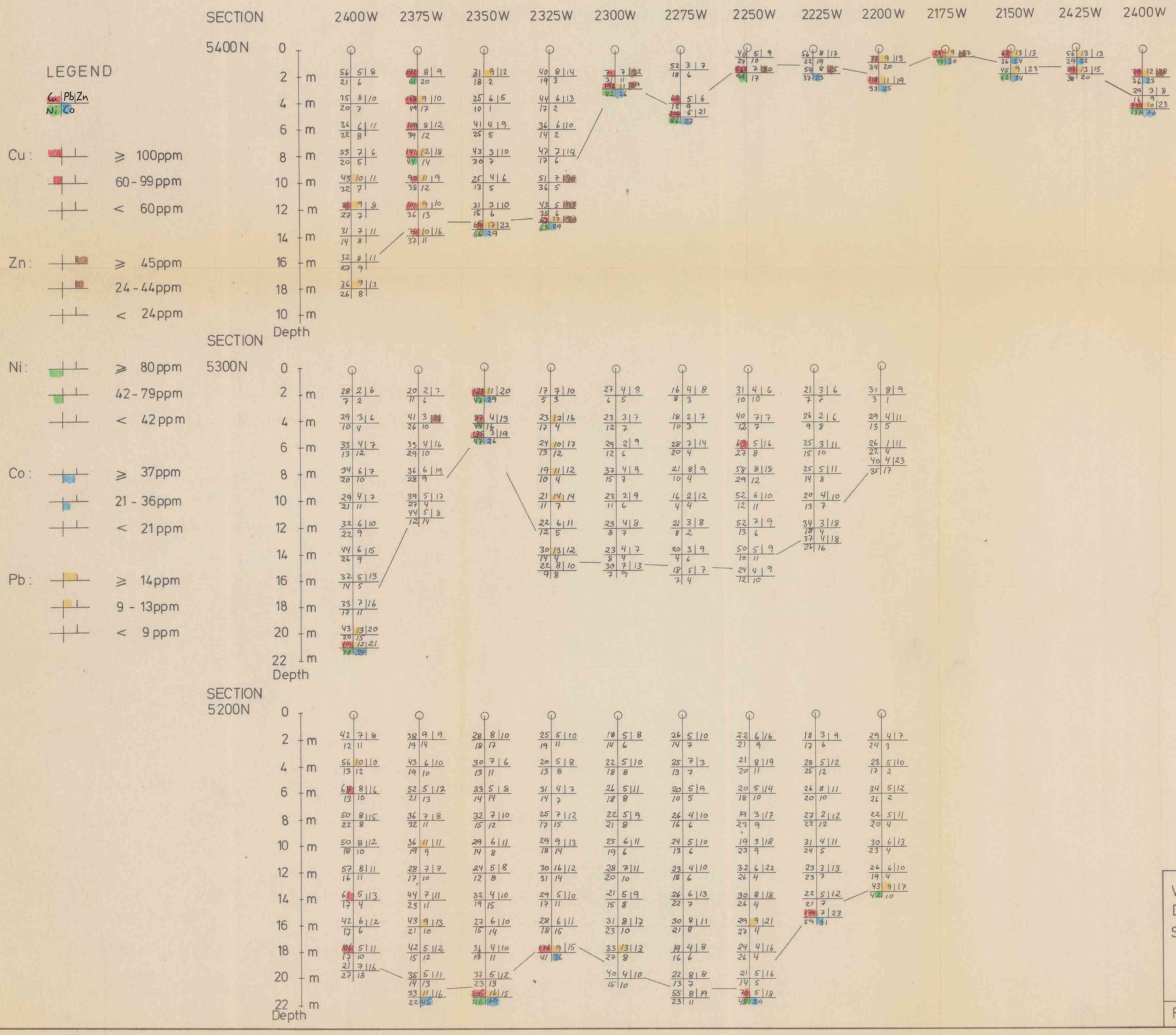
1000 W
1800 W
3000 W
9000 N
8000 N
7000 N
6000 N
5000 N

60ppm Cu
100 ppm Cu

Vuolmas-
javri

Stuorajavri

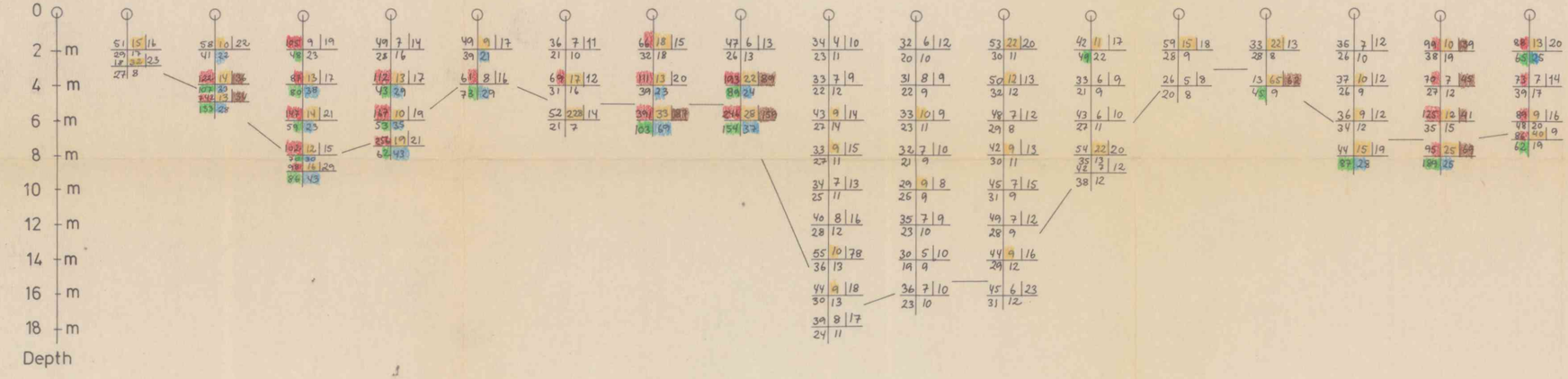
VUOLMASJAVRI Location map Summary map	Scale 1:20000
	Obs T.H.T
	Draw R.H.-83
	Trac. H.B.-83
A/S PROSPEKTERING	Fig. 1.



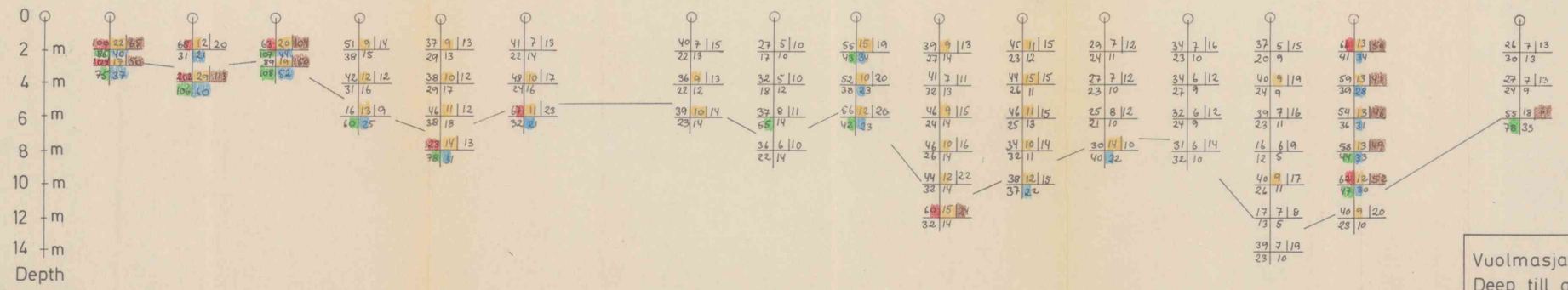
Vuolmasjavri Deep till geochemistry Sections 5200N, 5300N & 5400N	Scale 1:1000 → 1:200 ↓
	Obs. R.H.82
	Draw T.L.L. 82
	Trac H.B. 83
PROSPEKTERING A/S	Fig. 2

SECTION
6000 N

LEGEND:
See Fig. 2



SECTION
5800 N



Vuolmasjavri
Deep till geochemistry
Sections 5800 N & 6000 N

Scale
1:1000 →
1:200 ↓

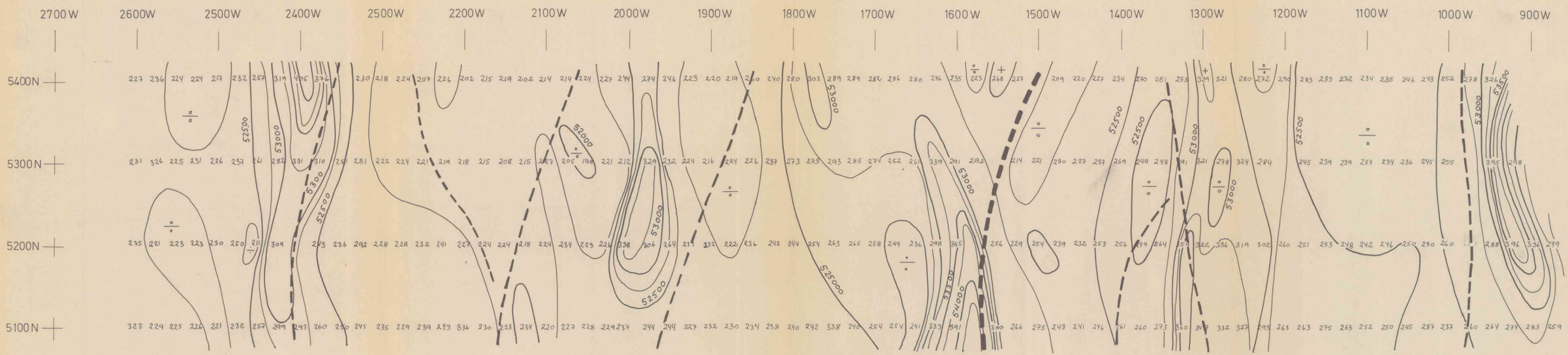
Obs R.H. 82

Draw R.H. 82

Trac H.B. 83

PROSPEKTERING A/S

Fig. 3.



Vuolmasjavri Magnetic survey VLF - survey	Scale 1:2500
	Obs LE.F T.A.-82
	Draw R.H.-83
	Trac H.B.-83
PROSPEKTERING A/S	Fig. 4