



Bergvesenet

Postboks 3021, 7002 Trondheim

Rapportarkivet

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Kommer fra ..arkiv Falconbridge	Ekstern rapport nr Sul 423-76-20	Oversendt fra Sulfidmalm A/S	Fortrolig pga	Fortrolig fra dato:
Tittel Investigations in the Kvikne region, 1976. Geophysics and diamond drilling Storinnsjøen South Grid, Vakkerlien, Kvikne.				
Forfatter F Nixon R Sivertsen		Dato 1976	Bedrift Sulfidmalm A/S	
Kommune Tynset	Fylke Hedmark	Bergdistrikt Østlandske	1: 50 000 kartblad 16203	1: 250 000 kartblad Røros
Fagområde Geofysikk Boring	Dokument type Rapport	Forekomster Vakkerlien		
Råstofftype Malm/metall	Emneord Cu Ni			
Sammendrag				

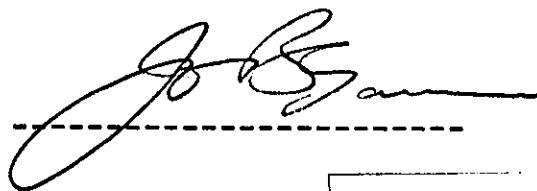
A/S SULFIDMALM
INTER-OFFICE MEMORANDUM

Date: 28th March, 1977
To: Falconbridge Nikkelverk A/S ✓
cc: R. Jahnsen, W. D. Harrison, H. T. Berry,
F. Nixon, R. Sivertsen
From: J. B. Gammon
Subject:

Report No. 423/76/20. Storinnsjøen S. Grid, Vakkerlien.

Please find attached our summary of 1976 work carried out on this grid, which lies ca. 2 km west of the Vakkerlien deposit.

The anomalies obtained here appeared to be similar in character to those at Vakkerlien and were given high priority for drilling. Unfortunately they appear to be caused by graphitic schist horizons rather than mineralized gabbro.



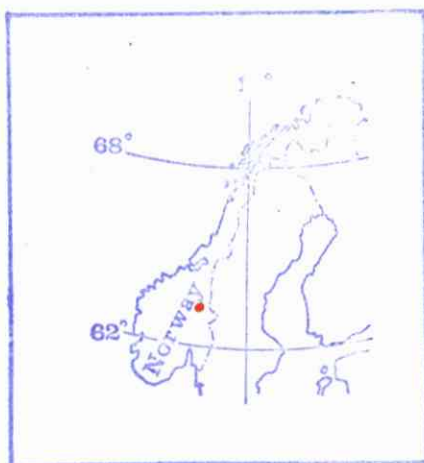
NOTTATT		31. 03. 77
☒	ADM. DIR.	
☐	ASS. DIR.	
☐	ADM. SJEF	
☐	SKRIV. AVD.	
☐	INNKJ. AVD.	
☐	REGISK. / I.D.	
☐	PERSON. / I.D.	
☐	FORSK. / I.D.	
☒	Saksbehandler	
3		

FOR FALCONBRIDGE NIKKELVERK A/S
A/S SULFIDMALM
Project 905-20
INVESTIGATIONS IN THE KVIKNE REGION
1976
Geophysics and diamond drilling
Storinnsjøen South Grid
Vakkerlien, Kvikne

By

F. Nixon

R. Sivertsen



SUMMARY AND CONCLUSIONS

Three diamond drill holes were drilled on combined magnetic and V.L.F. anomalies in the Storinnsjøen south grid ca. 2 km west of the Vakkerlien showing. All three holes drilled intersected graphite bearing schist zones in one case also with pyrrhotite dissemination.

The anomalies are considered as being explained and no immediate further work is recommended on the grid.

LOCATION

The location of the grid is shown on enclosure 1 ca. 1.5-2.0 km west of the Vakkerlien body and on the west side of the lake Storinnsjøen.

WORK CARRIED OUT

The area was first covered by V.L.F. measurements during the 1976 winter survey of the Vakkerlien grid (see report nr. 403.76.20). The area was then detailed during the summer on 50 m line spacings with measuring stations every 25 m for V.L.F. and every 5 m for magnetics. Instruments used were a V.L.F. Paulsen (Norwegian) unit and a Scintrex proton mag. unit.

Three holes totalling 187 m were drilled during the autumn.

RESULTS

Geophysical results are shown on enclosures 2-5. Two V.L.F. zones were outlined. The first running NW/SE (grid NNW-SSE) from 50N/1800W to 250S/1730W, has co-incident proton magnetic anomalies.

Two drill holes were put down on this anomaly, hole nr. St 1-76 was located on 150S/177W and drilled vertically to 80.6 m. The hole intersected a lithology much more varied than at Vakkerlien, having drilled through a banded and highly deformed quartz-biotite-chlorite schist group with psamitic and possibly tuffitic layers. Graphite zones were intersected between 9.00-9.50 and 25.0-26.0 and are considered to have caused the V.L.F. anomaly. No direct cause was found for the magnetic anomaly but a magnetic response might be expected from the tuffitic layers. This will later be checked by a susceptibility meter.

Hole nr. St 2-76 was put down as a check on the same anomaly zone at 50N/1800W and drilled vertically to 65.20 m. The same lithology was intersected and graphite zones were considered to have caused the V.L.F. anomaly. Again no direct cause was found for the magnetic anomaly.

The second V.L.F. anomaly was located on the west of the grid running from 550S/1950W to 1900W/1937W. The anomaly was associated with some high magnetic values and interesting dipoling effects.

One drill hole was put down on this zone at 750S/1955W and drilled vertically to 41.20 m.

The lithology was dominantly biotite-chlorite-plagioclase-quartz schist, the cause of the anomalies being considered to be a deformed graphite schist horizon with finely disseminated pyrrhotite stringers and specks from 29.10p31.18.

CONCLUSION

No further work is recommended. The lithologies drilled through should prove useful at a later date for building up a stratigraphy of the area in general.

Enclosures:

- | | | |
|-----|--|----------|
| 1) | Kvikne summary map | 1:50,000 |
| 2) | Vakkerlien summary map showing location of Storinnsjøen syd grid | 1:10,000 |
| 3) | VLF-EM survey 50N-250S | 1:1000 |
| 4) | " " 300S-750S | 1:1000 |
| 5) | Proton magnetic survey 50N-250S | 1:1000 |
| 6) | " " " 300S-750S | 1:1000 |
| 7) | Drill profile St 1-76 | 1:250 |
| 8) | " " St 2-76 | 1:250 |
| 9) | " " St 3-76 | 1:250 |
| 10) | Drill logs St 1 - St 3 | |

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DIAMOND DRILL RECORD

LOCATION: 150S/1775W BEARING: _____ DIP: 90 HOLE NO: 1.76 SHEET NO: 1
 LOGGED BY: R.S. STARTED: _____ PROPERTY: Storinnsjøen
 CASING: 4.0 m FINISHED: _____ Vakkerlien grid
 CORE SIZE: 35 mm TESTS (CORRECTED): _____

From	To	Description
0	4.0	Overburden
4.0	80.6	Banded and highly deformed schist group. The main composition is quartz biotite, chlorite. Graphite zones and psamitic layers occur as do some tuffitic layers.
		9.0- 9.5 graphite zone
		10.5-10.9 psamitic layer
		13.0-20.0 quartz biotite schist with graphite layers
		25.0-26.0 graphite zone
		35.2-38.5 psamitic layers
		52.05-54.0 possibly tuffitic layers with garnets
		57.0-58.0 " " " " "
		61.1-61.15 basic rock type - possibly deformed gabbro
		66.0-66.3 psamitic layer
		67.1-67.8 " "
	80.6	End of hole.

1/5 SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: 150S/1775W BEARING: DIP: 90 HOLE NO: 1.76 SHEET NO: 2
 LOGGED BY: R.S. STARTED: PROPERTY: Storinnsjøen
 CASING: FINISHED: Vakkerlien grid
 CORE SIZE: TESTS (CORRECTED):

From	To	Description
Core Angles		
	6.7 - 76°	schistosity
	11.5 - 78	"
	15.7 - 80	"
	19.3 - 75	"
	21.2 - 73	"
	25.5 - 75	"
	29.2 - 81	"
	32.3 - 79	"
	36.7 - 76	"
	39.8 - 78	"
	42.1 - 80	"
	45.3 - 82	"
	47.5 - 81	"
	51.2 - 78	"
	55.5 - 79	"
	58.7 - 80	"
	63.4 - 76	"
	67.8 - 78	"
	71.2 - 75	"
	75.4 - 78	"
	79.1 - 80	"

1/5 SULFIDMALM

DIAMOND DRILL RECORD

LOCATION: 50N/1800W BEARING: - DIP: 90 HOLE NO: 2.76 SHEET NO: 1
 LOGGED BY: FN STARTED: PROPERTY Storinnsjøen
 CASING: FINISHED: Vakkerlien grid
 CORE SIZE: TESTS (CORRECTED):

From	To	Description
0	13.50	Overburden
13.50	65.20	Highly deformed schist group, Dominantly biotite-chlorite plag-quartz schist - but changes in lithology can be seen and various tuffic layers seem to be present.
	37.10 - 38.85	Extremely broken zone almost sand
	42.40 - 42.85	Again rock broken down to a sand
	44.80 - 45.90	Core loss
	48.04 - 48.40	Sandy crush zone
	63.82 - 63.92	Graphite zone
	64.65 - 64.85	Graphite zone
	65.05 - 65.20	Graphite zone
	65.20	End of hole

DIAMOND DRILL RECORD

From	To	Description
		Core Angles
		16.50 - 76 schistosity
		19.10 - 86 "
		21.80 - 70 "
		24.40 - 70 "
		28.50 - 73 "
		32.40 - 82 "
		35.50 - 84 "
		40.50 - 81 "
		47.50 - 83 "
		52.50 - 80 "
		56.50 - 73 "
		63.50 - 85 "

7s SULFIDMALM

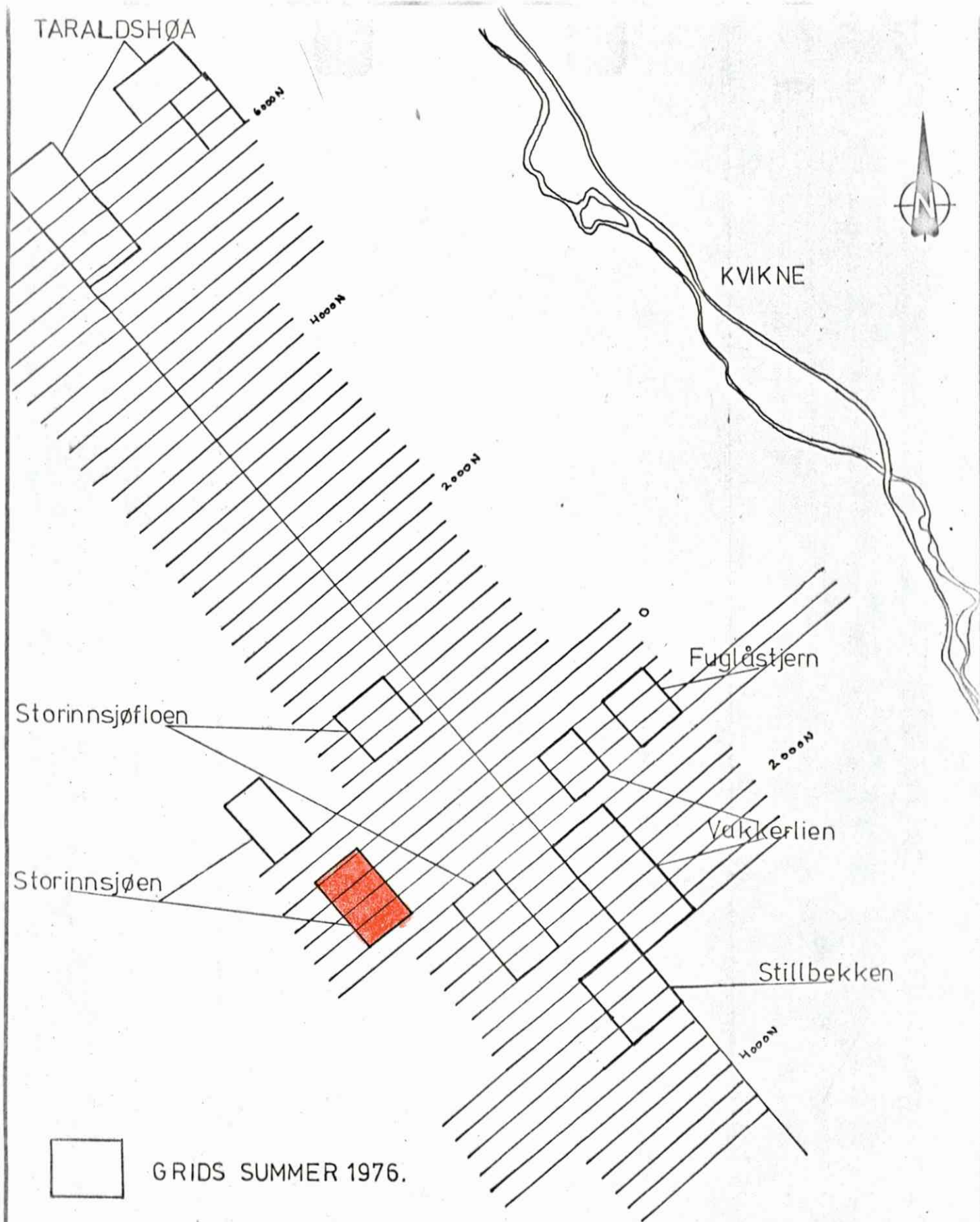
DIAMOND DRILL RECORD

LOCATION: 750S/1955W BEARING: - DIP: 90 HOLE NO: 3.76 SHEET NO: 1
LOGGED BY: FN STARTED: PROPERTY: Storinnsjø
CASING: 5 m FINISHED: Vakkerlien
CORE SIZE: TESTS (CORRECTED):

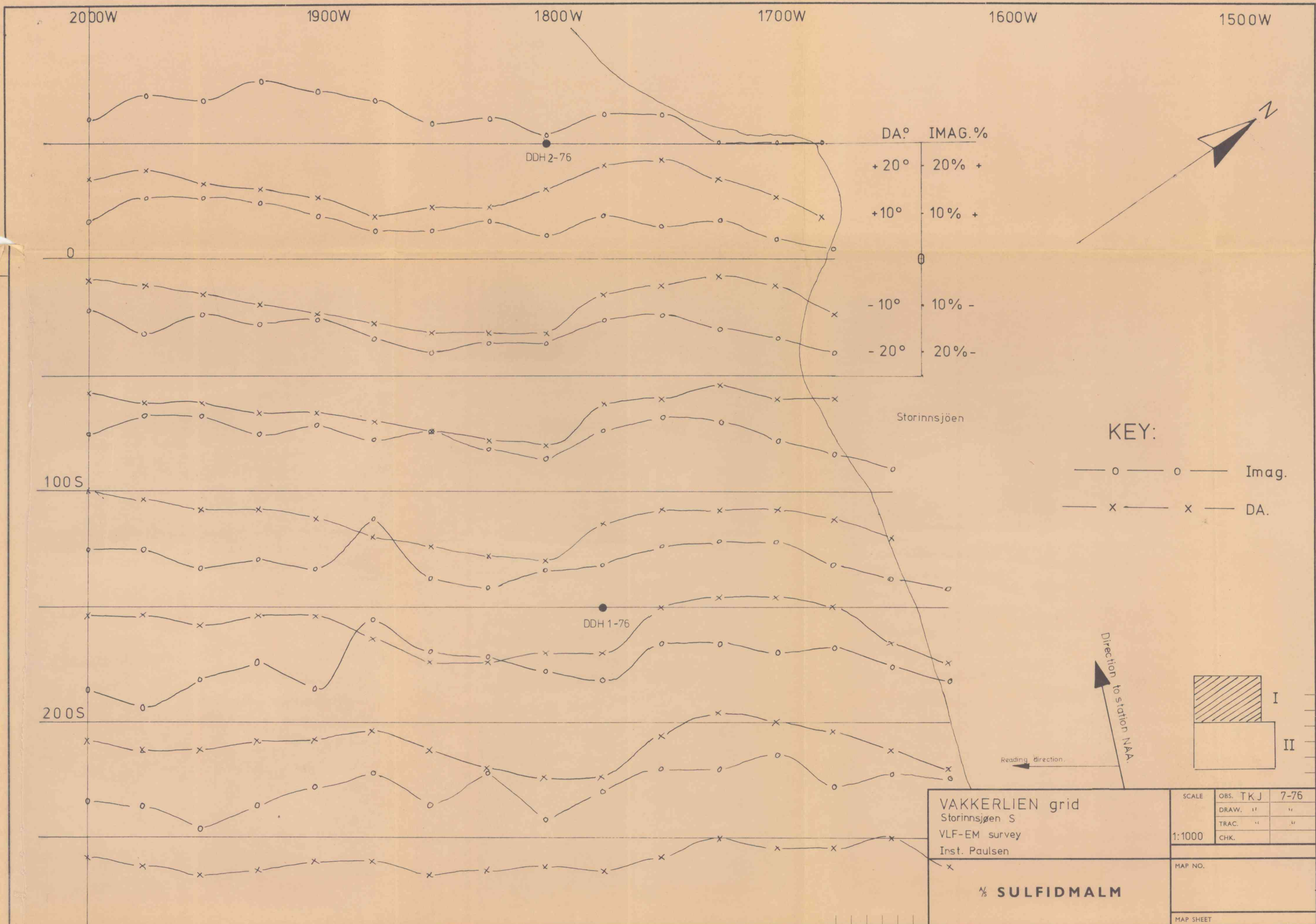
From	To	Description
0	5.00	Overburden
5.00	15.90	Biotite/chlorite - plag. quartz schist. Highly deformed.
15.90	17.74	Intrusive med.gr. trondhjemite
17.74	29.10	Schist unit
29.10	31.18	Deformed graphite schist horizon with finely disseminated po stringers and specks.
31.18	31.41	Med.gr. basic dyke - biotite rich with intrusive contacts
31.41	41.20	Deformed schist - but some variations in lithology can be seen
	41.20	End of hole

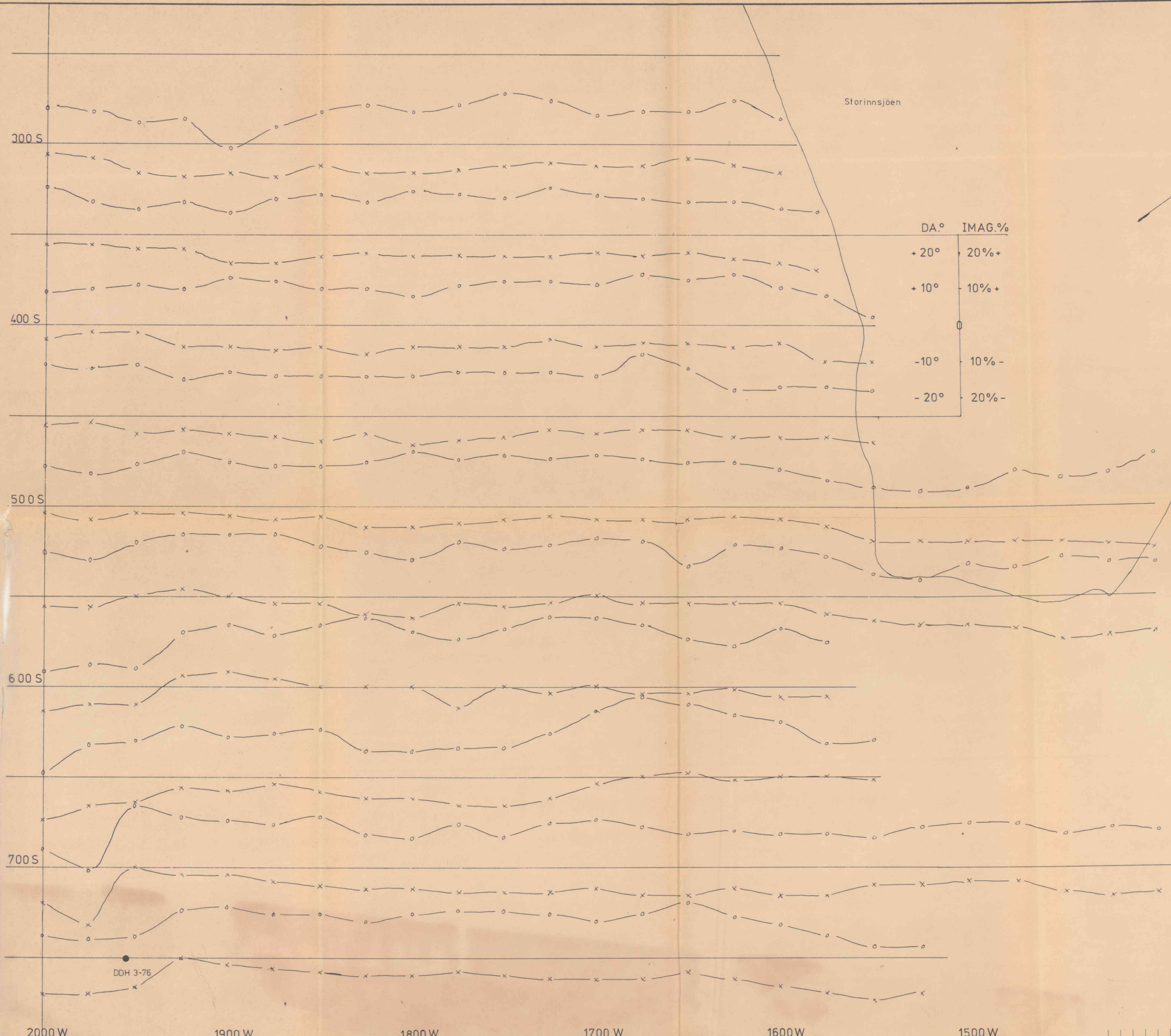
DIAMOND DRILL RECORD

From	To	Description
		Core Angles
		7.50 - 65
		9.50 - 75
		12.60 - 78
		15.40 - 80
		19.70 - 73
		21.10 - 84
		24.10 - 84
		26.30 - 83
		29.80 - 81
		32.50 - 84
		35.10 - 83
		38.20 - 80

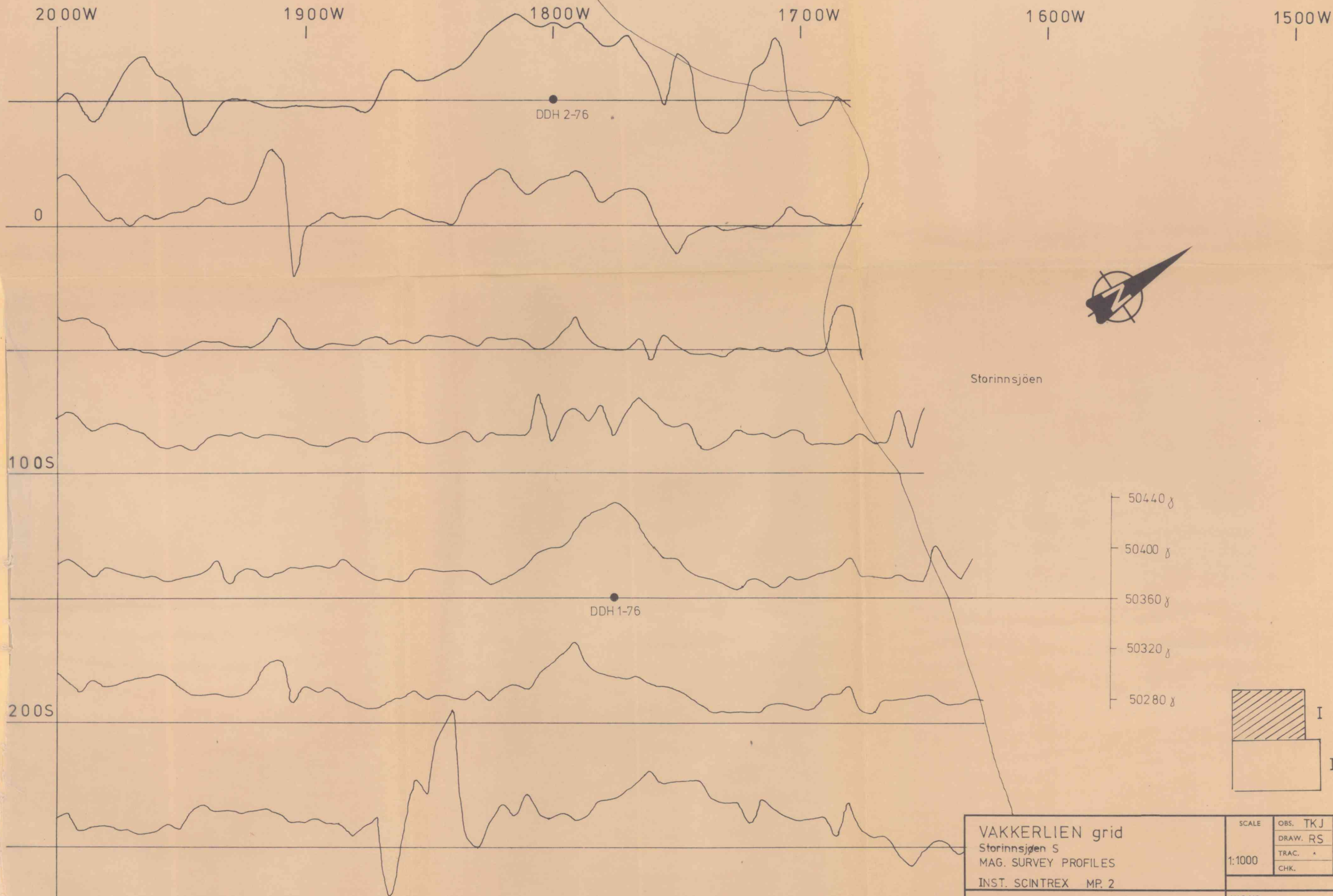


A/S SULFIDMALM			
VAKKERLIEN AREA, with Grid Location.			
SCALE	1:50,000	DRAWN	RS.
DATE	Feb. 1977.	TRACED	RS-BB.





VAKKERLIEN grid		SCALE	OBS. Sulfm.	7.76
Storinnsjøen S			DRAW. RS	"
VLF-EM SURVEY		1:1000	TRAC. W	"
Inst. Paulsen			CHK.	"
% SULFIDMALM		MAP NO.		
		MAP SHEET		



⅔ SULFIDMALM

300S

400S

500S

600S

700S

Storinnsjøen



50400 δ
50360 δ
50320 δ

48514
48629
50005
50128
50251
50380
50508
50542
50480

St. 3-76

1900 w

1800 w

1700 w

1600 w

1500 w

1400 w

VAKKERLIEN grid
Storinnsjøen S
MAG. SURVEY PROFILES
INST SCINTREX MP. 2

SCALE	OBS. OJS	7-76
1:1000	DRAW. " "	" "
	TRAC. " "	" "
	CHK. " "	" "

MAP NO.

½ SULFIDMALM

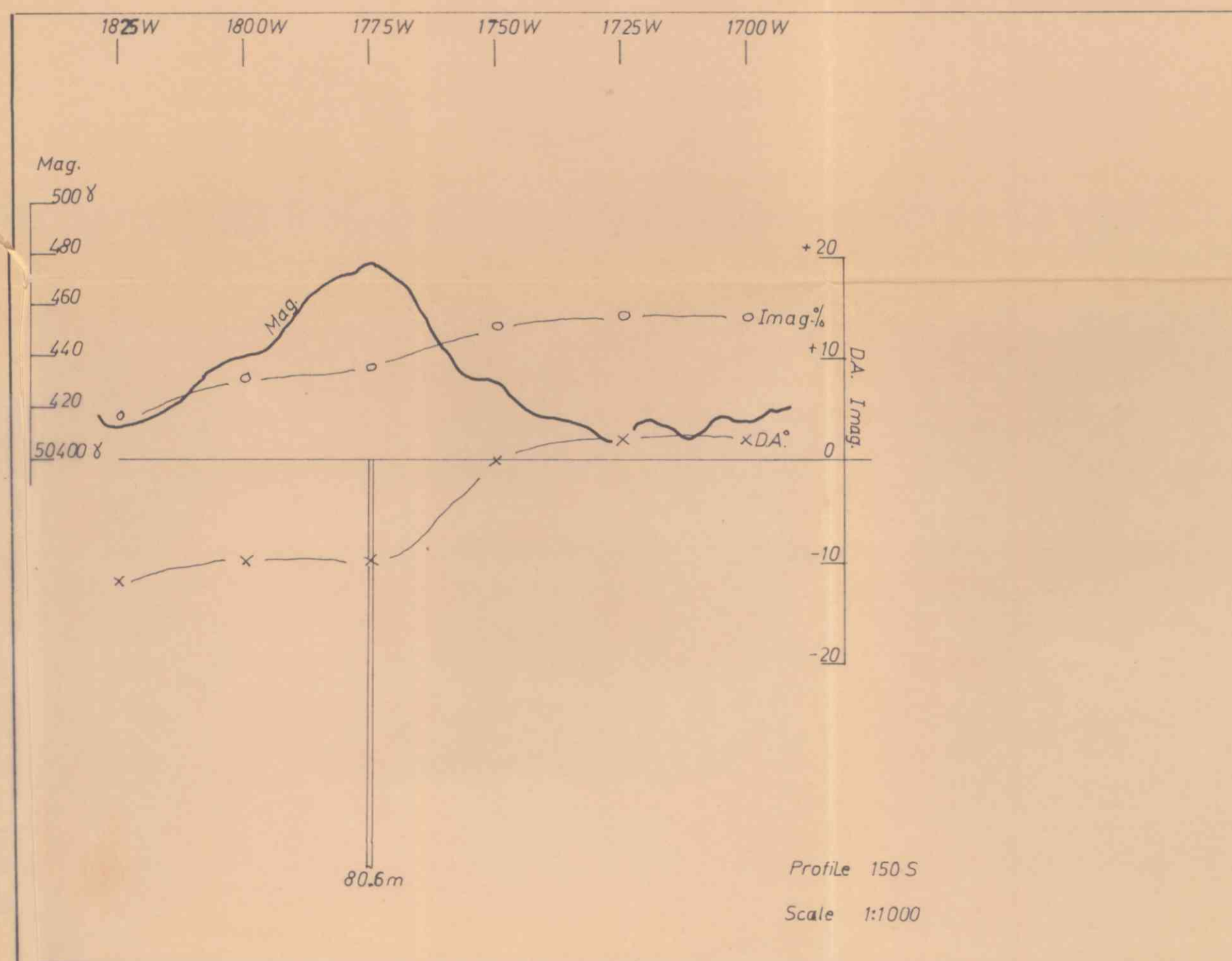
MAP SHEET

1800 W

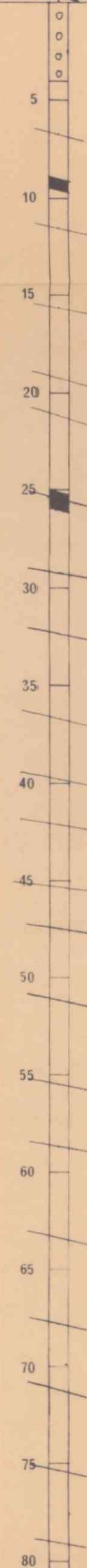
1775 W

1750 W

1725 W



150 S - 1775 W

St. 1-76
80.6 m

OVERBURDEN

SCHIST biotite, plag., quartz, highly deformed

GRAPHITE ZONE

STORINNSJÖEN VAKKERLIEN

DRILL HOLE St. 1-76

SCALE	OBS. RS	76
1:250	DRAW. DE	76
	TRAC. DE	76
	CHK.	

MAP NO.	20. 76. 05.
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SULFIDMALM

MAP SHEET

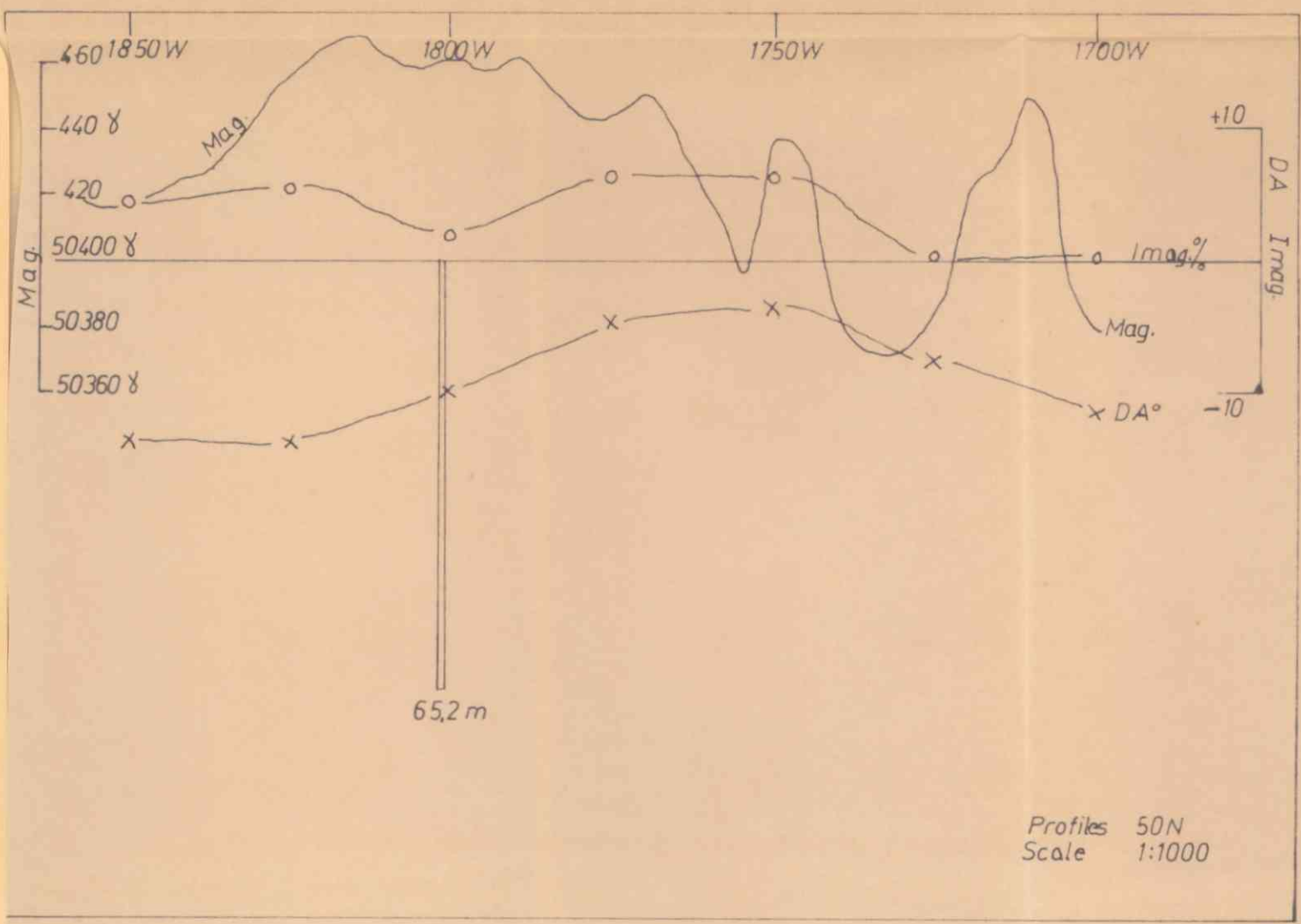
1850W

1825W

1800W

1775W

1750W



50N-1800W



St. 2-76
65.2m

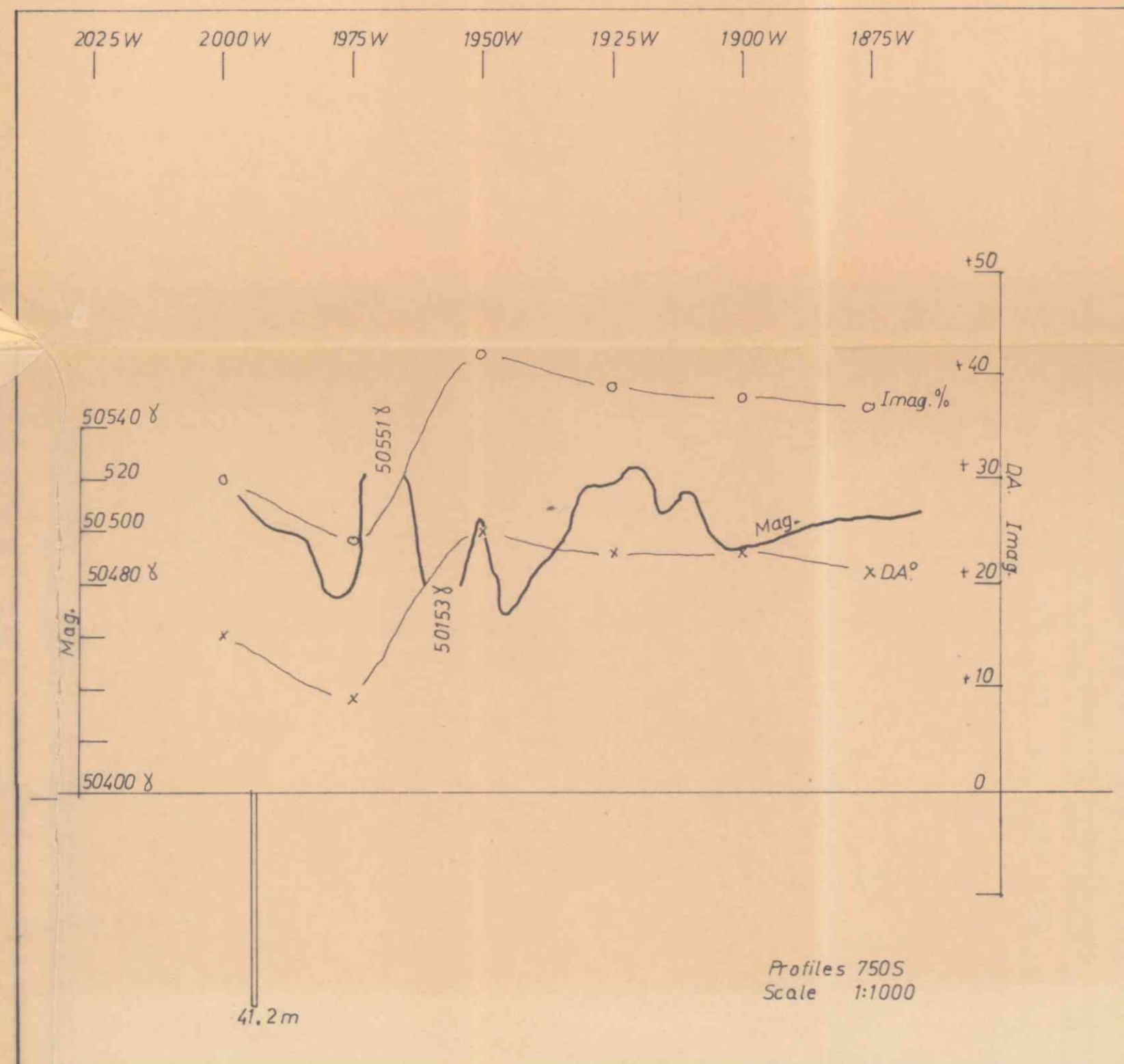
- OVERBURDEN
- SCHIST -biotite, plag., quartz. highly deformed
- GRAPHITE SCHIST
- sandy crush sone
- core loss
- schistosity

STORINNSJÖEN VAKKERLIEN DRILL HOLE St 2-76 50N-1800W	SCALE	OBS. FN	76
	1·250	DRAW. II	76
		TRAC. II	76
		CHK.	
1/2 SULFIDMALM	MAP NO.		
	20. 76. 03.		
	MAP SHEET		

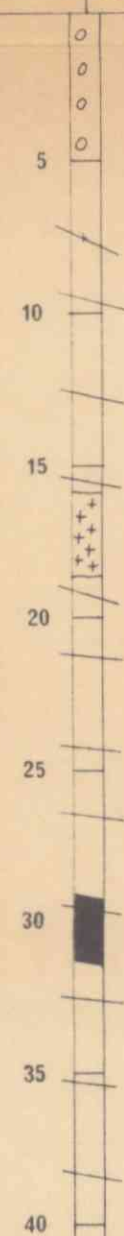
2000W

1975W

1950W



750S-1995W

St 3-76
41.2m

- o o o OVERBURDEN
- SCHIST biotite, plag., quartz highly deformed
- GRAPHITE SONE with pyrrhotite
- + + + ACID INTRUSIVE trondhjemite

STORINNSJÖEN VAKKERLIEN
DRILL HOLE St 3 76

SCALE	OBS. FN	70
1:250	DRAW. #	76
	TRAC. #	86
	CHK.	

1/2 SULFIDMALM

MAP NO.
20. 76. D4.

MAP SHEET